Infoprint Manager

IBM

Reference

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IBM

Reference

Note

Before using this information and the product it supports, be sure to read the general information in "Notices" on page 727.

Internet

Visit our home page at http://www.ibm.com/printers

Contents

Figures

Tables

About This Publication

This publication describes the Infoprint Manager (Infoprint):
- Commands
- Flags used with AIX print commands
- Administrative utilities
- Daemon utilities
- Transform commands
- Object attributes
- Environment variables
- Notification events and event classes

Who Should Use This Publication

This publication is intended for the person responsible for installing, customizing, operating, or administrating Infoprint.

About the Documentation for Infoprint

Infoprint provides the following types of documentation:
- Infoprint library in portable document format (PDF) or hard copy
- Infoprint documentation on the World Wide Web
- Online help for Infoprint Submit, Infoprint Scan, the Infoprint Administration GUI, the Infoprint Operations GUI, the Infoprint administrator's GUI, the Infoprint SMIT production printing system interface, and the Infoprint SMIT production print operations interface
- Manual (man) pages
- Infoprint online message catalog
- **readme** files

The Infoprint Publication Library

For the most current information, please go to the IBM Printing System site at http://www.ibm.com/printers.

Infoprint Manager for AIX Publication Library
Infoprint provides the following publications in PDF format on a CD-ROM supplied with the product:

- *Infoprint Manager for AIX: Administrator's Guide*, S544-5595. This publication describes the primary administrator tasks necessary for setting up an Infoprint environment.

- *Infoprint Manager for AIX: User's and Operator's Guide*, S544-5596. This publication describes submitting print jobs from Infoprint Submit, Infoprint Scan, Infoprint Select, and the Infoprint AIX client, scheduling jobs, and managing the print environment.

- *Infoprint Manager: Reference*, S544-5475. For print administrators, operators, and application programmers with the need to perform command-line functions, this publication describes the commands, utilities, transforms, attributes, and attribute values associated with Infoprint.

- *PSF Direct Network Configuration Guide for System/370*, S544-5486. For system administrators or network specialists responsible for configuring a system for Print Services Facility (PSF) Direct. PSF Direct is a function of Infoprint Manager that allows another PSF program (PSF/VM, PSF/MVS, or PSF/VSE) to print

remotely, using the SNA LU 6.2 protocol, on printers supported by Infoprint. The PSF program sends the print data stream directly to the Infoprint printer.

- *IBM PSF for AIX: AFP Upload Configuration Guide Using SNA Server/6000*, S544-5422. For system administrators, this publication describes how to configure AFP Upload on both AIX (client) and MVS (server) to send files to the JES spool on the MVS server, using a SNA Server/6000 protocol.

- *IBM PSF for AIX: AFP Upload Configuration Guide Using TCP/IP*, S544-5423. For system administrators, this publication describes how to configure AFP Upload on both AIX (client) and MVS (server) to send files to the JES spool on the MVS server, using a TCP/IP protocol.

Infoprint Manager for Windows NT and Windows 2000 Publication Library

Infoprint provides the following publications in PDF format on a CD-ROM supplied with the product:

- *Infoprint Manager for Windows NT and Windows 2000: Planning Guide*, G544–5716. This publication helps you prepare to use Infoprint Manager for Windows NT and Windows 2000. It describes features of this product and compares its functions to those of IBM Print Services Facility for OS/2 (PSF for OS/2). It addresses migration from PSF for OS/2 at a high level. Finally, this publication explains the differences between the AIX and Windows version of Infoprint. You can order a printed copy of this publication from IBM by requesting the form number.

- *Infoprint Manager for Windows NT and Windows 2000: Getting Started*, G544–5717. This publication helps you install and configure Infoprint Manager for Windows NT and Windows 2000. It focuses primarily on server and client system software configuration, but it also includes information for the IBM 4159 Model 001 S/390 Parallel Channel Emulator Card. You can order a printed copy of this publication from IBM by requesting the form number.

- *Infoprint Manager: Reference*, S544-5475. For print administrators, operators, and application programmers with the need to perform command-line functions, this publication describes the commands, utilities, transforms, attributes, and attribute values associated with Infoprint.

  Note: This publication is available only in PDF format.

- *PSF Direct Network Configuration Guide for System/370*, S544-5486. For system administrators or network specialists responsible for configuring a system for Print Services Facility (PSF) Direct. PSF Direct is a function of Infoprint Manager that allows another PSF program (PSF/VM, PSF/MVS, or PSF/VSE) to print remotely, using the SNA LU 6.2 protocol, on printers supported by Infoprint. The PSF program sends the print data stream directly to the Infoprint printer.

- *IBM PSF for AIX: AFP Upload Configuration Guide Using SNA Server/6000*, S544-5422. For system administrators, this publication describes how to configure AFP Upload on both AIX (client) and MVS (server) to send files to the JES spool on the MVS server, using a SNA Server/6000 protocol.

- *IBM PSF for AIX: AFP Upload Configuration Guide Using TCP/IP*, S544-5423. For system administrators, this publication describes how to configure AFP Upload on both AIX (client) and MVS (server) to send files to the JES spool on the MVS server, using a TCP/IP protocol.

Other Publications Related to Infoprint

The following publications contain information you might find useful while installing, administrating, and using Infoprint:

- *AIX Version 4 Release 1 Commands Reference*, SBOF-1851, or *AIX Version 4 Release 3 Commands Reference*, SBOF-1877. For administrators, operators, and end users, these publications provide complete information about AIX commands.

  Note: Infoprint requires AIX Version 4.2.1 or 4.3. Users of AIX Version 4.2.1 should refer to *AIX Version 4 Release 1 Commands Reference*.

- *PSF/MVS MVS Download Guide*, G544-5294. For administrators and job submitters, this publication provides instructions for setting up the MVS Download support on PSF/MVS so that data can be transmitted from the Job Entry Subsystem (JES) spool on MVS for printing on an Infoprint system.

- *Printing for Fun and Profit under AIX*, GG24-3570. For administrators and system engineers, this publication provides instructions for installing printer devices and configuring AIX print queues.

- *IBM Page Printer Formatting Aid: User's Guide*, S544-5284. For administrators and job submitters, this publication provides instructions for creating form definitions and page definitions with Page Printer Formatting Aid for AIX (PPFA).

  Note: This is an optional feature of Infoprint.

- *Advanced Function Presentation: Font Summary*, G544-3810. For administrators and job submitters, this publication provides information on IBM fonts.

- *Advanced Function Presentation: Printer Information*, G544-3290. For administrators and job submitters, this publication provides information on IBM printer devices.

- *IBM Data Stream and Object Architectures: Bar Code Object Content Architecture Reference*, S544-3766. For administrators, this publication provides information on bar codes.

- *IBM Data Stream and Object Architectures: Font Object Content Architecture Reference*, S544-3285. For administrators, this publication provides information on coded fonts.

- *IBM Data Stream and Object Architectures: Graphics Object Content Architecture Reference*, S544-5498. For administrators, this publication provides information on printing graphics.

- *IBM Data Stream and Object Architectures: Image Object Content Architecture Reference*, SC31-6805. For administrators and job submitters, this publication provides information on the IOCA data stream.

- *IBM Data Stream and Object Architectures: Mixed Object Document Content Architecture Reference*, SC31-6802. For administrators and job submitters, this publication provides information on the MOD:CA data stream.

- *TCP/IP Tutorial and Technical Overview*, GG24-3376. For networking specialists, this publication provides an overview of the Transmission Control Protocol/Internet Protocol (TCP/IP) and its uses in heterogeneous networks.

Manual (man) Pages for Infoprint Commands, Utilities, and Transforms

Online information, in manual (man) page format, is available for all Infoprint commands and utilities. You can use the AIX **man** command to view man pages for the following Infoprint commands:

lprafp	**pdpr**
mkfntmap	**pdpromote**
pdaccount	**pdq**
pdclean	**pdreorder**
pdcreate	**pdresubmit**
pddelete	**pdresume**
pddisable	**pdrm**
pdenable	**pdset**
pdls	**pdshutdown**
pdmod	**pdspace**
pdpause	**psfstat**

For example, to view online information for the **pdpr** command, enter:

```
man pdpr
```

You can use the AIX **man** command to view the following man page for the **-o** flag, which is used to pass information to Infoprint on AIX print commands:

oflag

You can use the AIX **man** command to view man pages for the following Infoprint utilities:

admingui	**pdinitports**
afpsplit	**pdmigpp**
ainupod1	**pdmincfg**
ainupod2	**pdmsg**
ainupod3	**pdnetifspri**
ainurpt1	**rc.iprsap**
ainurpt2	**rc.pd**
ainurpt3	**sense**
ainurpt4	**setup**
ainurpt5	**startcbd**
ainurpt6	**startnotd**
cfu	**startppo**
ipguiadv	**start_server**
ipguibasic	**startsrv**
ipguidist	**stopcbd**
jsmigr	**stopnotd**
opergui	**stop_server**
pdadmin	**tdump**
pdcrcds	**tlist**
pdcrdflt	**t2file**
pdcrmed	

You can use the AIX **man** command to view man pages for the following Infoprint daemon utilities:

mvsprsd	**ps2afpd**
pcl2afpd	

You can use the AIX **man** command to view man pages for the following Infoprint transform commands:

db2afp	**pcl2afp**
d2afp	**pdf2afp**
gif2afp	**ps2afp**
jpeg2afp	**sap2afp**
line2afp	**tiff2afp**

For information about the flags that you can use with the **man** command, refer to the **man** man page or to the AIX Version 4.2 *Commands Reference*.

Manual (man) Pages for Infoprint Attributes

Infoprint also provides you with online information about the attributes that each object supports. To view the various attributes, enter the following command:

```
man pd_att
```

A list displays containing file names of attribute man pages. You can then display the desired file and view the information about specific attributes.

Use the AIX **man** command to view the following Infoprint man pages for attributes:

pd_att_act_dest	**pd_att_medium**
pd_att_aux_sheet	**pd_att_queue**
pd_att_document	**pd_att_res_context**
pd_att_job	**pd_att_server**
pd_att_log	**pd_att_transform**
pd_att_log_dest	

Infoprint Online Message Catalog

Infoprint supplies a message catalog for the messages that are issued during its operation. For each message, the message catalog includes the text of the message, an explanation, a system action, and a response. You can view all information for a specific Infoprint error message by issuing the Infoprint **pdmsg** utility followed by the message number.

For example, from the command line enter:

```
pdmsg 5010-096
```

Messages issued by Infoprint have the following prefixes:

0420	**0424**
0421	**0425**
0422	**5010**
0423	

See the Infoprint **pdmsg** man page for a complete description of the **pdmsg** utility.

To view information about an AIX message, issue the AIX **info** command with the **-h** flag, followed by the message number. For example, from the command line enter:

```
info -h MessageNumber
```

where *MessageNumber* is the number of the AIX message.

readme Files

The **readme** files on the Infoprint CD-ROM contain last-minute information about Infoprint that the hardcopy publications or the online information do not contain. You can use the AIX **more** command or a text editor, such as **dtpad** or **vi** on AIX, EPM on OS/2, or Notepad on Windows, to view the contents of the **readme** files.

Viewing PDF Publications

Infoprint provides software publications in PDF files on the publications CD-ROM. To view or print these publications:

1. Log in to AIX as **root** or as a member of the **system** group.
2. Insert the Infoprint publications CD-ROM into the drive.
3. To determine the identifier of your CD-ROM drive, enter on the AIX command line:

   ```
   lsdev -C -c cdrom
   ```
4. Then enter:

   ```
   mount -v cdrfs -r /dev/cdn /cdrom
   ```

   where *cdn* is the identifier of your CD-ROM drive, and */cdrom* is the file system that was created to install Infoprint.
5. Read the **readme.txt** file in the **/cdrom** directory.
6. If your AIX server or Windows system has an internet browser, such as Netscape or Internet Explorer, select the **aixindex.html** file in the appropriate language directory and click on the descriptions to view the appropriate PDF file.

   For example, if you use English, access the **/cdrom/english/aixindex.html** file.

   If your AIX server or Windows system does not have an internet browser, move to the appropriate language directory and slect the appropriate PDF file from the following choices:

Installing Infoprint Manager

Title	PDF file name
Getting up and running in no time with IBM installation services	inscf798.pdf
Installing and Configuring Infoprint Library	library.pdf
Installing Infoprint Manager Control on your AIX Server	aixinsr32.pdf
Installing Optional Features	insoptf32.pdf

Using Infoprint Manager

Title	PDF file name
IPDS Printer Operator Commands	refip798232.pdf
IPDS Error Recovery	ipdserrecov32.pdf
Performing Optional Configuration	optcfg32.pdf
Printing Variable Data	VariData.pdf
Submitting a Job to a DocuTech 135 Printer	prdocu39932.pdf
Using Enhanced Grab and Move to Shift Page Images	prnpgoff39932.pdf
Using Infoprint Scan	g5445722.pdf

Infoprint Publications

Title	PDF file name
Administrator's Guide	iprf1mst.pdf
User's and Operator's Guide	ipro1mst.pdf
Infoprint Manager Reference	iprr2mst.pdf
IBM PSF for AIX: AFP Upload Configuration Guide Using SNA Server/6000	S5445422.pdf
IBM PSF for AIX: AFP Upload Configuration Guide Using TCP/IP	S5445423.pdf
SAP R/3 Support: Configuration and Printing Tasks	sapr332.pdf.pdf

7. To use the Adobe Acrobat Viewer, enter:

```
cd /usr/lpp/Acrobat3/bin
./acroexch
```

   Click on the **Help** button to learn how to view or print a publication.

8. If you have installed Infoprint Submit or the Adobe Acrobat Viewer on Windows, you can print or view the Infoprint PDF publications from your Windows system. On Windows, the publications directory is called *d*:**\cdrom\books***language*, where *d:* is the identifier of your CD-ROM drive and *language* is the appropriate language for the books.

The Organization of This Publication

This publication contains the following chapters and appendixes:

Chapter 1. Introduction

This chapter describes the Infoprint object classes and gives some general information about invoking Infoprint commands, utilities, and transforms.

Chapter 2. Infoprint Commands

This chapter describes the syntax, use, flags, attributes, and arguments of the Infoprint commands and shows examples of each command.

Chapter 3. The -o Flag for AIX Print Commands

This chapter describes the **-o** flag, which is used with AIX print commands to pass information to Infoprint.

Chapter 4. Infoprint Administrative Utilities

This chapter describes the syntax, use, flags, and arguments of the Infoprint administrative utilities and shows examples of each utility.

Chapter 5. Daemon Utilities for Infoprint Manager for AIX

This chapter describes the utilities that start Infoprint daemons.

Chapter 6. Infoprint Transform Commands

This chapter describes the transforms used for converting data for printing with Infoprint.

Chapter 7. Infoprint Object Attributes

This chapter describes the use and values of the attributes associated with each Infoprint object class.

Chapter 8. Infoprint Environment Variables

This chapter describes the Infoprint and AIX environment variables that affect the processing of Infoprint commands.

Chapter 9. Notification Events and Event Classes

This chapter describes the Infoprint events for which you can request notification.

Appendix A. Attribute-to-Object Listing

This appendix contains a table listing all the Infoprint attributes in alphabetical order and naming the objects that support each attribute.

Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents

This appendix contains a table showing the attribute, or the flag or argument of the **pdpr** command, that replaces each PSF job script keyword when the job script is migrated to Infoprint.

Appendix C. Job Validation and Scheduling

This appendix describes how Infoprint validates and schedules jobs. It contains tables showing the attributes used for validation and scheduling.

Appendix D. Form Definitions and Page Definitions Supplied with Infoprint

This appendix lists the form definitions and page definitions supplied with Infoprint.

This publication also contains a glossary and an index.

Conventions Used in This Publication

This publication uses conventions for the following:
- Highlighting
- Infoprint command notation

Highlighting

This publication uses four different types of highlighting:

Bold   In this publication, bold highlighting identifies commands, attributes, files, directories, and other items whose names the system predefines, such as **pdpr** and **notification-profile**.

Italic   When used in running text, italic highlighting identifies a variable item whose actual name or value you supply, such as *AttributesFileName* or *Notification*. Italics also identify publication titles.

Bold *Italic*

When enclosed in double quotation marks, combined bold and italic highlighting identifies a specific attribute name that you enter exactly as shown and a variable value that you supply with the attribute. For example: **"copy-count=***number***"**

Monospace

> When used in command examples, information in a monospaced font identifies the exact wording of the command.

Infoprint Command Notation

Command syntax notation uses symbols to show specific conditions. Do not enter the following symbols, unless specifically instructed to do so, when actually issuing a Infoprint command:

Bar |

Braces

> { }

> **Note:** There are some situations in which you will actually type the brace characters. See "Special Characters That Are Included in Commands" on page xl.

Brackets

> [ ]

Underlining

> _

Ellipsis

> ...

These symbols have the following meanings when used in the publications and in the online information:

* A vertical bar, |, between values means that you can only enter one of the values with the command. For example:

  job-hold:= {**true** | **false**}

  means that when you set the **job-hold** attribute, you can specify either **true** or **false**, but not both.

* Braces, { }, around values identify required items that you must supply with the command. For example:

  job-hold:= {**true** | **false**}

  means that you must enter either **true** or **false**.

* Brackets, [ ], around values indicate that they are optional. For example:

  resource-context=directory[**:**directory...]

  means that you do not have to enter more than one directory, but that you can have two or more directories, each separated by a colon, **:** .

* An ellipsis, ... , means that you can supply more than one occurrence of a keyword or value with the command. For example:

  resource-context=directory[**:**directory...]

  means that you can enter more than directory name.

* Underlined text identifies the default fixed value that Infoprint uses if you do not specify a value. For example:

  default-printer-resolution={<u>240</u> | **300** | **480** | **600**}

means that **240** is the default value.

Special Characters That Are Included in Commands

When colons, dashes, the equals sign, double quotation marks, single quotation marks, and braces are shown in command syntax notation, you will include them when you issue the command in most cases. These special characters have the following meanings:

- A colon, **:**, separates related values. For example:

  ```
  pdpr -f file1 -x "page-select=3:6" file2
  ```

  means that only pages 3 through 6 of `file2` are to print.

- A dash, **-**, always precedes a flag, for example, **-x**.

- The equals sign, **=**, separates attribute and value pairs. For example:

  ```
  pdmod -x "sides=2" DivSpool12:1011230045
  ```

  means that **2** is the value assigned to the **sides** attribute.

- Double quotation marks, **" "**, surround multiple attribute and value pairs, such as:

  ```
  -x "sides=2 print-quality=draft"
  ```

  For consistency, this publication also shows double quotation marks around single attribute and value pairs in all command examples, although they are not required. For example:

  ```
  -x "document-format=ascii"
  ```

- Double quotation marks, **" "**, surround text strings that contain spaces, such as:

  ```
  -m "Down for maintenance"
  ```

- Single quotation marks, **' '**, surround a text string that contains spaces inside another string that is enclosed in double quotation marks. An example is:

  ```
  -x "sides=2 job-print-after='08:00:00 10/09/98'"
  ```

- Braces, **{ }**, surround a value in a notification profile. An example is:

  ```
  -x "notification-profile={delivery-method=electronic-mail}"
  ```

Global Character Used in Examples and Shell Information

The examples using a global character and other examples shown within the Infoprint publications relate to the Korn shell. Depending on the shell you are using, the examples shown may or may not work. The examples may also show control characters that other shells do not require. Adjust the examples as necessary for the shell you are using.

Examples of Commands and Attributes

- This publication shows examples of commands in a format designed for ease of reading. When entering the command, allow the command to wrap characters from one line to the next.

- Many examples in this publication use spacing of attributes and values for ease of reading and formatting considerations. When entering the attributes and their values on the command line or in attributes files, use the correct syntax.

Chapter 1. Introduction

Infoprint Manager for AIX allows you to send a file, as an electronic document, for printing on a printer device or for transmission by fax or electronic mail; and Infoprint Manager for Windows NT and Windows 2000 allows you to send a file, as an electronic document, for printing on a printer device.

This book was originally written for Infoprint Manager for AIX. Because of the commonality between Infoprint Manager for AIX and Infoprint Manager for Windows NT and Windows 2000, this book now documents both products with an admitted slant on the AIX side for such things as examples and path names. (See "Reference Table for Path Names" for a table that lists the NT and 2000 paths with the AIX paths used in this book.) An effort has been made to indicate significant differences between the two platforms, especially in "Chapter 7. Infoprint Object Attributes" on page 325. For example, Infoprint Manager for Windows NT and Windows 2000 does not support tape.

Reference Table for Path Names

AIX Path	NT or 2000 Path
/usr/lpp/psf/ps/psfonts.map	*install_path***ps\\fonts.map**
/usr/lpp/psf/psf/bin/db2afp	*install_path***bin\\db2afp.exe**
/usr/lpp/psf/db2afp/afpdfont.rc	*install_path***bin\\afpdfont.rc**
/usr/lib/nls/loc/iconv/*ConverterName*	*install_path*
/usr/lpp/psf/jpeg2afp/jpeg2afp.cfg	*install_path*\\
/usr/lpp/psf/reslib	*install_path***reslib**
/usr/lpp/afpfonts	*install_path***fontlib**
/usr/lpp/psf/fontlib	*install_path***fontlib**
inpexit=/usr/lpp/psf/bin/apka2e	**inpexit=c:\\Program Files\\IBM Printing Systems\\bin\\apka2e**, which assumes you installed in the default path
inpexit=/usr/lpp/psf/bin/asciinpe	**inpexit=c:\\Program Files\\IBM Printing Systems\\bin\\asciinpe**, which assumes you installed in the default path
inpexit=/usr/lpp/psf/bin/asciinp	**inpexit=c:\\Program Files\\IBM Printing Systems\\bin\\asciinp**, which assumes you installed in the default path
formdef=memo userlib=/usr/afp/resources	**formdef=memo userlib=d:\\afp\\resources**
formdef=memo fdeflib=/usr/lib/formdefns	**formdef=memo fdeflib=d:\\lib\\formdefns**
pagedef=memo userlib=/usr/afp/resources	**pagedef=memo userlib=d:\\afp\\resources**
pagedef=memo pdeflib=/usr/lib/pagedefns	**pagedef=memo pdeflib=d:\\lib\\pagedefns**
/usr/lpp/psf/bin/line2afp	*install_path***bin\\line2afp.exe**
/usr/lpp/psf/bin/acif	*install_path***bin\\acif.exe**
/usr/lpp/psf/acif/apkinp.c, apkind.c, apkres.c, apkout.c, apka2e.c, ascinnp.c	*install_path***exits\\acif\\apkinp.c, apkind.c, apkres.c, apkout.c, apka2e.c, ascinnp.c**
/usr/lpp/psf/bin/apka2e, apkin, apkind, apkres, apkout, apka2e, asciinp, asciinpe	*install_path***bin\\apka2e.dll, apkin.dll, apkind.dll, apkres.dll, apkout.dll, apka2e.dll, asciinp.dll, asciinpe.dll**

/usr/lpp/psf/acif/apkexits.h	*install_path***exits\acif\apkexits.h**
/usr/lpp/psf/bin/Makefile	**No NT or 2000 equivalent**
No AIX equivalent	*install_path***exits\acif\apka2e.dsw, apkinp.dsw, apkind.dsw, apkres.dsw, apkout.dsw, apka2e.dsw, asciinp.dsw, ascinnpe.dsw** (Microsoft Visual C++ 6.0 Workspaces for the user exits)
No AIX equivalent	*install_path***exits\acif\apka2e.dsp apkinp.dsp apkind.dsp apkres.dsp apkout.dsp apka2e.dsp asciinp.dsp ascinnpe.dsp** (microsoft Visual C++ 6.0 Project files for the user exits)
/usr/lpp/psf/pcl2afp	*install_path***pcl2afp**
/usr/lpp/psf/pcl2afp/pcl2afp.cfg	*install_path***pcl2afp\pcl2afp.cfg**
/usr/lpp/psf/pcl2afp/custom.cfg	*install_path***pcl2afp\custom.cfg**
/usr/lpp/psf/pcl2afp/custom.cfg	*install_path***pcl2afp\custom.cfg**
/usr/lpp/psf/pcl2afp/pcl2afpd.cfg	*install_path***pcl2afp\pcl2afpd.cfg**
/usr/lpp/psf/pcl2afp/myfile.cfg	**d:\pcl\myfile.cfg**
/usr/lpp/psf/pcl2afp/gl_before.pc1 myfile.g1 /usr/lpp/psf/pcl2afp/gl_after.pcl	*install_path***pcl2afp\gl_before.pcl myfile.gl** *install_path***pcl2afp\gl_after.pcl**
/usr/lpp/psf/pcl2afp/sample.pcl	*install_path***pcl2afp\sample.pcl**
/usr/lpp/psf/bin/pcl2afp	*install_path***bin\pcl2afpd.exe**
/usr/lpp/psf/bin/pcl2afpd	*install_path***bin\pcl2afpd.exe**
/usr/lpp/psf/bin/ppxpcli	*install_path***bin\ppxpcli.exe**
/usr/lpp/psf/bin/ppxpclis	**No equivalent on NT**
/usr/lpp/psf/pcl2afp/pcl2afp.cfg	*install_path***pcl2afp\pcl2afp.cfg**
/usr/lpp/psf/pcl2afp/pcl2afpd.cfg	*install_path***pcl2afp\pcl2afpd.cfg**
/var/psf/pcl2afp	*install_path***var\psf\pcl2afp**
/usr/lpp/psf/ps2afp/ps2afp.cfg	*install_path***ps2afp\ps2afp.cfg**
/usr/lpp/psf/ps2afp/ps2afpd.cfg	*install_path***ps2afp\ps2afpd.cfg**
/usr/lpp/psf/bin/ps2afp	*install_path***bin\ps2afp**
/usr/lpp/psf/bin/ps2afpd	*install_path***bin\ps2afpd**
/usr/lpp/psf/bin/pdf2afp	*install_path***bin\pdf2afp**
/usr/lpp/psf/bin/ppxps2i	*install_path***bin\ppxps2i**
/usr/lpp/psf/bin/ps2afpi	*install_path***bin\ps2afpi.vm**
/usr/lpp/psf/bin/ps2afpi.vm	*install_path***bin\ps2afpi**
/usr/lpp/psf/bin/ppxps2	*install_path***bin\ppxps2**
/usr/lpp/psf/bin/ps2afp.ps	*install_path***bin\ps2afp.ps**
/usr/lpp/psf/bin/ps2afpe.ps	*install_path***bin\ps2afpe.ps**
/usr/lpp/psf/bin/fontsave	*install_path***bin\fontsave**
/usr/lpp/psf/psfonts.map	*install_path***bin\psfonts.map**
/var/psf/psfonts	*install_path***var\psfonts**
/usr/lpp/psf/tiff2afp/tiff2afp.cfg	*install_path***tiff2afp\tiff2afp.cfg**
/var/psf/podaccount.log	*install_path***var\psf\podaccount.log**

/var/psf/audit.log	install_path\var\psf\audit.log

Objects

Infoprint performs the management and printing or transmission of jobs by using **Infoprint objects**.

Object Classes

Table 1 lists the object classes that Infoprint supports. The destination class is subdivided into logical and actual destinations.

Table 1. Infoprint Objects

Object Name	Purpose
Auxiliary sheet	Represents a sheet of paper, blank or otherwise, that precedes a job, separates copies within a job, or follows a job; or a user exit program that produces output that can be printed on an auxiliary sheet or logged.
Default document	Represents default attribute values for a document within a job. Also called *initial value document*.
Default job	Represents default attribute values for a job. Also called *initial value job*.
Destination (actual)	Represents the output device that Infoprint uses to print or transmit the job. It is not the actual output device. It is a software representation of the features and capabilities of the printer or fax hardware device, or of an electronic mailing system. A *physical printer* is an actual destination that represents a printer device. A *fax destination* represents a fax device. An *email destination* represents an electronic mailing system.
Destination (logical)	Represents an abstract entity to which users submit jobs for printing or transmission. The logical destination provides restrictions and defaults for the job. It also verifies that associated actual destinations capable of handling the jobs exist. Once the logical destination verifies the job, Infoprint sends it to an associated queue, from which it is routed to an actual destination. The term *logical printer* is used for logical destinations that route jobs to physical printers.
Document	Represents a grouping of data within a job: either a printable file or a resource that is not printable by itself, for example, a font.
Job	Represents one or more documents submitted together in one request.
Log	Represents a collection of messages or message segments added to a file for data collection purposes. Infoprint uses two types of logs: error and trace.
Medium	Represents the physical material on which a job prints.

Table 1. Infoprint Objects (continued)

Object Name	Purpose
Queue	Manages a collection of jobs that are waiting to be printed or transmitted and jobs that have been retained after processing. A queue receives jobs from one or more logical destinations and schedules and sends the jobs to actual destinations.
Resource context	Contains directory path information that is used to locate resources needed for processing a job. Resources include fonts, overlays, form definitions, page segments, and page definitions.
Server	Manages and controls the validation, routing, notification, logging, scheduling, and printing or transmission of jobs. The server applies specified defaults to jobs, validates that the destinations on the network can process the jobs, schedules jobs from queues to actual destinations, directs jobs to the actual destination, reports errors, and reports job status.
Transform	Indicates how specific document formats sent to an associated actual destination are to be transformed before printing or storing.

Object Name Restrictions

The following restrictions apply to naming Infoprint objects:
- You can specify object names up to 255 characters in length, except for the names of PSF physical printers, fax destinations, and email destinations, which you must limit to eight characters or less.
- Characters allowed in object names include uppercase A through Z, lowercase a through z, digits 0 through 9, and the special characters hyphen or dash, -, period, . , and underscore, _ . Do not start an object name with a hyphen.
- Names for servers used with SAP systems should restrict their server names to nine characters.

Object Attributes

All Infoprint objects have associated attributes. Attributes provide information about the objects and determine what you can do with objects.

Attribute Disclaimer

There are attributes and attribute values identified in the ISO 10175-1 *Information Technology Text and Office Systems - Document Printing Application (DPA) - Part 1: Abstract-Service Definition and Procedures* standard that Infoprint does not support. If you use any of these non-supported attributes or values, Infoprint may accept them. However, the results may be different than you expect. At times you may receive a message stating that Infoprint does not support the attribute or value.

Initially Settable, Resettable Attributes, and Non-Settable

Infoprint attributes fall into three categories:

Initially settable

For some attributes, you can set a value when you create the object with the **pdcreate** or the **pdpr** command. You cannot change these attributes afterwards.

For example, the following command:

```
pdpr -x "job-originator='Anne Brown'" -d Sevv1-ld bigbook
```

creates a job containing a file called `bigbook` and identifies the person who submitted the job by name. The attribute **job-originator** is *initially settable* and you cannot change it.

Resettable

For some attributes, you can set or modify the value using the **pdmod** command (for jobs and documents) or the **pdset** command (for all objects, including jobs and documents), after you create the object.

For example, this command:

```
pdmod -x "job-end-message='Please call 5-9999 for pickup'" 37
```

sets a new value for the **job-end-message** attribute for the existing job whose local ID is `37`.

Non-settable

You cannot set a value for some attributes at any time.

For example, in the following command:

```
pdcreate -c queue Serv1:Queue3
```

Infoprint uses the command arguments to assign the queue attribute **queue-name** the value `Queue3`, and the **associated-server** attribute the value `Serv1`. You cannot set different values for these arguments using the **-x** flag of the **pdcreate** command and you cannot change them later.

Resetting Attributes to the Default Value

"Chapter 7. Infoprint Object Attributes" on page 325 shows default values for all attributes. For some attributes, the default value is "no value".

- When you create an object, Infoprint assigns a default value (or values, for some multi-valued attributes) to each attribute. You can override these default values by specifying a different value using the **-x** and **-X** flags of the **pdmod** or **pdset** commands.

- You can change values back to their default values by using the **pdmod** or **pdset** commands and specifying the attribute name followed by two equals signs, ==, without any attribute value.

  For example, the following command:

  ```
  pdset -x "printer-end-sheet==" Serv3-pp
  ```

  sets the value assigned to **printer-end-sheet** for the actual destination `Serv3-pp` back to its default value.

- Deleting all the values from a multi-valued attribute or deleting the value of a single-valued attribute sets the attribute value to the default values.

Attribute Syntax

This section describes the syntax to use when you set values for three types of attributes on the command line or in an attributes file. Most attributes are either **single-valued** (they can have only one value at a time) or **multi-valued** (they can have multiple values). Infoprint also has some **complex attributes**.

Introduction

Examples of these types of attributes follow.

Single-Valued Attributes: For single-valued attributes, the syntax is:

"*attribute***=***value*"
"*attribute***='***value with spaces***'**"

Enclose the value in single quotation marks if it includes spaces, for example:

```
-x "message='Down for maintenance until 7AM'"
```

Note: The Infoprint administrator's GUI does not require quotation marks.

Multi-Valued Attributes: For multi-valued attributes, the syntax is:

"*attribute***=***value1 value2 value3*"

where *value1 value2 value3* are multiple values of the attribute. Separate the values with spaces and enclose the attribute name and values in double quotation marks. For example:

```
-x "content-orientations-supported=portrait landscape"
```

assigns two values, **portrait** and **landscape**, to the **content-orientations-supported** attribute.

Note: In the Infoprint administrator's GUI, most multi-valued attributes require you to specify each value on a separate line of a list box. When you must enter multiple values in a single field, separate the values by commas. For example, enter multiple values for the **chars** attribute like this:

Fonts
```
GT10,GT12
```

Complex Attributes: Complex attributes can have multiple values, but each value itself has multiple components. Each component of a value has its own values. Two types of complex attributes are those that require braces, { } , enclosing each value, and those that have the components of each value separated by a colon, **:** .

Note: In the Infoprint administrator's GUI, you enter each component in a separate field. No braces or colons are required.

Complex Attributes that Require Braces: The only complex attribute that requires braces is **notification-profile**
- Each value for this complex attribute begins and ends with braces, { } .
- Each value has several components
- Each component has a name and associated values
- The sequence in which you enter the components is not important
- The component **event-identifiers** is the only component that can have multiple values

An example of creating a **notification profile** with one value for a queue follows:

```
pdset -c queue
   -x "notification-profile={event-identifiers=job-modified
   queue-state-changed delivery-method=message
   event-comment='This is a job modification or status event'
   delivery-address=dave@cowboy locale=En_US.IBM-850}" Queue1
```

If you change one component within the notification profile, Infoprint sets all the rest of the components of that value to their default values. For example, the following command sets the **delivery-address**, but Infoprint sets the other components to their defaults:

```
pdset -c queue
-x "notification-profile={delivery-address=tom@hope}" Queue1
```

If you want to maintain the existing values, you must specify them. You cannot use the add, +=, or delete, -=, operators of the **pdset** or **pdmod** commands when changing the component values within a **notification-profile** value. However, you can add or delete all components of a value from the **notification-profile** by using the add, += , or delete, -= , operators. For example, the following command:

```
pdset -c queue
-x "notification-profile+={delivery-address=mary@cowboy} Queue1
```

adds another value to the previous one. Now the **notification-profile** has two values.

```
notification-profile=
{event-identifiers=job-modified queue-state-changed delivery-method=message
event-comment='This is a job modification or status event'
delivery-address=dave@cowboy locale=En_US.IBM-850}

{event-identifiers=object-deleted object-cleaned queue-backlogged
delivery-method=message delivery-address=mary@cowboy
locale=En_US.IBM-850}
```

The second value contains default values for each component except the delivery address. If you want values other than defaults, you must specify them.

Complex Attributes that Require Colons: All other complex attributes require colons between components.
- Do not enter the component name.
- Separate the values for the components with a colon, **:** , and no spaces
- Enter a colon even if you do not enter a value for a given component. Infoprint sets the default value or no value for that component.
- If you use the default value for the last value, Infoprint does not require the colon for that component.
- Separate each attribute value within a multi-valued attribute with spaces (see the following example)

An example of setting the **notify-operator** attribute for a queue is:

```
pdset -c queue -x "notify-operator=
   message:White@Caddy.xyz.com email:Jones@Chevy.xyz.com"
   Queue2
```

Examples of setting the **results-profile** attribute for a job are:

```
pdset -c job -x "results-profile='dave@cowboy:pickup:2:Please staple'" 2

pdset -c job -x "results-profile='dave@cowboy::2:Please staple'" 2
```

The result of these two commands is the same because the default for the second component is **pickup**.

Commands

Infoprint commands act on objects. They create, modify, and delete objects, and may also return status and other information about the Infoprint objects.

Flags, Command Attributes, and Arguments

The basic Infoprint command syntax is:

command [*-flag* ...] [*argument* ...]

The *argument* targets the specific object on which the Infoprint command operates. Most commands must include an *argument*. All commands can include one or more of the following:

Flags Flags consist of a dash, - , followed by a single character. Flags either substitute for command or object attributes or modify the way Infoprint processes a command. For example, you can use the **-c** flag instead of the **class** command attribute. Some flags have values associated with them.

Use the **-x** and the **-X** flags to enter command attributes or object attributes on the command line or to read in a file containing those attributes at a specific point in the command.

Command attributes

Use command attributes to modify the action of the command and to define the object class on which the command operates. Most of the command attributes have an associated command flag that causes the same action. You cannot use a command flag in an attributes file. You can use the command attribute in an attributes file or on the command line using the **-X** flag or the **-x** flag respectively.

When you enter an attribute and value pair, you must specify the attribute followed by the equals sign, = , followed by the value; do not include spaces between these three items unless you enclose the items in quotation marks. For example, Infoprint accepts both the *class=destination* and *"class = destination"* formats.

You must begin and end a string of multiple attribute-value pairs with double quotation marks, for example:

```
pdls -x "class=job requested-attributes=current-job-state" 10
```

Object attributes

Use object attributes to apply attribute values to the specified argument. You can use the object attribute in an attributes file or on the command line using the **-X** flag or the **-x** flag respectively.

When you enter an attribute and value pair, you must specify the attribute followed by the equals sign, = , followed by the value.

You must begin and end a string of multiple attribute-value pairs with double quotation marks, for example:

```
pdpr -x "document-format=ascii sides=2 plex=simplex" File1
```

Arguments

The argument specified in a command is the name of the object the command acts on. For servers, the argument is the name of the server. Servers contain all other objects. For some objects, you must specify the name of its server in the form *ServerName:ObjectName*. For other objects, the server name is optional. You must look at each command to determine the exact format allowed.

If you specify multiple arguments in one command, they must belong to the same object class.

Command Output: Headings and Style

Some commands allow you to specify whether you want the output displayed in line style, column style, or document column style, and whether you want the output displayed with or without headings. Document column (**doccol**) style is a variant of column style used only for jobs. It is like column style except that the attributes for the first document in the job are displayed on the same line as the job attributes, rather than on a separate line as in column style.

The following examples show the same information (the **current-job-state** and **destination-name-requested** attributes for a job, plus the **document-format** and **copy-count** attributes for the first document in the job) in the six possible combinations of headings and style:

- Line style, with headings:

```
jw-srv:0524600000: current-job-state         = held
jw-srv:0524600000: destination-name-requested = jw-lp1
jw-srv:0524600000.1: document-format          = ascii
jw-srv:0524600000.1: copy-count               = 1
```

- Line style, without headings:

```
current-job-state          = held
destination-name-requested = jw-lp1
document-format            = ascii
copy-count                 = 1
```

- Column style, with headings:

```
Current     Destination
State       Requested
-------     -----------
held        jw-lp1


Format  Copies
------  ------
ascii   1
```

- Column style, without headings:

```
held  jw-lp1

ascii  1
```

- Document column style, with headings:

```
Current  Destination
State    Requested     Format  Copies
-------  -----------   ------  ------
held     jw-lp1        ascii   1
```

- Document column style, without headings:

```
held  jw-lp1  ascii  1
```

Tips for Using Commands

Understanding the following topics can make your use of, and entry of, commands easier.

Wildcards

You can use the global character, an asterisk, `*` , to simplify broadcasting commands to all servers. For example, STU*: sends the command to all servers whose names begin with the letters STU. When the global character is present in the *ServerName*, Infoprint sends the command to each of the servers that match the specified criterion.

Depending on the shell you are using, you may need to enter control characters to keep the shell from interpreting the asterisk, *, before Infoprint has a chance to operate on it.

Abbreviations

This publication shows attribute names and values in their complete form. Often, you can abbreviate attribute names and values by using the first letter of each word in the name or value. For example, you can use the abbreviation **s-m-s** for the **start-message-supported** attribute, **t** for the **true** value, and specify the attribute and value pair as **s-m-s=t**.

However, sometimes specifying only the first letter in each word is ambiguous, as for the attributes **job-owner** and **job-originator**. Here, specify enough of the name so that it is unique, as in **j-ow** and **j-or**. If the values are ambiguous, Infoprint rejects the command and issues an error message. Use abbreviated attribute names and values as appropriate.

Attributes File

You may want to predefine specific attribute and value pairs in permanent files and access them when you need those specific values within a command. These files can contain command attributes, object attributes, or both.

Creating an Attributes File:

- You can list command attributes and any initially settable or resettable object attributes in an attributes file, including the command attribute **attributes**. Thus, an attributes file can invoke other attributes files.

  Note: If an attributes file calls itself, Infoprint issues an error.

- You can only use a file that contains initially settable attributes with the **pdcreate** or **pdpr** commands. If you include an initially settable attribute in an attributes file and use the file with the **pdset** or **pdmod** commands, Infoprint rejects the attribute and issues an error message.

- Attributes files must not contain any attributes without values.

- When creating an attributes file, consider spelling out the complete attribute names and attribute values rather than using abbreviations.

- You can use spaces between the attribute name and the equals sign to align the equals sign and values. This makes your files easier to read and maintain.

- You can use comment lines in attributes files. The comment starts with a number sign, # , and ends at the end of line.

  For example, an attributes file used to set two-sided printing and to request a specific printer model contains these lines:

  ```
  # These are my document attributes
  sides = 2
  destination-models-requested = 4019  # 4019 printer only
  ```

  Note: You can include a number sign, # , as part of an attribute value if you precede it immediately with a backslash, \# .

Using an Attributes File:

Infoprint provides both a command attribute and a flag to read an attributes file into a command.

Command Attribute: **-x "attributes=***AttributesFileName***"**

You use the **-x** flag to specify the command attribute **attributes**. This attribute designates and causes Infoprint to read and use an attributes file, which contains

attribute and value pairs (one or more per line), at the current point in the command. Specifying this attribute is equivalent to using the **-X** flag.

Flag: **-X** *AttributesFileName*

This causes Infoprint to read and use the designated attributes file containing attribute and value pairs at the current point in the command.

The following two examples are equivalent:

```
pdset -X AttrFileAD1.X Serv2-pp

pdset -x "attributes=AttrFileAD1.X" Serv2-pp
```

Using the command attribute **attributes** or the **-X** flag to designate and read an attributes file has the same effect as specifying multiple attribute and value pairs using the **-x** flag. These attributes require the same syntax as those used with the **-x** flag. For example, both of the previous examples reference the following attributes file:

```
# Actual Destination Attributes File
# AttrFileAD1.X
document-formats-supported =ascii ditroff modca-p
maximum-copies-supported   =3
document-types-supported   =printable overlay page-segment
printer-memory             =32
```

It is equivalent to the following command:

```
pdset -x "document-formats-supported=ascii ditroff modca-p
   maximum-copies-supported=3 document-types-supported=printable
   overlay page-segment printer-memory=32" Serv2-pp
```

The **-X** and **-x** flags are additive so that Infoprint uses all attributes and values. If you specify the same object attribute more than once in a command with multiple uses of the **-x** and **-X** command flags or the **attributes** command attribute, or a combination of them, the value read last takes precedence.

Locating an Attributes File for Infoprint Manager for AIX: If you do not specify a full path name for the attributes file, Infoprint uses the path name from the environment variable **PDPATH** to locate the attributes file. If you do not define **PDPATH** or it contains a null string, Infoprint looks in your current working directory for the attributes file.

For example, if **PDPATH** contained **/usr/user/smith/** the following command:

```
pdpr -X my_attributes.X File1
```

would read the file **/usr/smith/my_attributes.X** to obtain the attribute and values.

Note: For Infoprint Manager for Windows NT and Windows 2000, you must specify the full path.

Administrative Utilities

Infoprint administrative utilities perform such tasks as setting up a minimum Infoprint configuration, starting servers, and displaying information about Infoprint messages.

Daemon Utilities for Infoprint Manager for AIX

Infoprint has some special utilities for starting daemons. Daemons are often called by the same name as the utility that starts them. For example, the daemon that receives data from MVS Download is called the **mvsprsd** daemon, or simply **mvsprsd**.

Transform Commands

Infoprint transform commands convert another data stream to the AFP data stream. You can allow Infoprint to invoke these transforms automatically, or you can invoke them yourself.

Some transforms use options instead of flags. Like flags, options begin with a dash, - , and modify the way Infoprint processes the transform. Unlike flags, options may have more than one character following the dash.

Environment Variables for Infoprint Manager for AIX

Infoprint and AIX environment variables affect the way that Infoprint processes commands and utilities. These environment variables are summarized in "Chapter 8. Infoprint Environment Variables" on page 651.

Windows Services for Infoprint Manager for Windows NT and Windows 2000

Infoprint Manager for Windows NT and Windows 2000 uses Windows Services for many functions, including the Infoprint server, Notification, IPP, and MVS download.

Chapter 2. Infoprint Commands

This chapter describes the following Infoprint commands:

Command Name	AIX	NT and 2000
"lprafp Command: Submits Remote Jobs in Infoprint Manager for AIX" on page 15	AIX	N/A
"mkfntmap Command: Maps PostScript Fonts" on page 17	AIX	NT and 2000
"pdaccount Command: Collect Accounting Information for a Specific Time Period" on page 19	AIX	N/A
"pdclean Command: Removes All Jobs from the Specified Object" on page 22	AIX	NT and 2000
"pdcreate Command: Creates Infoprint Objects" on page 25	AIX	NT and 2000
"pddelete Command: Deletes Infoprint Objects" on page 30	AIX	NT and 2000
"pddisable Command: Stops Destinations from Accepting Jobs and Logs from Logging" on page 34	AIX	NT and 2000
"pdenable Command: Enables Destinations to Accept Jobs and Logs to Log" on page 37	AIX	NT and 2000
"pdls Command: Lists Selected Attribute Values" on page 40	AIX	NT and 2000
"pdmod Command: Modifies Attributes of Submitted Print Jobs" on page 51	AIX	NT and 2000
"pdpause Command: Pauses Jobs, Actual Destinations, Servers, or Queues" on page 56	AIX	NT and 2000
"pdpr Command: Submits Jobs" on page 63	AIX	NT and 2000
"pdpromote Command: Advances a Job to the Top of a Queue" on page 72	AIX	NT and 2000
"pdq Command: Queries Job Status" on page 74	AIX	NT and 2000
"pdreorder Command: Reassigns Jobs" on page 79	AIX	NT and 2000
"pdresubmit Command: Resubmits Jobs" on page 81	AIX	NT and 2000

Commands

"pdresume Command: Enables Paused Objects to Resume Operation" on page 85	AIX	NT and 2000
"pdrm Command: Removes Jobs" on page 88	AIX	NT and 2000
"pdset Command: Defines Attribute Values" on page 91	AIX	NT and 2000
"pdshutdown Command: Stops Servers or Actual Destinations" on page 96	AIX	NT and 2000
"pdspace Command: Backspaces or Forward Spaces a Printer" on page 100	AIX	NT and 2000

Note: The **psfstat** command for displaying information about Infoprint destinations and PSF Direct receivers is documented in *PSF Direct Network Configuration Guide for System/370* and the **psfstat** man page.

Iprafp Command: Submits Remote Jobs in Infoprint Manager for AIX

Syntax

Iprafp [**-n**] [**-o** *option*] [**-r** *retries*] [**-q** *delay*] [**-p** *destination*]
    [**-s** *server*] *FileName* ...

Description

The **Iprafp** command, when compiled on a UNIX client system, allows UNIX users operating on AIX 3.2.5 or higher, non-AIX systems, or non-RS/6000 systems to pass **-o** flag keywords to Infoprint for use in printing or transmitting remote jobs. The **-o** flags that are interpreted by Infoprint can be sent with the remote job.

You can submit a job using a shell script called **LPR**. When you invoke **LPR** with the **-A** flag, **LPR** invokes the **Iprafp** command. **Iprafp** passes **-o** keywords to Infoprint. If you invoke the **LPR** shell script without the **-A** flag, **LPR** invokes the operating system's standard print command.

Flags

-n   Indicates that only error messages display when the output is processed. If you do not specify this flag, you receive status information on the job sent to the destination system.

-o *option*
        Indicates Infoprint options, for example:

        `-oformdef=F1SAMPLE`

        See "Chapter 3. The -o Flag for AIX Print Commands" on page 103 for descriptions of the **-o** options.

-r {3 | *retries***}**
        Indicates how many times the **Iprafp** program attempts to connect with the TCP/IP line printer daemon (**lpd**) on the destination system. This flag defaults to three retries.

-q {10 | *delay***}**
        Indicates the retry delay in seconds. This flag defaults to ten seconds.

-p *destination*
        Indicates the destination name on the server. This flag defaults to the value of the **LPR_PRINTER** environment variable.

-s *server*
        Specifies the destination server. This flag defaults to the value of the **LPR_SERVER** environment variable.

Arguments

Use the argument value to identify the specific files you want to submit for printing or transmission. If you specify multiple objects, separate the object names with spaces.

You can use the following arguments with the **Iprafp** command:

FileName **...**
        Indicates the files that are to be printed or transmitted. You can specify global file characters in this argument.

Examples

Submitting a Remote Print Job

To submit two copies of /etc/motd to the logical printer named laser on server alexandria, for printing without an end sheet, enter:

```
LPR -A -ocopies=2 -otrailer=no -s alexandria -p laser /etc/motd
```

Submitting a Remote Email Job

To send the file memo1 to the logical destination emailbox on server alexandria, enter:

```
LPR -A -s alexandria -p emailbox memo1
```

Note: The default document associated with emailbox must specify the **email-to-address** attribute.

Setting Environment Variables

To set up the environment so that subsequent print requests are sent to the logical destination named alexe-lp on server alexandria, enter:

```
export LPR_PRINTER=alexe-lp
export LPR_SERVER=alexandria
```

(Note that *server* can be in dotted address format; for example 9.99.9.99)

To test that your environment variables have been set correctly, enter:

```
LPR -A /etc/motd
```

Files

/usr/lpp/psf/utils/lpr/Makefile
> Generates the executable program

/usr/lpp/psf/utils/lpr/getopts.c
> Source code

/usr/lpp/psf/utils/lpr/getopts.h
> Source code header file

/usr/lpp/psf/utils/lpr/LPR
> Shell script for print command

/usr/lpp/psf/utils/lpr/lprafp.c
> Source code

/usr/lpp/psf/utils/lpr/lprafp.h
> Source code header file

mkfntmap Command: Maps PostScript Fonts

Syntax

mkfntmap *inputfile ...* [**>** *outputfile*]

Description

The **mkfntmap** command creates a font mapping file that contains a list of the PostScript Type 1 fonts specified in the *inputfiles* parameter of the command and their locations.

Infoprint Manager for AIX includes the **/usr/lpp/psf/ps/psfonts.map** file.

Infoprint Manager for Windows NT and Windows 2000 includes the *install_path***ps\fonts.map** file.

The font map file maps the AFP outline fonts to the directory in which they were installed. If you have additional PostScript fonts or you add new PostScript fonts, use the **mkfntmap** command to create a font mapping file for the new fonts after they are installed.

If you will be using the additional fonts frequently, you should add the fonts to the **preload.ps** file in the **/usr/lpp/psf/ps** directory for Infoprint Manager for AIX.

If you will be using the additional fonts frequently, you should add the fonts to the **preload.ps** file in the *install_path***ps** directory for Infoprint Manager for Windows NT and Windows 2000.

The fonts you specify in the **preload.ps** file load before transform processing begins, improving the performance of the PostScript transform.

Note: With Infoprint Manager for AIX, the Courier font must exist in at least one of your font mapping files. It is included in the font mapping file, **/usr/lpp/psf/ps/psfonts.map** for Infoprint Manager for AIX and the *install_path***ps\fonts.map** for Infoprint Manager for Windows NT and Windows 200.

Arguments

The argument value identifies the specific object to which the command applies.

The valid argument values for the **mkfntmap** command are:

inputfile ...
:   Specifies the name of the file or files that contain PostScript Type 1 fonts. At least one input file is required, although you can list more than one.

outputfile
:   Specifies the name of the font mapping file that contains the font mapping for the PostScript Type 1 fonts that were specified in the *inputfiles*. When the output file is created, it can be specified in the **ps2afpd** daemon and **ps2afp** command configuration files. You also can specify the *outputfile* name from the command line with the **-F** flag of the **ps2afp** command. If you do not specify an *outputfile* name, Infoprint writes the results to standard output.

mkfntmap

Examples

- To create a font mapping file of all binary fonts named `atm*`, which have the extension `.pfb`, and call it `atmfonts.map`, enter:

  `mkfntmap atm*.pfb > atmfonts.map`

- To create a font mapping file of all fonts named `cou*`, and call it `courier.map`, enter:

  `mkfntmap cou* > courier.map`

pdaccount Command: Collect Accounting Information for a Specific Time Period

Syntax

> **pdaccount** [**-c server**]
> {**-t destination** | **user** | **all**}
> [**-s** *StartTime*] [**-e** *EndTime*]
> [**-f**] *ServerName...*

Description

Use the **pdaccount** administrative command to collect summary accounting information for a specified time period in a comma delimited format about jobs processed by actual destinations on one or more servers. This information can be filed and imported into a spread sheet to calculate the cost of consumables, the usage rate of printers, the cost for each user, and so forth. You can request summary information or all available information. The summary information includes the following:

- Total pages printed by a destination or a user for a specified time period
- Total octets printed by a destination or a user for a specified time period

You can also request complete records for a specified time period.

When the **log-accounting-data** actual destination or server attributes are set to **true**, Infoprint Manager creates an accounting log for each destination and stores the information in the server's accounting.logs subdirectory. When the accounting logs are active, Infoprint Manager records the following information:

> **actual destination name** (up to 255 characters)
> **job owner** (up to 255 characters)
> **global job-id** without *ServerName*
> **submission-time** (GMT format)
> **submission-time** (date in server's displayable locale and time zone)
> **submission-time** (time in server's displayable locale and time zone)
> **completion-time** (GMT format)
> **completion-time** (date in server's displayable locale and time zone)
> **completion-time** (time in server's displayable locale and time zone)
> **pages-completed**
> **octets-completed**
> **data stream** (first document only)
> **job name** (up ot 255 characters)

For actual destinations that are unable to get pages completed from the printer, the information is obtained from the **job-page-count** attribute (which can be set by the user), or in some cases, Infoprint Manager determines the information by analyzing the datastream.

Note: Because of the way that Infoprint Manager pauses and cancels jobs, the totals for the pages completed could be inaccurate.

Flags

You can use the following flags with the **pdaccount** command:

pdaccount

-c server
Specifies the object class for the **pdaccount** command. Server is the only class supported for the **pdaccount** command.

-t
Specifies the type of account information that you want collected:

destination   Summary information by destination

user   Summary information by job owner

all   All records as logged

Attention: Requesting information for **all** accounting records can consume a lot of the server's memory since all the data is read into memory to be sent to you. If you have a lot of data to retrieve, you should consider requesting it for smaller time periods and concatenating the returned data.

For example, if you want to retrieve all the accounting records for a one month period, you could issue four **pdaccount** commands like this:

```
pdaccount -t all -s '00:00:00 03/01/00' -e '00:00:00 03/08/00'
Server A >March1.accting.data
```
```
pdaccount -t all -s '00:00:00 03/08/00' -e '00:00:00 03/15/00'
Server A >March2.accting.data
```
```
pdaccount -t all -s '00:00:00 03/15/00' -e '00:00:00 03/22/00'
Server A >March3.accting.data
```
```
pdaccount -t all -s '00:00:00 03/22/00' -e '00:00:00 03/31/00'
Server A >March4.accting.data
```

-s *StartTime*
Specifies the oldest job-completion time for records to include. If this flag is not specified, defaults to the first record in the accounting log.

-e *EndTime*
Specifies the latest job-completion time for records to include. If this flag is not specified, defaults to the last record in the accounting log.

-f
Places the results in a file in the server's directory. If specified, the results of the **pdaccount** command are filed in the server's directory where the command is processed. The file is named **accounting.summary.timestamp**, where timestamp is the time the request was performed. If **-f** is not specified, the results are returned to standard out or can be redirected by the user.

Argument

Use the argument value to identify the specific server or servers that you want to collect accounting information for.

You can use the following argument values with the **pdaccount** command:

ServerName
Specifies the server that you want to collect accounting information for.

Examples

Summary Information for Destinations on Server A

To request summary accounting information for the destinations on `server A` for the period starting at 8 AM on 12/20/99 and ending at 8 AM on 12/24/99, enter the following command:

```
pdaccount -t destination -s '08:00:00 12/20/99' -e '08:00:00 12/24/99' A
```

The information returned is similar to:

```
Destination, Pages Completed, Octets Completed
Printer1,12997,1989787763
Printer2,2455,17676836
Printer3,86673,189808083
```

Summary Information for Users on All the Servers

To request summary accounting information for users on all the servers for the period starting at 8 AM on 12/20/99 and ending at 8 AM on 12/24/99, enter the following command:

```
pdaccount -t user -s '08:00:00 12/20/99' -e '08:00:00 12/24/99' *:
```

The information returned is similar to:

```
Owner, Pages Completed, Octets Completed
gnelson@info1.penn.boulder.ibm.com,1347,1987763
hlava@ips1.penn.boulder.ibm.com,2455,12237676836
root@pumbaa.penn.boulder.ibm.com,86673,189808083
```

All Accounting Information for Destinations on Servers B and C

To request all the data (or raw data) for the destinations on servers B and C for the period starting at 8 AM on 12/20/99 and ending at 8 AM on 12/24/99, enter the following command:

```
pdaccount -t all -s '08:00:00 12/20/99' -e '08:00:00 12/24/99' B C
```

The command returns the complete accounting log records for the time period collected from all the accounting logs on the requested servers in no particular sorted order.

Attention: Requesting information for **all** accounting records can consume a lot of the server's memory since all the data is read into memory to be sent to you. If you have a lot of data to retrieve, you should consider requesting it for smaller time periods and concatenating the returned data.

For example, if you want to retrieve all the accounting records for a one month period, you could issue four **pdaccount** commands like this:

```
pdaccount -t all -s '00:00:00 03/01/00' -e '00:00:00 03/08/00' Server A
>March1.accting.data
pdaccount -t all -s '00:00:00 03/08/00' -e '00:00:00 03/15/00' Server A
>March2.accting.data
pdaccount -t all -s '00:00:00 03/15/00' -e '00:00:00 03/22/00' Server A
>March3.accting.data
pdaccount -t all -s '00:00:00 03/22/00' -e '00:00:00 03/31/00' Server A
>March4.accting.data
```

pdclean Command: Removes All Jobs from the Specified Object

Syntax

pdclean [**-c** *ObjectClass*] [**-m** *"MessageText"*]
[**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
{*ServerName ...* | [*ServerName:*]*DestinationName ...* |
[*ServerName:*]*QueueName ...*}

pdclean -h

Description

Use the **pdclean** administrative command to remove all jobs from the specified
servers, logical destinations, queues, or actual destinations. If you are removing
jobs from a server, Infoprint ignores any **job-retention-period** or **job-retain-until**
attribute values. For all other conditions, Infoprint honors the **job-retention-period**
or **job-retain-until** value. If you are removing jobs from a logical destination,
Infoprint removes all jobs from the queue to which the logical destination submitted
the jobs. If you are removing jobs from a queue, Infoprint removes all jobs that the
queue contains, regardless of which logical destination or destinations submitted the
jobs to the queue.

Infoprint removes processing jobs, if the actual destination supports this.

Infoprint Manager for AIX issues a confirmation message prior to cleaning the
object, unless your **PD_CONFIRM_DELETE** environment variable has a value of
no.

Infoprint Manager for Windows NT and Windows 2000 issues a confirmation
message prior to cleaning the object, unless the **Confirm Object Delete** checkbox
is unchecked (which is accessed through the Infoprint Manager Management
Console with **Edit–>Service Configuration**).

Flags

You can use the following flags with the **pdclean** command:

-c {destination | queue | server}
Specifies the object class you want for this command. Within the valid
classes, **destination** is a logical or actual destination.

Using this flag is equivalent to specifying the command attribute **class**.

-h   Displays a command-specific help message containing information about
command syntax and flags. If you use this flag with any other flag or
attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
Specifies the message you want associated with the specified destination,
queue, or server. You can use this message to indicate the reason why you
are cleaning the destination, queue, or server, or any other appropriate
comments.

Using this flag is equivalent to specifying the command attribute **message**.

You can list this message by specifying **requested-attributes=message**
with the **pdls** command.

-**x** *"attribute=value ..."*
> A single attribute string, consisting of one or more attribute-value pairs.

-**X** *AttributesFileName*
> Specifies the name of a file containing attribute and value pairs you want Infoprint to insert at the current point in the command.
>
> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You may specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={destination | queue | server}
> Specifies the destination, queue, or server you want for this command. Within the valid classes, **destination** is a logical or actual destination.

message=*"MessageText"*
> Specifies the message you want associated with the destination, queue, or server. You can use this message to indicate the reason why you are cleaning the destination, queue, or server, or any other appropriate comments.
>
> You can list this message by specifying **requested-attributes=message** with the **pdls** command.

Arguments

Use the argument value to specify the destination, queue, or server that you want Infoprint to clean. If you specify multiple objects, all must be of the same object class and you must separate the object names with spaces.

You can use the following arguments with the **pdclean** command:

[ServerName:]DestinationName
> Specifies which destinations you want cleaned of jobs.
>
> Cleaning an actual destination removes only those jobs that Infoprint has assigned to that actual destination.
>
> Cleaning a logical destination removes all jobs submitted through that logical destination that Infoprint has not yet completed. Infoprint removes those jobs from the queue associated with that logical destination. Infoprint removes any jobs currently processing if the actual destination supports this.

[ServerName:]QueueName
> Specifies which queues you want cleaned of jobs.
>
> Cleaning a queue deletes all jobs that reside in that queue. Infoprint removes any jobs currently processing if the actual destination supports this.

ServerName
> Specifies which servers you want cleaned of jobs.

pdclean

Cleaning a server deletes all jobs submitted to any of the logical destinations, or assigned to the actual destinations, residing in that server, including any retained jobs. Infoprint removes any jobs currently processing if the actual destination supports this.

Examples

Clean a Logical Destination
To clean logical destination `Mserv-lp` of all jobs, enter the command:

```
pdclean Myserv-lp
```

Clean a Server
To clean server `DServ1`, enter the command:

```
pdclean -c server DServ1
```

Clean an Actual Destination
To clean destination `Mserv-pp` of all jobs and to leave a message, enter the command:

```
pdclean -m "Destination Mserv-pp is down for repairs" Super1:PhysPrt2
```

Suggested Reading

For more information about:
* Attributes file, see "Attributes File" on page 10

pdcreate Command: Creates Infoprint Objects

Syntax

pdcreate [**-c** *ObjectClass*] [**-g**] [**-m** *"MessageText"*]
      [**-r** *"attribute ..."*] [**-s** *StyleName*]
      [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
      {*ServerName:AuxiliarySheetName ...* |
      ServerName:DefaultDocumentName ... |
      ServerName:DefaultJobName ... |
      ServerName:DestinationName ... |
      ServerName:MediumName ... |
      ServerName:QueueName ... |
      ServerName:ResourceContextName ...}
      ServerName:TransformName ...}

pdcreate -h

Description

Use the **pdcreate** administrative command to create Infoprint objects (except servers, logs, documents and jobs) and to set their attributes to specific values.

You can specify any initially settable or resettable attribute for an object with the **pdcreate** command. You can specify an initially settable attribute only when you create an object.

"Appendix A. Attribute-to-Object Listing" on page 673, provides a listing of all attributes by object class and "Chapter 7. Infoprint Object Attributes" on page 325, contains descriptions for each attribute by object.

Note: Infoprint creates servers and logs when the server starts. Infoprint creates documents and jobs when users submit files for printing or transmission with the **pdpr** command.

You can use the **pdcreate** command to create objects for the following object classes:
- **destination** (logical and actual)
- **queue**
- **initial-value-job**
- **initial-value-document**
- **medium**
- **auxiliary-sheet**
- **resource-context**
- **transform**

When you create a destination, it remains in the disabled state and Infoprint cannot accept any jobs for it until you enable the destination. You must issue the **pdenable** command to enable the destinations.

An object you create with the **pdcreate** command still exists even if the server that contains it terminates normally (shutdown) or abnormally. A logical destination or queue returns to its previous state when its server restarts; an actual destination attempts to return to its previous state when its server restarts.

Flags

You can use the following flags with the **pdcreate** command:

-c {destination | queue | medium | initial-value-job | initial-value-document | auxiliary-sheet | resource-context | transform}
> Specifies the object class you want for this command. You can only specify one class per command invocation. Using this flag is equivalent to specifying the command attribute **class**.

-g   Turns off headings. Using this flag is equivalent to specifying the command attribute **headings=false**.

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
> Specifies the message that you want associated with the object you are creating. You may indicate the reason for creating the object or to provide any other comments.
>
> You can list this message by specifying **requested-attributes=message** with the **pdls** command. Using this flag is equivalent to specifying the command attribute **message**.

-r {none | brief | verbose}
> Specifies the attribute values you want Infoprint to display for the specified object.
>
> **none**   Displays no attributes.
>
> **brief**   Displays a small subset of important attributes for each object.
>
> **verbose**
> > Displays a larger subset of important attributes for each object.
>
> Using this flag is equivalent to specifying the command attribute **requested-attributes**.

-s {column | doccol | line}
> When combined with the **-r** flag or the **requested-attributes** command attribute, specifies the format in which you want Infoprint to display attribute information.
>
> **column**
> > Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.
>
> **doccol**
> > For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.
>
> **line**   Each attribute is displayed on a separate line.
>
> Using this flag is equivalent to specifying the command attribute **style**.

-x *"attribute=value ..."*
> A single attribute string, consisting of one or more attribute-value pairs.

-X *AttributesFileName*
> Specifies the name of a file containing attribute and value pairs Infoprint

inserts at the current point in the command. Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={destination | queue | medium | initial-value-job | initial-value-document | auxiliary-sheet | resource-context | transform}
Specifies the object class you want for this command. You can only specify one class per command invocation.

headings={true | false}
Specifies whether you want headings displayed in the output.

message=*"MessageText"*
Specifies the message that you want associated with the object you are creating. You may indicate the reason for creating the object or provide other comments.

You can list this message by specifying **requested-attributes=message** with the **pdls** command.

requested-attributes={none | brief | verbose}
Specifies which output attributes you want Infoprint to display.

none	Displays no attributes.

brief	Displays a small subset of important attributes for each object.

verbose
Displays a larger subset of important attributes for each object.

style={column | doccol | line}
Specifies the presentation format you want for the displayed output.

column
Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol
For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line	Each attribute is displayed on a separate line.

Arguments

Use the argument values to identify the specific object you are creating. If you specify multiple objects, separate the object names with spaces.

Note: Regardless of which object you create, you must use *ServerName:* with the **pdcreate** command.

You can use the following arguments with the **pdcreate** command:
ServerName:DestinationName

> *ServerName:QueueName*
> *ServerName:DefaultJobName*
> *ServerName:DefaultDocumentName*
> *ServerName:MediumName*
> *ServerName:AuxiliarySheet*
> *ServerName:ResourceContextName*
> *ServerName:TransformName*

Examples

Create a Queue
To create the queue `Serv1-p3-queue`, on the server `Serv1`, enter the command:

```
pdcreate -c queue Serv1:Serv1-p3-queue
```

Create a Logical Destination
To create the logical destination `Destination3-Serv1` in the server `Serv1` and specify the queue you want associated with that destination, enter the command:

```
pdcreate -x "associated-queue=Serv1-p3-queue" Serv1:Destination3-Serv1
```

Create an Actual Destination
To create the PSF TCP/IP-attached actual destination `Destination3` in the server `Serv1` and specify the queue you want associated with that destination, enter the command:

```
pdcreate -x "destination-realization=actual
   associated-queue=Serv1-p3-queue attachment-type=tcpip
   destination-model=Infoprint4000
   destination-tcpip-internet-address=martha.boulder.ibm.com
   destination-tcpip-port-number=5001"  Serv1:Destination3
```

Create a Default Document
To create the default document `LP3ivd`, enter the command:

```
For Infoprint Manager for AIX:
pdcreate -c initial-value-document -m "Created 04/01/1997"
   -x "copy-count=1 document-format=line-data page-definition=MyPageDef
   resource-context-page-definition=/usr/lpp/psf/mypdlib sides=1
   descriptor='IVD for LogPrt3'" Serv1:LP3ivd
```

```
For Infoprint Manager for Windows NT and Windows 2000:
pdcreate -c initial-value-document -m "Created 04/01/1997"
   -x "copy-count=1 document-format=line-data page-definition=MyPageDef
   resource-context-page-definition=\install_path\psf\mypdlib sides=1
   descriptor='IVD for LogPrt3'" Serv1:LP3ivd
```

Create a Default Job
To create the default job `MyJobTemplate` using the attributes specified in the attributes file named `MyJobAttributes.X`, enter the command:

```
pdcreate -c initial-value-job -X MyJobAttributes.X
server3:MyJobTemplate
```

Create a Medium
To create a medium representing a transparency with the identifier `my-clear-medium` in the server `Serv1`, enter the command:

```
pdcreate -c medium -x "descriptor='letter size, common transparency'
   medium-type=transparency medium-color=transparent medium-size=letter
   medium-sides=1 medium-dimensions=215.9:355.6" Serv1:my-clear-medium
```

Create a Medium in All Active Servers
To create the medium `A4-blue` in all active servers, enter the command:

```
pdcreate -c medium \*:A4-blue
```

Create a Queue and its Notification Profile

To create a notification profile for `Serv1-p3-queue` in server `Serv1`, enter the command:

```
pdcreate -c queue -x "notification-profile={event-identifiers=job-modified
    queue-state-changed delivery-method=message
    event-comment='This is a modification of job or status event'
    delivery-address=dave@cowboy locale=En_US}" Serv1:Serv1-p3-queue
```

Suggested Reading in Hardcopy

For information about:
- Attributes file, see "Attributes File" on page 10
- Headings and style, see "Command Output: Headings and Style" on page 9
- Attributes for Infoprint objects, see "Chapter 7. Infoprint Object Attributes" on page 325.
- Non-settable, initially settable, and resettable attributes, see "Initially Settable, Resettable Attributes, and Non-Settable" on page 4

Suggested Reading Online

For Infoprint Manager for AIX, to view information about all supported attributes for Infoprint, enter the command:

```
man pd_att
```

This displays a list of files by object from which you can select the attribute listing you want.

pddelete Command: Deletes Infoprint Objects

Syntax

> **pddelete** [**-c** *ObjectClass*] [**-m** *"MessageText"*]
> [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
> {*ServerName ...* | *ServerName:AuxiliarySheetName ...* |
> *ServerName:DefaultDocumentName ...* |
> *ServerName:DefaultJobName ...* |
> [*ServerName:*]*DestinationName ...* |
> *ServerName:MediumName ...* |
> [*ServerName:*]*QueueName ...* |
> *ServerName:ResourceContextName ...* |
> *ServerName:TransformName ...* |
> *LocalJobID ...* | *GlobalJobID ...*}

> **pddelete -c job** [**-m** *"MessageText"*] **-r** *JobRetentionPeriod*
> [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
> {*LocalJobID ...* | *GlobalJobID ...*}

> **pddelete -h**

Description

Use the **pddelete** administrative command to delete Infoprint objects.

Infoprint Manager for AIX issues a confirmation message before deleting objects, unless your **PD_CONFIRM_DELETE** environment variable is set to **no**.

Infoprint Manager for Windows NT and Windows 2000 issues a confirmation message prior to cleaning the object, unless the **Confirm Object Delete** checkbox is unchecked (which is accessed through the Infoprint Manager Management Console with **Edit–>Service Configuration**).

Infoprint does not delete jobs with a non-zero value for the **job-retain-until** or **job-retention-period** attribute (either previously set or set with this command) until the retention deadline arrives or the retention period expires.

Flags

You can use the following flags with the **pddelete** command:

-c {destination | job | queue | medium | initial-value-job | initial-value-document | auxiliary-sheet | resource-context | transform | server}
> Specifies the object class you want for this command. Using this flag is equivalent to specifying the command attribute **class**.

-h Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
> Specifies the message you want to associate with the object that you want to delete. You can use this message to indicate the reason for deleting the object or to provide any other comments.
>
> If the command operates on a job with a non-zero value for the **job-retention-period** or **job-retain-until** attribute (either previously set or

set with this command), you can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command. Otherwise, Infoprint deletes this message with the object and you cannot retrieve it. If you do not specify **-m**, the message already stored with the object remains unchanged and Infoprint deletes it as previously described.

Using this flag is equivalent to specifying the command attribute **message**.

-r *JobRetentionPeriod*
You can only use this flag if the object class is **job**. Infoprint rejects the command if you use this flag with any other class.

If the job has a retention period or retention deadline, you must specify this flag with a zero (0) value to delete the job. If not specified, Infoprint uses the present retention period or retention deadline for the job.

Using this flag is equivalent to specifying the object attribute **job-retention-period**.

-x *"attribute=value ..."*
A single attribute string, consisting of one or more attribute-value pairs.

-X *AttributesFileName*
Specifies the name of a file containing attribute and value pairs you want Infoprint to insert at the current point in the command.

Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You may specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=AttributesFileName*
Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={destination | job | queue | medium | initial-value-job | initial-value-document | auxiliary-sheet | resource-context | transform | server}
Specifies the object class you want for this command.

message="MessageText"*
Specifies the message you want to associate with the object you want to delete. You can use this message to indicate the reason for deleting the object or to provide any other comments.

If the command operates on a job with a non-zero value for the **job-retention-period** or **job-retain-until** attribute (either previously set or set with this command), you can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command. Otherwise, Infoprint deletes this message with the object and you cannot retrieve it.

If you do not specify the **message** attribute, the message stored with the object remains unchanged and Infoprint deletes it as previously described.

Arguments

Use the argument value to identify the specific object you want to delete. If you specify multiple objects, separate the object names with spaces.

You can use the following arguments with the **pddelete** command:

ServerName
> You must remove all jobs contained within this server before you can delete it.

ServerName:AuxiliarySheetName
> You cannot delete this auxiliary sheet if any of the actual destinations that reference it are enabled.

ServerName:DefaultDocumentName
> You cannot delete this default document if any of the logical destinations that reference it are enabled.

ServerName:DefaultJobName
> You cannot delete this default job if any of the logical destinations that reference it are enabled.

LocalJobID **or** *GlobalJobID*
> Infoprint deletes a job based on the specified value in its **job-retention-period** or **job-retain-until** attribute.

> **Notes:**
> 1. You can identify your own jobs by either the local job ID or the global job ID. You must identify other users' jobs by the global job ID.
> 2. In DCE installations, you do not need permission to delete your own jobs. You must have **write** permission for the server in order to delete other users' jobs. By default, only operators and administrators have this permission.
> 3. In installations without DCE, by default, end users do not have permission to use the **pddelete** command. They cannot delete even their own jobs.

ServerName:MediumName
> You cannot delete this medium if any of the actual destinations that reference it are enabled.

[ServerName:]DestinationName
> You must remove all the jobs from an actual destination before you can delete it.

[ServerName:]QueueName
> You must disable all logical destinations associated with the queue before you can delete the queue. You must remove all jobs (including paused jobs) from the queue before you can delete the queue.

ServerName:ResourceContextName
> You cannot delete this resource context if any of the actual destinations that reference it are enabled.

ServerName:TransformName
> There is no restriction.

Examples

Delete a Job Using a Local ID
To delete job 5, enter the command:

```
pddelete -c job 5
```

Delete Logical Destinations

To delete logical destinations `srA-lp11` and `srA-lp15`, enter the command:

```
pddelete srA-lp11 srA-lp15
```

Delete a Default Job

To delete the default `IVJ_2` from the server `DivServ2`, enter the command:

```
pddelete -c initial-value-job  DivServ2:IVJ_2
```

Delete a Server

To delete the server `Serv1`, enter the command:

```
pddelete -c server Serv1
```

Suggested Reading

For information about:
* Attributes file, see "Attributes File" on page 10

pddisable Command: Stops Destinations from Accepting Jobs and Logs from Logging

Syntax

pddisable [**-c** *ObjectClass*] [**-m** *"MessageText"*]
      [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
      {*ServerName ...* | *ServerName:LogName ...* |
      [*ServerName:*]*DestinationName ...* |
      [*ServerName:*]*QueueName ...*}

pddisable -h

Description

Use the **pddisable** administrative command to stop actual destinations or logical destinations from accepting jobs, or to stop logs from logging data.

When you disable a destination, it does not accept jobs submitted with **pdpr** or **pdresubmit** commands. The destination still accepts other commands. All previously submitted jobs and currently processing jobs continue unaffected.

Notes:

1. Use the **pdenable** command to enable a destination to accept jobs again and to enable the logging function of a log again.

2. Use the **pddisable** and **pdenable** commands to prevent or allow input to the object. Use the **pdpause** and **pdresume** commands to prevent or allow output from the object.

Flags

You can use the following flags with the **pddisable** command:

-c {destination | log | queue | server}
      Specifies the object class you want for this command. Within the valid classes, **queue** disables all associated logical destinations, **destination** is for a logical or actual destination, and **server** disables all destinations in the server.

      Using this flag is equivalent to specifying the command attribute **class**.

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
      Specifies the message you want associated with the destination, log, queue, or server. You can use this message to indicate the reason for disabling the object or to provide any other comments.

      If you do not specify the **-m** flag, the message already stored with the object remains unchanged.

      When you issue a command against a server, Infoprint propagates the message to the **message** attribute of the destinations residing in the server. Infoprint does not change the server **message** attribute. When you issue a command against a queue, Infoprint propagates the message to the **message** attribute of the logical destinations associated with the queue. Infoprint does not change the queue **message** attribute.

> You can list this message by specifying **requested-attributes=message** with the **pdls** command. Using this flag is equivalent to specifying the command attribute **message**.

-x *"attribute=value ..."*
> A single attribute string, consisting of one or more attribute-value pairs.

-X *attributes file name*
> Specifies the name of a file containing attribute and value pairs you want inserted at the current point in the command.

> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You may specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={destination | log | queue | server}
> Specifies the object class you want for this command. Within the valid classes, **queue** disables all associated logical destinations, **destination** is for a logical or actual destination, and **server** disables all destinations in the server.

message=*"MessageText"*
> Specifies the message you want to associate with the destination, log, queue, or server. You can use this message to indicate the reason for disabling the object or to provide any other comments.

> If you do not specify this attribute, the message already stored with the object remains unchanged.

> When you issue a command against a server, Infoprint propagates the message to the **message** attribute of the destinations residing in the server. Infoprint does not change the server **message** attribute.

> When you issue a command against a queue, Infoprint propagates the message to the **message** attribute of the logical destinations associated with the queue. Infoprint does not change the queue **message** attribute.

> You can list this message by specifying **requested-attributes=message** with the **pdls** command.

Arguments

Use the argument value to identify the specific object you want to disable. If you specify multiple objects, separate the object names with spaces.

You can use the following arguments with the **pddisable** command:

ServerName:LogName
> Specifies the log you want to disable. Disabling a log stops it from logging data.

[ServerName:]DestinationName
> Specifies the destination you want to disable. Disabling a destination stops it from accepting print or transmission requests. Any jobs currently assigned to an actual destination continue processing.

[*ServerName:*]*QueueName*
> Specifies the queue you want to disable. Disabling a queue disables all of the logical destinations associated with that queue.

ServerName
> Specifies the server you want to disable. Disabling a server disables all destinations residing in the server.

Examples

Disable a Logical Destination
To disable logical destination `Serv1-lp` on server `Serv1`, enter:

```
pddisable Serv1-lp
```

Infoprint does not require the server name.

Disable an Actual Destination
To disable actual destination `Serv1-pp` on server `Serv1`, enter:

```
pddisable Serv1-pp
```

Infoprint does not require the server name.

Disable All Destinations in a Server
To disable the logical and actual destinations contained in the server `ServG1` and assign a message to the destinations, enter:

```
pddisable -c server -m "Unavailable due to testing" ServG1
```

Disable All Logical Destinations Associated with a Queue
To disable the logical destinations associated with the queue `production-q1` on server `servera`, enter:

```
pddisable -c queue production-q1
```

Infoprint does not require the server name.

Suggested Reading

For information about:
- Attributes file, see "Attributes File" on page 10

pdenable Command: Enables Destinations to Accept Jobs and Logs to Log

Syntax

pdenable [**-c** *ObjectClass*] [**-m** *"MessageText"*]
[**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
{*ServerName ...* | *ServerName:LogName ...* |
[*ServerName:*]*DestinationName ...* |
[*ServerName:*]*QueueName ...*}

pdenable -h

Description

Use the **pdenable** administrative command to enable the logging function of logs or to enable logical destinations or actual destinations to accept jobs.

Notes:

1. Use the **pdenable** and **pddisable** commands to allow or prevent input to an object. Use the **pdresume** and **pdpause** commands to allow or prevent output from the object.
2. To stop destinations from accepting jobs, use the **pddisable** command.
3. To stop logs from logging data, use the **pddisable** command.

Flags

You can use the following flags with the **pdenable** command:

-c {destination | log | queue | server}
Specifies the object class you want for this command. Within the valid classes, **queue** enables all associated logical destinations, **destination** is for a logical or actual destination, and **server** enables all destinations in that server.

Using this flag is equivalent to specifying the command attribute **class**.

-h Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
Specifies the message you want to associate with the destination, log, queue, or server you want to enable. You can use this message to indicate the reason for enabling the object or to provide any other comments. If you do not specify the **-m** flag, the message already stored with the destination, log, queue, or server remains unchanged.

When you issue the command against a server, Infoprint propagates the message to the **message** attribute of the destinations residing in that server. Infoprint does not change the server **message** attribute.

When you issue the command against a queue, Infoprint propagates the message to the **message** attribute of the logical destinations associated with the queue. Infoprint does not change the queue **message** attribute.

You can list this message by specifying **requested-attributes=message** with the **pdls** command.

pdenable

> Using this flag is equivalent to specifying the command attribute **message**.

> **-x** *"attribute=value ..."*
>> A single attribute string, consisting of one more attribute-value pairs.

> **-X** *attributes file name*
>> Specifies the name of a file containing attribute and value pairs you want Infoprint to insert at the current point in the command.

>> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

> You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

> **attributes=***AttributesFileName*
>> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

> **class={destination | log | queue | server}**
>> Specifies the object class you want for this command. Within the valid classes, **queue** enables all associated logical destinations; **destination** is for a logical or actual destination; and **server** enables all destinations in that server.

> **message=***"MessageText"*
>> Specifies the message you want to associate with the destination, log, queue, or server that you want to enable. You can use this message to indicate the reason for enabling the object or to provide any other comments. If you do not specify the **message** attribute, the message already stored with the destination, log, queue, or server remains unchanged.

>> When you issue the command against a server, Infoprint propagates the message to the **message** attribute of the destinations residing in that server. Infoprint does not change the server **message** attribute.

>> When you issue the command against a queue, Infoprint propagates the message to the **message** attribute of the logical destinations associated with the queue. Infoprint does not change the queue **message** attribute.

>> You can list this message by specifying **requested-attributes=message** with the **pdls** command.

Arguments

> Use the argument value to identify the specific object you want to enable. If you specify multiple objects, separate the object names with spaces.

> You can use the following arguments with the **pdenable** command:

> *ServerName:LogName*
>> Specifies the log you want to enable. Enabling a log allows it to begin accepting input (logging).

> *[ServerName:]DestinationName*
>> Specifies the destination you want to enable. When first created, destinations are in the disabled state. You cannot enable destinations unless you associate them with an existing queue. Any other objects referenced by the destination must also exist. These are:

- For logical destinations
  - Default jobs
  - Default documents
- For actual destinations
  - Media
  - Auxiliary-sheets
  - Resource-contexts

[ServerName:]QueueName
> Specifies the queue you want to enable. When you issue the **pdenable** command against a queue, Infoprint attempts to enable all of its associated logical destinations.

ServerName
> Specifies the server you want to enable. When you issue the **pdenable** command against a server, Infoprint attempts to enable all of its destinations.
>
> When a server initializes again after being shut down, whether the destinations are either enabled or disabled depends on:
> - The state of the destination when the system was shut down
> - The ability of the server to communicate with its associated queue

Examples

Enable Logical Destinations
To enable logical destinations `Serv1-lp` and `draft-lp` on server `Serv1`, enter:

```
pdenable  Serv1-lp  draft-lp
```

Enable All Destinations in a Server
To enable all logical and actual destinations contained in the server `ServG1`, enter the command:

```
pdenable -c server ServG1
```

Suggested Reading

For information about:
- Attributes file, see "Attributes File" on page 10

pdls Command: Lists Selected Attribute Values

Syntax

> **pdls** [**-c** *ObjectClass*] [**-f** *"FilterCriteria"*] [**-F**] [**-g**] [**-j**]
>   [**-r** *RequestedAttribute* ...] [**-s** *StyleName*] [**-U**]
>   [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
>   [*ServerName* ... | *ServerName:AuxiliarySheetName* ... |
>   *ServerName:DefaultDocumentName* ... |
>   *ServerName:DefaultJobName* ... |
>   *ServerName:LogName* ... | *ServerName:MediumName* ... |
>   [*ServerName:*]*DestinationName* ... |
>   [*ServerName:*]*QueueName* ... |
>   *ServerName:ResourceContextName* ... |
>   *ServerName:TransformName* ... | *LocalJobID*[*.DocNumber*] ... | *GlobalJobId*[*.Do*

> **pdls -h**

Description

Use the **pdls** command to request that Infoprint display selected attribute values for
one or more jobs or other Infoprint objects.

- By default, Infoprint creates a filter when listing jobs that only allows you to see
  your jobs. The jobs have a predefined value for the filter that is equal to the job
  attribute **user-name**; this value is your login identity when you submit a job. You
  can add to this filter to further restrict the jobs for which Infoprint returns
  information.

- You must suppress the default filter by using the **-U** flag or turn off all filtering
  with the **-F** flag to see more than your own jobs.

- If you only specify the *ServerName* as the command argument, Infoprint displays
  the attribute values for all objects belonging to the object class you specify.

- In general, you can only list the attributes of the object class you are requesting.
  However, you can view attributes of intial-value-jobs (IVJs) and
  inital-value-documents (IVDs) associated with a logical destination through the
  logical destination.

- You can list the attribute values for specific jobs by using the local ID or the
  global ID. You must have submitted the job to use the local ID.

  Notes:

  1. There is a situation when you must use the global ID. If the Infoprint
     communications daemon responsible for the mapping of local ID-to-global ID
     values is not available, this can prevent Infoprint from tying the local ID to the
     global ID. If this situation exists, you must use the global ID, the name of the
     server, or an argument specification using global characters.

  2. There is a possible situation that can occur if your administrator has set the
     PDIDTABLE environment variable to a low value, for example 10. You submit
     a series of jobs during a short time span such that the number of jobs you
     have in process is larger than the value set, say 14. You will have two jobs
     with the local IDs of 1, 2, 3, and 4. However, Infoprint no longer associates
     the first four jobs with a local ID because those local IDs now belong to the
     11th, 12th, 13th, and 14th jobs. Therefore, you must use the global ID to take
     action on any of the first four jobs.

Flags

You can use the following flags with the **pdls** command:

-c {job | auxiliary-sheet | document | initial-value-document | initial-value-job | log | medium | destination | queue | resource-context | transform| server}

Specifies the object class of the object whose attributes you want to list. All object classes are valid.

Using this flag is equivalent to specifying the command attribute **class**.

-f *"FilterCriteria"*

Specifies the filter criteria you want to use in selecting from the candidate objects. Among the candidate objects, Infoprint returns only those matching the filter expression. See the command attribute **filter**, for filter expression details.

Using this flag is equivalent to specifying the command attribute **filter**.

-F Turns off all filtering, both specified and default. See the **-U** flag for suppressing only the default.

-g Turns off headings.

Using this flag is equivalent to specifying the command attribute **headings=false**.

-h Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-j Use this flag to display only job attributes.

-r {brief | verbose | archive | *"attribute ..."* **| all | none}**

Specifies the group of attributes that you want to display for the specified job, auxiliary sheet, document, default document, default job, log, medium, destination, queue, resource-context, or server.

brief Displays a small subset of important attributes for each object.

verbose
Displays a larger subset of important attributes for each object.

archive
Writes only initially settable and resettable attributes to an archive file (see "Create an Archive File" on page 49).

attributes ...
Displays the attributes you specify.

all Displays all attributes.

none Displays no attributes.

If you specify more than one of these values, Infoprint displays all the attributes requested.

Using this flag is equivalent to specifying the command attribute **requested-attributes**.

-s {column | doccol | line}

Specifies the format in which you want Infoprint to display the attributes.

column
Attribute values are displayed in tabular format, so that values of

> the same attribute for multiple objects line up in columns. This is the default for **-r brief** and **-r verbose**.

> **doccol**
>> For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

> <u>**line**</u> Each attribute is displayed on a separate line. This is the default for **-r all**, **-r** *"attribute ...:"*, and **-r archive**.

> Using this flag is equivalent to specifying the command attribute **style**.

-U Suppresses the default user-name filter.

-x *"attribute=value ..."*
> Consists of a single attribute string, containing of one or more attribute-value pairs.

-X *AttributesFileName*
> Specifies the name of the file containing attribute and value pairs you want Infoprint to insert at the current point in the command.

> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=entAttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={<u>job</u> | auxiliary-sheet | document | initial-value-document | initial-value-job | log | medium | destination | queue | resource-context | transform | server}
> Specifies the object class of the object whose attributes you want listed. All object classes are valid.

filter=*"FilterCriteria"*
> Specifies the selection criteria you want Infoprint to use in order to select a subset from the candidate objects (if you request attribute values for multiple objects). A filter is a logical expression consisting of relations of attributes to attribute values. Among the objects you specify, Infoprint returns only objects whose attribute values match the filter expression.

> You can only use attributes for the object class (**job**, **auxiliary-sheet**, **document**, **initial-value-document**, **initial-value-job**, **log**, **medium**, **destination**, **queue**, **resource-context**, **transform**, or **server**) that you specify in the command. The filter may contain an attribute other than one of those you are requesting.

Table 2. Attribute Operators for Filters

Operation	Operator	Strings	Integers	Time Format
Equal	==	Yes	Yes	Yes
Match first part of a value	=*	Yes	Yes	Yes

Table 2. Attribute Operators for Filters (continued)

Operation	Operator	Strings	Integers	Time Format
Match last part of a value	*=	Yes	Yes	Yes
Match any part of a value; such as a sub-string	*=*	Yes	Yes	Yes
Attribute present (any value)	==*	Yes	Yes	Yes
Note: When you test for attribute presence, Infoprint evaluates the filter item as true when the attribute has a **value**, not just when the attribute exists. You may need a false value to satisfy the requirement, as long as the false value conforms to the general syntax.				
Match approximately; for case-insensitive sub-string	˜=	Yes	No	No
Notes: 1. An approximate match occurs when at least half of the target string, regardless of starting position, matches the filter value. 2. A case-insensitive match occurs when the target string may have a mix of upper- and lower-case characters, but the characters do match.				
Match a value greater than that specified	>	No	Yes	Yes
Match a value less than that specified	<	No	Yes	Yes

This list shows the filter syntax:

1. A filter item consisting of an attribute name, operator, and value. Table 2 on page 42 shows the operators and the data formats you can use to separate the attribute and value.

2. In Table 2 on page 42, the attribute-present operation consists of an attribute name followed by the equality operator followed by an * in place of an attribute value. For example:

   ```
   -f "media-ready==*"
   ```

   If the attribute has no value, Infoprint evaluates the filter item as false. Infoprint evaluates the filter item as true if the attribute has any assigned value.

3. Infoprint can compare each attribute in a filter item to only one attribute value. To compare an attribute to more than one value, or to filter more than one attribute, separate the filter items with one of the following operators:
   The AND operator ("&&")
   > *FilterItem && FilterItem*

   > The expression evaluates to true only if both filter items evaluate to true.

   The OR operator ("||")
   > *FilterItem || FilterItem*

   > The expression evaluates to true if either of the filter items evaluate to true.

4. To evaluate a filter item as false, use the NOT operator before the filter item and enclose the filter item in parentheses.

> **Note:** With Infoprint Manager for AIX, depending on the shell you are using, you may need to place quotation marks before and after the parentheses.
> **The NOT operator !**
> > *! (FilterItem)*

If the filter item evaluates to true, the expression is false.

If the filter item evaluates to false, the expression is true.

5. When you use multiple logical operators in a filter, Infoprint evaluates them in an order of precedence. You can override the order of precedence by using parentheses, ( ) .

> **Note:** Depending on the shell you are using, you may need to place quotation marks before and after the parentheses. See Table 3 for the order of precedence.

Table 3 summarizes the filter syntax. The table lists the operators in the order of precedence from highest to lowest.

Table 3. Filter Syntax

Operators	Placement
Parentheses: **( )**	Around filter items
Relational operators: **> <**	Between attribute and value
Equality operators: **==**	Between attribute and value
String matching: **=* *= *=* ˜=**	Between attribute and value
NOT Operator: **!**	Before (filter-item) only
AND operator: **&&**	Between two filter items
OR operator: **‖**	Between two filter items

headings= {<u>true</u> | false}
> Specifies whether you want the output displayed with or without headings.

message-count=*number*
> When you request the **log-messages** log attribute, this specifies the number of previous messages you want to see starting from the last message logged. The value you can specify for *number* can be an integer from 1 through 2147483647.
>
> Use this command attribute in conjunction with the **log-messages** log attribute to query for error log information. For example:
>
> ```
> pdls -c log -r log-messages -x "message-count=4" Serv1:
> ```
>
> displays the last four messages contained in the error log for server Serv1.

requested-attributes={<u>brief</u> | verbose | archive | *"attribute ...:"* **all | none}**
> Specifies the group of attributes you want to display for the specified job, auxiliary-sheet, document, default document, default job, log, medium, destination, queue, resource-context, or server object.
>
> **<u>brief</u>** Displays a small subset of important attributes for each object.

verbose
>   Displays a larger subset of important attributes for each object.

archive
>   Writes only initially settable and resettable attributes to an archive file (see "Create an Archive File" on page 49).

attribute ...
>   Displays the attributes you specify.

all   Displays all attributes.

none   Displays no attributes.

If you specify more than one of these values, Infoprint displays all the attributes requested.

style={<u>column</u> | doccol | <u>line</u>}
>   The format in which you want the attributes displayed.

<u>column</u>
>   Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns. This is the default for **requested-attributes=brief** and **requested-attributes=verbose**.

doccol
>   For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

<u>line</u>   Each attribute is displayed on a separate line. This is the default for **requested-attributes=all**, **requested-attributes=**_"attribute ...:"_, and **requested-attributes=archive**.

when=now
>   When you specify **when=now** with object class destination, the Infoprint Server returns its current information regarding the destinations instead of performing SNMP queries to get any updates. If you have many SNMP destinations, the use of this command attribute improves the performance of your **pdls** request.

>   For example, to list the brief attributes of all the destinations in Server1 and request that Server1 does not make SNMP queries to get the latest information but just returns its most current information, use the following command:

```
pdls -c dest -xwhen=now Server1:
```

Arguments

Use the argument value to identify the specific object whose attributes you want to display. If you specify multiple objects, separate the object names with spaces.

You can use the following arguments with the **pdls** command:
>   *LocalJobID[.DocNumber]*
>   *GlobalJobID[.DocNumber]*
>   *ServerName:AuxiliarySheetName*
>   *ServerName:DefaultDocumentName*
>   *ServerName:DefaultJobName*
>   *ServerName:LogName*
>   *ServerName:MediumName*

> *[ServerName:]DestinationName*
> *[ServerName:]QueueName*
> *ServerName:ResourceContextName*
> *ServerName:TransformName*
> *ServerName:*

> **Note:** When you only specify *ServerName:* as the argument of the command
> (without an object name), Infoprint returns the attribute values for all of
> the objects within the object class that you specify for that server and that
> meet the filter criteria.

Examples

List Full Attribute Information for a Document
To display attribute information for the first document in a job with a local ID of 13,
enter the command:

```
pdls -c document -r all 13.1
```

List Minimum Information for a Document
To find the minimum information (document number, format, and file name) about
the second document in a job with a local ID of 13, enter the command:

```
pdls -c document 13.2
```

List Selected Attributes for a Queue
To list the values of the brief attributes and the **backlogged** attribute for the queue
Charlie-q, enter the command:

```
pdls -c queue -r "brief backlogged" Charlie-q
```

Infoprint displays information similar to the following:

```
Charlie-q:  queue-name        = Charlie-q
Charlie-q:  queue-state       = ready
Charlie-q:  associated-server = Charlie
Charlie-q:  backlogged        = false
```

List Document Formats Supported by Destinations
To display the document formats supported by the logical and actual destinations in
Serv1, enter the command:

```
pdls -c destination -r document-formats-supported -s line Serv1:
```

Infoprint displays information similar to the following:

```
Serv1-lp:  document-formats-supported =
Serv1-pp:  document-formats-supported = ascii
                                        dbcs-ascii
                                        ditroff
                                        line-data
                                        modca-p
                                        pdf
                                        postscript
                                        tiff
Srv1-pp2:  document-formats-supported = ascii
                                        dbcs-ascii
                                        ditroff
                                        line-data
```

List the retention-period Defaulted by a Logical Destination and the Name of the intial-value-job Being Used
To list the retention-period defaulted by a logical destination and the name of the
initial value job being used, enter the command:

```
pdls -c destination -r retention-period,destination-initial-value-job Dserv-lp
```

Infoprint displays information similar to the following:

```
Dserv-lp:job-retention-period=1:00
Dserv-lp:destination-initial-value-job=retain
```

Filter Destinations by Attribute with Infoprint Manager for AIX

To determine the logical destinations and actual destinations that support the selected attributes on any server, enter the command:

```
pdls -c destination -f "content-orientation-supported==landscape &&
   plexes-supported==tumble && sides-supported==2"
   -r "destination-realization associated-queue" \*:
```

Note: Including the backslash before the global character prevents the Korn shell from interpreting the * as a filename wildcard. Infoprint displays information similar to the following:

```
Serv3-lp:  destination-realization = logical
Serv3-lp:  associated-queue        = Serv3-q
Serv4-lp:  destination-realization = logical
Serv4-lp:  associated-queue        = Serv4-q
Serv3-pp:  destination-realization = actual
Serv3-pp:  associated-queue        = Serv3-q
Serv4-pp:  destination-realization = actual
Serv4-pp:  associated-queue        = Serv4-q
```

Filter Jobs by Attribute with Infoprint Manager for AIX

To list all jobs that have requested more than one copy and that Infoprint has assigned to actual destination mysrv-pp, enter the command:

```
pdls -U -f "copy-count>1 && destination-assigned==mysrv-pp" "*:"
```

Note: Placing the quotation marks before the global character and after the colon prevents the Korn shell from interpreting the * as a filename wildcard.

Filter Jobs by User Name (Include a User)

To list all jobs owned by the user named Smith, enter this command:

```
pdls -f "job-owner==Smith" -U Serv1:
```

Filter Jobs by User Name (Exclude a User)

To list all jobs not owned by the user named Smith, enter the command:

```
pdls -f "!(job-owner==Smith)" -U Serv1:
```

Filter Jobs by User Name (Substring) with Infoprint Manager for AIX

To list jobs owned by users with a given substring in their names (substring matching) use one of the following filters with the **pdls** command:

* Initial string match:

  ```
  pdls -U -f "job-owner=*Jones" Serv1:
  ```
* Any substring match:

  ```
  pdls -U -f "job-owner*=*one" Serv1:
  ```
* Final string match:

  ```
  pdls -U -f "job-owner*=nes" Serv1:
  ```

All of these commands return jobs owned by Jones.

Note: These examples use the Korn shell.

Filter Jobs by User Name (Approximate Match) with Infoprint Manager for AIX

To list jobs owned by all users with a name close to Jones (an approximate match), enter the command:

```
pdls -U -f "job-owner˜=jones" Serv1:
```

Note: This example uses the Korn shell.

Display the Server Associated with a Destination

To query for the name of the server containing logical destination draft-lp, enter the command:

```
pdls -c destination -r associated-server draft-lp
```

Infoprint displays information similar to the following:

```
draft-lp:  associated-server=Serv1
```

List the Attributes Specified in a Default Document

To query for the attributes specified in the default document spl7ivd contained in Serv7, enter the command:

```
pdls -c initial-value-document -r all Serv7:spl7ivd
```

Infoprint displays information similar to the following:

```
spl7ivd:  carriage-control-type           =
spl7ivd:  chars                           =
spl7ivd:  content-orientation             =
spl7ivd:  initial-value-document-identifier = spl7ivd
spl7ivd:  associated-server               = Serv7
spl7ivd:  logical-destination-ready       = Serv7-lp
spl7ivd:  copy-count                      = 2
spl7ivd:  sides                           = 2
spl7ivd:  document-format                 = line-data
```

Note: The list that Infoprint returns contains all possible attributes for a default document (those without values and those with values).

List All Job Attributes

To list all attributes of jobs 10 and 12, enter the command:

```
pdls -r all 10 12
```

List Brief Job Attributes

To list just the brief job attributes of jobs 10 and 12, enter the command:

```
pdls -j 10 12
```

Display Status of All Jobs

To list the status of all jobs you have submitted to the default logical destination, Dserv-lp, enter the command:

```
pdls -f "destination-name-requested==Dserv-lp" Serv1:
```

Infoprint displays information similar to the following:

```
                                  Current   Intervening Destination Destinations
Job ID               Name         State     Jobs        Requested   Assigned
--- --------------- ----------    ---------  ----------- ----------- --------
4   SplX:1099222204 Wkly-report  processing 0           Dserv-lp    Dserv-pp
5   SplX:1114222205 Test-report  processing 0           Dserv-lp    Laser-pp
6   SplX:1224222206 Trip-report  pending    2           Dserv-lp
1   SplX:0988222201 Dept-memo12  retained               Dserv-lp
```

Display Status of All Pending Jobs

To list the job status of all pending jobs submitted to the default logical destination, Dserv-lp, enter the command:

```
pdls -f "destination-name-requested==Dserv-lp &&
   current-job-state==pending" Serv1:
```

Infoprint displays information similar to the following:

```
                            Current   Intervening Destination Destinations
Job ID             Name     State     Jobs        Requested   Assigned
--- --------------- ----------- --------- ----------- ----------- ------------
6   SplX:1224222206 Trip-report pending   2           Dserv-lp
```

List the Brief Attributes of a Logical Destination

To list the **brief** attributes of logical destination Dserv-lp, enter the command:

```
pdls -c destination Dserv-lp
```

Infoprint displays information similar to the following:

```
Destination  Realization  Enabled  Queue
-----------  -----------  -------  -----
Dserv-lp     logical      true     Dserv-q
```

With Infoprint Manager for AIX, if you do not specify a destination name, Infoprint displays the brief attributes of all the destinations that share the same server with your default logical destination (as defined by your **PDPRINTER** environment variable).

List Document Formats Supported by a Destination

To list the document formats supported by the actual destination srv37-pp in the line style with headings, which is the default style for an attribute list, enter the command:

```
pdls -c destination -r document-formats-supported srv37-pp
```

Infoprint displays information similar to the following:

```
srv37-pp: document-formats-supported =  modca-p
                                        pdf
                                        postscript
```

Create an Archive File

To create an archive file for a server and store it in a file, enter the command:

```
pdls -c server -r archive Serv1 > Serv1.archive
```

Suggested Reading in Hardcopy

For information about:
- Global character support for server names, see "Wildcards" on page 9
- Attributes file, see "Attributes File" on page 10
- Headings and style, see "Command Output: Headings and Style" on page 9
- Attributes for Infoprint objects, see "Chapter 7. Infoprint Object Attributes" on page 325
- Non-settable, initially settable, and resettable attributes, see "Initially Settable, Resettable Attributes, and Non-Settable" on page 4

Suggested Reading Online for Infoprint Manager for AIX

To view information about all supported attributes for Infoprint, enter the command:

```
man pd_att
```

pdls

This displays a list of files by object from which you can select the attribute listing you want.

pdmod Command: Modifies Attributes of Submitted Print Jobs

Syntax

> **pdmod** [**-g**] [**-m** *"MessageText"*] [**-n** *CopyCount*]
>   [**-r** *attribute* ...] [**-s** *StyleName*] [**-t** *JobName*]
>   [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
>   {*LocalJobID* ... | *GlobalJobID* ...}
>
> **pdmod -h**

Description

Use the **pdmod** command to modify the values of job and document attributes of previously submitted jobs.

You may specify any resettable job and document attributes. See "Attributes for Documents and Default Documents" on page 449 and "Attributes for Jobs and Default Jobs" on page 523 for descriptions of all job and document attributes.

You can only modify preprocessing, pending, held, paused, or retained jobs. In general, you cannot modify processing or printing jobs. The only exception is if you modify only **job-hold=true**, the job will be paused, modified, and resumed.

Modifying an existing job may affect the scheduling of the job.

Table 4 lists the four modification operators.

Table 4. pdmod Operators

Operator	Syntax	Description
Replace	*attribute=value*	Replaces the entire value of the attribute *attribute* with *value* or, if not already present, adds the attribute-value pair to the job.
Add values	*attribute+=value*	Adds the value *value* to the attribute *attribute*. You cannot add values to single-valued attributes. An add request that duplicates values on a multi-valued attribute has no effect on the job.
Remove values	*attribute-=value*	Removes the value *value* from the attribute *attribute*. A remove request for a nonexistent value has no effect on the object. A remove request for the last or only value of an attribute is equivalent to a reset-to-default request.
Reset to default	*attribute==*	Sets the attribute *attribute* to the default values according to the job-defaulting hierarchy. If you supply values with a reset request, Infoprint ignores them.

If you do not specify a value with a replace, add, or remove request, Infoprint issues an error and rejects the request to change the attribute value for the object.

Note: If Infoprint does not accept a modification, Infoprint rejects the whole request and the job continues as before.

pdmod

Use the global job identifier to identify jobs belonging to another person. If you use DCE, you must have **write** permission for the server to modify other people's jobs.

Flags

You can use the following flags with the **pdmod** command:

-g   Turns off headings.

Using this flag is equivalent to specifying the command attribute **headings=false**.

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
Specifies the message you want to store in the **job-message-from-administrator** attribute. You can use the message to give the reason why you are modifying the job or to provide any other comments. If you do not specify the **-m** flag, the message already stored with the job remains unchanged.

You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.

Using this flag is equivalent to specifying the command attribute **message**.

-n *CopyCount*
Specifies the number of document copies.

Using this flag is equivalent to specifying the object attribute **copy-count**.

-r {<u>none</u> | brief | verbose}
Specifies the attribute values you want to display for the specified object.

<u>none</u>   Displays no attributes.

brief   Displays a small subset of important attributes for each object.

verbose
Displays a larger subset of important attributes for each object.

Using this flag is equivalent to specifying the command attribute **requested-attributes**.

-s {<u>column</u> | doccol | line}
When combined with the **-r** flag or the **requested-attributes** command attribute, specifies the format in which you want Infoprint to display the attributes.

<u>column</u>
Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol
For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line   Each attribute is displayed on a separate line.

Using this flag is equivalent to specifying the command attribute **style**.

-t *JobName*

Specifies the new name you want for the job.

Using this flag is equivalent to specifying the object attribute **job-name**.

-x *"attribute=value ..."*

Consists of an attribute string, containing one or more attribute-value pairs. Prefix the attribute value with the replace operator, =, to replace a value, with the add-values operator, +=, to add a value, or the remove-values operator, –=, to remove a value. Use the reset-to-default operator, ==, with no attribute value to set the attribute to its default value.

-X *AttributesFileName*

Specifies the name of a file containing attribute and value pairs you want Infoprint to insert at the current point in the command.

Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*

Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

headings={true | false}

Specifies if you want Infoprint to display headings on the output.

message=*"MessageText"*

Specifies the message you want to store in the **job-message-from-administrator** attribute. You can use the message to give the reason why you are modifying the job or to provide any other comments. If you do not specify the **message** attribute, the message already stored with the job remains unchanged.

You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.

requested-attributes={none | brief verbose}

Specifies which attributes you want displayed.

none   Displays no attributes.

brief   Displays a small subset of important attributes for each object.

verbose

Displays a larger subset of important attributes for each object.

style={column | doccol | line}

Specifies the presentation format that you want for the displayed output.

column

Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol

For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line   Each attribute is displayed on a separate line.

Arguments

Use the argument value to identify the specific object that you want to modify. If you specify multiple objects, separate the object names with spaces.

LocalJobID **or** *GlobalJobID*
> Specifies the local or global job identifier.

Examples

Modify Content Orientation
To modify the job with a local ID of 10 and change the orientation to landscape, enter the command:

```
pdmod -x "content-orientation=landscape" 10
```

Modify Job Hold Condition
To modify the job attribute **job-hold** to **false** for job 10 so that Infoprint can schedule the job (previously submitted with **job-hold** set to **true**), enter the command:

```
pdmod -x "job-hold=false" 10
```

Modify Job Comment
To modify the job attribute **job-comment** to Test Results 100 for job 10, enter the command:

```
pdmod -x "job-comment='Test Results 100'" 10
```

Modify the Number of Sides that Print
To modify the document attribute **sides** to specify that all documents in the job with global identifier DivSpool2:1011222243 should print on both sides, enter the command:

```
pdmod -x "sides=2" DivSpool2:1011222243
```

Add a Destination Location Request
To add a destination location request to job 10, enter the command:

```
pdmod -x "destination-locations-requested+='bldg.10 room 1-15'" 10
```

Remove a Destination Location Request
To remove a destination location request from job 10, enter the command:

```
pdmod -x "destination-locations-requested-='bldg.25 room 3-22'" 10
```

Remove All Destination Location Requests
To remove all destination locations requested from job 10, enter the command:

```
pdmod -x "destination-locations-requested==" 10
```

Combining Modifications
To modify job 17, by changing the content-orientation and removing the hold on the job, enter the command:

```
pdmod -x "content-orientation=landscape job-hold=false" 17
```

Suggested Reading in Hardcopy

For information about:
- Attributes files, see "Attributes File" on page 10
- Headings and style, see "Command Output: Headings and Style" on page 9
- Job defaulting-hierarchy, see "pdpr Command: Submits Jobs" on page 63
- Job attributes, see "Attributes for Jobs and Default Jobs" on page 523
- Document attributes, see "Attributes for Documents and Default Documents" on page 449

- Non-settable, initially settable, and resettable attributes, see "Initially Settable, Resettable Attributes, and Non-Settable" on page 4

Suggested Reading Online

To view information about job attributes, enter the command:

`man pd_att_job`

To view information about document attributes, enter the command:

`man pd_att_document`

pdpause Command: Pauses Jobs, Actual Destinations, Servers, or Queues

Syntax

pdpause [**-c** <u>destination</u>] [**-m** *"MessageText"*] [**-n**]
  [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
  [**-w** {<u>now</u> | **after-current-copy** | **after-current-job**}]
  [*ServerName:*]*DestinationName* ...

pdpause -j [**-m** *"MessageText"*]
  [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
  [**-w** {<u>now</u> | **after-current-copy**}] [*ServerName:*]*DestinationName* ...

pdpause -c job [**-m** *"MessageText"*] [**-x** *"attribute=value ..."*]
  [**-X** *AttributesFileName*] [**-w** {<u>now</u> | **after-current-copy**}]
  {*LocalJobID ...* | *GlobalJobID ...*}

pdpause -c queue [**-m** *"MessageText"*] [**-x** *"attribute=value ..."*]
  [**-X** *AttributesFileName*] [*ServerName:*]*QueueName* ...

pdpause -c server [**-m** *"MessageText"*] [**-n**]
  [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
  [**-w** {<u>now</u> | **after-current-copy** | **after-current-job**}]
  ServerName ...

pdpause -h

Description

Use the **pdpause** administrative command to pause an object that holds jobs or to pause a job.

You can pause these objects:
- Jobs that are
  - **pending**
  - **held**
  - **ripping**
  - **imposing**
  - **processing**
  - **printing**
- Actual destinations

  Note: You cannot pause PSF upload-TCP/IP-attached physical printers or PSF upload-SNA-attached physical printers.
- Queues
- Servers (pauses all of the queues and actual destinations contained in a server)

To resume a paused object, use the **pdresume** command.

Note: Use the **pdpause** and **pdresume** commands to prevent or allow output from the object. Use the **pddisable** and **pdenable** commands to prevent or allow input to the object.

Flags

You can use the following flags with the **pdpause** command:

-c {destination | queue | job | server}
> Specifies the object class you want to pause. Within the valid classes, **destination** is an actual destination.
>
> Using this flag is equivalent to specifying the command attribute **class**.

-h   Displays a command-specific help message containing information about command syntax and flags. This flag and any other flag are mutually exclusive (if you use it with any other flag or attribute, Infoprint recognizes only the **-h** flag).

-j   This flag is only valid when you use it with object-class **destination**. Use this flag to pause the currently printing job on the specified actual destination. The actual destination must be a physical printer, not a fax destination or an email destination.

-m *"MessageText"*
> Specifies the message you want to associate with the specified destination, queue, job, or server that you are pausing. You can use this message to indicate the reason that you are pausing the object or to provide any other comments.
>
> When pausing a server, Infoprint propagates the message to the **message** attribute of the actual destinations and queues residing in the server.
>
> If the command operates on a destination or a queue, you can list this message by specifying **requested-attributes=message** with the **pdls** command.
>
> When the command operates on a job, the specified text becomes the value of the **job-message-from-administrator** attribute. You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.
>
> If you do not specify the **-m** flag, the message already stored with the destination, queue, job, or server remains unchanged.
>
> Using this flag is equivalent to specifying the command attribute **message**.

-n   Causes the destination to perform an NPRO (move the last printed page to the stacker). Using this flag is equivalent to specifying the command attribute **non-process-runout=true**.

> This flag is valid only with object class **destination** or **server**. It is not valid with the **-j** flag. It is valid only for PSF physical printers and for servers containing them.

-w {now | after-current-copy | after-current-job}
> Specifies when to pause the destination, job, or server. If you specify:
>
> **now**   and the paused object is a:
>
>> **destination**
>>> The destination pauses as soon as possible. How long this takes depends on the output device.
>>
>> **job**   The job pauses as soon as possible. If the job is processing or printing, how long this takes depends on the output device.

> **server** The server pauses as soon as possible. How long this
> takes depends on the output devices represented by the
> destinations in the server.

> **after-current-copy**
> and the paused object is a:

>> **destination**
>> The destination pauses after the current copy of the current
>> job finishes printing.

>> **job** The job pauses after the current copy finishes printing.

>> **server** The server pauses after the current copy of the current job
>> on each actual destination in the server finishes printing.

> This value is valid only for PSF physical printers, for jobs printing
> on PSF physical printers, and for servers containing PSF physical
> printers.

> **after-current-job**
> and the paused object is a:

>> **destination**
>> The destination pauses after the current job finishes
>> printing.

>> **server** The server pauses after the current job on each actual
>> destination in the server finishes printing.

> This value is not valid for jobs, including jobs paused with the **-j**
> flag. It is valid only for PSF physical printers and for servers
> containing PSF physical printers.

> Specifying this flag is equivalent to specifying the command attribute **when**.

-x *"attribute=value ..."*
> A single attribute string, consisting of one or more attribute-value pairs.

-X *AttributesFileName*
> Specifies the name of a file containing attribute and value pairs you want
> inserted at the current point in the command.

> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes
file designated with the **-X** *AttributesFileName* flag.

attributes=ature*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the
> current point in the command. This file contains attribute and value pairs
> that Infoprint uses to expand the command.

class={destination | queue | job | server}
> Specifies the object class that you want to pause. Within the valid classes,
> **destination** is an actual destination.

message="*MessageText*"
> Specifies the message that you want to associate with the specified

destination, queue, job, or server that you are pausing. You can use this message to indicate the reason you are pausing the object or to provide any other comments.

When pausing a server, Infoprint propagates the message to the **message** attribute of the actual destinations and queues residing in the server. Infoprint does not change the server **message** attribute.

If the command operates on a destination or a queue, you can list this message by specifying **requested-attributes=message** with the **pdls** command.

When the command operates on a job, the specified text becomes the value of the **job-message-from-administrator** attribute. You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.

If you do not specify the **message** attribute, the message already stored with the destination, queue, job, or server remains unchanged.

non-process-runout={true | false}
Specifies whether the destination should perform an NPRO (move the last printed page to the stacker). This attribute is valid only with object class **destination** or **server**. It is not valid with the **-j** flag. It is valid only for PSF physical printers and for servers containing them.

when={now | after-current-copy | after-current-job}
Specifies when to pause the destination, job, or server. If you specify:

now   and the paused object is a:

> **destination**
> > The destination pauses as soon as possible. How long this takes depends on the output device.

> **job**   The job pauses as soon as possible. If the job is processing or printing, how long this takes depends on the output device.

> **server** The server pauses as soon as possible. How long this takes depends on the output devices represented by the destinations in the server.

after-current-copy
and the paused object is a:

> **destination**
> > The destination pauses after the current copy of the current job finishes printing.

> **job**   The job pauses after the current copy finishes printing.

> **server** The server pauses after the current copy of the current job on each actual destination in the server finishes printing.

> This value is valid only for PSF physical printers, for jobs printing on PSF physical printers, and for servers containing PSF physical printers.

after-current-job
and the paused object is a:

> **destination**
>> The destination pauses after the current job finishes printing.
>
> **server** The server pauses after the current job on each actual destination in the server finishes printing.
>
> This value is not valid for jobs, including jobs paused with the **-j** flag. It is valid only for PSF physical printers and for servers containing PSF physical printers.

Arguments

Use the argument value to identify the specific object that you want to pause. If you specify multiple objects, all of the objects must belong to the same class and you must separate the object names with spaces.

You can use the following arguments with the **pdpause** command:

LocalJobID... **or** *GlobalJobID*...
> Specifies the jobs that you want to pause as determined by a local job identifier or global job identifier. If you use DCE, by default, only administrators have the authority to pause jobs. If you do not use DCE, by default, administrators and operators have the authority to pause jobs but end users do not. Therefore, in most cases someone other than the job submitter will pause a job and must identify it by the global job ID. Job submitters who do have authority to pause jobs can identify their own jobs by the local job ID.
>
> The following actions take place when you cause Infoprint to pause:
>
> **A ripping or imposing job:**
>> • The job stops. If the first pages of the job have started to print or transmit while the last pages are ripping or imposing, the job is treated like a printing job.
>> • The job state changes to paused.
>> • The destination remains available to accept work.
>> • Infoprint can assign other jobs to the destination.
>
> **A processing or printing job:**
>> • The job stops.
>>> – If you specify **-w=after-current-copy**, the job stops after the current copy finishes printing.
>>> – Otherwise, the job stops as soon as possible. How long this takes depends on the type of output device printing or transmitting the job.
>> • The job state changes to paused.
>> • The destination remains available to accept work.
>> • Infoprint can assign other jobs to the destination.
>
> **A pending job:**
>> Infoprint prevents scheduling of the job but does not affect any destination.
>
> **A held job:**
>> Infoprint prevents the job from becoming pending, even if you or Infoprint removes the reason for the job hold. For example, the specified **job-print-after** time expires.

Paused jobs remain in the queue until someone resumes or cancels them. Infoprint allows modification of a paused job, but you cannot resubmit the job until you issue a **pdresume** command for the job.

Note: If you modify a paused job, it resumes at the beginning, not at the point where it paused.

[ServerName:]DestinationName

Specifies the destinations you want to pause. The action taken depends on whether you include the **-j** flag in the command.

Without the -j flag:
- The destination stops.
  - If you specify **-w=after-current-job**, the destination stops after the current job finishes printing.
  - If you specify **-w=after-current-copy**, the destination stops after the current copy finishes printing.
  - Otherwise, the destination stops as soon as possible. How long this takes depends on the type of output device.
- Infoprint changes the destination state to paused.
- Infoprint leaves the job state unchanged; the job is still assigned to the destination.

The actual destination still accepts jobs from its associated queue up to the maximum-concurrent-jobs limit, but does not print them.

With the -j flag:
- The job now printing on the destination stops.

  Note: The actual destination must be a physical printer, not a fax destination or an email destination.
  - If you specify **-w=after-current-copy**, the job stops after the current copy finishes printing.
  - Otherwise, the job stops as soon as possible. How long this takes depends on the type of printer device.
- Infoprint changes the job state to paused.
- The destination remains available to accept work.
- Infoprint can assign other jobs to the destination.

The actual destination may still accept jobs from its associated queue and process them.

Note: You cannot pause logical destinations because they do not hold jobs.

[ServerName:]QueueName

Specifies the queues you want to pause.

Pausing a queue halts the distribution of jobs from the queue to the actual destinations associated with the queue. Pausing a queue does not prevent it from accepting jobs from its associated logical destinations.

ServerName

Specifies the server on which you want the command to operate. A server does not have a paused state. Issuing the command against a server pauses all queues and actual destinations contained within the server.

Examples

Pause an Actual Destination
To pause actual destination `molly-pp` and include a message as to why you are pausing the destination, enter the command:

```
pdpause -m "Toner is low, refilling" molly-pp
```

Pause a Currently Printing Job
To pause the currently printing job on destination `molly-pp`, enter the command:

```
pdpause -j molly-pp
```

Pause a Queue
To pause the queue `Div1Q2`, enter the command:

```
pdpause -c queue  Div1Q2
```

Pause All Queues in a Server
To pause all of the queues in server `DivServ1`, enter the command:

```
pdpause -c server DivServ1
```

Pause an Actual Destination after the Current Copy with NPRO
To pause actual destination `molly-pp` after the current copy and move the last printed sheet to the stacker, enter the command:

```
pdpause -w after-current-copy -n molly-pp
```

Suggested Reading

For information about:
* Attributes file, see "Attributes File" on page 10

pdpr Command: Submits Jobs

Syntax

pdpr [{**-d** | **-p**} *LogicalDestinationName*]
[**-f** *FileName* ...] [**-g**]
    [**-l**] [**-n** *CopyCount*] [**-N** *NotificationMethod*]
    [**-r** *attribute* ...] [**-s** *StyleName*] [**-t** *JobName*]
    [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
    [**-Z** *InputFileName*] {**-** | *FileName* ...}

pdpr **-T** *TapeDevice* [{ **-d** | **-p**} *TargetDestinationName*] [**-g**] [**-l**]
    [**-n** *CopyCount*] [**-N** *NotificationMethod*] [**-r** *attribute* ...]
    [**-s** *StyleName*] [**-t** *JobName*]
    [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
    [**-Z** *InputFileName*]
{*FileName* ... | [\]**#***FileNumber*...}

pdpr **-h**

Description

Use the **pdpr** command to submit jobs to logical destinations. Each job can contain multiple printable documents and, for jobs sent to PSF physical printers, fax destinations, or email destinations, any number of resources.

With Infoprint Manager for AIX, the target destination name defaults to the value of the **PDPRINTER** environment variable. You can override the default by specifying the name of another logical destination using the **-d** or **-p** flag or the job attribute **destination-name-requested**.

When the server accepts the job request, Infoprint assigns a unique global ID (job identifier) and a local ID to it. Only the job submitter can use the local ID. The job submitter can use either the global ID or the local ID in subsequent commands, such as **pdmod**, **pdrm**, or **pdls**. Anyone else who accesses the job, such as an administrator, must use the global ID.

Infoprint sets the values for job and document attributes from these possibilities:

1. Values specified in the **pdpr** command using the **-x** *"attribute=value ..."* flag or the **-X** *AttributesFile* flag.

    Note: If multiple values for the same attribute are specified in the **pdpr** command, Infoprint uses the last value read, except for those attributes that can have different values for different documents in the same job.

2. The values of a default job specified by the job attribute **initial-value-job** or the values for a default document specified by the document attribute **initial-value-document**.

3. The values of a default job specified by the **destination-initial-value-job** attribute or the values of a default document specified by the **destination-initial-value-document** attribute of the logical destination to which the user submitted the job.

4. Server defaults for required attribute values not specified through the previous methods.

pdpr

You must be authorized to submit jobs to the specified destination if the logical destination is protected (the value of its **authorize-jobs** attribute is **true**).

If the server cannot locate an actual destination (associated with the requested logical destination) supporting the job and document attributes, Infoprint rejects the job.

Flags

You can use the following flags with the **pdpr** command:

-d *TargetDestinationName*
> The target destination can be either the actual destination name if **logical-destination-assigned** is set on the actual destination or the logical destination name to which you want to submit the job.
>
> With Infoprint Manager for AIX, if you do not specify this flag (or the equivalent **-p** flag), Infoprint uses the **PDPRINTER** environment variable to determine the destination.
>
> Using this flag is equivalent to specifying the **destination-name-requested** attribute.

-f *FileName*
> Specifies files you want included in the job. Use this flag only with file identifiers that are not placed at the end of the command. For example, to print all pages of file1 and pages 3 through 6 of file2, enter:
> ```
> pdpr -f file1 -x page-select=3:6 file2
> ```
>
> This flag is not valid for tape input.

-g Turns off headings.
> Using this flag is equivalent to specifying the command attribute **headings=false**.

-h Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag).

-l Creates symbolic links to the job files rather than making temporary copies when used with Infoprint Manager for AIX. When Infoprint assigns the job to an actual destination, the server uses the links to the job files to locate the original files and copies them (if needed) at that time. This can be useful when printing large files or jobs.

> **Notes:**
> 1. Use this flag only for jobs submitted from AIX to an AIX server; you cannot use it when submitting jobs from a workstation client or to a Windows server.
> 2. You must use caution when using this flag because:
>   a. Depending on when you make changes to the files and when the server prints them, the printed output may or may not reflect the changes.
>   b. If you delete the file before the job prints or while the job is printing, the printed output may fail or be incomplete.
>   c. When you are using an AIX client and sending a **pdpr** command with **PDHOST** or **PD_SOCKET**, you cannot specify the **-l** flag.

-n {1 | *CopyCount***}**
> Specifies the number of document copies that you want to print.

If you do not specify the **-n** flag, the copy count defaults to one (1).

Using this flag is equivalent to specifying the document attribute **copy-count=**_CopyCount_.

> **Note:** You cannot use the **-n** flag or the document attribute **copy-count** if the job contains inline resources. Use the job attribute **results-profile** instead.

-N {message | email | job-log| none}
Specifies the delivery method that you want to use for notification of job events for this job.

> **Note:** Using this flag and its value causes Infoprint to generate a **notification-profile** attribute value for this job.

-p _TargetDestinationName_
The target destination can be either the actual destination name if **logical-destination-assigned** is set on the actual destination or the logical destination name to which you want to submit the job.

With Infoprint Manager for AIX, if you do not specify this flag (or the equivalent **-d** flag), Infoprint uses the **PDPRINTER** environment variable to determine the destination.

Using this flag is equivalent to specifying the **destination-name-requested** attribute.

-r {none | brief | verbose}
Identifies the job attribute values that you want to display for the job just created.

none	Displays no attributes.

brief	Displays a small subset of important attributes for the job.

verbose
Displays a larger subset of important attributes for the job.

Using this flag is equivalent to specifying the command attribute **requested-attributes**.

-s {column | doccol | line}
When combined with the **-r** flag or the **requested-attributes** command attribute, specifies the format in which you want the attributes displayed.

column
Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol
For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line	Each attribute is displayed on a separate line.

Using this flag is equivalent to specifying the command attribute **style**.

-T _TapeDevice_
With Infoprint Manager for AIX, specifies the name of the tape device from which **pdpr** reads the input file. Specify the name without prefixing **/dev**, for example, -T rmt0.

-t *JobName*

Specifies the name you want to assign to the job.

Using this flag is equivalent to specifying the job attribute **job-name**.

-x *"attribute=value ..."*

Consists of a single attribute string containing one or more attribute-value pairs.

Any document attribute defined with the **-x** flag affects all files whose names follow that **-x** flag on the command line, unless you reset that attribute.

To reset an attribute to the default value, specify *AttributeName***==**. For example, to reset the **document-type** attribute to its default value, **printable**, specify

```
document-type==
```

-X *AttributesFileName*

Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.

Any document attribute in the file defined with the **-X** flag affects all files whose names follow that **-X** flag on the command line, unless you reset that attribute.

To reset an attribute to the default value, specify *AttributeName***==**. For example, to reset the **document-type** attribute to its default value, **printable**, specify

```
document-type==
```

Using this flag is equivalent to specifying the command attribute **attributes**.

-Z *InputFileName*

Specifies the name of a file containing command flags, command attributes, or the names of files to be printed, that you want Infoprint to insert at the current point in the command. Use this flag when the command is too long to fit on the command line.

-   Entering a dash (hyphen) causes the command to read from standard input (STDIN). If you use this flag, it must occur at the end of the command after any other flags or command attributes.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*

Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

Any document attribute in the attributes file affects all files whose names follow that **attributes** command attribute on the command line, unless you reset that attribute.

To reset an attribute to the default value, specify *AttributeName***==**. For example, to reset the **document-type** attribute to its default value, **printable**, specify

```
document-type==
```

headings={true | false}
Specifies whether you want Infoprint to display headings with the attributes.

requested-attributes={none | brief | verbose}
Specifies which job attributes you want Infoprint to display.

none Displays no attributes.

brief Displays a small subset of important attributes for each object.

verbose
Displays a larger subset of important attributes for each object.

style={column | doccol | line}
Specifies the presentation format in which you want Infoprint to display the output.

column
Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol
For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line Each attribute is displayed on a separate line.

Job and Document Attributes Used with the Command

There are two types of object attributes used with the **pdpr** command, per-job and per-document. You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag. You can specify any initially settable or resettable job or document attribute with the **pdpr** command. See"Attributes for Documents and Default Documents" on page 449 and"Attributes for Jobs and Default Jobs" on page 523 for descriptions of job and document attributes.

Per-Job Attributes
Per-job attributes apply to the job as a whole and may occur anywhere in the **pdpr** command.

Per-Document Attributes
If you specify some document attributes before the first document (file) on the command line, those attributes apply to all documents (files) you specify for this job. If you specify a different document attribute between the first and second document (files), that attribute applies to the second document and any following document you specify for this job. This progression of attributes to files continues until the last document (file) specified.

The value for a given attribute must be the same for all the documents in the job except for those listed in "Per-Document Attribute Listing" on page 451. Even for those attributes, the value must be the same for all documents in the job if
• The job is submitted from tape
• The documents are in ASCII format

Arguments

Use the argument value to identify the name or tape position of a file that you want to print. If you specify multiple file identifiers, separate the file identifiers with spaces. Each file becomes a document within the job. Unless you end the

command with the **-** flag, indicating that **pdpr** is to read from standard input, you must place at least one file identifier without the **-f** flag at the end of the command.

FileName **...**
> Specifies the document that you want to print. Precede the file name by any per-document attributes.

[\]#*FileNumber* **...**
> With Infoprint Manager for AIX, when you submit a file from tape, instead of the file name you can specify the position of the file on the tape. The number sign (**#**) indicates a file number and the backslash (****) escapes the number sign. If your shell does not have a special meaning for the number sign, you can omit the backslash.

If you specify a multi-document job, and if Infoprint cannot support one or more of the documents within the job, Infoprint rejects the job and issues an error message.

Examples for Infoprint Manager for AIX

Print a Job on the Default Logical Destination
To submit the file `File1` to your default logical destination, enter the commands:

```
pdpr File1
```

Print a Multi-Document Job
To submit the files `File1` and `File2` to the default logical destination, enter the command:

```
pdpr File1 File2
```

Fax a Job
To submit the cover sheet `faxcover` and the file `Memo1` to the logical destination `Serv1-faxout` for faxing to fax number `1-709-123-4567`, enter the command:

```
pdpr -d Serv1-faxout -x "fax-number=17091234567
document-type=cover-sheet" -f faxcover
-x "document-type=printable" Memo1
```

Email a Job
To submit the file `report.ps` to the logical destination `mailbox` for electronic mailing to `julia@kingston`, enter the command:

```
pdpr -d mailbox -x "email-to-address=julia@kingston
   subject-text='Status Report'" report.ps
```

Print Multiple Copies of Each Document in a Job
To submit a job to the default logical destination and to specify two copies of each file in the job, enter one of these commands:

```
pdpr -n 2 Title Contents Body1 Body2 Append
```

```
pdpr -x "copy-count=2" Title Contents Body1 Body2 Append
```

Infoprint prints two copies of `Title`, followed by two of `Contents`, and so forth for each file in the job.

Note: You cannot use the **-n** flag or the document attribute **copy-count** if the job contains inline resources. Use the job attribute **results-profile** instead.

Print Multiple Copies of a Job
To submit the job to the default logical destination and to specify two copies of the complete job, enter the command:

```
pdpr -x "results-profile=::2" Title Contents Body1 Body2 Append
```

Infoprint prints a single copy of each file in the job, and then prints a second set in the same manner.

Print Multiple Copies of Documents and Jobs

To submit a job to the default logical destination and to specify two copies of the complete job with each copy of the job containing three copies of each file, enter the command:

```
pdpr -n 3 -x "results-profile=::2" Title Contents Body1 Body2 Append
```

Infoprint prints three copies of `Title`, followed by three copies of `Contents` and so until the first copy of the job completes. Then Infoprint prints a second set in the same manner.

Specify Job Name

To submit the file `File1` to your default logical destination and to specify the job name, enter the command:

```
pdpr -t CmdRef File1
```

Print a Duplexed Job

To submit the file `File1` to the default logical destination and to specify normal-duplexed printing, enter the command:

```
pdpr -x "sides=2 plex=simplex" File1
```

Specify Document Format

To submit the file `PSFile2` to the default logical destination and to specify a document format of ASCII, enter the command:

```
pdpr -x "document-format=ascii" PSFile2
```

Request Status

To submit the file `File1` to the default logical destination and to receive brief status information, enter the command:

```
pdpr -r brief File1
```

Infoprint displays information similar to the following:

```
                          Current    Destination    Destinations
Job  ID             Name  State      Requested      Assigned
---  --------------  ----- ---------  -------------  ------------
8    sp15:0754100002 File1 pending    LogPrt1
```

Delay Printing

To submit the file `BigJob` to the default logical destination and to delay printing until after 6:30 p.m. on May 2, 1997, enter the command:

```
pdpr -x "job-print-after='18:30:00 05/02/97'" BigJob
```

Specify a Symbolic Link

To submit the file `BigJob` to a logical destination `LogPrt4` without copying the file, enter the command:

```
pdpr -p LogPrt4 -l BigJob
```

Specify Job Discard Time

To submit the file `BigJob` to the default logical destination and to specify that Infoprint is to discard the job if it has not printed by 5:00 p.m., enter the command:

```
pdpr -x "job-discard-time=17:00:00" BigJob
```

Retain a Job

To submit the file File1 to the default logical destination requesting feedback of job attributes (brief group), and to specifying a retention period of 90 minutes so you can print more copies after you have looked at the first copy, enter the command:

```
pdpr -r brief -x "job-retention-period=90" File1
```

Note the job number (local ID) so you can use that number when you want to print more copies within the time allotted.

Specify Default Job and Document

To submit the file File1 to the default logical destination and use the job attribute values specified in the default job ivj23 and the document attribute values specified in the default document ivd44, enter the command:

```
pdpr -x "initial-value-document=ivd44 initial-value-job=ivj23" File1
```

Specify Attributes Files for a Job

To submit the file File5 to the default logical destination and to specify the two attributes files default.att and special.att, enter the command:

```
pdpr -X default.att -X special.att File5
```

Specify Different Attribute Values for Different Documents

To submit the files File5, File6, and File7 to the default logical destination and to specify that:

- Each document starts on a new sheet of paper
- You want to print pages 11 through 20 of File5, all pages of File6, and all pages of File7
- Each document has a different estimated page count

enter the command:

```
pdpr -x "start-on-new-sheet=true page-select=11:20 page-count=10"
  -f File5 -x "page-select== page-count=3" -f File6
  -x "page-count=19" File7
```

Override an Attribute Value in an Attributes File

To submit the file File1 to the default logical destination and override the value of 2 for the **sides** attribute specified in a given attributes file, enter the command:

```
pdpr -X default.att -x "sides=1" File1
```

Request Feedback Concerning the Job as Each Event Happens

To submit the file File1 to the default logical destination and to have all possible event notifications sent to you by electronic mail, enter the command:

```
pdpr -x "notification-profile={event-identifiers=job-modified
class-job-problem class-job-attention delivery-method=electronic-mail}" File1
```

Print Files from Tape

To print the second and third files on the tape mounted on tape device rmt0, enter:

```
pdpr -T rmt0 \#2 \#3
```

Examples for Infoprint Manager for AIX and Infoprint Manager for Windows NT and Windows 2000

Print a Job on a Specified Logical Destination

To submit the file File1 to the logical destination fred-lp, enter the command:

```
pdpr -d fred-lp File1
```

Print a Job on a Specified Actual Destination

To submit the file `File5` for printing on actual destination `draft-pp`, enter the command:

```
pdpr -p fred-lp -x "actual-destinations-requested=draft-pp" File5
```

Specify Destination Location

To submit the file `File5` for printing on one of the printer devices located in Building 20, Room 17, enter the command:

```
pdpr -d LogPrt20 -x "destination-locations-requested=bld20.rm17" File5
```

Specify a Medium

To submit the file `MyAddress` to logical destination `MServ-lp` and to specify a default medium of `number-10-envelope` for the job, enter the command:

```
pdpr -p MServ-lp -x "default-medium=number-10-envelope" MyAddress
```

Specify a Command Input File

To submit a job and read the command flags, command attributes, and names of files to be printed from the file `pdinput` instead of from the command line, enter the command:

```
pdpr -Z pdinput
```

Specify a Code Page for ASCII Jobs

To print the files `File1` and `File2` and to specify the code page `IBM-863`, enter the commands:

```
pdpr -d LogPrtPSF -x "default-character-mapping=IBM-863" File1 File2
```

Print a Range of Pages

To print pages 1 through 10 of the file `report.ps`, enter the command:

```
pdpr -p LogPrtPSF -x "document-format=postscript
destination-pass-through=–o–p 1–10" report.ps
```

Suggested Reading in Hardcopy

For information about:

- Attributes file, see "Attributes File" on page 10
- Headings and style, see "Command Output: Headings and Style" on page 9
- Document attributes, see "Attributes for Documents and Default Documents" on page 449
- Document attributes that can have different values for each document in a job, see "Per-Document Attribute Listing" on page 451
- Job attributes, see "Attributes for Jobs and Default Jobs" on page 523

Suggested Reading Online for Infoprint Manager for AIX

To view information about document attributes, enter the command:

```
man pd_att_document
```

To view information about job attributes, enter the command:

```
man pd_att_job
```

pdpromote Command: Advances a Job to the Top of a Queue

Syntax

> **pdpromote** [**-m** *"MessageText"*] [**-x** *"attribute=value ..."*]
>   [**-X** *AttributesFileName*] {*LocalJobID* | *GlobalJobID*}
>
> **pdpromote -h**

Description

Use the **pdpromote** administrative command to move a pending job before any currently-queued jobs. The job becomes the first job in the queue. If you then promote another job, it becomes the first job in the queue ahead of the job previously promoted.

A move to the beginning of the queue does not necessarily guarantee that the job is the next job to be printed or transmitted. The jobs currently printing on each of the actual destinations associated with the queue continue printing. The server assigns the promoted job to the first actual destination that:
• Becomes available
• Uses the **job-priority** scheduler
• Is capable of handling the promoted job

If you use DCE, you must have at least **read** and **write** authority for the queue to promote your own jobs as well as the jobs belonging to other people.

You can change the priority level of a job by setting the **job-priority** attribute with the **pdmod** or the **pdset** command. However, Infoprint promotes a job regardless of its priority to the top of the queue when you use the **pdpromote** command.

Flags

You can use the following flags with the **pdpromote** command:

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
         Specifies the message you want to store in the **job-message-from-administrator** attribute. You can use this message to indicate why you want to promote the job or to provide any other comments. If you do not specify the **-m** flag, the message already stored with the job remains unchanged.

         You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.

         Using this flag is equivalent to specifying the command attribute **message**.

-x *"attribute=value ..."*
         A single attribute string, consisting of one or more attribute and value pairs.

-X *AttributesFileName*
         Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.

         Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You may specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*

Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

message=*"MessageText"*

Specifies a message you want to store in the **job-message-from-administrator** attribute. You can use this message to indicate why you want to promote this job or to provide any other comments. If you do not specify the **message** attribute, the message already stored with the job remains unchanged.

You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.

Arguments

Use the argument value to identify the specific object that you want Infoprint to promote. You can use the following arguments with the **pdpromote** command:

LocalJobID **or** *GlobalJobID*

Specifies the job you want to promote. By default, end users do not have permission to promote jobs. Therefore, in most cases someone other than the job submitter will promote a job and must identify it by the global job ID. Job submitters who do have permission to promote jobs can identify their own jobs by the local job ID.

When you specify a job with the **pdpromote** command, it becomes the first job in the queue. If a another job is then promoted, it becomes the first job in the queue (ahead of the job previously promoted).

Example

To promote job `Serv1:1099600001` and add a job message from the administrator, enter the command:

```
pdpromote -m "This job must be printed in 10 minutes" Serv1:1099600001
```

Suggested Reading

For information about:
• Attributes file, see "Attributes File" on page 10

pdq Command: Queries Job Status

Syntax

> **pdq** [**-f** *"FilterCriteria"*] [{**-d** | **-p**} *DestinationName*] [**-F**] [**-g**] [**-j**]
> [**-r** *attribute ...*] [**-s** *StyleName*] [**-U**]
> [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
> [*LocalJobID*[*.DocNumber*] ... | *GlobalJobID*[*.DocNumber*] ...]
>
> **pdq -h**

Description

Use the **pdq** command to list the status of some or all jobs submitted to a logical destination or assigned to an actual destination.

With Infoprint Manager for AIX, if you omit both the *LocalJobID* and the *GlobalJobID* and do not name a destination, Infoprint lists all the jobs in the queue associated with the default logical destination, as defined by the **PDPRINTER** environment variable.

If you do not specify a value for the **-r** flag or the command attribute **requested-attributes**, the **pdq** command defaults to the value **brief**. By default, you can list the attribute values only for the jobs you submit.

Infoprint lists the jobs in the order in which the queue considers them for printing.

You can use the filtering option so that Infoprint returns status only for some jobs. The jobs have a predefined value for the filter that is equal to the job attribute **user-name**; Infoprint sets this value to your login identity when you submit a job.

Flags

You can use the following flags with the **pdq** command:

-d *DestinationName*
> Queries all jobs in the queue associated with this destination, or all jobs assigned to this actual destination. The results depend on the destination realization and the value of the queue attribute **assign-to-destination**, as shown in Table 5.

Table 5. Results of the pdq Command

Destination Realization	assign-to-destination	pdq Returns
Logical	**true** or **false**	All jobs in the queue associated with the logical destination
Actual	**true**	All jobs assigned to the actual destination
Actual	**false**	All jobs in the queue associated with the actual destination

-f *"FilterCriteria"*
> Specifies the filter selection criteria that you want to use for the jobs. Among the jobs, Infoprint returns only those matching the filter expression.
>
> Using this flag is equivalent to specifying the command attribute **filter**.

-F   Turns off all filtering, both specified and default. See the **-U** flag for only turning the default filter off.

-g   Turns off headings.

Using this flag is equivalent to specifying the command attribute **headings=false**.

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-j   Returns only the job attributes.

-p *DestinationName*
        Same as **-d** *DestinationName*.

-r {brief | verbose | archive | *"attribute ..."* **| all | none}**
        Specifies the group of attributes you want to display.

        brief   Displays a small subset of important attributes for each object.

        verbose
                Displays a larger subset of important attributes for each object.

        archive
                Writes only initially settable and resettable attributes to an archive file.

        attribute ...
                Displays the attributes you specify.

        all   Displays all attributes.

        none   Displays no attributes.

        If you specify more than one of these values, Infoprint displays all the attributes requested.

        Using this flag is equivalent to specifying the command attribute **requested-attributes**.

-s {column | doccol | line}
        Specifies the format in which you want Infoprint to display the attributes.

        column
                Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

        doccol
                For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

        line   Each attribute is displayed on a separate line.

        Using this flag is equivalent to specifying the command attribute **style**.

-U   Suppresses the default user-name filter.

-x *"attribute=value ..."*
        Consists of a single attribute string, containing one or more attribute and value pairs.

> **-X** *AttributesFileName*
>> Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.
>>
>> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

filter=*"FilterCriteria"*
> Specifies the filter selection criteria you want used if you request attribute values for multiple objects. Infoprint selects only some of the candidate jobs based on the filtering criteria. A filter is a logical expression consisting of relationships between attributes and attribute values. Among the specified jobs, Infoprint only returns those whose attribute values match the filter expression.
>
> The **filter** command attribute functions the same way for the **pdq** command as for the **pdls** command.

headings={true | false}
> Specifies whether you want Infoprint to display headings for the requested attributes.

requested-attributes={brief | verbose | archive | *"attribute ..."* | all | none}
> Specifies the group of attributes you want to display.
>
> **brief** Displays a small subset of important attributes for each object.
>
> **verbose**
>> Displays a larger subset of important attributes for each object.
>
> **archive**
>> Writes only initially settable and resettable attributes to an archive file.
>
> *attribute ...*
>> Displays the attributes you specify.
>
> **all** Displays all attributes.
>
> **none** Displays no attributes.
>
> If you specify more than one of these values, Infoprint displays all the attributes requested.

style={column | doccol | line}
> Specifies the presentation format in which you want Infoprint to display the attributes.
>
> **column**
>> Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol

For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line   Each attribute is displayed on a separate line.

Arguments

Use the argument value to identify the specific object for which you want the status. If you specify multiple objects, separate the object names with spaces.

You can use the following arguments with the **pdq** command:

LocalJobID[.DocNumber]

Specifies the job or documents you want Infoprint to list as determined by a local ID or a local ID and document number. If you specify multiple arguments on the command line, separate the arguments with spaces.

GlobalJobID[.DocNumber]

Specifies the job or documents you want Infoprint to list as determined by a global ID or a global ID and document number. If you specify multiple arguments on the command line, separate the arguments with spaces.

With Infoprint Manager for AIX, if you omit the **-d** *DestinationName* or **-p** *DestinationName* flag and the *LocalJobID* or *GlobalJobID* argument, Infoprint lists all of the jobs in the queue associated with your default logical destination, defined by your **PDPRINTER** environment variable.

Examples

Query All Jobs on the Default Logical Destination with Infoprint Manager for AIX

To list all your jobs sent to your default logical destination Dsrv-lp, enter the command:

```
pdq
```

Infoprint displays information similar to the following:

```
                                Intervening Destination Destinations
Job  ID              Name   State       Jobs        Requested   Assigned
---  --------------- ------ ----------  ----------- ----------- ------------
13   spl4:1104221000 File1  processing  0           Dsrv-lp     Dsrv-pp
14   spl4:1105226030 JobA   pending     7           Dsrv-lp
15   spl4:1133000058 MyJob  pending     8           Dsrv-lp
```

Note: If you issue the command:

```
pdq -U
```

Infoprint displays status information for all jobs in the queue associated with your default logical destination.

Query All Your Jobs on a Logical Destination

To list all jobs that you sent to logical destination dizzy-lp, enter the command:

```
pdq -d dizzy-lp
```

Query All Users' Jobs on a Logical Destination

To list all jobs that any user sent to logical destination dizzy-lp, enter the command:

pdq

```
pdq -U -d dizzy
```

Query All Your Jobs Assigned to an Actual Destination

To list all jobs that you submitted and that Infoprint assigned to actual destination `proof-pp`, enter the command:

```
pdq -p proof-pp
```

Note: If the value of **assign-to-destination** is **false** for the queue associated with `proof-pp`, Infoprint lists all your jobs in the queue.

Suggested Reading in Hardcopy

For information about:
- Filters, see the **pdls** command attribute **filter**.
- Attributes file, see "Attributes File" on page 10.
- Headings and style, see "Command Output: Headings and Style" on page 9
- Job attributes, see "Attributes for Jobs and Default Jobs" on page 523
- Document attributes, see "Attributes for Documents and Default Documents" on page 449

Suggested Reading Online

To view information about job attributes, enter the command:

```
man pd_att_job
```

To view information about document attributes, enter the command:

```
man pd_att_document
```

pdreorder Command: Reassigns Jobs

Syntax

pdreorder {**-a** [*TargetServerName:*]*TargetJobID* |
      -b [*TargetServerName:*]*TargetJobID* |
      -p [*TargetServerName:*]*TargetDestinationName* |
      -s *TargetServerName* | **-u** *TargetServerName*}
      [**-m** *"MessageText"*] [**-x** *"attribute=value ..."*]
      [**-X** *AttributesFileName*] [*ServerName:*]*GlobalJobID* ...

pdreorder -h

Description

Enter the **pdreorder** command to request Infoprint to reassign a job to a actual
destination or to the unassigned jobs area in the same server or another server.
You can assign the job to the actual destination where another job is assigned and
specify that it should be printed or transmitted before or after the other job. You can
reassign the job to a specified actual destination, request the server to reschedule
the job, or request the server to make the job an unassigned job.

If a job is reordered to an actual destination that does not support the job's attribute
values, the job is held and the **required-resources-not-supported** attribute lists
the unsupported values.

Flags

You can use the following flags with the pdreorder command:

-a *[TargetServerName:]TargetJobId*
    Specifies that the reordered job should be assigned to print or transmit after
    the target job on the same actual destination.

-b *[TargetServerName:]TargetJobId*
    Specifies that the reordered job should be assigned to print or transmit
    before the target job on the same actual destination.

-h   Displays a command-specific help message containing information about
    command syntax and flags. If you use this flag with any other flag or
    attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
    Specifies the message you want associated with the reordered job. You can
    use this message to indicate the reason why the job is being reordered or
    other comments. Using this flag is equivalent to specifying the command
    attribute **message**.

    You can list this message by specifying **requested-attributes=job-
    message-from-administrator** with the **pdls** command.

-p *[TargetServerName:]TargetDestinationName*
    Specifies that the job should be reassigned to the target actual destination.

-s *TargetServerName*
    Specifies that the job should be moved to the target server and that the
    target server should assign it to an actual destination.

pdreorder

-u *TargetServerName*
　　Specifies that the job should be moved to the target server as an
　　unassigned job.

-x *"attribute=value ..."*
　　Consists of a single attribute string, containing one or more attribute-value
　　pairs.

-X *AttributesFileName*
　　Specifies the name of a file containing attribute and value pairs that you
　　want Infoprint to insert at the current point in the command line. Using this
　　flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes
file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
　　Specifies the designated attributes file that Infoprint reads and inserts at the
　　current point in the command. This file contains attribute and value pairs
　　that Infoprint uses to expand the command.

message=*"MessageText"*
　　Specifies the message you want associated with the reordered job. You can
　　use this message to indicate the reason why the job is being reordered or
　　other comments.

　　You can list this message by specifying **requested-attributes=job-
　　message-from-administrator** with the **pdls** command.

Arguments

Use the argument value to identify the specific object for which you want the status.
If you specify multiple objects, separate the object names with spaces.

You can use the following arguments with the **pdreorder** command:

[ServerName:]GlobalJobID
　　The global ID of the job to be reassigned.

Examples

- To reorder job 1099600001 so that it prints after job 1099500047, enter the
  command:

  pdreorder -a 1099500047 1099600001
- To reassign job 2000004341 from server molly to server david and have david
  assign it to an actual destination, enter the command:

  pdreorder -s david molly:2000004341

pdresubmit Command: Resubmits Jobs

Syntax

pdresubmit [**-c** *ObjectClass*] [**-g**] [**-r** *"RequestedAttribute ..."*]
      [**-s** *StyleName*]
      [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
      [*ServerName:*]*TargetLogicalDestinationName*
      {*LocalJobID* ... | *GlobalJobID* ... |
      [*ServerName:*]*QueueName* ... |
      [*ServerName:*]*DestinationName* ...}

pdresubmit -h

Description

Use the **pdresubmit** command to resubmit an existing job to a specific logical destination. The logical destination can be in the same server as the logical destination to which the job was first submitted or a different server. You can only resubmit jobs that have the current job state of **held**, **pending**, **retained**, or **unknown**.

If the logical destination specified is in a different server, the old server resubmits the job with all of its current attributes to the new server. Infoprint includes any default attributes associated with the old server so that the new job remains as similar as possible to the old job. If the new server accepts the job, it assigns a new global job identifier and the old global job identifier becomes invalid.

Logical destinations and queues can also be arguments for this command. If a logical destination is the argument, Infoprint resubmits all of the jobs submitted to the old logical destination to the specified new logical destination. If a queue is the argument, Infoprint resubmits all of the jobs in the old queue to the specified logical destination. Infoprint validates all of the resubmitted jobs again. If the newly specified logical destination does does not support them, they remain in the queue that they were in originally.

If the new logical destination cannot accept the job for some reason, Infoprint issues an error message and the job stays where it was.

Notes:

1. Infoprint does not change the global job identifier for the job if you resubmit the job to a logical destination on the same server.
2. Infoprint changes the global job identifier for the job if you resubmit the job to a logical destination on a different server. However, if you are the job-owner, you can still use the same local job identifier.

Flags

You can use the following flags with the **pdresubmit** command:

-c {job | queue | destination}
      Specifies the object class that you want for this command. Within the valid classes, **destination** only applies to logical destinations.

      Using this flag is equivalent to specifying the command attribute **class**.

-g   Turns off headings.

pdresubmit

Using this flag is equivalent to specifying the command attribute **headings=false**.

-h   Displays a command-specific help message containing information about command syntax and flags. if you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-r {none | brief verbose}

Specifies the group of attributes you want Infoprint to display for the specified job, queue, or destination.

none   Displays no attributes.

brief   Displays a small subset of important attributes for each object.

verbose

Displays a larger subset of important attributes for each object.

Using this flag is equivalent to specifying the command attribute **requested-attributes**.

-s {column | doccol | line}

When combined with the **-r** flag or the **requested-attributes** command attribute, this flag specifies the format in which you want the attributes displayed.

column

Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol

For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line   Each attribute is displayed on a separate line.

Using this flag is equivalent to specifying the command attribute **style**.

-x *"attribute=value ..."*

Consists of a single attribute string, containing one or more attribute-value pairs.

-X *AttributesFileName*

Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.

Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You may specify these attributes in a **-x** *"attribute=value ..."* or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*

Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={job | queue | destination}

Specifies the object class you want for this command. Within the valid classes, **destination** only applies to logical destinations.

headings={true | false}
> Specifies whether you want Infoprint to display headings for the requested attributes.

requested-attributes={none | brief verbose}
> Specifies the group of attributes you want Infoprint to display for the specified job, queue, or destination.

> **none** Displays no attributes.

> **brief** Displays a small subset of important attributes for each object.

> **verbose**
>> Displays a larger subset of important attributes for each object.

style={column | doccol | line}
> Specifies the format in which you want Infoprint to display the attributes.

> **column**
>> Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

> **doccol**
>> For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

> **line** Each attribute is displayed on a separate line.

Arguments

Use the argument value to identify the specific object you want to resubmit. If you specify multiple objects, all must belong to the same class and you must separate the object names with spaces.

You must use the following argument:

[ServerName:]TargetLogicalDestinationName
> Specifies the name of the new logical destination.

You must use one of the following arguments with the **pdresubmit** command:

LocalJobID **or** *GlobalJobID*
> Specifies the job you want resubmitted as determined by a local or global job identifier. If you do not use DCE, by default, end users do not have permission to use the **pdresubmit** command. Therefore, in most cases someone other than the job submitter will resubmit a job and must identify it by the global job ID. Job submitters who do have permission to use **pdresubmit**, either because they belong to the **printq** group or because the file permissions have been changed, can identify their own jobs by the local job ID.

> If you use DCE, you must have **write** permission for the server to resubmit a job belonging to another user.

[ServerName:]DestinationName
> Causes Infoprint to resubmit to the target logical destination all jobs currently submitted to the specified logical destination.

[ServerName:]QueueName
> Causes Infoprint to resubmit to the target logical destination all jobs that are currently in the specified queue.

Examples

Resubmit Jobs

To resubmit jobs `3828:1098223002` and `3828PP:1099223003` to logical destination `local-lp`, enter the command:

`pdresubmit local-lp 3828PP:1098223002 3828PP:1099223003`

Resubmit All Jobs from One Logical Destination to Another

To resubmit all jobs submitted to logical destination `dept1-lp` to logical destination `local-lp`, enter the command:

`pdresubmit local-lp -c destination dept1-lp`

Suggested Reading

For information about:
- Attributes file, see "Attributes File" on page 10

pdresume Command: Enables Paused Objects to Resume Operation

Syntax

>
> **pdresume** [**-c** *ObjectClass*] [**-m** *"MessageText"*]
> > [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
> > {*LocalJobID* ... | *GlobalJobID* ... |
> > *ServerName* ... | [*ServerName:*]*DestinationName* ... |
> > [*ServerName:*]*QueueName* ...}
>
> **pdresume -h**

Description

Use the **pdresume** administrative command to cause Infoprint to restart paused jobs, actual destinations, queues, or servers.

Note: Use the **pdresume** and **pdpause** commands to allow or prevent output from the object, whereas you use the **pdenable** and **pddisable** commands to allow or prevent input to the object.

Flags

You can use the following flags with the **pdresume** command:

-c {destination | queue | job | server}
> Specifies the object class you want for this command. Within the valid classes, **destination** is an actual destination.
>
> **Note:** You cannot resume PSF upload-TCP/IP-attached physical printers or PSF upload-SNA-attached physical printers.
>
> Using this flag is equivalent to specifying the command attribute **class**.

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
> Specifies the message you want associated with the specified destination, queue, job, or server. You can use this message to indicate the reason for resumption or to provide any other comments.
>
> When resuming a server, Infoprint propagates the message to the **message** attribute of the actual destinations and queues residing in the server. Infoprint does not change the server **message** attribute.
>
> If the command operates on a job, you can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command. If the command operates on a destination, queue, or server you can list this message by specifying **requested-attributes=message** with the **pdls** command.
>
> If you do not specify the **-m** flag, the message already stored with the object remains unchanged.
>
> Using this flag is equivalent to specifying the command attribute **message**.

-x *"attribute=value ..."*
> A single attribute string, consisting of one or more attribute-value pairs.

pdresume

> **-X** *AttributesFileName*
>> Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.
>>
>> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={destination | queue | job | server}
> Specifies the object class you want for this command. Within the valid classes, **destination** is an actual destination.
>
> **Note:** You cannot resume PSF upload-TCP/IP-attached physical printers or PSF upload-SNA-attached physical printers.

message=*"MessageText"*
> Specifies the message you want to associate with the specified destination, queue, job, or server. You can use this message to indicate the reason for resumption or to provide any other comments.
>
> When resuming a server, Infoprint propagates the message to the **message** attribute of the actual destinations and queues residing in the server. Infoprint does not change the server **message** attribute.
>
> If the command operates on a job, you can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command. If the command operates on a destination, queue, or server, you can list this message by specifying **requested-attributes=message** with the **pdls** command.
>
> If you do not specify the **message** attribute, the message already stored with the object remains unchanged.

Arguments

Use the argument value to identify the specific destination, queue, job, or server you want to start processing again (resume operating). If you specify multiple objects, all of the objects must belong to the same class and you must separate the object names with spaces.

You can use the following arguments with the **pdresume** command:

*LocalJobID***... or** *GlobalJobID***...**
> Specifies the job you want to resume as determined by a local job identifier or global job identifier. If you use DCE, by default, only an administrator has the authority to resume jobs. If you do not use DCE, by default, administrators and operators have the authority to resume jobs, but end users do not. Therefore, in most cases someone other than the job submitter will resume a job and must identify it by the global job ID. Job submitters who do have authority to resume jobs can identify their own jobs by the local job ID.

A resumed job does not automatically return to its previous state. For example, if the **job-hold** or **print-after** attributes of a paused job were modified, returning to its previous state would cause Infoprint to hold the job even after it was resumed.

Resuming a job that was not previously assigned to an actual destination allows Infoprint to schedule it.

Resuming a job that was processing when it was paused causes Infoprint to restore it to the **pending** state and attempt to schedule it on the original actual destination. If the original destination is not available, Infoprint schedules the job on another actual destination that can support the job checkpoint format and begins processing the job where it stopped. If Infoprint cannot find another actual destination that supports the checkpoint format, Infoprint places the job in the **held** state. You can resubmit the job, which means that Infoprint will start the job from the beginning.

Resuming a job that had any attributes modified while it was paused causes it to restart from the beginning.

[ServerName:]DestinationName
Specifies the destination you want to resume operation.

Resuming an actual destination allows it to start processing jobs that Infoprint has assigned to it.

[ServerName:]Queue
Specifies the queue you want to resume operating.

Resuming a queue resumes the distribution of jobs to actual destinations associated with that queue.

ServerName
Specifies the server on which you want the command to operate. A server does not have a **paused** state. Issuing the command to a server resumes all of the paused queues and actual destinations that reside in that server. The queues can then continue to distribute jobs to actual destinations; and the actual destinations can start processing jobs.

Examples

Resume an Actual Destination
To resume actual destination `Csrv-pp` and issue a message, enter the command:

```
pdresume -m "Toner refilled" Csrv-pp
```

Resume a Queue
To resume the queue `Div1-q`, enter the command:

```
pdresume -c queue Div1-q
```

Resume All Queues and Actual Destinations in a Server
To resume all of the queues and actual destination in the server `Mrk-server3`, enter the command:

```
pdresume -c server Mrk-server3
```

Suggested Reading

For information about:
• Attributes file, see "Attributes File" on page 10

---

pdrm Command: Removes Jobs

Syntax

pdrm [**-m** *"MessageText"*] [**-r** *JobRetentionPeriod*]
      [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
      {*LocalJobID* ... | *GlobalJobID* ...}

pdrm -h

Description

Use the **pdrm** command to remove (delete) previously submitted jobs.

Notes:

1. If the job you specify is currently printing or transmitting, Infoprint can only remove it at a pausable point in the job. The pausable point at which the Infoprint can remove the job depends on the type of output device. A pausable point may be immediate or it may be the next page, sheet, document, or job boundary. If there is no such point before the end of job, Infoprint does not remove the job.

2. When you request Infoprint to remove a job with a non-zero value for the **job-retention-period** or **job-retain-until** attribute, Infoprint retains the job until the **job-retain-until** deadline or until the **job-retention-period** runs out, then deletes the job.

3. You can remove your own jobs by specifying either the local ID or the global ID for the job. You can remove jobs belonging to another person by specifying the global ID for the job.

   Note: If you use DCE, you must have **write** permission for the server to remove jobs belonging to another person.

   Infoprint Manager for AIX issues a confirmation message prior to deleting jobs, unless the environment variable **PD_CONFIRM_DELETE** for the person requesting the job removal has a value of **no**.

   Infoprint Manager for Windows NT and Windows 2000 issues a confirmation message prior to cleaning the object, unless the **Confirm Object Delete** checkbox is unchecked (which is accessed through the Infoprint Manager Management Console with **Edit–>Service Configuration**).

Flags

You can use the following flags with the **pdrm** command:

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
       Specifies the message you that want to associate with the specified job. The specified text becomes the value of the **job-message-from-administrator** attribute. You can use it to provide the reason you are removing the job or to provide any other comments. If you do not specify the **-m** flag, the message already stored with the job remains unchanged.

You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.

Using this flag is equivalent to specifying the command attribute **message**.

-r *JobRetentionPeriod*
Specifies the period of time you want the server to retain the job before Infoprint deletes the job. If specified, this retention period takes precedence over the previous job-retention period set for the job.

Using this flag is equivalent to specifying the job object attribute **job-retention-period**.

-x *"attribute=value ..."*
Consists of a single attribute string, containing one or more attribute-value pairs.

-X *AttributesFileName*
Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.

Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can define these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated in the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

message=*"MessageText"*
Specifies the message that you want Infoprint to store in the **job-message-from-administrator** attribute. You can use it to provide the reason you are removing the job or to provide any other comments. If you do not specify the **message** attribute, the message already stored with the job remains unchanged.

You can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command.

Arguments

Use the argument value to identify the specific job you want to remove. You must use one of the following arguments for the **pdrm** command:

LocalJobID **or** *GlobalJobID*
Specifies the local ID or global ID of the job that you want Infoprint to remove.

This argument must appear last in the command. If you want to remove more than one job, separate the job identifiers with spaces.

Examples

Remove Your Own Job
To remove your job with the local ID of 15, enter the command:

```
pdrm 15
```

Remove Another User's Job
To remove the job with global ID `Server1:1011223002` on server `Server1`, enter the command:

```
pdrm Server1:1011223002
```

Remove Job Regardless of Retention Time
To remove your job with the local ID of `10` as soon as possible, regardless of any previously specified **job-retention-period** attribute value, enter the command:

```
pdrm -r 0 10
```

pdset Command: Defines Attribute Values

Syntax

pdset [**-c** *ObjectClass*] [**-g**] [**-m** *"MessageText"*]
[**-r** *"attribute ..."*] [**-s** *StyleName*]
[**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
{*ServerName* ... | *ServerName:AuxiliarySheetName* ... |
ServerName:DefaultDocumentName ... |
ServerName:DefaultJobName ... |
[*ServerName:*]*DestinationName* ... | *ServerName:LogName* ... |
ServerName:MediumName ... |[*ServerName:*]*QueueName* ... |
ServerName:ResourceContextName ... |
ServerName:TransformName ... |
LocalJobID ... |
GlobalJobID ...}

pdset -h

Description

Use the **pdset** administrative command to define or modify the values of object attributes. You must disable a destination before you can modify its attributes.

Table 6 lists the four modification operators.

Table 6. pdset Operators

Operator	Syntax	Description
Replace	*attribute=value*	Replaces the entire value of the attribute *attribute* with *value* or adds the attribute to the object, if not already present.
Add values	*attribute+=value*	Adds the value *value* to the attribute *attribute*. You cannot add values to single-valued attributes. Infoprint honors an add request that duplicates values on a multi-valued attribute without warning.
Remove values	*attribute-=value*	Removes the value *value* from the attribute *attribute*. Infoprint ignores a remove request for a nonexistent value, without warning or error. A remove request for the last or only value of an attribute is equivalent to a reset-to-default request.
Reset to default	*attribute==*	Sets the attribute value *attribute* to the default. If you supply values with a **reset-to-default** request, Infoprint ignores them.

If you do not specify a value with a replace, add, or remove request, Infoprint issues an error and rejects the request to change the object.

You can only change values for resettable attributes using the **pdset** command. Using this command for non-settable or initially settable attributes results in an error.

See "Chapter 7. Infoprint Object Attributes" on page 325 for lists of all resettable attributes by object and a description of each attribute.

pdset

Changes made to objects are permanent and remain changed even if you shut down and then restart the system (except for logs).

Flags

You can use the following flags with the **pdset** command:

-c {destination | job | server | queue | auxiliary-sheet | document | initial-value-job | initial-value-document | medium | resource-context | transform | log}

Specifies the object class that you want for this command. Within the valid classes, **destination** is for a logical destination or actual destination.

Using this flag is equivalent to specifying the command attribute **class**.

-g   Turns off headings.

Using this flag is equivalent to specifying the command attribute **headings=false**.

-h   Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*

Specifies the message that you want to associate with the object that you want to modify. You can use this message to indicate the reason why you are modifying or setting object attributes or to provide any other comments.

If the command operates on a job, you can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command. Otherwise, you can list this message by specifying **requested-attributes=message** with the **pdls** command.

If you do not specify the **-m** flag, the message already stored with the object remains unchanged.

Using this flag is equivalent to specifying the command attribute **message**.

-r {none | brief | verbose}

Specifies the attribute values you want to display for the specified object.

none   Displays no attributes.

brief   Displays a small subset of important attributes for each object.

verbose

Displays a larger subset of important attributes for each object.

Using this flag is equivalent to specifying the command attribute **requested-attributes**.

-s {column | doccol | line}

Specifies the format in which you want Infoprint to display the attributes.

column

Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol

For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line   Each attribute is displayed on a separate line.

Using this flag is equivalent to specifying the command attribute **style**.

-x *"attribute=value ..."*
> A single attribute string, consisting of one or more attribute-value pairs. Prefix the attribute value with the replace operator, = , to replace a value, the add-value operator, += , to add a value or the remove-value operator, −= , to remove a value. Use the reset-to-default operator, == , with no attribute value to set the value to its default.

-X *AttributesFileName*
> Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.

> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={destination | job | server | queue | auxiliary-sheet | document | initial-value-job | initial-value-document | medium | resource-context | transform | log}
> Specifies the object class you want for this command. Within the valid classes, **destination** is for a logical destination or actual destination.

headings={true | false}
> Specifies if you want Infoprint to display headings on the output.

message=*"MessageText"*
> Specifies the message that you want to associate with the object you are modifying. You can use this message to indicate the reason that you are modifying the object attributes or to provide any other comments.

> If the command operates on a job, you can list this message by specifying **requested-attributes=job-message-from-administrator** with the **pdls** command. Otherwise, you can list this message by specifying **requested-attributes=message** with the **pdls** command.

> If you do not specify the **message** attribute, the message already stored with the object remains unchanged.

requested-attributes={none | verbose | brief}
> Specifies the attribute values you want to display for the specified object.

> **none**   Displays no attributes.

> **brief**   Displays a small subset of important attributes for each object.

> **verbose**
>> Displays a larger subset of important attributes for each object.

style={column | doccol | line}
> Specifies the presentation format in which you want the output displayed.

> **column**
>> Attribute values are displayed in tabular format, so that values of the same attribute for multiple objects line up in columns.

doccol

For jobs only, job attribute values and the document attribute values for the first document in the job are displayed in column format on the same line.

line Each attribute is displayed on a separate line.

Arguments

Use the argument value to identify the specific object for which you want to set or modify attributes. If you specify multiple objects, separate the object names with spaces.

You can use the following arguments with the **pdset** command:

ServerName:AuxiliarySheetName
ServerName:DefaultJobName
ServerName:DefaultDocumentName
ServerName:MediumName
ServerName:LogName
[ServerName:]DestinationName
[ServerName:]QueueName
ServerName:ResourceContextName
ServerName:TransformName
ServerName
LocalJobID
GlobalJobID

By default, end users do not have permission to modify jobs. Therefore, in most cases someone other than the job submitter will modify a job and must identify the job by the global job ID. Job submitters who do have permission to modify jobs can identify their own jobs by the local job ID.

Examples

Specify a Descriptor for a Server

To set a description for the server `Server1` and identify the processor name containing it and the TCP/IP address for the processor, enter the command:

```
pdset -c server -x "descriptor='Server Server1 is installed on
cowboy.  The TCP/IP address for cowboy is 9.99.9.143.'" Server1
```

Change the Operator to Receive Messages

To identify a new person to receive start and stop messages for actual destination `Serv4-pp`, enter the command:

```
pdset -c destination -x "notify-operator=electronic-mail:ro@cowboy"
Serv4-pp
```

Set the Job Size Range

To set the size of jobs that users can submit to actual destination `small-pp`, enter the command:

```
pdset -x "job-size-range-supported=0:10000
job-size-range-ready=0:10000" small-pp
```

Specify Media Supported by an Actual Destination

To specify the media supported by a given actual destination and the media currently loaded in the printer device, enter the command:

```
pdset -x "media-supported=letter na-letter-colored
   legal na-legal-colored A4 A4-colored
   psf-tray-characteristics=top:letter
   bottom:A4" Serv4-pp
```

Set a Message

To set the message for server `Serv2`, enter the command:

```
pdset -c server -m "printing system now ok" Serv2
```

Suggested Reading in Hardcopy

For information about:
- Attributes for Infoprint objects, see "Chapter 7. Infoprint Object Attributes" on page 325
- Attributes file, see "Attributes File" on page 10
- Headings and style, see "Command Output: Headings and Style" on page 9
- Non-settable, initially settable, and resettable attributes, see "Initially Settable, Resettable Attributes, and Non-Settable" on page 4

Suggested Reading Online for Infoprint Manager for AIX

To view information about all supported attributes for Infoprint, enter the command:

```
man pd_att
```

This displays a list of files by object from which you can select the attribute listing you want.

---

pdshutdown Command: Stops Servers or Actual Destinations

Syntax

pdshutdown [**-c** <u>server</u>] [**-m** *"MessageText"*] [**-w** *time*]
      [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
      ServerName

pdshutdown [**-c** **destination**] [**-m** *"MessageText"*]
      [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
      [**-s** [**-n**]] [*ServerName*:]*DestinationName*

pdshutdown -h

Description

Use the **pdshutdown** administrative command to terminate a server process or shut down a PSF physical printer, fax destination, or email destination.

You can shut down a server either immediately or after it finishes processing some or all of its current jobs.

Infoprint prevents the server from accepting new jobs while the server is shutting down and after it has shut down. Destinations in the server that were enabled at shutdown time are enabled when the server restarts. Destinations in the server that were disabled at shutdown time are disabled when the server restarts.

Note: To restart a server after shutdown, use the **startsrv** or **start_server** utility. See"startsrv Utility: Starts a Server in Infoprint Manager for AIX" on page 178 or"start_server Utility: Starts a Server for a Basic Infoprint Installation in Infoprint Manager for AIX" on page 176.

Shutting down an actual destination:
- Terminates all communication with the output device
- Pauses the job printing or transmitting on the actual destination
- Terminates all jobs processing on the actual destination and puts these jobs in the **pending** state
- Releases jobs assigned to the actual destination so that you can reschedule them on another actual destination
- Disables the actual destination

You can shut down a PSF physical printer either immediately or after synchronizing the current job's checkpoint data with the pages that have actually printed.

Notes:
1. To restart an actual destination after shutdown, use the **pdenable** command. See"pdenable Command: Enables Destinations to Accept Jobs and Logs to Log" on page 37.
2. Synchronize the checkpoint data for a controlled shutdown, for example, when you want to perform maintenance that will take some time.
3. If Infoprint cannot communicate with the output device, shut down the actual destination so that you can reschedule the jobs assigned to it. Do not synchronize the checkpoint data. If you try, the command will hang, waiting for the output device to respond.

If you shut down without synchronization, the shutdown will take effect and allow any previously hung commands to complete.

4. A job paused by a destination shutdown without synchronization may reprint some pages when printing is resumed.

5. If you want to interrupt the actual destination for only a short time, consider pausing it rather than shutting it down. When you pause an actual destination, scheduled jobs remain scheduled. When you shut down an actual destination, scheduled jobs are requeued.

Flags

You can use the following flags with the **pdshutdown** command:

-c {server | destination}
Specifies the object class you want to shut down. Within the valid classes, **destination** is a PSF physical printer, fax destination, or email destination.

Using this flag is equivalent to specifying the command attribute **class**.

-h Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-m *"MessageText"*
Specifies the message that you want to associate with the server or actual destination being shut down. You can use this message to indicate the reason for the shutdown or to provide any other comments.

You can list this message by specifying **requested-attributes=message** with the **pdls** command. If you do not specify the **-m** flag, the message already stored with the object remains unchanged.

Using this flag is equivalent to specifying the command attribute **message**.

-n Causes the PSF physical printer to perform an NPRO (move the last printed page to the stacker). Using this flag is equivalent to specifying the command attribute **non-process-runout=true**.

This flag is valid only with object class **destination**, and only if you also specify **-s**. It is not valid for fax destinations or email destinations.

-s Synchronizes the checkpoint data for the current job with the pages that have actually printed. This permits the job to resume at the point of synchronization. Using this flag is equivalent to specifying the command attribute **synchronize=true**. Do not use this flag if Infoprint cannot communicate with the printer device.

This flag is valid only with object class **destination**. It is not valid for fax destinations or email destinations.

-w {after-current | now | after-all}
Specifies when you want a server to shut down. When the value is:

now Infoprint cancels and requeues any currently printing jobs, then shuts down the server. You must resubmit the jobs using the **pdresubmit** command when the server restarts.

after-current
The server continues to accept requests other than print requests until the currently-printing jobs finish printing, then the server shuts down.

> **after-all**
>> The server continues to accept all requests except print requests until all scheduled jobs finish printing, then the server shuts down.
>
> Using this flag is equivalent to specifying the command attribute **when**.
>
> This flag is valid only with object class **server**.

-x *"attribute=value ..."*
> A single attribute string, consisting of one or more attribute-value pairs.

-X *AttributesFileName*
> Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command.
>
> Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You may specify these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated with the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

class={server | destination}
> Specifies the object class you want to shut down. Within the valid classes, **destination** is a PSF physical printer, fax destination, or email destination.

message=*"MessageText"*
> Specifies the message you want associated with the server or actual destination being shut down. You can use this message to indicate the reason for the shutdown or to provide any other comments.
>
> You can list this message by specifying **requested-attributes=message** with the **pdls** command. If you do not specify the **message** attribute, the message already stored with the object remains unchanged.

non-process-runout={true | false}
> Specifies whether the PSF physical printer should perform an NPRO (move the last printed page to the stacker).
>
> This attribute is valid only with object class **destination**, and only if you also specify **synchronize=true**. It is not valid for fax destinations or email destinations.

synchronize={true | false}
> Specifies whether to synchronize the checkpoint data for the current job with the pages that have actually printed. A value of **true** permits the job to resume at the point of synchronization. Do not specify **synchronize=true** if Infoprint cannot communicate with the printer device.
>
> This attribute is valid only with object class **destination**. It is not valid for fax destinations or email destinations.

when={after-current | now | after-all}
> Specifies when you want a server to shut down. When the value is:
>
> **now** Infoprint cancels and requeues any currently printing jobs, then shuts down the server. You must resubmit the jobs using the **pdresubmit** command when the server restarts.

> **after-current**
>> The server continues to accept requests other than print requests until the currently-printing jobs finish printing, then the server shuts down.
>
> **after-all**
>> The server continues to accept all requests except print requests until all scheduled jobs finish printing, then the server shuts down.
>
> This attribute is valid only with object class **server**.

Argument

Use the argument value to identify the specific server or actual destination that you want to shut down.

You can use the following argument values with the **pdshutdown** command:

ServerName
> Specifies the server that you want to shut down.

[ServerName:]DestinationName
> Specifies the actual destination that you want to shut down.

Examples

Shut Down a Server
To shut down server `Server1`, to abort all jobs that are currently printing, and to set a message, `Down for maintenance`, enter the command:

```
pdshutdown -w now -m "Down for maintenance" Server1
```

Shut Down an Actual Destination
To shut down actual destination `Serv9-fax`, enter the command:

```
pdshutdown -c destination Serv9-fax
```

Shut Down a PSF Physical Printer and Update Job Checkpoint Data
To shut down PSF physical printer `Serv9-pp` after synchronizing the printer with the currently printing job's checkpoint data, enter the command:

```
pdshutdown -c printer -s Serv9-pp
```

Note: The PSF physical printer must be able to communicate with the printer device to perform the synchronize function.

Shut Down a PSF Physical Printer, Update Job Checkpoint Data, and Perform NPRO
To shut down PSF physical printer `Serv9-pp` after synchronizing the currently printing job's checkpoint data and perform an NPRO, enter the command:

```
pdshutdown -c destination -s -n Serv9-pp
```

Suggested Reading

For information about:
• Attributes file, see "Attributes File" on page 10.

pdspace Command: Backspaces or Forward Spaces a Printer

Syntax

pdspace [**-c destination**] {**-b** *SideCount* | **-f** *SideCount*} [**-n**]
      [**-x** *"attribute=value ..."*] [**-X** *AttributesFileName*]
      [*ServerName:*]*DestinationName* ...

pdspace -h

Description

Use the **pdspace** command to backspace or forward space the currently printing job on the specified PSF physical printer a given number of sides. If the job is printing on one side of the medium, one side is equivalent to one sheet. If the job is printing on two sides of the medium (duplex), two sides are equivalent to one sheet.

Notes:

1. The functions of this command only apply to PSF physical printers. They do not apply to PSF upload-TCP/IP-attached physical printers or PSF upload-SNA-attached physical printers.

2. To guarantee accurate backspacing or forward spacing to a specific side, you must install the level of microcode supporting **pdspace** on the printer device.

3. You cannot backspace or forward space ASCII print jobs.

You can issue the **pdspace** command while the printer is stopped, paused, or running.

- If the printer has been stopped by pressing the **STOP** button on the printer device, the printer operator must press the **START** or **READY** button before the printer can restart printing. You cannot force a stopped printer to perform an NPRO by specifying the **-n** flag; but the operator can force an NPRO by pressing the **NPRO** button.

- If the printer has been paused with the **pdpause** command, you must issue the **pdresume** command before the printer can restart printing.

- If the printer is running, the **pdspace** command takes effect as soon as possible.

The printer backspaces or forward spaces the number of sides you specify, except that:

- The printer will not backspace or forward space to the back side of a duplexed sheet. If a backspace or forward calculation points to the back side of a duplexed sheet, the printer backspaces or forward spaces to the front side of that sheet.

- When backspacing, if you specify a side count of -1, the job restarts printing on page 1 with a new header sheet.

- When backspacing, if you specify more sides than have already printed, the job restarts printing on page 1 without a header sheet.

- When forward spacing, if you specify more sides than there are sides left to print, the job terminates.

Note: Infoprint backspaces or forward spaces from the last printed sheet: any count is one less than you would normally expect. For example, if you backspace ten sides starting at page 39, the job resumes on page 30 because page 39 is counted as one of the pages backspaced.

Flags

You can use the following flags with the **pdspace** command:

-b *SideCount*
> Specifies the number of sides to backspace before continuing to print. Using this flag is equivalent to specifying the command attribute **back-space**.

-c destination
> Specifies the object class of **destination**, which represents a PSF physical printer. This is the only allowed class. Using this flag is equivalent to specifying the command attribute **class**.

-f *SideCount*
> Specifies the number of sides to forward space before continuing to print. Using this flag is equivalent to specifying the command attribute **forward-space**.

-h
> Displays a command-specific help message containing information about command syntax and flags. If you use this flag with any other flag or attribute, Infoprint recognizes only the **-h** flag.

-n
> Causes the printer to perform an NPRO (move the last printed page to the stacker) before restarting printing. An NPRO makes it easier to see exactly where the spacing took place. Using this flag is equivalent to specifying the command attribute **non-process-runout=true**.

-x *"attribute=value ..."*
> Consists of a single attribute string, containing one or more attribute-value pairs.

-X *AttributesFileName*
> Specifies the name of a file containing attribute and value pairs that you want Infoprint to insert at the current point in the command. Using this flag is equivalent to specifying the command attribute **attributes**.

Command Attributes

You can define these attributes in a **-x** *"attribute=value ..."* string or in an attributes file designated in the **-X** *AttributesFileName* flag.

attributes=*AttributesFileName*
> Specifies the designated attributes file that Infoprint reads and inserts at the current point in the command. This file contains attribute and value pairs that Infoprint uses to expand the command.

back-space=*SideCount*
> Specifies the number of sides to backspace before continuing to print.

class=destination
> Specifies the object class of **destination**, which represents a PSF physical printer. This is the only allowed class.

forward-space=*SideCount*
> Specifies the number of sides to forward space before continuing to print.

non-process-runout={true | false}
> Specifies whether the printer should perform an NPRO (move the last printed sheet to the stacker) before restarting printing. An NPRO makes it easier to see exactly where the spacing took place.

pdspace

Arguments

Use the argument value to identify the specific physical printer on which the job backspaces.

[ServerName:]DestinationName

Examples

Backspacing 22 Sides
To backspace the currently printing job on physical printer `jrSrv-pp` by 22 sides, enter the command:

```
pdspace -b22 jrSrv-pp
```

Forward Spacing 22 Sides
To forward space the currently printing job on physical printer `mySrv-pp` by 22 sides, enter the command:

```
pdspace -f22 mySrv-pp
```

Forward Spacing a Paused Printer 10 Sides with NPRO
To pause physical printer `carlo-pp`, forward space the job that was printing by 10 sides, move the last printed sheet to the stacker, and resume printing, enter the commands:

```
pdpause carlo-pp
pdspace -f10 -n carlo-pp
pdresume carlo-pp
```

Backspacing to a Specific Side
To backspace exactly to page 62 in the job printing on physical printer `mySrv-pp`:

1. Use *one* of these methods to interrupt printing:
   - Press the **STOP** button to stop the printer device.
   - Enter this command to pause the physical printer:

     ```
     pdpause mySrv-pp
     ```

2. At the operator viewing point, check to see what page was printing when the job stopped.

3. Calculate the number of sides to backspace. For example, if the job stopped at page 97:

   ```
   97 - 62 + 1 = 36
   ```

   You must add one because page 97 is counted as the first side to backspace.

4. Enter the command:

   ```
   pdspace -b36 mySrv-pp
   ```

5. Use *one* of these methods to resume printing:
   - If you pressed **STOP**, press **START** to restart the printer device.
   - If you paused the physical printer, enter this command to resume it:

     ```
     pdresume mySrv-pp
     ```

Chapter 3. The -o Flag for AIX Print Commands

As well as the Infoprint **pdpr** and **lprafp** commands, you can use the AIX print commands, **enq**, **lp**, and **qprt**, to print jobs.

AIX uses the **-o** flag on the AIX print commands and on the Infoprint **lprafp** command to pass information to the backend program. This program handles the details of printing or transmitting your job.

-o flag not valid on pdpr command

You cannot use the **-o** flag on the Infoprint **pdpr** command, nor can you use it to specify Infoprint object attributes. Use the **-o** keywords only on the AIX print commands **enq**, **lp**, and **qprt** and on the Infoprint **lprafp** command.

Similar or equivalent Infoprint object attributes are listed for each **-o** flag keyword. Use these attributes only on the **pdpr** command.

To pass flags or options to a transform command when you submit DBCS ASCII, EUC, GIF, JPEG, line-data, PCL, PDF, PostScript, or TIFF files with the **pdpr** command, use the Infoprint **other-transform-options** document attribute instead of the **-o** flag.

Syntax

You can use any one of the following AIX commands to submit an Infoprint job:

 enq [**-P** *DestinationName*] [**-o***keyword=value* ...] *FileName* ...

 lp [**-d** *DestinationName*] [**-o***keyword=value* ...] *FileName* ...

 qprt [**-P** *DestinationName*] [**-o***keyword=value* ...] *FileName* ...

Description

The AIX print commands (**enq**, **lp**, and **qprt**) enqueue requests to a shared system resource. For Infoprint, this resource is a printer device, fax device, or electronic mailing system.

Limitations

If you specify a data type value that causes an Infoprint transform program to be run before the file is printed on a PSF physical printer, the transform program writes the MO:DCA-P output to a temporary file in the directory specified by the **PDBASE** environment variable or in one of its subdirectories. No single user can create a MO:DCA-P file larger than the amount of free space in the file system containing this directory. If many users are submitting jobs that invoke transform programs, the directory may fill up and prevent all users from successfully running the transform programs.

Flag

The AIX print commands use the following flag to pass information to Infoprint:

-o_keyword=value_
> Is the information to be passed to Infoprint. You can specify as many keyword-value pairs in the AIX print command as you like, provided that each of them starts with the **-o** flag.

Note: You can specify other flags associated with the AIX print commands or with the **lprafp** command, for example, the **-N** flag (number of copies) of the **enq** and **qprt** commands. Some of these flags are equivalent to the **-o** values you can specify with the AIX print commands.

For information about the other flags for the **enq**, **lp**, and **qprt** commands, refer to the appropriate man page or to *AIX for RS/6000 Commands Reference*.

For information about the other flags for the **lprafp** command, refer to "lprafp Command: Submits Remote Jobs in Infoprint Manager for AIX" on page 15.

Specifying -o Attribute-Value Pairs

In Infoprint, options appear as strings after the **-o** flag in the format *keyword=value*. For example,

```
enq -P DestinationName -obin=2 -oduplex=no FileName
```

Consider the following when using **-o** with an AIX print command or with the **lprafp** command:

- The **-o** flag is not valid on the **pdpr** command. Use the similar or equivalent Infoprint attributes listed for each **-o** keyword.
- Do not specify Infoprint attributes with the **-o** flag.
- All **-o** keywords override the equivalent flags specified with the print commands (such as the **-N** flag of the **enq** and **qprt** commands).
- If you specify the same keyword with the **-o** flag multiple times, Infoprint uses only the value of the last occurrence.
- When using keywords with the **-o** flag, you can use blanks between the keyword and the **-o** flag (for example **-o bin=1**). You cannot, however, use blanks between the keyword and the value (for example, **-o bin=1** is valid; **-o bin = 1** is not). Values that have blanks must be enclosed with single quotes or double quotes (for example, **-odocname=**″**Tim Memo**″).
- When using another flag with the **-o** flag, you cannot use blanks between the second flag and its value. For example, **-o-w6i** is valid; **-o-w 6i** is not.
- The keywords used with the **-o** flag *are not* case-sensitive. For example, **-o BIN=1** and **-o bin=1** are both valid.
- Values for some keywords (such as path names or form definition names), *are* case-sensitive; for example:

```
enq -P3900A -oformdef=F100S /usr/lpp/psf/README
```

and

```
enq -P3900A -oformdef=F100S /usr/lpp/psf/readme
```

specify two different files to submit, just as:

```
enq -P3900A -osfo=/usr/lpp/psf/VMfonts myfile
```

and

```
enq -P3900A -osfo=/usr/lpp/psf/vmfonts myfile
```

specify two different directories to search for fonts.

In addition, the first example below is valid and the second one is not because the **-F** keyword used with the **ps2afp** command must be uppercase.

```
enq -P3900A -odatatype=postscript -o-FFontMapFile
enq -P3900A -odatatype=postscript -o-fFontMapFile
```

- The following flags show the minimum version of the keyword, as well as the complete keyword. For example, you can abbreviate the **-obin** keyword to two letters: **-obi**.

-o Attribute-Value Pairs

You can use the following keyword-value pairs with the AIX print commands **enq**, **lp**, or **qprt**, or with the **lprafp** command, to pass information to Infoprint.

{-oac | -oaccount}=_account_

Specifies the account information that Infoprint prints on start, end, and separator sheets. The account information can also be used for audit and accounting purposes.

This command keyword is equivalent to the Infoprint document attribute **account-text**.

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:
account
Any 1 to 20 characters of account information.

-oaddress1=_address1_

Specifies the first line of address information that Infoprint prints on start, end, and separator sheets. The address information can also be used for audit and accounting purposes.

This command keyword is equivalent to the Infoprint document attribute **address1-text**.

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:
address1
Any 1 to 90 characters of address information.

-oaddress2=_address2_

Specifies the second line of address information that Infoprint prints on start, end, and separator sheets. Other information is the same as for **-oaddress1.**

This command keyword is equivalent to the Infoprint document attribute **address2-text**.

-oaddress3=_address3_

Specifies the third line of address information that Infoprint prints on start, end, and separator sheets. Other information is the same as for **-oaddress1.**

This command keyword is equivalent to the Infoprint document attribute **address3-text**.

-oaddress4=_address4_

Specifies the fourth line of address information that Infoprint prints on start, end, and separator sheets. Other information is the same as for **-oaddress1.**

This command keyword is equivalent to the Infoprint document attribute **address4-text**.

{-obi | -obin}={1 | 2 to **255 | 65 | 100}**

Determines the input bin used for the job. This keyword overrides the value specified in the form definition. If you do not specify the **-obin** keyword, Infoprint uses the bin value specified in the form definition you provide for printing the job. If you do not specify the **-obin** keyword and the default form definition is used to print your job, the input bin value in the printer profile or in that form definition is used.

This command keyword is similar to the Infoprint document attribute **default-input-tray**.

Values are:

1 Selects the primary bin for the printer device. This is the default.

2 to **255**

You can specify bin 2 to bin 255. Refer to your printer documentation for more information about the bins available on the printer device.

65 Selects the envelope bin on certain IBM printer devices.

100 Selects manual feed on certain IBM printer devices.

{-obu | -obuilding}=_building_

Specifies the building information that Infoprint prints on start, end, and separator sheets. The building information can also be used for audit and accounting purposes.

This command attribute is equivalent to the Infoprint document attribute **building-text**.

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:

building

Any 1 to 90 characters of building information.

{-ocd | -ocdp | -ocod | -ocodepage}={850 | 437 | 860 | 863 | 865}

Specifies the ASCII input code page used for the job; that is, the "keyboard" code that Infoprint uses to translate the ASCII code points it finds in the job.

This command attribute is similar to the Infoprint document attribute **default-character-mapping**.

Values are:

850 Defaults to the IBM code page 850.

    nnn   Other possible input code page values are 437 (a subset of the IBM code page 850), 860 (Portuguese), 863 (French Canadian), or 865 (Nordic); however, none of these IBM code pages are directly supported by AIX. If you are using a different ASCII code page as your keyboard code page, you can select 437, 860, 863, or 865, depending on which code page is the closest match to the one you are currently using.

Notes:

1. This parameter is used only for ASCII jobs. If you specify **-odatatype=dbcsascii**, Infoprint ignores the value you specify for the **-ocodepage** keyword and value.

2. The Infoprint ASCII data type does not support the non-U.S. code pages supported by AIX (for example, IBM 932 and the variations of ISO8859). Infoprint supports code pages 437, 860, 863, and 865 so that you can select the code page that most closely matches the one you are currently using, if you are located outside the United States and using the ASCII data type.

3. If you are printing single-byte ASCII code points that are part of code page 932 (Japan), 938 (Traditional Chinese), or an Extended UNIX Code (EUC) code set for Japan, China, or Korea, you must use the **db2afp** command to print the file, even though the entire file is single-byte ASCII.

{-ocop | -ocopies}={1 to 255}

Specifies the number of copies of the job. If you also specify one of the copy flags for the AIX print command (the **-N** flag of the **enq** and **qprt** commands, or the **-n** flag of the **lp** command), the value you specify with the **-ocopies** keyword overrides the value specified with the **-N** or **-n** flag.

This command keyword is equivalent to the Infoprint document attribute **copy-count**.

Values are:

1   The minimum number of copies. This is the default.

255   The maximum number of copies.

{-odatac | -odatack}={block | blkchar | blkpos | unblock}

Determines what type of errors in the job cause Infoprint to issue error messages. The value you assign to this keyword can significantly affect IPDS printer performance as described in the following list.

This command keyword is similar to the Infoprint document attribute **data-fidelity-problem-reported**.

Values are:

block   Block print-positioning errors and invalid-character errors; that is, do not report these errors or issue error messages for these types of errors. This value produces the best printer performance.

Print-positioning errors occur when the printer device tries to print outside the valid printable area of the form. Invalid-character errors include attempts to use a code point that is not assigned to a character in an AFP font.

block is the default.

blkchar

Block invalid-character errors; that is, do not report these errors. However, Infoprint reports print-positioning errors and issues error messages for them.

blkpos

Block print-positioning errors; that is, do not report these errors. However, Infoprint reports invalid-character errors and issues error messages for them.

unblock

Report all print-positioning errors and invalid-character errors. If the job has many errors, selecting **unblock** could decrease your IPDS printer device's performance because of the constant communication between the printer device and Infoprint, and because of the repositioning that must occur to continue printing the next page after the page containing the error. You might use this value when diagnosing problems with Infoprint.

{-odatat | -odatatype}={<u>ascii</u> | afpds | dbcsascii | ditroff | gif | jpeg | line | modcap | pcl | pdf | postscript | sap | tiff}

Specifies the type of the input data stream. If you do not specify the **-odatatype** keyword, Infoprint reads the first few lines of the file to determine if the file is an AFP data stream. If Infoprint does not find AFP data stream commands in the file, it assumes a data type of ASCII.

If you are printing PostScript, ditroff, S/370 line data, PCL, double-byte character set (DBCS) ASCII, Extended UNIX Code (EUC) on a PSF physical printer, or if you are printing ASCII data that you want to format with a page definition on a PSF physical printer, specifying the particular data type alerts Infoprint to execute the appropriate transform command (**ps2afp**, **d2afp**, **line2afp**, **pcl2afp**, or **db2afp**) before printing the file. In this way, you can specify transform-specific options with the **-o** flag. See "-o Keywords and Values for Specific Data Types" on page 117 for more information.

This command keyword is equivalent to the Infoprint document attribute **document-format**.

Values are:

{<u>as</u> | <u>ascii</u>}

The type of data is an ASCII data stream with embedded controls for an IBM 4201-2 Proprinter or 5202 printer. You can also specify **ascii** to print "flat" ASCII (no embedded formatting controls except for newline characters) without using a page definition.

ascii is the default.

{af | afpds}

The type of data is an Advanced Function Presentation data stream.

gif The type of data is Graphical Interchange Format.

jpeg The type of data is Joint Photographic Experts Group.

{db | dbcsascii}

The type of data is double-byte character set (DBCS) ASCII for Japanese or Traditional Chinese, or Extended UNIX Code (EUC) for Japanese, Traditional Chinese, or Korean. DBCS ASCII may contain controls for an IBM 5577 or 5587 printer. When you specify

this value, Infoprint automatically runs the **db2afp** command to transform the DBCS ASCII or EUC into printable AFP data. Infoprint ignores any values specified with the **-ocodepage** flag and keyword.

If you are printing EUC data, you must also specify **-o-e** (the **db2afp -e** flag) along with **-odatatype=dbcsascii**.

{d | ditroff}

The type of data is ditroff, which is a device-independent data stream (troff files that have been formatted for Infoprint using the **troff -Tafp** command). When you specify this value, Infoprint automatically runs **d2afp** to transform the ditroff into printable AFP data.

{l | line}

The type of data is S/370 line data or is ASCII data that you want to format with a page definition. When you specify this value, Infoprint automatically runs **line2afp** to transform the ASCII or line data into printable AFP data.

> **Note:** If the input file is ASCII, but you want to use fonts that have EBCDIC code points, you must also specify a **line2afp** input exit program to convert the ASCII file to EBCDIC. Infoprint supplies two input exit programs that perform this function:
> - **/usr/lpp/psf/bin/apka2e**, which is appropriate for ASCII files that only contain line feed controls (not carriage returns and form feeds)
> - **/usr/lpp/psf/bin/asciinpe**, which is appropriate for ASCII files that contain line feed, carriage returns, and form feeds.
>
> You specify an exit program using the **-oinpexit** keyword-value pair on the AIX print command.

{mo | modcap}

The type of data is a Mixed Object: Document Content Architecture for Presentation data stream.

{pc | pcl}

The type of data is PCL. When you specify this value, Infoprint automatically runs **pcl2afp** to transform the PCL into printable AFP data.

pdf   The type of data is PDF. When you specify this value, Infoprint automatically runs **pdf2afp** to transform the PDF into printable AFP data.

{ps | postscript}

The type of data is PostScript. When you specify this value, Infoprint automatically runs **ps2afp** to transform the PostScript into printable AFP data.

sap   The type of data is an OTF data stream.

You cannot submit ABAP List Format files with the **-odatatype=sap** flag and keyword-value pair. If you submit an ABAP List Format file, Infoprint will convert it to line data, try to print it, and fail. You must first use **sap2afp** to convert the ABAP List Format file to line data, then submit it with the **-odatatype=line** flag and keyword-value pair.

tiff   The type of data is Tag Image File Format.

{-ode | -odepartment}=*department*

Specifies the department information that Infoprint prints on start, end, and separator sheets. The department information can also be used for audit and accounting purposes.

This command keyword is equivalent to the Infoprint document attribute **department-text**.

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:

department
    Any 1 to 90 characters of department information.

{-odi | -odistribution}=*distribution*

Specifies the distribution information that Infoprint prints on start, end, and separator sheets.

If you do not specify the **-odistribution** keyword for local jobs, no distribution information prints. For remote jobs, the value defaults to the information provided by AIX (usually the user ID and the name of the host from which the job was submitted; for example, **bob@sys1**).

The value is:

distribution
    Any 1 to 90 characters of distribution information. Whether all of these characters print depends on the user exit program.

{-odo | -odocname | -ojobn | -ojobname}=*JobName*

Identifies the document name or job name associated with this job. If you do not specify the **-odocname** or **-ojobname** keyword for ASCII or AFP data stream jobs, Infoprint uses the file name of the first file in the job.

If you do not specify the **-odocname** keyword for other types of data, Infoprint creates a temporary file for the transform output and uses that temporary file name for the job name. If you want to retain the original name of the input file for these types of data, you can specify a job name with this keyword.

The **-odocname** command keyword is equivalent to the Infoprint document attribute **document-file-name**. The **-ojob** command keyword is equivalent to the Infoprint job attribute **job-name**.

The value is:

JobName
    You can enter a job name of up to 255 characters in length. Note that the user-exit programs supplied with the start, end, and separator sheets assume a maximum of 50 characters for the job name. If you want to display more than 50 characters, change the user-exit programs to use the number of characters you need. Use single quotes (') or double quotes (") if the document name or job name contains spaces (blanks).

{-odu | -oduplex}={<u>no</u> | yes | tumble}

Specifies whether the job prints on one or both sides of the paper and how

successive pages are oriented. This keyword overrides the value specified in the form definition. If you do not specify the **-oduplex** keyword, Infoprint uses the duplex printing value specified in the form definition you provide for printing the job. If you do not specify the **-oduplex** keyword and the default form definition is used to print your job, the duplex printing value in the printer profile or in that form definition is used.

This command keyword is similar to the Infoprint document attributes **plex** and **sides**.

Values are:

{n | no}
>   The job prints on one side of the sheet. This is the default.

{y | yes}
>   The job prints on both sides of the sheet, top edge to top edge.

{t | tumble}
>   The job prints on both sides of the sheet. The top edge of one side is the bottom edge of the other side.

{-of | -oformdef}=*FormDefinitionName*
>   Specifies the name of the form definition Infoprint uses for the job. The form definition defines the placement of the page of data on the form, the input and output bins to use, duplex printing, and so on.

>   If you do not specify the **-oformdef** keyword, Infoprint looks in the input file for an inline form definition. If the input file doesn't contain a form definition, Infoprint uses the default form definition for that Infoprint actual destination.

>   This command keyword is equivalent to the Infoprint document attribute **form-definition**.

>   The value is:

>   *FormDefinitionName*
>   >   Any form definition located in one of the directories defined in the search path.

>   >   You can specify a form definition name between 1 and 8 characters in length.

{-oh | -oheader}={yes | no}
>   Specifies whether Infoprint prints a start sheet before the job.

>   This command keyword is similar to the Infoprint job attribute **auxiliary-sheet-selection**.

>   Values are:

>   **{y | yes}**
>   >   Print the start sheet specified by the actual destination attribute **printer-start-sheet** before the job. If there are multiple files in a single job, a start sheet is printed before the first file only. This is the default.

>   **{n | no}**
>   >   Do not print a start sheet.

{-omsgc | -omsgcount}={9999 | 1 to 9998 | 0}
>   Specifies the number of messages or groups of related messages that Infoprint prints with the job. A message group consists of one error or warning message, followed by one or more secondary messages.

-o Flag

This command keyword is similar to the Infoprint document attribute **maximum-messages-printed**.

Values are:

<u>9999</u>   All messages print. This is the default.

1 to **9998**

        A specified number of messages print.

0   No messages print.

Note: When Infoprint reaches the message count value, Infoprint processing continues; however, Infoprint prints no additional messages.

{-ona | **-oname}=***name*

Specifies the name information that Infoprint prints on start, end, and separator sheets. The name information can also be used for audit and accounting purposes.

This command keyword is equivalent to the Infoprint document attribute **name-text**.

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:

name   Any 1 to 90 characters of name information.

{-ono | **-onodeid}=***NodeID*

Specifies the node ID information that Infoprint prints on start, end, and separator sheets. The node ID information can also be used for audit and accounting purposes.

This command keyword is equivalent to the Infoprint document attribute **node-id-text**.

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:

NodeID

        Any 1 to 20 characters of nodeid information.

{-oou | **-ooutbin}={ <u>1</u>** | **2** to **65535}**

Determines the output bin used for the job. If you do not specify the **-ooutbin** keyword, the output bin value in the printer profile is used.

This command keyword is similar to the Infoprint document attribute **output-bin** and the Infoprint actual destination attribute **output-bin-numbers**.

Values are:

<u>1</u>   Selects the primary output bin for the printer device. This is the default.

2 to **65535**

> You can specify bin 2 to bin 65535. Refer to your printer documentation for more information about the bins available on the printer device.

{-oov | -ooverlay}=_OverlayName_

> Specifies the name of an overlay to be printed on every page of the job. An overlay contains predefined data, such as lines, shading, text, boxes, or logos that can be merged with variable data on a printed page. Overlays can also be specified in a form definition. Any overlay you name here is printed in addition to overlays named in the form definition.
>
> This command keyword is equivalent to the Infoprint document attribute **overlay**.
>
> The value is:
>
> _OverlayName_
>
> > Any overlay located in one of the directories defined in the search path.
> >
> > You can specify an overlay name between 1 and 8 characters in length.

{-opa | **-opassthru}=PassthruFlags**

> Identifies any other information provided when the job is submitted.
>
> You specify this information in the following format:
>
> **-opassthru**={_PassthruFlag_=_value_, [_PassthruFlag_=_value_,]...}
>
> The following flags are supported by the user-exit program supplied with Infoprint:
>
> **class** Identifies the 1-character class keyword provided by TCP/IP for MVS for those jobs submitted to Infoprint from MVS hosts through the Network Print Facility (NPF), PSF Direct, or MVS Download.
>
> **destination**
> > Identifies the 1-to 8-character destination keyword provided for those jobs submitted to Infoprint from MVS hosts through the Network Print Facility (NPF), PSF Direct, or MVS Download.
>
> **forms** Identifies the 1-to 8-character forms keyword provided for those jobs submitted to Infoprint from MVS hosts through the Network Print Facility (NPF), PSF Direct, or MVS Download.
>
> **segmentid**
> > Identifies the 1-to 10-character segmentation identifier provided by TCP/IP for MVS for those jobs submitted to Infoprint from MVS hosts through the Network Print Facility (NPF), PSF Direct, or MVS Download.
>
> This command keyword is equivalent to the Infoprint document attributes **mvs-class**, **mvs-destination**, **mvs-forms**, and **mvs-segment-id**.

{-opr | **-oprogrammer}=**_programmer_

> Specifies the programmer information that Infoprint prints on start, end, and separator sheets. The programmer information can also be used for audit and accounting purposes.
>
> This command keyword is equivalent to the Infoprint document attribute **programmer-text**.

-o Flag

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:

programmer
> Any 1 to 40 characters of programmer information.

{-oresp | -orespath}=*PathList*
> Specifies the search order that Infoprint uses for all Advanced Function Printing (AFP) resources.
>
> This command keyword is equivalent to the Infoprint document attribute **resource-context-user**.
>
> If you do not specify this keyword, Infoprint uses these search orders:
> - For fonts:
>   1. The paths named in the **-osrchfontlib** keyword
>   2. The paths named in the Infoprint default document attribute **resource-context-user**
>   3. The paths named in the Infoprint default document attribute **resource-context-font**
>   4. The paths named in the Infoprint default document attribute **resource-context**
>   5. The paths named in the **PSFPATH** environment variable
>   6. The paths named in the Infoprint actual destination attribute **resource-context-font**
>   7. The directory **/usr/lpp/psf/reslib**
>   8. The directory **/usr/lpp/afpfonts**
>   9. The directory **/usr/lpp/psf/fontlib**
> - For other resources:
>   1. The paths named in the Infoprint default document attribute **resource-context-user**
>   2. The paths named in the Infoprint default document attributes **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment**,
>   3. The paths named in the Infoprint default document attribute **resource-context**
>   4. The paths named in the **PSFPATH** environment variable
>   5. The paths named in the Infoprint actual destination attributes **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment**,
>   6. The directory **/usr/lpp/psf/reslib**
>
> The value is:
>
> *PathList*
> > Any valid search path on the system where the job prints. You must use a colon (:) to separate multiple paths.

{-oro | -oroom}=_room_

Specifies the room information that Infoprint prints on start, end, and separator sheets. The room information can also be used for audit and accounting purposes.

This command keyword is equivalent to the Infoprint document attribute **room-text**.

You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.

The value is:

room   Any 1 to 90 characters of room information.

{-osep | -oseparator}={ yes | no}

Specifies whether Infoprint prints separator sheets between copies of the job.

This command keyword is similar to the Infoprint job attribute **auxiliary-sheet-selection**.

Values are:

{y | yes}

Print the separator sheet specified by the actual destination attribute **printer-separator-sheet** between copies of the job. This is the default.

{n | no}

Do not print separator sheets.

{-osfo | -osrchfo | -osrchfontlib}=_PathList_

Specifies one or more paths Infoprint searches for the fonts required by the job.

This command keyword is equivalent to the Infoprint document attribute **resource-context-font**.

If you do not specify this keyword, Infoprint uses this search order:

1. The paths named in the **-orespath** keyword
2. The paths named in the Infoprint default document attribute **resource-context-user**
3. The paths named in the Infoprint default document attribute **resource-context-font**
4. The paths named in the Infoprint default document attribute **resource-context**
5. The paths named in the **PSFPATH** environment variable
6. The paths named in the Infoprint actual destination attribute **resource-context-font**
7. The directory **/usr/lpp/psf/reslib**
8. The directory **/usr/lpp/afpfonts**
9. The directory **/usr/lpp/psf/fontlib**

The value is:

PathList
> Any valid search path on the system where the job prints. You must use a colon (:) to separate multiple paths.

{-oti | -otitle}=*title*
> Specifies the title information that Infoprint prints on start, end, and separator sheets. The title information can also be used for audit and accounting purposes.
>
> This command keyword is equivalent to the Infoprint document attribute **title-text**.
>
> You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.
>
> The value is:
>
> *title*   Any 1 to 90 characters of title information.

{-otr | -otrailer}={yes | no}
> Specifies whether an end sheet prints after the job.
>
> This command keyword is similar to the Infoprint job attribute **auxiliary-sheet-selection**.
>
> Values are:
>
> **{y | yes**
> > Print the end sheet specified by the actual destination attribute **printer-end-sheet** after the job. This is the default.
>
> **{n | no}**
> > Do not print an end sheet.

{-ous | -ouserid}=*UserID*
> Specifies the user ID information that Infoprint prints on start, end, and separator sheets. The user ID information can also be used for audit and accounting purposes.
>
> This command keyword is equivalent to the Infoprint document attribute **user-id-text**.
>
> You must specify a value of **full** for one of the Infoprint actual destination auxiliary sheet attributes (**accounting-exit**, **audit-exit**, **printer-start-sheet**, **printer-end-sheet**, or **printer-separator-sheet**) for Infoprint to use this information.
>
> The value is:
>
> *UserID*
> > Any 1 to 20 characters of userid information.

{-oxo | -oxoffset}=*nnnn.nnnu*
> Specifies the X offset of the logical page origin from the physical page origin. This keyword overrides any X offset value in the form definition. If you do not specify the **-oxoffset** keyword, Infoprint uses the X offset value specified in the form definition you provide for printing the job.
>
> This command keyword is equivalent to the Infoprint document attribute **x-image-shift**.
>
> The value is:

nnnn.nnnu

> A numeric value that establishes the X (across) coordinate of the logical page origin, as shown in the figure below. *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (*i*) or millimeters (*m*).
>
> If you do not specify a unit (*i* or *m*), then Infoprint uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.
>
> **Note:** If you specify a value that is outside of the printable area, you will get a print-positioning error. To determine the printable area of IBM printer devices, see *Advanced Function Presentation: Printer Information*.

{-oyo | -oyoffset}=*nnnn.nnnu*

> Specifies the Y offset of the logical page origin from the physical page origin. This keyword overrides any Y offset value in the form definition. If you do not specify the **-oyoffset** keyword, Infoprint uses the Y offset value specified in the form definition you provide for printing the job.
>
> This command keyword is equivalent to the Infoprint document attribute **y-image-shift**.
>
> The value is:
>
> *nnnn.nnnu*
>
> > Any numeric value that establishes the Y (down) coordinate of the logical page origin. *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (*i*) or millimeters (*m*).
> >
> > If you do not specify a unit (*i* or *m*), then Infoprint uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.
> >
> > **Note:** If you specify a value that is outside of the printable area, you will get a print-positioning error. To determine the printable area of IBM printer devices, see *Advanced Function Presentation: Printer Information*.

-o Keywords and Values for Specific Data Types

You can also use **-o** to specify keywords (transform command flags or options) that apply to the following specific data types:

- Double-byte character set (DBCS) ASCII data
- Extended UNIX code (EUC) data
- Graphical Interchange Format (GIF) data
- Joint Photographic Experts Group (JPEG) data
- Line data
- PCL data
- Portable Document Format (PDF) data
- PostScript data
- Tag Image Format File (TIFF) data

For example, to specify that the finished width of a PostScript image is 6 inches, enter:

```
enq -P3825C -odatatype=ps -o-w6i memo1.ps
```

DBCS ASCII Data and EUC Data

If you are printing DBCS (double-byte) ASCII or Extended UNIX Code (EUC) data:

- Specify **-odatatype=dbcsascii** for DBCS ASCII or **-odatatype=dbcsascii -o-e** for EUC with the **enq**, **lp**, **qprt**, or **lprafp** command; or allow Infoprint to identify the data type.
- Infoprint automatically runs the **db2afp** transform command.
- You can use the following **db2afp** flags on the command line with **enq**, **lp**, **qprt** or **lprafp**:
  - **-o-e**
  - **-o-lja**
  - **-o-lch**
  - **-o-lko** (EUC only)

  For information about these flags, see "db2afp Command: Transforms DBCS Data to AFP" on page 202.

You cannot use the **db2afp -o** flag to specify an output file.

Note: The **db2afp** transform must be installed on the workstation where Infoprint is installed.

GIF Data

If you are printing GIF data:

- Specify **-odatatype=gif** with the **enq**, **lp**, **qprt**, or **lprafp** command; or allow Infoprint to identify the data type.
- Infoprint automatically runs the **gif2afp** transform command.
- You can use the following **gif2afp** options on the command line with **enq**, **lp**, **qprt**, or **lprafp**. For those options that accept a value, do not put a blank between the option and the value.
  - **-o-a**_ImageType_
  - **-o-alg**_ProcessingAlgorithms_
  - **-o-calib**_calibration_
  - **-o-C**_ConfigurationFile_
  - **-o-clean**_cleanup_
  - **-o-cmp**_compression_
  - **-o-crop**_CropFactors_
  - **-o-fit**{<u>trim</u> | **scale**}
  - **-o-gcorr**_GrayscaleMappingTable_
  - **-o-ink**_color_
  - **-o-inv**
  - **-o-j**_ScanOffsetFileName_
  - **-o-l**_ImageLength_
  - **-o-M**_MemoryBound_
  - **-o-ms**_space_
  - **-o-msf**_SpaceFraction_
  - **-o-nosniff**
  - **-o-noterm**
  - **-o-nov**
  - **-o-outbits**_NumberOfOutputBits_
  - **-o-outcolor**_OutputColorModel_
  - **-o-p**_PageRange_
  - **-o-pagetype**_PageType_
  - **-o-paper**_PaperSize_
  - **-o-r**_resolution_
  - **-o-respath**_ResourceSearchPath_

> **-o-rot***rotation*
> **-o-scale***ImageSize*
> **-o-sgcorr***ScannerCorrection*
> **-o-sniff**
> **-o-term**
> **-o-thresh***HalftoneFile*
> **-o-v**
> **-o-w***ImageWidth*
> **-o-x***LeftMargin*
> **-o-y***TopMargin*

For information about these options, see "gif2afp Command: Transforms GIF Data to AFP in Infoprint Manager for AIX" on page 209.

You cannot use the print command **-o** flag to pass the **gif2afp -o** option to specify an output file, or the **@**, **-f**, and **-z** options to specify input files.

Note: The **gif2afp** transform must be installed on the workstation where Infoprint is installed.

JPEG Data
If you are printing JPEG data:

- Specify **-odatatype=jpeg** with the **enq**, **lp**, **qprt**, or **lprafp** command; or allow Infoprint to identify the data type.
- Infoprint automatically runs the **jpeg2afp** transform command.
- You can use the following **jpeg2afp** options on the command line with **enq**, **lp**, **qprt**, or **lprafp**. For those options that accept a value, do not put a blank between the option and the value.
  > **-o-a***ImageType*
  > **-o-alg***ProcessingAlgorithms*
  > **-o-calib***calibration*
  > **-o-C***ConfigurationFile*
  > **-o-cmp***compression*
  > **-o-crop***CropFactors*
  > **-o-fit**{**trim** | **scale**}
  > **-o-force**
  > **-o-gcorr***GrayscaleMappingTable*
  > **-o-j***ScanOffsetFileName*
  > **-o-l***ImageLength*
  > **-o-M***MemoryBound*
  > **-o-ms***space*
  > **-o-msf***SpaceFraction*
  > **-o-noterm**
  > **-o-nov**
  > **-o-outbits***NumberOfOutputBits*
  > **-o-outcolor***OutputColorModel*
  > **-o-p***PageRange*
  > **-o-pagetype***PageType*
  > **-o-paper***PaperSize*
  > **-o-r***resolution*
  > **-o-respath***ResourceSearchPath*
  > **-o-rot***rotation*
  > **-o-scale***ImageSize*
  > **-o-sgcorr***ScannerCorrection*
  > **-o-term**

> **-o-thresh***HalftoneFile*
> **-o-v**
> **-o-w***ImageWidth*
> **-o-wrkdir***WorkDirectory*
> **-o-x***LeftMargin*
> **-o-y***TopMargin*

For information about these options, see "jpeg2afp Command: Transforms JPEG Data to AFP in Infoprint Manager for AIX" on page 223.

You cannot use the print command **-o** flag to pass the **jpeg2afp -o** option to specify an output file, or the **@**, **-f**, and **-z** options to specify input files.

Note: The **jpeg2afp** transform must be installed on the workstation where Infoprint is installed.

Line Data

If you are printing S/370 line data, or you are printing ASCII data that you want to format with a page definition:

- Specify **-odatatype=line** with the **enq**, **lp**, **qprt**, or **lprafp** command; or allow Infoprint to identify the data type.
- Infoprint automatically runs the **line2afp** transform command.
- You can use the following **line2afp** flags on the command line with **enq**, **lp**, **qprt**, or **lprafp**:
  > **-occ=***value*
  > **-occtype=***value*
  > **-ochars=***FontName[, ...]*
  > **-ofileformat=***value*
  > **-oformdef=***FormDefinitionName*
  > **-oimageout=***value*
  > **-oinpexit=***ProgramName*
  > **-omsgdd=***FileName*
  > **-ooutexit=***ProgramName*
  > **-opagedef=***PageDefinitionName*
  > **-oparmdd=***FileName*
  > **-opdeflib=***PathList*
  > **-oprmode=***value*
  > **-oresexit=***ProgramName*
  > **-otrc=***value*
  > **-ouserlib=***PathList*

For information about these flags, see "line2afp Command: Transforms S/370 Line Data and ASCII Data to AFP" on page 236.

You cannot use **line2afp** flags for the input file (**inputdd**) or the output file (**outputdd**).

When you are using **line2afp** flags with an AIX print command, you should not use **line2afp** flags that do the same thing as Infoprint-specific **-o** flags. Use the Infoprint-specific **-o** flags instead:

- Use **enq -odatatype=line -orespath=** instead of **enq -odatatype=line -ofdeflib=**
- Use **enq -odatatype=line -osrchfontlib=** instead of **enq -odatatype=line -ofontlib=**

– Use **enq -odatatype=line -orespath=** instead of **enq -odatatype=line -oovlylib=**

– Use **enq -odatatype=line -orespath=** instead of **enq -odatatype=line -opseglib=**

– Use **enq -odatatype=line -orespath=** instead of **enq -odatatype=line -oreslib=**

Note: The **line2afp** transform and **acif** command must be installed on the workstation where Infoprint is installed.

PCL Data

If you are printing PCL data:

- Specify **-odatatype=pcl** with the **enq**, **lp**, **qprt**, or **lprafp** command; or allow Infoprint to identify the data type.
- Infoprint automatically runs the **pcl2afp** transform command.
- You can use the following **pcl2afp** flags on the command line with **enq**, **lp**, **qprt**, or **lprafp**. For those flags that accept a value, do not put a blank between the flag and the value.

    -o-a_OutputType_
    -o-c
    -o-C_ConfigurationFile_ (the configuration file must be specified as a full path name)
    -o-j_nnnn_
    -o-l_nnnn.nnnu_
    -o-M_nnnnn_
    -o-p_PageRange_
    -o-P_nnnnn_
    -o-q
    -o-r_nnn_
    -o-S_ServerName_
    -o-s_nnnn_
    -o-w_nnnn.nnnu_
    -o-x_nnnn.nnnu_
    -o-y_nnnn.nnnu_

For information about these flags, see "pcl2afp Command: Transforms PCL Data to AFP" on page 261.

You cannot use the **pcl2afp -o** flag to specify an output file.

Note: The **pcl2afp** transform must be installed on the workstation where Infoprint is installed.

PostScript and PDF Data

If you are printing PostScript or PDF data:

- Specify **-odatatype=ps** or **-odatatype=pdf** with the **enq**, **lp**, **qprt**, or **lprafp** command; or allow Infoprint to identify the data type.
- Infoprint automatically runs the **ps2afp** transform command. (The **pdf2afp** command is another name for **ps2afp**.)
- You can use the following **ps2afp** flags on the command line with **enq**, **lp**, **qprt**, or **lprafp**. For those flags that accept a value, do not put a blank between the flag and the value.

    -o-a_OutputType_
    -o-c

-o Flag

-o-C*ConfigurationFile* (the configuration file must be specified as a full path name)
-o-F*FontMapFile[:...]* (the font map files must be specified as full path names)
-o-g*PageRange*
-o-j*nnnn*
-o-l*nnnn.nnnu*
-o-M*nnnnn*
-o-p*PageRange*
-o-P*nnnnn*
-o-q
-o-r*nnn*
-o-S*ServerName*
-o-s*nnnn*
-o-w*nnnn.nnnu*
-o-x*nnnn.nnnu*
-o-y*nnnn.nnnu*

For information about these flags, see "pdf2afp and ps2afp Transforms: Transform PDF or PostScript Data to AFP" on page 284.

You cannot use the **ps2afp -o** flag to specify an output file.

Note: The **ps2afp** transform must be installed on the workstation where Infoprint is installed.

TIFF Data
If you are printing TIFF data:

- Specify **-odatatype=tiff** with the **enq**, **lp**, **qprt**, or **lprafp** command; or allow Infoprint to identify the data type.
- Infoprint automatically runs the **tiff2afp** transform command.
- You can use the following **tiff2afp** options on the command line with **enq**, **lp**, **qprt**, or **lprafp**. For those options that accept a value, do not put a blank between the option and the value.
    -o-a*ImageType*
    -o-alg*ProcessingAlgorithms*
    -o-calib*calibration*
    -o-choice*ImageChoice*
    -o-C*ConfigurationFile*
    -o-clean*cleanup*
    -o-cmp*compression*
    -o-crop*CropFactors*
    -o-fit{**trim** | **scale**}
    -o-force
    -o-gcorr*GrayscaleMappingTable*
    -o-ink*color*
    -o-inv
    -o-j*ScanOffsetFileName*
    -o-l*ImageLength*
    -o-M*MemoryBound*
    -o-mp
    -o-ms*space*
    -o-msf*SpaceFraction*
    -o-nomp
    -o-nosniff
    -o-noterm

-o-nov
-o-outbits*NumberOfOutputBits*
-o-outcolor*OutputColorModel*
-o-p*PageRange*
-o-pagetype*PageType*
-o-paper*PaperSize*
-o-r*resolution*
-o-respath*ResourceSearchPath*
-o-rot*rotation*
-o-scale*ImageSize*
-o-sgcorr*ScannerCorrection*
-o-sniff
-o-term
-o-thresh*HalftoneFile*
-o-v
-o-w*ImageWidth*
-o-wrkdir*WorkDirectory*
-o-x*LeftMargin*
-o-y*TopMargin*

For information about these options, see "tiff2afp Command: Transforms TIFF Data to AFP in Infoprint Manager for AIX" on page 310.

You cannot use the print command **-o** flag to pass the **tiff2afp -o** option to specify an output file, or the **@**, **-f**, and **-z** options to specify input files.

Note: The **tiff2afp** transform must be installed on the workstation where Infoprint is installed.

Examples

- To submit the ASCII file `myfile` to the Infoprint logical destination called `Xserv-lp` with four copies printed on one side of hole-punched paper, which is stored in the secondary bin of the printer device, enter:

  ```
  enq -P Xserv-lp -obin=2 -ocopies=4 -oduplex=n myfile
  ```

  Infoprint includes a form definition that specifies single-sided printouts of hole-punched paper from bin 2. If this form definition (**F1H10120**) is installed in the default directory, you could alternatively type:

  ```
  enq -P Xserv-lp -ocopies=4 -oformdef=F1H10120 myfile
  ```

- To submit AFP data stream files `file1` and `file2` to the Infoprint logical destination called `dtsrv-lp`, with a search path for fonts of `/home/afpfonts`, enter:

  ```
  lp -d dtsrv-lp -osrchfontlib=/home/afpfonts file1 file2
  ```

- To submit the PostScript file `myfile` to the Infoprint logical destination called `servB-lp` (which has a resolution of 300 pels), with a form definition of `F1PP0120`, with no reported invalid-character errors, and with a maximum of 100 printed messages, enter:

  ```
  qprt -P servB-lp -o -r300 -odatac=blkchar -odatat=ps -of=F1PP0120
     -omsgc=100 myfile
  ```

-o Flag

Chapter 4. Infoprint Administrative Utilities

This chapter describes the following Infoprint administrative utilities:

Utility Name	AIX	NT and 2000
"admingui Utility: Opens the Print Administration Window of the Basic Infoprint Administrator's GUI in Infoprint Manager for AIX" on page 128	AIX	N/A
"afpsplit Utility: Extracts Pages from a MO:DCA-P File" on page 129	AIX	NT and 2000
"ainupod1 Utility: Generates Accounting Information by User" on page 130	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainupod2 Utility: Generates Accounting Information by Job" on page 131	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainupod3 Utility: Generates Accounting Information for a User" on page 132	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainurpt2 Utility: Generates Accounting Information by User" on page 135	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainurpt3 Utility: Generates Accounting Information for a User" on page 136	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainurpt4 Utility: Generates Audit Information by Destination" on page 138	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainurpt5 Utility: Generates Audit Information by User" on page 139	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"ainurpt6 Utility: Generates Audit Information for a User" on page 140	AIX	NT and 2000: must be issued from the *install_path***bin** directory
"cfu Utility: Displays and Builds Coded Fonts in Infoprint Manager for AIX" on page 141	AIX	N/A
"cmt Utility: Builds Color Mapping Table Source and Object Files in Infoprint Manager for AIX" on page 143	AIX	N/A

Administrative Utilities

"ipguiadv, ipguibasic, and ipguidist Utilities: Start the Infoprint Manager Operations GUI" on page 145	AIX	NT and 2000: add .bat to command name
"ipguiadvadm, ipguibasicadm, and ipguidistadm Utilities: Start the Infoprint Manager Administration GUI" on page 146	AIX	NT and 2000: add .bat to command name
"jsmigr Utility: Migrates PSF for AIX Job Scripts in Infoprint Manager for AIX" on page 148	AIX	N/A
"notification client" on page 150	AIX	NT and 2000
"opergui Utility: Opens the Print Management Window of the Basic Infoprint Administrator's GUI in Infoprint Manager for AIX" on page 151	AIX	N/A
"pdadmin Utility: Opens the Servers Window of the Advanced Infoprint Administrator's GUI in Infoprint Manager for AIX" on page 152	AIX	N/A
"pdcrcds Utility: Creates Directories for DCE in Infoprint Manager for AIX" on page 153	AIX	N/A
"pdcrdflt Utility: Creates Default Auxiliary Sheets, Media, and Queue in Infoprint Manager for AIX" on page 154	AIX	N/A
"pdcrmed Utility: Creates Commonly Used Media in Infoprint Manager for AIX" on page 156	AIX	N/A
"pdinitports Utility: Initializes Ports" on page 157	AIX	NT and 2000
"pdmigpp Utility: Migrates Existing AIX Printers to Infoprint in Infoprint Manager for AIX" on page 159	AIX	N/A
"pdmincfg Utility: Sets up a Minimum Infoprint Configuration in Infoprint Manager for AIX" on page 161	AIX	N/A
"pdmsg Utility: Displays Information about a Message in Infoprint Manager for AIX" on page 163	AIX	N/A

"rc.iprsap Utility: Start SAP Callback Daemons for Infoprint Manager for AIX" on page 165	AIX	N/A
"rc.pd Utility: Restarts Servers in Infoprint Manager for AIX" on page 166	AIX	N/A
"sense Utility: Senses Whether a Channel-Attached Printer is Attached to Infoprint Manager for AIX" on page 167	AIX	N/A
"sense Utility: Senses Whether a Channel-Attached Printer is Attached to Infoprint Manager for Windows NT and Windows 2000" on page 169	N/A	NT and 2000
"setup Utility: Starts the Infoprint Installer in Infoprint Manager for AIX" on page 172	AIX	NT and 2000
"startppo Utility: Starts the Infoprint SMIT Production Print Operations Interface in Infoprint Manager for AIX" on page 175	AIX	N/A
"start_server Utility: Starts a Server for a Basic Infoprint Installation in Infoprint Manager for AIX" on page 176	AIX	N/A
"startsrv Utility: Starts a Server in Infoprint Manager for AIX" on page 178	AIX	NT and 2000
"stop_server Utility: Shuts Down a Server in Infoprint Manager for AIX" on page 180	AIX	NT and 2000
"tdump Utility: Outputs Tape Contents in Human-Readable Format in Infoprint Manager for AIX" on page 181	AIX	N/A
"tlist Utility: Lists Files on a Tape in Infoprint Manager for AIX" on page 183	AIX	NT and 2000
"t2file Utility: Reads MVS Partitioned Data Sets from Tape in Infoprint Manager for AIX" on page 184	AIX	NT and 2000

admingui Utility: Opens the Print Administration Window of the Basic Infoprint Administrator's GUI in Infoprint Manager for AIX

Syntax

admingui [**-n** | *ServerName* ...]

admingui -?

Description

Use the **admingui** utility to open the `Print Administration` window of the basic Infoprint administrator's GUI. The `Print Administration` window displays the logical destinations, actual destinations, default jobs, default documents, and media that reside in all servers in the namespace.

Flags

The **admingui** utility uses the following flags:

-n   Prevents Infoprint from starting any server. If you do not specify this flag, Infoprint checks to see if any server is running. If it is not running, Infoprint invokes the **start_server** utility to start an existing server or create a new one.

           When you specify **-n**, you cannot specify a *ServerName*.

?   Displays help for the **admingui** utility.

Arguments

The argument value identifies the server to which the utility applies.

Valid argument values for the **admingui** utility are:

ServerName
      Specifies which server to start if no other servers are currently running. *ServerName* defaults to the hostname. If a server is already running, Infoprint ignores this argument.

      When you specify *ServerName*, you cannot specify the **-n** flag.

Examples

- To open the `Print Administration` window of the basic Infoprint administrator's GUI and ensure that the **default** server is started if no other server is running, enter:

  ```
  admingui
  ```

- To open the `Print Administration` window of the basic Infoprint administrator's GUI and ensure that the **charlie** server is started if no other server is running, enter:

  ```
  admingui charlie
  ```

- To open the `Print Administration` window of the basic Infoprint administrator's GUI without starting any servers, enter:

  ```
  admingui -n
  ```

afpsplit Utility: Extracts Pages from a MO:DCA-P File

Syntax

> **afpsplit** [-**f** *page*] [-**p** *page*] [-**o** *OutputFile*] [*InputFile*]

Description

Issue the **afpsplit** command to extract a page or a range of pages from an AFP MO:DCA-P document and create MO:DCA-P output.

You might use the **afpsplit** command to create a separate file starting at the 25th page and ending at the 50th page of a 200-page document. After you use the **afpsplit** command to create a file, you can view, store, print, or transmit that file.

Notes:

1. **afpsplit** removes structured index fields from MO:DCA-P files. This does not affect the appearance of printed files, but index entries are no longer available for viewing.

2. **afpsplit** writes error messages to STDERR.

Flags

-f *page*

> Specifies the forward space function, where *page* indicates the number of pages (0-999999999) that you can forward space from the beginning of the input file to start extracting the page or range of pages. To start extracting on page *n*, forward space *n-1* pages.
>
> If you do not specify the **-f** flag, the extraction starts at the beginning of the file. If you specify more than one **-f** flag, the last one you specify is used.

-p *page*

> Specifies the page end function, where *page* indicates the number of pages (0-999999999) to be extracted.
>
> If you do not specify the **-p** flag, all pages from the forward space point to the end of the input file are included in the output file. If you specify more than one **-p** flag, the last one you specify is used.

-o *OutputFile*

> Specifies the name of the file for the page or range of pages produced by **afpsplit**.
>
> If you do not specify this flag, **afpsplit** uses standard output (STDOUT).

Arguments

The valid argument value for the **afpsplit** utility is:

InputFile

> Specifies the input file.
>
> If you do not specify an input file, **afpsplit** uses standard input (STDIN).

Example

To extract pages 21-30 from a MO:DCA-P input file called `input.afp` and use the **pdpr** command to print those 10 pages on printer `serv1-lp`, enter:

```
afpsplit -f 20 -p 10 input.afp | pdpr -p serv1-lp
```

ainupod1 Utility: Generates Accounting Information by User

Syntax

ainupod1

Description

For Infoprint Manager for AIX, use the **ainupod1** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF, fax, or email actual destinations, sorted by user ID. This information is derived from the **/var/psf/podaccount.log** file. By default, basic Infoprint installations set the value of the **accounting-exit** actual destination attribute to **job-ticket**, which invokes a user exit program that writes accounting information to this file.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainupod1** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF actual destinations, sorted by user ID. This information is derived from the *install_path***var\psf\podaccount.log** file. By default, basic Infoprint installations set the value of the **accounting-exit** actual destination attribute to **job-ticket**, which invokes a user exit program that writes accounting information to this file.

Note: On Windows NT or Window 2000, this command must be run from the *install_path***bin** directory.

Example

To generate accounting information for all users, enter:

```
ainupod1
```

ainupod1 returns information similar to the following:

```
   Accounting Report by Customer ID

Customer   Jobs   Pages   Bin1   Bin2
--------   ----   -----   ----   ----
apple         6      8      8      0
donald       18   2297   1511      0
```

Suggested Reading

For information about:

- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate accounting reports from the **podaccount.log** file, see "ainupod2 Utility: Generates Accounting Information by Job" on page 131 and "ainupod3 Utility: Generates Accounting Information for a User" on page 132
- Utilities that generate accounting reports from the **accounting.log** file, see "ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134, "ainurpt2 Utility: Generates Accounting Information by User" on page 135, and "ainurpt3 Utility: Generates Accounting Information for a User" on page 136
- Utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138, "ainurpt5 Utility: Generates Audit Information by User" on page 139, and "ainurpt6 Utility: Generates Audit Information for a User" on page 140

ainupod2 Utility: Generates Accounting Information by Job

Syntax

ainupod2

Description

For Infoprint Manager for AIX, use the **ainupod2** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations, sorted by job ID. This information is derived from the **/var/psf/podaccount.log** file. By default, basic Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **job-ticket**, which invokes a user exit program that writes accounting information to this file.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainupod2** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF actual destinations, sorted by job ID. This information is derived from the *install_path***var\psf\podaccount.log** file. By default, basic Infoprint installations set the value of the **accounting-exit** actual destination attribute to **job-ticket**, which invokes a user exit program that writes accounting information to this file.

Note: On Windows NT or Window 2000, this command must be run from the *install_path***bin** directory.

Example

To generate accounting information for all jobs, enter:

```
ainupod2
```

ainupod2 returns information similar to the following:

```
        Accounting Report by Job ID

    Job ID     Jobs   Pages   Bin1 Bin2
  ------------ -----  ------   ---- ----
  E1A0540F.3F8     7      48     48    0
  E1B0440B.B0B    10     196    175    0
  NONE            53      94     94    0
```

Suggested Reading

For information about:

- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate accounting reports from the **podaccount.log** file, see "ainupod1 Utility: Generates Accounting Information by User" on page 130 and "ainupod3 Utility: Generates Accounting Information for a User" on page 132
- Utilities that generate accounting reports from the **accounting.log** file, see "ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134, "ainurpt2 Utility: Generates Accounting Information by User" on page 135, and "ainurpt3 Utility: Generates Accounting Information for a User" on page 136
- Utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138, "ainurpt5 Utility: Generates Audit Information by User" on page 139, and "ainurpt6 Utility: Generates Audit Information for a User" on page 140

ainupod3 Utility: Generates Accounting Information for a User

Syntax

ainupod3

Description

For Infoprint Manager for AIX, use the **ainupod3** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations by a given user. This information is derived from the **/var/psf/podaccount.log** file. By default, basic Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **job-ticket**, which invokes a user exit program that writes accounting information to this file.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainupod3** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF actual destinations by a given user. This information is derived from the ****_install_path_**\var\psf\podaccount.log** file. By default, basic Infoprint installations set the value of the **accounting-exit** actual destination attribute to **job-ticket**, which invokes a user exit program that writes accounting information to this file.

Note: On Windows NT or Window 2000, this command must be run from the _install_path_**\bin** directory.

Example

To generate accounting information for user `donald`, enter:

```
ainupod3
```

When **ainupod3** prompts you for a user ID, enter:

```
donald
```

ainupod3 returns information similar to the following:

```
             Print Activity Report for donald

   Start     Start    Destination  Pages    Copies        Job
   Date      Time         ID       Printed  Requested  Identification
 ----------  --------  -----------  -------  ---------  --------------
 07/26/1997  15:36:32  e1               45          1  E1B0440B.B0B
 07/31/1997  08:24:24  3900-p4          15          1  i1a11908.54d
 08/01/1997  08:28:48  e1              131          1  e1a1050c.431
```

Suggested Reading

For information about:

- Utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138, "ainurpt5 Utility: Generates Audit Information by User" on page 139, and "ainurpt6 Utility: Generates Audit Information for a User" on page 140

ainurpt1 Utility: Generates Accounting Information by Actual Destination

Syntax

ainurpt1

Description

For Infoprint Manager for AIX, use the **ainurpt1** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations, sorted by actual destination. This information is derived from the **/var/psf/accounting.log** file. By default, advanced Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **accounting-log**, which invokes a user exit program that writes accounting information to this file.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainurpt1** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF actual destinations, sorted by actual destination. This information is derived from the *install_path***\var\psf\accounting.log** file. By default, advanced Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **accounting-log**, which invokes a user exit program that writes accounting information to this file.

Note: On Windows NT or Window 2000, this command must be run from the *install_path***\bin** directory.

Example

To generate accounting information for all PSF, fax, and email actual destinations, enter:

```
ainurpt1
```

ainurpt1 returns information similar to the following:

```
Destination  Jobs  Pages  Bin1  Bin2  Fonts  Resident  Overlays  Hard  Soft
-----------  ----  -----  ----  ----  -----  --------  --------  ----  ----
ksrv-p1      120   1200   88    32    10     0         0         0     0
ksrv-p2      72    981    72    0     4      0         0         0     0
```

Suggested Reading

For information about:
- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate accounting reports from the **accounting.log** file, see "ainurpt2 Utility: Generates Accounting Information by User" on page 135 and "ainurpt3 Utility: Generates Accounting Information for a User" on page 136
- Utilities that generate accounting reports from the **podaccount.log** file, see "ainupod1 Utility: Generates Accounting Information by User" on page 130, "ainupod2 Utility: Generates Accounting Information by Job" on page 131, and "ainupod3 Utility: Generates Accounting Information for a User" on page 132
- Utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138, "ainurpt5 Utility: Generates Audit Information by User" on page 139, and "ainurpt6 Utility: Generates Audit Information for a User" on page 140

ainurpt2 Utility: Generates Accounting Information by User

Syntax

ainurpt2

Description

For Infoprint Manager for AIX, use the **ainurpt2** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations, sorted by user. This information is derived from the **/var/psf/accounting.log** file. By default, advanced Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **accounting-log**, which invokes a user exit program that writes accounting information to this file.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainurpt2** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF actual destinations, sorted by user. This information is derived from the *install_path***\var\psf\accounting.log** file. By default, advanced Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **accounting-log**, which invokes a user exit program that writes accounting information to this file.

Note: On Windows NT or Window 2000, this command must be run from the *install_path***\bin** directory.

Example

To generate accounting information for all users, enter:

```
ainurpt2
```

ainurpt2 returns information similar to the following:

```
Userids  Jobs  Pages  Bin1  Bin2  Fonts  Resident  Overlays  Hard  Soft
-------  ----  -----  ----  ----  -----  --------  --------  ----  ----
billing  120   1200    88    32     10         0         0     0     0
repgen    72    981    72     0      4         0         0     0     0
```

Suggested Reading

For information about:
- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate accounting reports from the **accounting.log** file, see "ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134 and "ainurpt3 Utility: Generates Accounting Information for a User" on page 136
- Utilities that generate accounting reports from the **podaccount.log** file, see "ainupod1 Utility: Generates Accounting Information by User" on page 130, "ainupod2 Utility: Generates Accounting Information by Job" on page 131, and "ainupod3 Utility: Generates Accounting Information for a User" on page 132
- Utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138, "ainurpt5 Utility: Generates Audit Information by User" on page 139, and "ainurpt6 Utility: Generates Audit Information for a User" on page 140

ainurpt3 Utility: Generates Accounting Information for a User

Syntax

ainurpt3

Description

For Infoprint Manager for AIX, use the **ainurpt3** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations by a given user. This information is derived from the **/var/psf/accounting.log** file. By default, advanced Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **accounting-log**, which invokes a user exit program that writes accounting information to this file.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainurpt3** utility to generate a report of accounting information for all jobs printed or transmitted on all defined PSF actual destinations by a given user. This information is derived from the *install_path***\var\psf\accounting.log** file. By default, advanced Infoprint installations set the value of the the **accounting-exit** actual destination attribute to **accounting-log**, which invokes a user exit program that writes accounting information to this file.

Note: On Windows NT or Window 2000, this command must be run from the *install_path***\bin** directory.

Example

To generate accounting information for user `kathy`, enter:

```
ainurpt3
```

When **ainurpt3** prompts you for a user ID, enter:

```
kathy
```

ainurpt3 returns information similar to the following:

```
        Report for kathy

Start      Start     Destination   Pages    Job
Date       Time          ID        Printed  Name
---------- --------  ------------   -------  -------------------------
06/02/1997 12:53:47  ksrv-p1        1190     /net/home/kathy/May.billing
06/03/1997 15:42:31  hsrv-p1         944     /net/home/kathy/May.reports
```

Suggested Reading

For information about:
- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate accounting reports from the **accounting.log** file, see "ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134 and "ainurpt2 Utility: Generates Accounting Information by User" on page 135
- Utilities that generate accounting reports from the **podaccount.log** file, see "ainupod1 Utility: Generates Accounting Information by User" on page 130, "ainupod2 Utility: Generates Accounting Information by Job" on page 131, and "ainupod3 Utility: Generates Accounting Information for a User" on page 132

- Utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138, "ainurpt5 Utility: Generates Audit Information by User" on page 139, and "ainurpt6 Utility: Generates Audit Information for a User" on page 140

ainurpt4 Utility: Generates Audit Information by Destination

Syntax

ainurpt4

Description

For Infoprint Manager for AIX, use the **ainurpt4** utility to generate a report of audit information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations, sorted by actual destination. This information is derived from the **/var/psf/audit.log** file. To write information to this file, specify **accounting-log** as the value of the **audit-exit** actual destination attribute.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainurpt4** utility to generate a report of audit information for all jobs printed or transmitted on all defined PSF actual destinations, sorted by actual destination. This information is derived from the *install_path***\var\psf\audit.log** file. To write information to this file, specify **accounting-log** as the value of the **audit-exit** actual destination attribute

Note: On Windows NT or Window 2000, this command must be run from the *install_path***\bin** directory.

Example

To generate audit information for all PSF, fax, and email actual destinations, enter:

```
ainurpt4
```

ainurpt4 returns information similar to the following:

```
Destination  Jobs  Pages  Bin1  Bin2  Fonts  Resident  Overlays  Hard  Soft
-----------  ----  -----  ----  ----  -----  --------  --------  ----  ----
ksrv-p1      120   1200    88    32    10        0         0       0     0
ksrv-p2       72    981    72     0     4        0         0       0     0
```

Suggested Reading

For information about:

- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate audit reports, see "ainurpt5 Utility: Generates Audit Information by User" on page 139 and "ainurpt6 Utility: Generates Audit Information for a User" on page 140
- Utilities that generate accounting reports from the **accounting.log** file, see "ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134, "ainurpt2 Utility: Generates Accounting Information by User" on page 135, and "ainurpt3 Utility: Generates Accounting Information for a User" on page 136
- Utilities that generate accounting reports from the **podaccount.log** file, see "ainupod1 Utility: Generates Accounting Information by User" on page 130, "ainupod2 Utility: Generates Accounting Information by Job" on page 131, and "ainupod3 Utility: Generates Accounting Information for a User" on page 132

ainurpt5 Utility: Generates Audit Information by User

Syntax

ainurpt5

Description

For Infoprint Manager for AIX, use the **ainurpt5** utility to generate a report of audit information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations, sorted by user. This information is derived from the **/var/psf/audit.log** file. To write information to this file, specify **accounting-log** as the value of the **audit-exit** actual destination attribute.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainurpt5** utility to generate a report of audit information for all jobs printed or transmitted on all defined PSF actual destinations, sorted by user. This information is derived from the *install_path***\var\psf\audit.log** file. To write information to this file, specify **accounting-log** as the value of the **audit-exit** actual destination attribute.

Note: On Windows NT or Window 2000, this command must be run from the *install_path***\bin** directory.

Example

To generate audit information for all users, enter:

```
ainurpt5
```

ainurpt5 returns information similar to the following:

```
Userids  Jobs  Pages  Bin1  Bin2  Fonts  Resident  Overlays  Hard  Soft
-------  ----  -----  ----  ----  -----  --------  --------  ----  ----
billing   120   1200    88    32     10         0         0     0     0
repgen     72    981    72     0      4         0         0     0     0
```

Suggested Reading

For information about:

- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138 and "ainurpt6 Utility: Generates Audit Information for a User" on page 140
- Utilities that generate accounting reports from the **accounting.log** file, see "ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134, "ainurpt2 Utility: Generates Accounting Information by User" on page 135, and "ainurpt3 Utility: Generates Accounting Information for a User" on page 136
- Utilities that generate accounting reports from the **podaccount.log** file, see "ainupod1 Utility: Generates Accounting Information by User" on page 130, "ainupod2 Utility: Generates Accounting Information by Job" on page 131, and "ainupod3 Utility: Generates Accounting Information for a User" on page 132

---

ainurpt6 Utility: Generates Audit Information for a User

Syntax

ainurpt6

Description

For Infoprint Manager for AIX, use the **ainurpt6** utility to generate a report of audit information for all jobs printed or transmitted on all defined PSF, fax, and email actual destinations by a given user. This information is derived from the **/var/psf/audit.log** file. To write information to this file, specify **accounting-log** as the value of the **audit-exit** actual destination attribute.

For Infoprint Manager for Windows NT and Windows 2000, use the **ainurpt6** utility to generate a report of audit information for all jobs printed or transmitted on all defined PSF actual destinations by a given user. This information is derived from the *install_path***\var\psf\audit.log** file. To write information to this file, specify **accounting-log** as the value of the **audit-exit** actual destination attribute.

Note: For Windows NT or Window 2000, this command must be run from the *install_path***\bin** directory.

Example

To generate audit information for user `kathy`, enter:

```
ainurpt6
```

When **ainurpt6** prompts you for a user ID, enter:

```
kathy
```

ainurpt6 returns information similar to the following:

```
        Report for kathy

Start        Start     Destination  Pages    Job
Date         Time          ID       Printed  Name
----------   --------  -----------  -------  --------------------------
06/02/1997   12:53:47  ksrv-p1       1190    /net/home/kathy/May.billing
06/03/1997   15:42:31  hsrv-p1        944    /net/home/kathy/May.reports
```

Suggested Reading

For information about:

- Auxiliary sheets, see "Attributes for Auxiliary-Sheet Objects" on page 443
- Other utilities that generate audit reports, see "ainurpt4 Utility: Generates Audit Information by Destination" on page 138 and "ainurpt5 Utility: Generates Audit Information by User" on page 139
- Utilities that generate accounting reports from the **accounting.log** file, see "ainurpt1 Utility: Generates Accounting Information by Actual Destination" on page 134, "ainurpt2 Utility: Generates Accounting Information by User" on page 135, and "ainurpt3 Utility: Generates Accounting Information for a User" on page 136
- Utilities that generate accounting reports from the **podaccount.log** file, see "ainupod1 Utility: Generates Accounting Information by User" on page 130, "ainupod2 Utility: Generates Accounting Information by Job" on page 131, and "ainupod3 Utility: Generates Accounting Information for a User" on page 132

cfu Utility: Displays and Builds Coded Fonts in Infoprint Manager for AIX

Syntax

cfu [**-d** | **-b**] *CodedFontName* [*BuildFileName*]

Description

cfu, the Coded Font Utility, displays and builds coded fonts for use with IBM Infoprint Control. The main purpose of the **cfu** utility is to allow users of double-byte raster fonts to indicate which font sections in the coded font should be downloaded to the printer and which font sections can be found resident in the printer. This is useful when:

- You have added user-defined characters to a font section
- The printer-resident version of a font differs from the system-resident version of a font, and you want to ensure that IBM Infoprint Control downloads the system version.

You can also add and delete sections from the coded font and change which character sets and code pages are referenced in the coded font.

You can also use the **cfu** utility to build single-byte coded fonts by specifying a font character set name and a code page name.

You can use the **cfu** utility in two ways:

- In the display mode of the **cfu** utility, you provide a coded font name as input. The **cfu** utility generates a build file that can be used as input to the build mode of the **cfu** utility.
- In the build mode of the **cfu** utility, you provide a build file name as input. The **cfu** utility generates a coded font.

Flags

The **cfu** utility uses the following flags:

-d   Display mode displays the contents of a coded font. Output is written to standard output. This is the default mode if no flag is entered.

-b   Build mode builds a new coded font using the *build file name*, or standard input if the *build file name* is omitted.

Build File Format

Each non-commented line in the build file defines one repeating group within the Coded Font Index structured field. Repeating group definitions may not span more than one line and fields within each line must be delimited with blanks. A pound sign (#) at the beginning of a line indicates a comment.

A repeating group definition has the following format:

- Field 1 is the section identifier of the repeating group. The format is **X'***hh***'**, where *hh* is the hexadecimal section identifier. Both the **X** character and the single quotation marks are required.
- Field 2 is the character set name. Only the first 8 characters are used.
- Field 3 is the code page name. Only the first 8 characters are used.
- Field 4 is the section resident indicator:

1   Use the printer-resident section if possible.

0   Download the section.

Note: This field is only meaningful for double-byte raster fonts.

This is an example of a repeating group:

```
# SectId  CharSet   CodePage  Resident
# ------  -------   --------  ------
  X'41'   C0Z24F41  T1Z24F41   0
```

Arguments

The valid argument values for the **cfu** utility are:

CodedFontName

The name of the coded font for display mode or the new coded font name in build mode. **cfu** will not overwrite existing coded fonts in build mode.

Note: In build mode, the *coded font name* is also the internal coded font name in the Begin Coded Font structured field.

BuildFileName

The input file used to build a new coded font. If *build file name* is omitted, **cfu** reads from standard input.

Examples

- To display the contents of the coded font X0Z24F, enter either of the following commands:

  ```
  cfu X0Z24F
  cfu -d X0Z24F
  ```

- To build a new coded font with the name X0Z24F using build file X0Z24F.bld, enter:

  ```
  cfu -b X0Z24F X0Z24F.bld
  ```

Suggested Reading

Refer to *Data Stream and Object Architectures: Font Object Content Architecture Reference* for more information on coded font structured fields.

cmt Utility: Builds Color Mapping Table Source and Object Files in Infoprint Manager for AIX

Syntax

cmt -i *input file* [**-o** *output file*] [**-n** *internal CMT name*] [**-t**]

Description

cmt, the Color Mapping Table Utility, generates color mapping table source and object files. If the input file is an object color mapping table, **cmt** generates a source output file; and if the input file is a source file, **cmt** generates an object file. Object color mapping tables are used to map OCA (Object Content Architecture) colors and fills to printer specific colors.

Flags

The **cmt** utility uses the following flags:

-i   The file name of the input file. The input file can be a source or object file. When you use the **cmt** utility, you must specify this flag.

-o   The file name of the output file. If this flag is not specified, **stdout** is used. This is a optional flag.

-n   The name that appears on the MO:DCA Begin Object Container (BOC) structured field. This is a optional flag.

-t   Use this flag to turn on trace. This is a optional flag.

Color Mapping Table Source File

The source file describes the contents of the color mapping table object file.

Each mapping definition of one source color or fill to a target color is bracketed by the keywords **BeginMappingDef:** and **EndMappingDef:**. The **cmt** utility requires one mapping definition for each source target mapping.

Each source definition within a mapping definition is bracketed by the keywords **BeginSourceDef:** and **EndSourceDef:**. The **cmt** utility requires one source definition for each mapping definition.

Valid keywords and values for a source definition follow:

ColorSpace
You must specify **OCA**, **Highlight**, or **GOCA**.

ColorValue
You must specify a value that depends upon the value specified for **ColorSpace**:
- When **ColorSpace=OCA**, **ColorValue** is a one string component of the following:
  Default
  Blue
  Red
  Pink
  Green
  Cyan
  Yellow

> **Black**
> **Brown**
> **Medium**

> > **Note:** The binary representation for all **OCA** colors are supported by the
> > **cmt** utility.
> - When **ColorSpace=Highlight**, the **ColorValue** has one component,
>   integer 0 through 3, for example:
>   ```
>   ColorValue: 2
>   ```
> - When **ColorSpace=GOCA**, the **ColorValue** has one component, integer
>   0 through 16 or 64, for example:
>   ```
>   ColorValue: 13
>   ```

Each target definition within a mapping definition is bracketed by the keywords
`BeginTargetDef` and `EndTargetDef` The **cmt** utility requires one target definition
within each mapping definition. Valid keywords and values for a target definition
follow:

ColorSpace
> You must specify **RGB**, **CMYK**, **Highlight**, or **CIELAB**.

ColorValue
> You must specify a value determined by the value specified by **ColorSpace**
> as follows:
> - When **ColorSpace=RGB**, the **ColorValue** has three components from 0
>   through 255. For example, 33 167 247.
> - When **ColorSpace=CMYK**, the **ColorValue** has four components from 0
>   through 255. For example, 135 26 37 255.
> - When **ColorSpace=CIELAB**, the **ColorValue** has three components with
>   the first integer from 0 through 100, and the second and third integers
>   from -127 through 127. For example 65 -120 111.

PercentShading
> Valid values are integers 0 through 100. This optional value defaults to 100.

PercentCoverage
> Value values are integers 0 through 100. This optional value defaults to
> 100.

ipguiadv, ipguibasic, and ipguidist Utilities: Start the Infoprint Manager Operations GUI

Syntax

For Infoprint Manager for AIX:

ipguiadv

ipguibasic

ipguidist

For Infoprint Manager for Windows NT and Windows 2000:

ipguiadv.bat

Description

Issue the **ipguiadv**, **ipguibasic**, or **ipguidist** utility to start the Infoprint Manager Operations GUI on Infoprint Manager for AIX.

Issue the **ipguiadv** utility to start the Infoprint Manager Operations GUI on Infoprint Manager for Windows NT and Windows 2000.

Each view is designed to be most useful in a specific environment, but you can open any view in any environment.

For Infoprint Manager for AIX:

ipguiadv
Starts the view for an advanced Infoprint Manager Operations GUI.

ipguibasic
Starts the view for a basic Infoprint Manager Operations GUI.

ipguidist
Starts the view for a distributed Infoprint Manager Operations GUI.

For Infoprint Manager for Windows NT and Windows 2000:

ipguiadv
Starts the view for an advanced Infoprint Manager Operations GUI.

Note: On Windows NT or Window 2000, **ipquiadv** is installed into *install_path***\ipqui**, which is not the PATH.

Example

With Infoprint Manager for AIX, to start the Infoprint Manager Operations GUI, displaying the view for a basic Infoprint installation, enter:
```
ipguibasic
```

With Infoprint Manager for Windows NT and Windows 2000, to start the Infoprint Manager Operations GUI, displaying the view for an advanced Infoprint installation, enter:
```
ipguiadv.bat
```

ipguiadvadm, ipguibasicadm, and ipguidistadm Utilities: Start the Infoprint Manager Administration GUI

Syntax

For Infoprint Manager for AIX:

ipguiadvadm

ipguibasicadm

ipguidistadm

For Infoprint Manager for Windows NT and Windows 2000:

ipguiadvadm.bat

ipguibasicadm.bat

ipguidistadm.bat

Description

Issue the **ipguiadvadm**, **ipguibasicadm**, or **ipguidistadm** utility to start the Infoprint Manager Administration GUI on Infoprint Manager for AIX.

Issue the **ipguiadvadm** utility to start the Infoprint Manager Administration GUI on Infoprint Manager for Windows NT and Windows 2000.

For Infoprint Manager for AIX:

ipguiadvadm
> Starts the view for an advanced Infoprint Manager Administration GUI.

ipguibasicadm
> Starts the view for a basic Infoprint Manager Administration GUI.

ipguidistadm
> Starts the view for a distributed Infoprint Manager Administration GUI.

For Infoprint Manager for Windows NT and Windows 2000:

ipguiadvadm
> Starts the view for an advanced Infoprint Manager Administration GUI.

Note: On Windows NT or Window 2000, **ipquiadvadm.bat** is installed into
*install_path***\ipquiadm**, which is not the PATH.

Each view is designed to be most useful in a specific environment, but you can open any view in any environment.

Example

With Infoprint Manager for AIX, to start the Infoprint Manager Administration GUI, displaying the view for a basic Infoprint installation, enter:

```
ipguibasicadm
```

ipguiadvadm, ipguibasicadm, and ipguidistadm

With Infoprint Manager for Windows NT and Windows 2000, to start the Infoprint Manager Administration GUI, displaying the view for an advanced Infoprint installation, enter:

```
ipguiadvadm.bat
```

jsmigr Utility: Migrates PSF for AIX Job Scripts in Infoprint Manager for AIX

Syntax

jsmigr *JobScript* ...

Description

Issue the **jsmigr** utility to migrate PSF for AIX job scripts to Infoprint command scripts and attributes files. The **jsmigr** utility creates the following files:

JobScript.**ksh**
> Infoprint command script containing
>
> - The **pdpr** command
> - One or more **-X** flags invoking attributes files
> - If the job script includes the corresponding keywords, other flags and arguments of the **pdpr** command (for example, the **-T** flag for tape input or the names of files to be printed)
>
> This file is created in the same directory as the migrated job script and has the same file name with **.ksh** appended.

JobScript.**X**
> Attributes file used by *JobScript*.**ksh**, containing attributes migrated from the job script keywords. This file is created in the same directory as the migrated job script and has the same file name with **.X** appended.

FileName.**X**
> Attributes files used by *JobScript*.**ksh**. These files are migrated from job scripts named as values for the **a_Parmdd**, **i_Filenames**, **p_Config**, and **e_Filemsg** keywords. Each file is created in the same directory as the original file and has the same file name with **.X** appended.

Notes:

1. This utility normally executes as part of the Infoprint installation.
2. "Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents" on page 691 shows the attributes to which job script keywords are migrated.
3. If multiple job scripts refer to the same file, **jsmigr** migrates the file only once.
4. Job scripts named as values for the **a_Parmdd**, **p_Config**, and **e_Filemsg** keywords must be specified with absolute path names.
5. Infoprint searches for job scripts named as values for the **i_Filenames** keyword in these directories:
   a. Current directory
   b. **$HOME/js**
   c. **/var/psf/js**
6. If a data type is specified with the **JsFileType** keyword, keywords that are not valid for that data type are commented out in the attributes file resulting from conversion. For example, if **JsFileType** has any value other than **line**, all **a_** keywords are commented out. If you edit the attributes file and change the value of the **document-format** attribute to **line-data**, you must remove the comment characters before using the attributes file to submit line-data jobs.

7. If the input device is not **rmt**_x_, tape-related job script keywords are commented out in the attributes file resulting from conversion. You must edit the attributes file and remove the comment characters before using it to submit jobs read from tape.

8. Job scripts containing both **a_** and **p_** keywords may convert to an attributes file that causes transforms to fail, especially if any of the keywords convert to the **other-transform-options** attribute. This happens because PSF for AIX ignores job script keywords that do not apply to the job, but Infoprint processes all attributes.

9. If **jsmigr** encounters a job script keyword that it cannot map to an Infoprint attribute, it issues an error message, erases the attributes file it is writing, ends migrating the job script, and continues with the next job script.

10. If **jsmigr** encounters a job script keyword that it can map to an Infoprint attribute, with a value that has no Infoprint equivalent, it converts the keyword and continues writing the attributes file. When you use the attributes file to submit a job, Infoprint issues an error message and does not print or transmit the job.

Arguments

The argument value identifies the job script to be migrated.

Valid argument values for the **jsmigr** utility are:

JobScript
> Specifies the job script to be migrated. The job script file must have a **.js** extension, which you do not have to specify.
>
> You can specify multiple job script names. You can use an asterisk (*) to specify all job scripts in a directory.

Examples

- To migrate the job scripts `bigjob.js` and `smalljob.js`, enter:

  `jsmigr bigjob smalljob`
- To migrate all the job scripts in the directory `/var/psf/js`, enter:

  `jsmigr /var/psf/js/*`

notification client

Used to start a notification window to retreive notifications delivered by *message* from the notification server.

opergui Utility: Opens the Print Management Window of the Basic Infoprint Administrator's GUI in Infoprint Manager for AIX

Syntax

opergui [**-n**|*ServerName*]

Description

Use the **opergui** utility to open the `Print Management` window of the basic Infoprint administrator's GUI. The `Print Management` window displays the actual destinations, unassigned jobs, and retained jobs that reside in all servers in the namespace.

Flags

The **opergui** utility uses the following flag:

-n   Prevents Infoprint from starting any servers. If you do not specify this flag, Infoprint checks to see if any servers are running. If no servers are running, Infoprint invokes the **start_server** utility to start the specified server if it exists or create it if it does not.

         If you specify the **-n** flag, you cannot specify a server name.

-?   Displays help for the **opergui** utility.

Arguments

The argument value identifies the server to which the utility applies.

Valid argument values for the **opergui** utility are:

ServerName
         Specifies the name of the server you want to start if no other servers are currently running.*ServerName* defaults to the hostname. If any servers are running, Infoprint ignores this argument.

         If you specify a server name, you cannot specify the **-n** flag.

Examples

- To open the Print Management window of the basic Infoprint administrator's GUI, starting the default server if no other servers are running, enter:

  `opergui`

- To open the Print Management window of the basic Infoprint administrator's GUI, starting the server `charlie` if no other servers are running, enter:

  `opergui charlie`

- To open the Print Management window of the basic Infoprint administrator's GUI, without starting any servers, enter:

  `opergui -n`

---

pdadmin Utility: Opens the Servers Window of the Advanced Infoprint Administrator's GUI in Infoprint Manager for AIX

Syntax

pdadmin

Description

Use the **pdadmin** utility to open the Servers window of the advanced Infoprint administrator's GUI. The Servers window displays the queues and actual destinations default jobs, default documents, and media that reside in the servers you select in a dialog.

Examples

- To monitor all the servers in the namespace:
  1. Enter:

     pdadmin
  2. In the Select Servers dialog, click **OK**.
- To monitor the servers julia and henry:
  1. Enter:

     pdadmin
  2. In the Select Servers dialog, select julia.
  3. Hold down the **CTRL** key and select henry.
  4. Click **OK**.

pdcrcds Utility: Creates Directories for DCE in Infoprint Manager for AIX

Syntax

pdcrcds

Description

Issue the **pdcrcds** utility to create the directories and soft links needed for Infoprint within the DCE namespace. You should only run the **pdcrcds** utility once in each DCE cell in which Infoprint servers will run regardless of the number of servers. This utility also establishes the initial ACL structure used by the Infoprint security service.

Note: This utility normally executes as part of the Infoprint installation.

Example

To create directories needed for Infoprint in the DCE namespace, enter:

```
pdcrcds
```

Infoprint displays the following:

```
Creating Infoprint directories in the DCE namespace...
```

pdcrdflt Utility: Creates Default Auxiliary Sheets, Media, and Queue in Infoprint Manager for AIX

Syntax

pdcrdflt [**-c**] *ServerName*

Description

Issue the **pdcrdflt** utility to perform the following server configuration tasks:

* Create the default auxiliary sheets and media in a server.
* For a basic installation only, create the default queue.
* For a basic installation only, set server and queue attributes.

The default auxiliary sheets that this utility creates are:
  accounting-log
  blank
  brief
  full
  job-ticket
  none
  64xx

The default media that this utility creates are:
  A3
  A4
  B4
  B5
  ledger
  legal
  letter
  tabloid

You only need to run the **pdcrdflt** utility if the **startsrv** utility failed to create all the default objects.

If you specify the **-c** flag, **pcrdflt**

* Sets the following server attributes to **true**:
  accept-unsupported-jobs
  save-rip-files
* Creates the default queue
* Sets the following queue attributes to **true**:
  assign-to-printer
  requeue-failed-jobs

If you have a server that has been configured for an advanced Infoprint installation and want to reconfigure it for a basic installation, do not use **pdcrdflt**. You must create the default queue and reset the attributes manually.

Flags

The **pdcrdflt** utility uses the following flags:

-c   Configures the server for a basic installation. If you do not specify this flag, Infoprint configures the server for an advanced installation.

Arguments

The argument value identifies the server to which the utility applies.

Valid argument values for the **pdcrdflt** utility are:

ServerName
>	Specifies the name of the server to configure. You must specify the name.

Examples

- To create the default objects for a server with the name `srv1` in an advanced installation, enter:

  `pdcrdflt srv1`

- To configure the server `charlie` for a basic installation and create the default objects, enter:

  `pdcrdflt -c charlie`

pdcrmed Utility: Creates Commonly Used Media in Infoprint Manager for AIX

Syntax

pdcrmed *ServerName*

Description

Issue the **pdcrmed** utility to create the large number of predefined medium objects. Use this utility after starting the server.

The utility creates these predefined medium objects:

A0	**B7**	**jis-b6-white**
A1	**B8**	**jis-b7-white**
A2	**B9**	**jis-b8-white**
A3-colored	**B10**	**jis-b9-white**
A4-colored	**C4-envelope**	**jis-b10-white**
A4-transparent	**C5-envelope**	**letter-tab**
A4-tab	**a**	**manual**
A5	**b**	**monarch-envelope**
A5-colored	**c**	**na-legal-colored**
A6	**d**	**na-letter-colored**
A7	**designated-long-envelope**	**na-letter-transparent**
A8	**e**	**na-number-9-envelope**
A9	**executive**	**na-number-10-envelope**
A10	**folio**	**na-6x9-envelope**
B0	**invoice**	**na-7x9-envelope**
B1	**jis-b0-white**	**na-9x11-envelope**
B2	**jis-b1-white**	**na-9x12-envelope**
B3	**jis-b2-white**	**na-10x13-envelope**
B4-colored	**jis-b3-white**	**na-10x14-envelope**
B4-envelope	**jis-b4-colored**	**na-10x15-envelope**
B5-colored	**jis-b4-white**	**quarto**
B5-envelope	**jis-b5-colored**	**8x10.5**
B6	**jis-b5-white**	

Arguments

The argument value identifies the server to which the utility applies.

Valid argument values for the **pdcrmed** utility are:

ServerName
Specifies the name of the server on which to create the medium objects. You must specify the name.

Example

To create the commonly used medium objects on a server with the name srv1, enter:

```
pdcrmed srv1
```

pdinitports Utility: Initializes Ports

Syntax

pdinitports [**-n** *NumberOfPorts*| *MinimumPortNumber MaximumPortNumber*]

pdinitports {**-h** | **-?**}

Description

For Infoprint Manager for AIX, use the **pdinitports** utility to set up Infoprint to use a specific range or number of port numbers on this system for interprocess communication. By initializing a specific range of port numbers, you can avoid using port numbers that are used by or reserved for other programs.

Notes:

1. See the **/etc/services** file for reserved port numbers. Because Infoprint does not use the port numbers in **/etc/services**, you do not have to run this utility if all reserved port numbers are listed there.

2. Because Infoprint automatically initializes port numbers when it is started, you should not normally have to run this utility.

3. Before using this utility, you must shut down all the servers on this system.

For Infoprint Manager for Windows NT and Windows 2000, use the **pdinitports** utility to set up Infoprint to use a specific range or number of port numbers on this system for interprocess communication. By initializing a specific range of port numbers, you can avoid using port numbers that are used by or reserved for other programs.

Notes:

1. See the **/etc/services** file for reserved port numbers. Because Infoprint does not use the port numbers in **/etc/services**, you do not have to run this utility if all reserved port numbers are listed there.

2. Because Infoprint automatically initializes port numbers when it is started, you should not normally have to run this utility.

3. Before using this utility, you must shut down all the servers on this system.

Flags

The **pdinitports** utility uses the following flags:

-n *NumberOfPorts*
> Specifies that Infoprint is to find the first available block of *num-ports* port numbers and use them. If you do not specify either this flag or a range of port numbers, **pdinitports** finds and uses the first available block of 10 port numbers.

-h　　Displays help for the **pdinitports** utility.

-?　　Displays help for the **pdinitports** utility.

Arguments

Valid argument values for the **pdinitports** utility are:

MinimumPortNumber
> The minimum port number that the Infoprint will use on this system.

pdinitports

MaximumPortNumber
The maximum port number that the Infoprint will use on this system.

If you do not specify either a range of port numbers or the **-n** flag, **pdinitports** finds and uses the first available block of 10 port numbers.

Examples

- To initialize Infoprint to use the first available range of 12 ports, enter:
  ```
  pdinitports -n 12
  ```
- To initialize Infoprint to use ports 6001 through 6010, enter:
  ```
  pdinitports 6001 6010
  ```

pdmigpp Utility: Migrates Existing AIX Printers to Infoprint in Infoprint Manager for AIX

Syntax

pdmigpp *AIXPrintQueue ServerName DestinationName QueueName*

Description

Issue the **pdmigpp** utility to migrate an existing AIX print queue to an actual destination within Infoprint.

You can migrate printer devices currently configured for the AIX print system, for PSF for AIX, and for AIX remote queues that send jobs to another AIX processor or to any remote host connected to the network with TCP/IP.

This utility automatically selects the appropriate DSS, which the **device-support-system** actual destination attribute reflects. If the AIX print queue is a remote queue, Infoprint selects the BSD DSS. For PSF physical printers, the utility selects the appropriate attachment type, reflected by the **attachment-type** actual destination attribute. The corresponding Infoprint actual destination attributes, if they exist, reflect any values for the existing printer device.

After this utility has run successfully, an Infoprint actual destination that is equivalent to the AIX print queue exists in the specified server.

To run this utility ensure that:
- If you use DCE, you are logged into DCE with administrator authority
- You are logged onto the AIX processor on which the AIX print queue resides
- The Infoprint server whose name you specify is up and running

Arguments

The argument value identifies the existing AIX virtual printer that the utility migrates to Infoprint as an actual destination within the specified server and its associated queue.

Valid argument values for the **pdmigpp** utility are:

AIXPrintQueue
> The name of an existing AIX print queue that the utility migrates to Infoprint.

ServerName
> Specifies the name of the server that will contain the actual destination the utility creates.

DestinationName
> The name of the Infoprint actual destination that the utility creates.

QueueName
> The name of the Infoprint queue that will provide jobs to the created actual destination.

Example

To migrate the PSF for AIX print queue `lpd8` to actual destination `PhyPtr3` on server `Server2` with an associated queue of `queue1`, enter:

pdmigpp

```
pdmigpp lpd8 Server2 PhyPtr3 queue1
```

pdmincfg Utility: Sets up a Minimum Infoprint Configuration in Infoprint Manager for AIX

Syntax

pdmincfg [**-s**] [*ServerName*]

Description

Issue the **pdmincfg** utility to create a minimum Infoprint configuration.

This minimum configuration consists of one server, one logical destination, one queue, and one actual destination. You can use this minimum configuration to verify that Infoprint is properly installed and is operational. The **pdmincfg** utility creates a minimal configuration appropriate for a small Infoprint installation.

Flags

The **pdmincfg** utility uses the following flag:

-s   Causes **pdmincfg** to start the specified server. If you do not specify this flag, but do specify the *ServerName*, Infoprint does not start the server. If you do not request Infoprint to start the server, Infoprint assumes it is already up and running.

Arguments

The argument value identifies the specific object to which the utility applies.

Valid argument values for the **pdmincfg** utility are:

ServerName
Specifies the name of the server that runs in the minimum configuration. *ServerName* defaults to the hostname.

Example

To set up a minimum configuration on a system with the server name of `serv1`, follow these steps:

1. Enter:

   ```
   pdmincfg -s serv1
   ```

   Infoprint displays the following:

   ```
   Your server print database will be stored in /var/pd/serv1.
   Press enter to continue or press CTRL-C to cancel the request.
   ```

   Note: Your **PDBASE** environment variable setting determines the directories where Infoprint stores your server print database.

2. Press Enter and the following displays:

   Note: If the server does not exist, Infoprint prompts you after message 5010-467. Type **y** and press Enter to create the server.

   ```
   5010-467 Starting server serv1.
   5010-406 Creating default objects. Please wait.
   5010-405 Successfully started server serv1.
   5010-470 Creating logical destination serv1-lp.
   5010-471 Creating queue serv1-q.
   5010-472 Enabling logical destination serv1-lp.
   ```

```
Enter 1 or 2 for the type of actual destination to be created:

1 = Test actual destination that does not actually print to a printer
device
2 = Actual destination that uses your attributes file
```

3. You now have a choice of responses:

   - To create a test actual destination to verify that Infoprint is properly installed, enter **1**.

   - To create an actual destination that represents a real printer device, follow these steps:

     a. Enter **2**.

        Infoprint displays the following:

        ```
        Enter the name of your destination attributes file:
        ```

     b. Enter the name of a file containing attributes that describe the destination you want to create. For example:

        ```
        /usr/fred/attfiles/pp_tcpip.X
        ```

        This example shows the full pathname of the file. If `/usr/fred/attfiles` is defined in your **PDPATH** environment variable, you can specify just the file name.

        The file `pp_tcpip.X` contains information like this:

        ```
        # TCP/IP-attached actual destination
        destination-realization        =actual
        attachment-type                =tcpip
        destination-model              =Infoprint4000
        destination-tcpip-internet-address=martha.boulder.ibm.com
        destination-tcpip-port-number  =5001
        ```

4. Infoprint displays the following:

   ```
   5010-476 Creating actual destination serv1-pp.
   5010-477 Enabling actual destination serv1-pp.
   5010-462 Your minimum configuration is now active:
           Logical Destination: serv1-lp
                  |
                  V
           Queue: serv1-q
                  |
                  V
           Actual Destination: serv1-pp
   ```

5. To print a file named `test` on the actual destination you just created, enter:

   ```
   pdpr -p serv1-lp test
   ```

pdmsg Utility: Displays Information about a Message in Infoprint Manager for AIX

Syntax

pdmsg [**-d**] [**-t**] *MessageNumber*

Description

The **pdmsg** utility displays the text and description of an Infoprint message at the command line. The **pdmsg** utility extracts the text and description from the appropriate message catalogs. If you do not specify the **-d** or **-t** flag with the utility, Infoprint displays both the text and the message description.

Flags

The **pdmsg** utility uses the following flags:

-d   Displays only the description of a message, which consists of a 7-digit message number, an explanation of the message, the system action, and the response.

-t   Displays only the text of a message, which consists of a 7-digit message number along with the actual words of the message itself. Underlined blanks in the text identify variable fields in the message text (also called message inserts). When Infoprint actually issues messages, Infoprint replaces the blanks with the appropriate variable information.

MessageNumber
      The number of the Infoprint message you want displayed. Valid message numbers range from 0420-001 through 0423-999 and 5010-001 through 5010-999; however, not every number in these ranges has an associated message.

Examples

- To view the text and description for Infoprint message 5010-096, enter:

  ```
  pdmsg 5010-096
  ```

  Infoprint displays the following:

  ```
  5010-096 The value _____ is not supported for attribute _____.
  5010-096
  EXPLANATION: The server or destination does not support this value.
  SYSTEM ACTION: Infoprint could not process the request.
  RESPONSE: Enter the command again and specify a value that is supported
  by the server and destination, or specify a destination that supports (by
  association) the value.
  ```

- To view only the text for Infoprint message 5010-096, enter:

  ```
  pdmsg -t 5010-096
  ```

  Infoprint displays the following:

  ```
  5010-096 The value _____ is not valid not supported for attribute _____.
  ```

- To view only the description for Infoprint message 5010-096, enter:

  ```
  pdmsg -d 5010-096
  ```

  Infoprint displays the following:

pdmsg

5010-096
EXPLANATION: The server or destination does not support this value.
SYSTEM ACTION: Infoprint could not process the request.
RESPONSE: Enter the command again and specify a value that is supported
by the server and destination, or specify a destination that supports (by
association) the value.

rc.iprsap Utility: Start SAP Callback Daemons for Infoprint Manager for AIX

Syntax

rc.iprsap

Description

Use this utility to start the Infoprint Manager SAP callback daemons for each SAP system defined to use Infoprint Manager as an OMS (Output Management System). **/etc/inittab** invokes the **rc.iprsap** utility to automatically restart the Infoprint Manager SAP callback daemons listed in this file during reboot if you activate it through SMIT as follows:

Infoprint Printing System

Utilities

SAP Callback Daemon

Note: For specific information about a menu choice, press the **F1** key for help.

As the administrator, you can edit the **/etc/rc.iprsap** file using a text editor, such as vi. Edit this file to include a `startcbd` line for each SAP System setup to receive callback notifications. See "startcbd Utility: Starts the SAP Callback Daemon" on page 197 for more information.

rc.pd Utility: Restarts Servers in Infoprint Manager for AIX

Syntax

rc.pd

Description

/etc/inittab (or a program called from **/etc/inittab**) invokes the **rc.pd** utility to automatically restart the Infoprint servers listed in **/etc/rc.pd.servers** during a reboot. As the administrator, you can edit the **rc.pd.servers** file using a text editor, such as **vi**. Edit this file to include a **startsrv** line for each server you want to start automatically.

sense Utility: Senses Whether a Channel-Attached Printer is Attached to Infoprint Manager for AIX

Syntax

sense *SlotControlUnitAddress*

Description

The **sense** command senses whether a channel-attached printer device is attached to the RS/6000. If it is, the command returns a code of 81 in the sense bytes information, indicating that a connection exists.

Note: You must shut down the actual destination representing the printer device before issuing the **sense** command. If the actual destination is enabled, the results of the **sense** command will not be accurate.

Arguments

SlotControlUnitAddress
> The slot number (first one or two digits) and control unit address (last two digits, in hexadecimal) of the printer device you want to check. Enter any alphabetic hexadecimal characters in lowercase only.

Messages and Return Codes

The **sense** utility returns the following messages and return codes:

- If you receive this message and return code:

  ```
  printer connected at address 3af
   00 00 00 81 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ```

  the printer device is ready and correctly attached. You can print jobs on it.
- If you receive this message and return code:

  ```
  printer connected at address 3AF
   40 00 03 01 00 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ```

  the printer device is correctly attached, but it is not ready to receive print jobs. Follow the instructions in the printer documentation to make the printer device ready at the printer's operator panel or console.
- If you receive this message:

  ```
  printer not connected at address 3AF
  ```

  the printer device is not attached correctly; or the printer device is not powered on. Check the printer and ensure that it is powered on and ready to accept print jobs. Verify that you entered the correct slot number and control unit address with the **sense** command. If the printer is powered on and you entered the correct information with the command, contact your IBM Printing Systems Company service representative.
- If you receive this message:

  ```
  printer not defined at address 3AF
  ```

  any of these things may be wrong:
  - The printer is either not configured or not configured correctly.

sense for AIX

          – You did not shut down the actual destination before entering the **sense** command.

          – The device driver for the printer at this address is missing or has not been loaded onto the S/370 Channel Emulator/A adapter. To load the driver, use the SMIT `Miscellaneous Configuration` panel.

Example

To check the connection on a channel-attached printer attached to an S/370 Channel Emulator/A adapter in slot 3, with a hexadecimal control unit address of `af`, enter:

```
sense 3af
```

sense Utility: Senses Whether a Channel-Attached Printer is Attached to Infoprint Manager for Windows NT and Windows 2000

Syntax

sense [**-f**] [**-s**] *slot_number control_unit_address*

Description

The **sense** command queries a channel-attached printer attached to the PC through the IBM 4159 S/390 Parallel Channel Emulator Card. The sense byte information is displayed.

Note: You must shut down the actual destination representing the printer device before issuing the **sense** command. If the actual destination is enabled, the results of the **sense** command will not be accurate.

Arguments

-f   All forms of channel sense data should be retrieved. The printer must be made ready for this to complete successfully.

-s   Only basic channel sense data should be retrieved.

slot_number
> The PC slot that the channel card is installed in. The number is a value between 1 and 8. If you only have one channel card installed, the channel slot number is always 1.

control_unit_address
> The channel control unit address as it is configured on the target channel-attached printer. The address is a hexadecimal value between 00 and FF.

Note: The **sense** command can only be issued using eight unique control unit addresses per channel card installed in the PC. Subsequent invocations of the **sense** command or activation of channel attached actual destinations with control unit addresses beyond the eighth unique address will result in an error. The system must be re-booted to allow a new set of eight control unit addresses. For example, if the one actual destination is active to a printer at channel address 34, then the **sense** command is issued seven times to control unit addresses 11 through 17. If the **sense** command is then issued to control unit address B1 or an actual destination is enabled to a printer at channel address B1, it will fail since the eight unique control unit addresses have been exhausted.

Messages and Return Codes

The **sense** utility returns the following messages and return codes:

- If you receive this message:

```
The device type is: 3835-02
The sense response is: 0000008100000000000000000000000000000000000000000000
```

the printer device is ready and correctly attached. You can print jobs on it.

- If you receive this message and return code:

```
The device type is 3835-02
The sense response is: 4000030100040000000000000000000000000000000000000000
```

the printer device is correctly attached, but it is not ready to receive print jobs. Follow the instructions in the printer documentation to make the printer device ready at the printer's operator panel or console.

- If you receive this message:

```
There is no channel card in the specified slot
```

  there is no S/390 Parallel channel card installed in the slot specified.

- If you receive this message:

```
No device is responding at Control Unit address 91
```

  the channel cabling and termination are correctly attached, but no device is resonding at the specified control unit address. Any of the following things may be wrong:

  – The specified control unit address does not match the control unit address specified in the printer's configuration. Consult your printer documentation to identify the control unit address configured in your printer.

  – The channel attachment has not been enabled on the printer or the wrong channel attachment has been enabled on the printer.

  – If multiple channel cards are present in the Windows PC, the slot number does not match the channel card containing the printer at the specified control unit address.

- If you receive this message:

```
The specified control unit is being used by another program
```

  the actual destination for this printer was not shutdown before entering the **sense** command.

- If you receive this message:

```
A Channel Program Check occurred while issuing the senseid
```

  or

```
An Interface Control Check occurred while issuing the senseid
```

  it is likely that there is a channel cabling problem between the 4159 S/390 Parallel Channel Emulator Card and the printer.

  Note: The term *senseid* in this message may be one of several nouns indicating that any of the following things may be wrong:
    – The channel cable connectors have bent or broken pins.
    – The channel cables aer not properly terminated.
    – The channel cables are not properly seated in the printer tailgate.
    – The channel cables are oriented backwards.
    – The channel cable configuration exceeds specifications.

Example

To check the connection on a channel-attached printer attached to the 4159 S/390 Parallel Channel Emulator Card in slot 1, with a hexadecimal control unit address of `af`, enter:

```
c:\>sense 1 af
```

The message you receive is:

```
The device type is: 3835-02
The sense response is: 0000008100000000000000000000000000000000000000000
c:\>
```

To obtain full sense information for the same device, enter:

```
c:\>sense -f 1 af
```

The message you receive is:

```
The device type is: 3835-02
The sense response is: 0000008100000000000000000000000000000000000000000
The sense extended response is:
0030D7FF00C0000000000000000000000000000001000D000002000000000000000000000000000000
The read response is: 0018D6FF00400000000000000000000000000000000000000
c:\>
```

setup Utility: Starts the Infoprint Installer in Infoprint Manager for AIX

Syntax

setup **-c** [**-e**] [**-R**] [**-s** *FileSystem*]

setup **-C** [**-e**] [**-L** *locale*] **-n** *ServerName* **-p** *PortNumber*
    [**-P** *DestinationName*] [**-R**] [**-s** *FileSystem*]

setup **-m** [**-a** *ResponseFile*] [**-e**] [**-q**] [**-R**] [**-s** *Filesystem*]

setup **-M** [**-a** *ResponseFile*] [**-e**] [**-q**] [**-R**] [**-s** *Filesystem*] [**-S**]

Description

Issue the **setup** utility to start the Infoprint Installer. The Infoprint Installer installs either the entire Infoprint Control component of Infoprint Manager, including an Infoprint server and an Infoprint AIX client, or the Infoprint AIX client alone.

The AIX client allows users to enter Infoprint commands on the command line for transmission to the Infoprint server, which may be on another AIX system. The AIX client has no graphical user interface.

Notes:

1. You can install the Infoprint server or Infoprint AIX client in any of the following languages:
   English
   French
   German
   Italian
   Japanese
   Spanish

   If the Infoprint AIX client and server do not use the same language, the Infoprint server must run in English.

2. If you use Infoprint Manager DCE, and if the Infoprint AIX client and server are not in the same DCE namespace, the client can issue only the **pdpr**, **pdls**, and **pdq** commands.

Flags

The **setup** utility uses the following flags:

-a   Specifies a response file for use with an unattended installation. By default, unattended installations do not display any Installer screens. Further, when the **-a** flag is used, the default mount point is /ip_remote. All unattended installations must be performed using an Infoprint Manager Software Server, not the Infoprint Manager CD-ROMs.

-c   Invokes the Infoprint Installer graphical user interface (GUI) to install only the Infoprint AIX client.

   Note: The **-L**, **-n**, **-p**, and **-P** flags are not valid with this flag. The Infoprint Installer GUI will prompt you to specify the locale, server name, port number, and optional default logical destination.

-C   Invokes the Infoprint Installer to install only the Infoprint AIX client using the command line, without invoking the Installer GUI.

Note: If you use this flag, you must specify the **-n** and **-p** flags.

-e Echos the Installer log updates to **stdout** as they occur.

-L *locale*

Specifies the locale of the AIX client. The default is **en_US** (U.S. English).

Note: This flag is not valid with the **-c** flag. It is optional with the **-C** flag.

-m Performs unattended installations on one or more remote systems. Before you can you this flag, you must create an Infoprint Manager Software Server on the local machine. After the software server is in place, you must copy response files to its `/ip_remote/auto` subdirectory to specify the which installations to complete. The default mount point for unattended installation is `/ip_remote`. The **-m** flag performs the specified installations concurrently.

-M Performs unattended installations like the **-m** flag, but the installations are performed serially. That is, an installation on the first system will complete before the installation on the second system begins.

-n *ServerName*

Specifies the name of the Infoprint server.

Note: This flag is not valid with the **-c** flag. It is required with the **-C** flag.

-p *PortNumber*

Specifies the port number that the remote Infoprint server is using for communications.

Note: This flag is not valid with the **-c** flag. It is required with the **-C** flag.

-P *DestinationName*

Specifies the default logical destination to which the Infoprint AIX client submits jobs.

Note: This flag is not valid with the **-c** flag. It is optional with the **-C** flag.

-q Displays the Installer screens during an unattended install.

-R Replaces any currently installed version of the Infoprint Installer on your AIX system with the Installer code from the Infoprint CD-ROMs.

-s *FileSystem*

Specifies the file system where the installable software images may be accessed. For example, you could specify the file system that you defined for installing Infoprint, or the drive where you mounted the Infoprint server CD-ROM. The default mount point for all installations that use the Installer GUI is`/cdrom`. The default mount point for all unattended installations is `/ip_remote`.

Note: The **/cdrom** file system may be predefined.

-S Saves the .wlog files from any prior installation. This flag is usually used with the **-M** flag to maintain a record of all installations performed on a machine as part of a serial sequence of unattended remote installations.

-h Displays help for the **setup** utility.

Examples

• To install Infoprint in the file system `/cdrom`, follow these steps:
   1. Log onto AIX as **root**.

2. If available, insert the latest Infoprint Manager server APAR Service CD-ROM into the drive. Otherwise, insert the gold Infoprint Manager Server 1 CD-ROM into the drive.

3. If this is the first time you are running the Infoprint Installer on this system, create the **/cdrom** file system. Enter:

   ```
   smit cdrfs
   ```

4. Select **Add a CDROM File System**.

5. Complete the **Add a CDROM File System** panel.

   a. In the **DEVICE Name** field, enter the identifier of your CD-ROM drive. If you do not know the identifier, select **List** in the AIXwindows version of SMIT, or press **PF4** in the ASCII version of SMIT, to see a list of CD-ROM drives. Select one.

   b. In the **MOUNT POINT** field, enter **/cdrom**.

   c. Select **OK** (AIXwindows version) or press **Enter** (ASCII version).

   d. Press **F10** to exit from SMIT.

6. To mount the CD-ROM, enter the following command on the AIX command line:

   ```
   mount /cdrom
   ```

7. To read the **/readme.txt** file, enter:

   ```
   dtpad /cdrom/readme.txt
   ```

8. Enter:

   ```
   /cdrom/setup
   ```

- You want to install only a German-language Infoprint AIX client in the previously defined file system /cdrom, and to replace the previous version of the Infoprint Installer. The client will communicate with the English-language server martha, running on port number 6874. Because your AIX console does not support graphics, you cannot invoke the Infoprint Installer GUI. Follow these steps:

  1. Log onto AIX as **root**.

  2. Insert the gold Infoprint Manager Server 1 CD-ROM into the drive.

  3. To mount the CD-ROM, enter:

     ```
     mount /cdrom
     ```

  4. Enter:

     ```
     /cdrom/setup -C -L de_DE -n martha -p 6874 -R
     ```

startppo Utility: Starts the Infoprint SMIT Production Print Operations Interface in Infoprint Manager for AIX

Syntax

startppo [**-t** | **-g** *width×depth***+***XOffset***+***YOffset*]

startppo {**-h** | **-?**}

Description

Issue the **startppo** utility to start the Infoprint SMIT production print operations interface.

Flags

The **startppo** utility uses the following flags:

-t   Starts the ASCII (**tty**) version of the Infoprint SMIT production print operations interface. The ASCII version of the Infoprint SMIT production print operations interface has no graphics and is controlled with the keyboard.

    If you do not specify the **-t** flag, **startppo** starts the AIXWindows version of the Infoprint SMIT production print operations interface. The AIXWindows version displays a graphic of a running man to indicate task progress and can be controlled either with the mouse or with the keyboard.

-g *width×depth***+***XOffset***+***YOffset*
    Overrides the default size and position of the window for the AIXWindows version of the Infoprint SMIT production print operations interface.

-h   Displays help for the **startppo** utility.

-?   Displays help for the **startppo** utility.

Examples

- To start the ASCII version of the Infoprint SMIT production print operations interface, enter:

```
startppo -t
```

- To start the AIXWindows version of the Infoprint SMIT production print operations interface in an 800 by 500 window, enter:

```
startppo -g 800×500+100+100
```

start_server Utility: Starts a Server for a Basic Infoprint Installation in Infoprint Manager for AIX

Syntax

start_server [**-l**] *locale* [**-p**] *port* [*ServerName*]

start_server -?

Description

Issue the **start_server** utility to create or restart a server configured for a basic Infoprint installation. A server:
- Manages the validation, routing, and scheduling of jobs
- Manages the printing or transmission process
- Contains logical destinations, queues, and actual destinations

Three possible conditions can exist when you issue this utility:
- If the server name you specify with the utility (or the default server name) does not exist, Infoprint creates the server on the AIX processor from which you issue the utility and then starts the new server.
- If the server name does exist but is not currently running, Infoprint displays status information and issues a message when it has successfully restarted the server.
- If the server name does exist and it is currently running, Infoprint displays a message that shows the server is already operational.

Note: Use **start_server** instead of **startsrv** when both these conditions are true:
  - You want to configure the server for a basic Infoprint installation. **start_server** always configures a new server for a basic installation, while **startsrv** defaults to an advanced installation.
  - You do not want to be prompted for confirmation if the server does not already exist. **start_server** never prompts, while **startsrv** prompts by default.

Flags

The **start_server** utility uses the following flags:

-l *locale*
>   Allows you to specify the locale for Infoprint messages in a specific language. If you do not specify this flag, the default is your current locale.

-p *port* Allows you to specify the port number when starting a server in a locale other than the default locale. The port number you assign must not conflict with port numbers in use by other processes. The file **/etc/services** lists the port numbers reserved by other processes.

>   If you do not specify this flag, the port defaults to the value of the **PD_SOCKET** environment variable, if any, then to 6874.

>   **Note:** When selecting your own port number, always increment the choice by two because the Infoprint server uses two numbers: the one you specify and the next one, for example, 6874 and 6875.

-?   Displays help for the **start_server** utility.

Arguments

The argument value identifies the specific object to which the utility applies.

The valid argument value for the **start_server** utility is:

ServerName
> Assigns a name to a new server or specifies the name of the server to restart. *ServerName* defaults to the hostname.

Examples

- To create a server with the same name as the host and configure it for a basic installation, enter:

  ```
  start_server
  ```

- To restart serv1, enter:

  ```
  start_server serv1
  ```

startsrv Utility: Starts a Server in Infoprint Manager for AIX

Syntax

startsrv [**-c**] [**-F**] [**-l**] *locale* [**-p**] *port* [*ServerName*]

startsrv -?

Description

Issue the **startsrv** utility to create or restart a server. A server:
*   Manages the validation, routing, and scheduling of jobs
*   Manages the printing or transmission process
*   Contains logical destinations, queues, and actual destinations

The following conditions can exist when you issue this utility:
*   If the server name you specify with the utility (or the default server name), does not exist, and if you do not specify the **-F** flag, Infoprint displays a confirmation message asking if you want to create a new server. If your response is yes, Infoprint creates the server on the AIX processor from which you issue the utility and then starts the new server.
*   If the server name does not exist, and if you specify the **-F** flag, Infoprint creates the server on the AIX processor from which you issue the utility without asking for confirmation and then starts the new server.
*   If the server name does exist but is not currently running, Infoprint displays status information and issues a message when it has successfully restarted the server.
*   If the server name does exist and it is currently running, Infoprint displays a message that shows the server is already operational.

Note: Use **startsrv** instead of **start_server** when either of these conditions is true:
*   You want to configure the server for an advanced Infoprint installation. **startsrv** configures a new server for an advanced installation by default, while **start_server** always configures a new server for a basic installation.
*   You want to be prompted for confirmation if the server does not already exist. **startsrv** prompts by default, while **start_server** never prompts.

Flags

The **startsrv** utility uses the following flags:

-c   Configures a new server for a basic Infoprint installation. If you do not specify this flag, Infoprint configures the server for an advanced installation. This flag has no effect on an existing server.

-F   Forces creation of the server if it does not already exist. Infoprint does not display confirmation prompts (if any).

If you do not specify this flag and if the server does not already exist, Infoprint prompts you to confirm whether to create the server.

-l *locale*
Allows you to specify the locale for Infoprint messages in a specific language. If you do not specify this flag, the default is your current locale.

-p *port* Allows you to specify the port number when starting a server in a locale other than the default locale. The port number you assign must not conflict

with port numbers in use by other processes. The file **/etc/services** lists the port numbers reserved by other processes.

If you do not specify this flag, the port defaults to the value of the **PD_SOCKET** environment variable, if any, then to 6874.

Note: When selecting your own port number, always increment the choice by two because the Infoprint server uses two numbers: the one you specify and the next one, for example, 6874 and 6875.

-? Displays help for the **startsrv** utility.

Arguments

The argument value identifies the specific object to which the utility applies.

The valid argument value for the **startsrv** utility is:

ServerName
 Assigns a name to a new server or specifies the name of the server to restart. *ServerName* defaults to the hostname.

Examples

- To create a server with the name `serv1` and configure it for an advanced installation, enter:

  `startsrv -F serv1`

- To create a server with the same name as the host and configure it for a basic installation, enter:

  `startsrv -c -F`

- To restart `serv1`, enter:

  `startsrv serv1`

stop_server Utility: Shuts Down a Server in Infoprint Manager for AIX

Syntax

stop_server [**-F**] [*ServerName*]

stop_server -?

Description

Issue the **stop_server** utility to shut down a server.

Flags

The **stop_server** utility uses the following flags:

-F   Forces the server to shut down as soon as possible. If you do not specify this flag, the server shuts down when all currently printing jobs have finished printing.

-?   Displays help for the **stop_server** utility.

Arguments

The argument value identifies the specific object to which the utility applies.

The valid argument value for the **stop_server** utility is:

ServerName
     Specifies the name of the server to shut down. *ServerName* defaults to the hostname.

Examples

* To shut down a server with the same name as the host as soon as possible, enter:

  ```
  stop_server -F
  ```
* To shut down `serv1` after all currently printing jobs have finished printing, enter:

  ```
  stop_server serv1
  ```
* To shut down the server `DeServ`, which is running in the locale `De_DE`, enter:

  ```
  export LC_ALL=De_DE
  stop_server DeServ
  export LC_ALL=
  ```

tdump Utility: Outputs Tape Contents in Human-Readable Format in Infoprint Manager for AIX

Syntax

tdump [**-a**] [**-b**] [**-c**] [**-n** *number*] [**-o** *OutputFile*] [**-s** {**b** | **f**}]
    -t {**rmt***m* | **rmt***m.n*}

Description

Use the **tdump** utility to output the contents of a tape in a human-readable format. You can format the output to display in hexadecimal or octal (with a readable character above each byte), dump by file or block, determine the size of a file on tape, or determine the largest block in a file.

You can examine the output from this utility to determine such information as:
* The format of the tape
* What type of data is on the tape
* The maximum block size
* Label information for IBM standard labeled and nonstandard labeled tapes
* Error diagnosis for damaged or incorrectly created tapes

tdump works from the place where the tape is positioned. If you need to dump the third file on a tape, you must position the tape with the AIX **tctl** command or the Infoprint SMIT production printing system interface `Position A Tape` panel to the beginning of the third file and then invoke **tdump**.

Flags

The **tdump** utility uses the following flags:

-a   Input is in ASCII. If this flag is not specified, EBCDIC is used.

-b   Dump by block. If this flag is not specified, file is used.

-c   Dump bytes in octal format. If this flag is not specified, hexadecimal is used.

-n *number*
        Number of files or blocks to dump. If this flag is not specified, 1 is used.

-o *OutputFile*
        Output file. If this flag is not specified, **stdout** is used.

-s {b | f}
        Reports largest block size in the file (**b**) or the number of bytes in the file (**f**). Suppresses dump.

-t *tdrive*
        Name of the tape drive containing the tape, of the form **rmt***m* or **rmt***m.n*, where *m* is a non-negative integer and *n* is from 1 to 7, inclusive

Examples

* To dump two files in hexadecimal to **stdout** from the current position of the tape in drive `rmt0`, enter:

  `tdump -t rmt0 -n 2`
* To display the largest block in the file from the current position of the tape in drive `rmt2`, enter:

tdump

```
tdump -s b -t rmt2
```

- To instruct **tdump** to interpret the tape as ASCII and write the bytes in octal for the next three blocks on the tape in drive `rmt0` into `outfile`, enter:

```
tdump -t rmt0 -n 3 -b -a -c -o outfile
```

tlist Utility: Lists Files on a Tape in Infoprint Manager for AIX

Syntax

tlist **-t** {rmt*m* | **rmt***m.n*}

Description

For IBM standard labeled tapes, use the **tlist** utility to display the name and file characteristics (record format, record length, and block size) of each file on a tape. For nonstandard or unlabeled tapes, the **tlist** utility displays the number of files on a tape.

You can use the **tlist** utility to create a list of file names to use as arguments for the **pdpr** command.

Flags

The **tlist** utility uses the following flags:

-t *tdrive*
> Name of the tape drive containing the tape, of the form **rmt***m* or **rmt***m.n*, where *m* is a non-negative integer and *n* is from 1 to 7, inclusive

Examples

- To display the names of all files on an IBM standard labeled tape for the tape in tape drive `rmt2`, enter:

  ```
  tlist -t rmt2
  ```

- To count the number of files on a non-standard or unlabeled tape for the tape in tape drive `rmt0`, enter:

  ```
  tlist -t rmt0
  ```

t2file Utility: Reads MVS Partitioned Data Sets from Tape in Infoprint Manager for AIX

Syntax

t2file [**-d** *directory*] [**-m** *member* ...] **-t** {rmt*m* | **rmt***m.n*} [**-s**]

Description

Use the **t2file** utility to read MVS partitioned data sets from IBM standard labeled tapes created with the MVS **IEBCOPY** program and to break them apart into individual files on AIX.

The typical application for this program is to break apart host resource libraries that have been dumped to tape into individual files, as IBM Infoprint Control requires.

Flags

The **t2file** utility uses the following flags:

-d *directory*
> Directory where files should be written. If this flag is not specified, the files are written to the current directory.

-m *member* **...**
> Specific members to read from the MVS partitioned data set. If this flag is not specified, all members are read.
>
> **Note:** You must specify all the file names with one use of the **-m** option. To specify one name, use **t2file -m** *memname*. To specify multiple names, use **t2file -m '***mem1 mem2 mem3***'**. If you have multiple **-m** options, **t2file** does not concatenate them together. It uses the last occurrence of **-m** on the command line.

-t *tdrive*
> Name of the tape drive containing the tape, of the form **rmt***m* or **rmt***m.n*, where *m* is a non-negative integer and *n* is from 1 to 7, inclusive.

-s Unload only one MVS partitioned data set. If this flag is not specified, all partitioned data sets are read.

Examples

- To designate specific members to read from the MVS partitioned data set, enter:
  ```
  t2file -m 'mem1 mem2 mem3' -t rmt3
  ```
- To unload only one MVS partitioned data set from tape drive `rmt2` into the current directory and then end the program, position the tape at the beginning of the header label before the partitioned data set with the AIX **tctl** command on the Infoprint SMIT production printing system interface `Position A Tape` panel and enter:
  ```
  t2file -t rmt2 -s
  ```
- To unload all the members from all the partitioned data sets on the tape in the drive `rmt0` into /home/custom/resources, enter:
  ```
  t2file -t rmt0 -d /home/custom/resources
  ```

Chapter 5. Daemon Utilities for Infoprint Manager for AIX

This chapter describes the following Infoprint daemon utilities:

mvsprsd Utility: Starts the mvsprsd Daemon

Syntax

mvsprsd -p_PortNumber_ **-d** _FileSystem_ [**-d** _FileSystem_ ...] [**-x** _ShellScript_]
[**-q** _destination_] [**-k**]

Description

Use the **mvsprsd** daemon to start the **mvsprsd** daemon. This daemon receives the
data that MVS Download transmits from the Job Entry Subsystem (JES) spool on
an MVS system for printing.

You can specify that the **mvsprsd** daemon starts whenever the system starts by
including the **mvsprsd** command in one of the files that are executed when the AIX
operating system is initialized. The two types of files that are read during AIX
initialization are **/etc/rc** files and the **/etc/inittab** file.

If the **mvsprsd** daemon stops running for some reason, you can restart it by issuing
the following command:

```
/usr/lpp/psf/bin/mvsprsd -p PortNumber -d FileSystem -x ShellScript
   -q destination -k
```

If your job does not print on IBM Infoprint Control, you might be able to restart the
shell script process with the downloaded file and downloaded print-options string. If
you specified the **-k** flag on the print command, you can use the following command
to restart the shell script with its required parameter list:

```
/usr/lpp/pd/bin/mvsprpsm.sh FileName.PRD "$(cat string.JCL)" destination
```

where _FileName_**.PRD** represents the file successfully downloaded to IBM Infoprint
Control as
MVS__system_name.jobname.dataset_name.forms_name.yyyyddd.hhmmsst_**ABCD.PRD**;
and where _string_**.JCL** represents the MVS print options string that is saved to a file
named in the following format:
MVS__system_name.jobname.dataset_name.forms_name.yyyyddd.hhmmsst_**ABCD.JCL**.

Note that the string **/usr/lpp/pd/bin/mvsprpsm.sh...** refers to the shell script that is
provided with this command. Check to see that your installation has not modified
this shell script or added another shell script before specifying this value.

Flags

The **mvsprsd** daemon utility uses the following flags:

-p _PortNumber_
Specifies the socket port number for the daemon in the valid range
(5001-64000). Do not use 8251 and 8253, which are used by Infoprint for
the PCL and PostScript data transforms. The port number must be the
same as the port number specified in the routing-control data set used by
MVS Download.

-d _FileSystem_
Specifies a file system where Infoprint stores the received file until the shell
script you specify in the **-x** flag processes and deletes the file. The
mvsprsd daemon must have write permission for the file system.

You must specify at least one file system. You can specify up to ten file systems. If you specify more than one file system, the file system having the most available space is used. To specify more than one file system, specify the entire flag again:

```
-d FileSystem1 -d FileSystem2 ...
```

-x *ShellScript*

Specifies the complete path name and file name for the shell script that the daemon executes to process the files sent by MVS Download. You can specify the the file name of the shell script without the path name and it will default to the **/usr/lpp/pd/bin** path.

The daemon forks a child process to execute the shell script after each successfully received file. If you do not specify the path name of a shell script, the received files are not printed and remain on the file system.

Infoprint provides a shell script, **mvsprpsm.sh**, which submits a file to the **pdpr** command for printing and deletes the file if the file prints successfully. This shell script is installed in the **/usr/lpp/pd/bin** directory.

-q *destinationname*

Specifies the name of the logical destination to which the shell script can submit the file. If you specify a logical destination, you should also specify the name of a shell script on the **-x** flag that the program uses to submit files to the logical destination.

If you specify this shell script on the **-x** flag, you must specify the **-q** flag or **mvsprsd** displays its command syntax and exits.

If you do not specify a logical destination name, the received files are not printed and remain on the file system.

-k Specifies that the MVS print-options string is kept on the file system and can be used later for error recovery. If a file is transferred from MVS to AIX successfully, but does not print because of a problem, IBM recommends that you specify this option so that the job can be resubmitted for printing from the AIX operating system.

Examples

1. To start an MVS Download daemon that stores files received from the JES spool on the `/files1` or `/files2` file system and executes the **mvsprpsm.sh** shell script, which submits the files to the `serv2-lp` logical destination, enter:

   ```
   mvsprsd -p 5400 -d /files1 -d /files2 -x mvsprpsm.sh -q serv2-lp
   ```

2. To have the same MVS Download daemon keep the MVS print-options string file(s), enter:

   ```
   mvsprsd -p5400 -d/files1 -d/files2 -qserv2-lp -k
   ```

Note: Anyone can start the **mvsprsd** daemon, but only someone with **root** authority can stop it.

Suggested Reading

- *PSF/MVS: MVS Download Guide*
- The man pages for the **rc** command and the **inittab** file

pcl2afpd Utility: Starts the pcl2afpd Daemon

Syntax

pcl2afpd [**-C** *ConfigurationFile*]

Description

Use the **pcl2afpd** utility to start the **pcl2afpd** daemon. The **pcl2afpd** daemon manages the PCL interpreter portion of the Infoprint PCL transform program. You must start the **pcl2afpd** daemon somewhere on the network before you can use the **pcl2afp** transform command to transform PCL data streams for printing or transmission with Infoprint.

The **startsrv** or **start_server** utility automatically starts the **pcl2afpd** daemon if it is installed and not running.

If the **pcl2afpd** daemon stops running, you can restart it by issuing the following command:

```
/usr/lpp/psf/bin/pcl2afpd
```

Infoprint uses the **pcl2afpd** daemon configuration file to determine the default parameters of the **pcl2afpd** daemon. The **/usr/lpp/psf/pcl2afp/pcl2afpd.cfg** file is installed with Infoprint, and Infoprint uses it as the default configuration file. You can, however, copy the configuration file, use an AIX editor to edit the copy of the file, and rename it so that you can customize the **pcl2afpd** daemon for your applications. After you make the modifications, you specify the new configuration file with the **-C** flag of the **pcl2afpd** daemon utility.

Note: If you create your own configuration file, you must specify it with the **-C** flag of the **pcl2afp** transform command when you transform PCL files.

Flags

The **pcl2afpd** daemon utility uses the following flag:

-C *ConfigurationFile*
Specifies the configuration file Infoprint uses with the transform. The value is:

ConfigurationFile
A valid PCL configuration file name. If you do not specify a file, Infoprint uses the file **/usr/lpp/psf/pcl2afp/pcl2afpd.cfg**.

Configuration File Keywords and Values

The **pcl2afpd.cfg** file contains the same keywords as the **pcl2afp.cfg** file except that the transform daemon configuration file does not have the **server** keyword. The **pcl2afpd.cfg** contains several additional keywords.

For the keywords common to both configuration files, see "The pcl2afp and pcl2afpd Configuration Files" on page 273.

The PCL transform daemon configuration file can also contain the following keywords:

log_file={*WorkDirectory***/pcl2afpd.log |** *PathName***}**
　　Specifies the file in which the transform daemon logs errors and messages
　　when it converts a data stream from PCL to an AFP data stream.

　　Valid keyword values are:

　　*WorkDirectory***/pcl2afpd.log**
　　　　This is the default log file, where *WorkDirectory* is the value of the
　　　　work_directory keyword. The default work directory is
　　　　/var/psf/pcl2afp.

　　PathName
　　　　The full path name of a log file

mail_command={/usr/bin/mail | *PathName***}**
　　Specifies the executable file that the **pcl2afp** command uses to send
　　transform status notifications.

　　Valid keyword values are:

　　/usr/bin/mail
　　　　The AIX **mail** command

　　PathName
　　　　The full path name of a communication program

notify={root | *UserID***}**
　　Identifies the user to receive notification about problems encountered during
　　transformation of the PCL file into an AFP data stream file. If a particular
　　user runs most of the PCL transform jobs, you might want to send
　　notifications to that person using this keyword.

　　Valid keyword values are:

　　root　　The user at the server console

　　UserID
　　　　An AIX user ID

pcl_program={/usr/lpp/psf/bin/ppxpcli | *PathName***}**
　　Specifies which PCL-to-AFP transform program (the PCL interpreter) to run.
　　Generally, you will not change this value.

　　Valid keyword values are:

　　/usr/lpp/psf/bin/ppxpcli
　　　　The default PCL interpreter

　　PathName
　　　　The full path name of a PCL interpreter file

pcl_support_prog={/usr/lpp/psf/bin/ppxpclis | *PathName***}**
　　Specifies which PCL-to-AFP transform support program to run. Generally,
　　you will not change this value. Values are:

　　/usr/lpp/psf/bin/ppxpclis
　　　　The default PCL support program

　　PathName
　　　　The full path name of a PCL support program

work_directory={/var/psf/pcl2afp | *PathName***}**
　　Specifies the path to the directory where the transform daemon puts its
　　work files. The transform daemon must have read, write, and execute

pcl2afpd

permissions to this directory. The transform daemon is owned by the **root** user, but runs as **daemon**, and is in the **printq** group.

Values are:

/var/psf/pcl2afp
The default work directory

PathName
A directory path

Examples

- To restart the **pcl2afpd** daemon with the default configuration file, enter:

  ```
  pcl2afpd
  ```

  Notes:
  1. If you have not set the **PATH** environment variable to include **/usr/lpp/psf/bin**, you must enter the path name with the **pcl2afpd** daemon.
  2. Anyone can start the **pcl2afpd** daemon, but only a person with **root** user authority can stop it.

- To restart the **pcl2afpd** daemon with the configuration file `myfile.cfg`, which resides in the directory `/usr/lpp/psf/pcl2afp`, enter:

  ```
  pcl2afpd -C /usr/lpp/psf/pcl2afp/myfile.cfg
  ```

Files

/usr/lpp/psf/bin/pcl2afpd
Transform daemon
/usr/lpp/psf/pcl2afp/pcl2afpd.cfg
pcl2afpd daemon configuration file
/usr/lpp/psf/bin/ppxpcli
PCL interpreter program
/usr/lpp/psf/bin/ppxpclis
PCL interpreter support program

ps2afpd Utility: Starts the ps2afpd Daemon

Syntax

ps2afpd [**-C** *ConfigurationFile*]

Description

Use the **ps2afpd** utility to start the **ps2afpd** daemon. The **ps2afpd** daemon manages the interpreter portion of the Infoprint PostScript and PDF transform programs. You must start the **ps2afpd** daemon somewhere on the network before you can use the **ps2afp** or **pdf2afp** transform command to transform PostScript or PDF data streams for printing with Infoprint on IPDS printers.

The **startsrv** or **start_server** utility automatically starts the **ps2afpd** daemon if it is installed and not running.

If the **ps2afpd** daemon stops running, you can restart it by issuing the following command:

```
/usr/lpp/psf/bin/ps2afpd
```

Infoprint uses the **ps2afpd** daemon configuration file to determine the default parameters of the **ps2afpd** daemon. The **/usr/lpp/psf/ps2afp/ps2afpd.cfg** file is installed with Infoprint, and Infoprint uses it as the default configuration file. You can, however, copy the configuration file, use an AIX editor to edit the copy of the file, and rename it so that you can customize the **ps2afpd** daemon for your applications. After you make the modifications, you specify the new configuration file with the **-C:** flag of the **ps2afpd** daemon utility.

Note: If you create your own configuration file, you must specify it with the **-C** flag of the **ps2afp** transform command when you transform PostScript or PDF files.

Flags

The **ps2afpd** daemon utility uses the following flag:

-C *ConfigurationFile*
> Specifies the configuration file Infoprint uses with the transform. The value is:

> *ConfigurationFile*
>> A valid PostScript configuration file name. If you do not specify a file, Infoprint uses the file **/usr/lpp/psf/ps2afp/ps2afpd.cfg**.

Configuration File Keywords and Values

The **ps2afpd.cfg** file contains the same keywords as the **ps2afp.cfg** file except that the transform daemon configuration file does not have the **server** keyword. The **ps2afpd.cfg** contains several additional keywords.

For the keywords common to both configuration files, see "The ps2afp and ps2afpd Configuration Files" on page 294.

The PostScript transform daemon configuration file can also contain the following keywords:

log_file={*WorkDirectory*/**pcl2afpd.log |** *PathName***}**
Specifies the file in which the transform daemon logs errors and messages when it converts a data stream from PostScript or PDF to an AFP data stream.

Valid keyword values are:

WorkDirectory/**ps2afpd.log**
This is the default log file, where *WorkDirectory* is the value of the **work_directory** keyword. The default work directory is **/var/psf/ps2afp**.

PathName
The full path name of a log file

mail_command={/usr/bin/mail | *PathName***}**
Specifies the executable file that the **pcl2afp** command uses to send transform status notifications.

Valid keyword values are:

/usr/bin/mail
The AIX **mail** command

PathName
The full path name of a communication program

notify={root | *UserID***}**
Identifies the user to receive notification about problems encountered during transformation of the PostScript or PDF file into an AFP data stream file. If a particular user runs most of the PostScript and PDF transform jobs, you might want to send notifications to that person using this keyword.

Valid keyword values are:

root   The user at the server console

UserID
An AIX user ID

ps_program={/usr/lpp/psf/bin/ppxps2i | *PathName***}**
Specifies which Postscript-or-PDF-to-AFP transform program (the PostScript interpreter) to run. Generally, you will not change this value. If you do change it, you must change the value of the **ps_init_file** keyword to specify an initialization file at the same level.

Valid keyword values are:

/usr/lpp/psf/bin/ppxps2i
The PostScript Level 2 transform

PathName
The full path name of a PostScript interpreter file

ps_init_file={/usr/lpp/psf/ps2afp/ppxps2.ps | *PathName***}**
Specifies the PostScript initialization program to use with the PostScript interpreter. This file specifies the types of messages that the PostScript interpreter reports. Generally, you will not change this value. If you do change it, you must change the value of the **ps_program** keyword to specify a PostScript interpreter at the same level.

Valid keyword values are:

/usr/lpp/psf/ps2afp/ppxps2.ps
The PostScript Level 2 initialization file

PathName
> The full path name of an initialization file

work_directory={/var/psf/ps2afp | *PathName***}**
> Specifies the path to the directory where the transform daemon puts its work files. The transform daemon must have read, write, and execute permissions to this directory. The transform daemon is owned by the **root** user, but runs as **daemon**, and is in the **printq** group.

> Values are:

> **/var/psf/ps2afp**
>> The default work directory

> *PathName*
>> A directory path

Examples

- To restart the **ps2afpd** daemon with the default configuration file, enter:

  ```
  ps2afpd
  ```

  Notes:

  1. If you have not set the **PATH** environment variable to include **/usr/lpp/psf/bin**, you must enter the path name with the **ps2afpd** daemon.
  2. Anyone can start the **ps2afpd** daemon, but only a person with **root** user authority can stop it.

- To restart the **ps2afpd** daemon with the configuration file myfile.cfg, which resides in the directory /usr/lpp/psf/ps2afp, enter:

  ```
  ps2afpd -C /usr/lpp/psf/ps2afp/myfile.cfg
  ```

Files

/usr/lpp/psf/bin/ps2afpd
> PostScript daemon

/usr/lpp/psf/bin/ps2afp
> PostScript transform executable

/usr/lpp/psf/bin/pdf2afp
> PDF transform executable (linked to **/usr/lpp/psf/bin/ps2afp**)

/usr/lpp/psf/ps2afp/ps2afpd.cfg
> **ps2afpd** daemon configuration file

/usr/lpp/psf/ps2afp/ps2afp.cfg
> **ps2afp** command configuration file

/usr/lpp/psf/bin/ppxps2i
> PostScript level 2 interpreter program

/usr/lpp/psf/bin/ps2afpi
> PostScript Level 1 interpreter program

/usr/lpp/psf/bin/ps2afpi.vm
> PostScript interpreter program initial virtual memory

/usr/lpp/psf/ps2afp/ppxps2.ps
> PostScript level 2 initialization file

/usr/lpp/psf/ps2afp/ps2afp.ps
> PostScript Level 1 initialization file

/usr/lpp/psf/ps2afp/ps2afpe.ps
> PostScript Level 1 initialization file for extended error reporting

/usr/lpp/psf/bin/fontsave
> PostScript executable for saving fonts

ps2afpd

> **/usr/lpp/psf/ps2afp/psfonts.map**
> > Default PostScript font mapping file
>
> **/var/psf/psfonts**
> > User-defined PostScript fonts file

startnotd Utility: Starts the notifyd Daemon

Syntax

startnotd

Description

Use the **startnotd** utility to start the **notifyd** daemon. The **notifyd** daemon receives and stores notification messages for all users requesting notification by deliver-method message. Only one notification daemon needs to be running for each Infoprint Manager cell or domain; one notification daemon receives notifications from and services all Infoprint Manager servers sharing the same name space.

With Infoprint Manager for AIX, you can specify that the **notifyd** daemon starts whenever the system starts or is rebooted by using the Infoprint Manager SMIT panels on AIX.

The **notifyd** daemon has a monitor that will restart it if it ever stops running. If you want to stop it, to move it to another machine for example, use the "stopnotd Utility: Stops the notifyd Daemon" on page 196.

stopnotd Utility: Stops the notifyd Daemon

Syntax

stopnotd

Description

Use the **stopnotd** utility to stop the **notifyd** daemon and its monitor.

If you want to start the **notifyd**, see "startnotd Utility: Starts the notifyd Daemon" on page 195.

startcbd Utility: Starts the SAP Callback Daemon

Syntax

startcbd *SystemName HostName InstanceID User Client Password Language*[**31h**]

Description

Use the **startcbd** utility to start a **sapbcd** daemon. The **sapbcd** or SAP Callback daemon logs onto an SAP system and delivers notifications from Infoprint Manager servers to the SAP system. You should start only one **sapbcd** for each SAP system for which you have configured Infoprint Manager as an Output Management System (OMS). All SAP instances sharing the same database form one SAP system.

See "rc.iprsap Utility: Start SAP Callback Daemons for Infoprint Manager for AIX" on page 165 for information on having SAP Callback daemons start on system reboot.

Each **sapbcd** daemon has a monitor that will restart if it stops for some reason. If you want to stop it, to move it to another machine for example, use the "stopcbd Utility: Stops the SAP Callback Daemon" on page 199.

Arguments

The **startcbd** utility uses the following arguments:

SystemName
Specifies the three character SAP system name.

HostName
Specifies the name of the host where you want the SAP Callback daemon to log onto the SAP system.

InstanceID
Specifies the SAP Instance ID you want the SAP Callback daemon to log onto.

User Specifies the userid defined for the SAP Callback daemon to log on with. This needs to be a userid of CPIC type with XOMI permissions.

Client Specifies the SAP client for the SAP Callback daemon to log onto.

Password
Specifies the password for the SAP Callback daemon to log on with.

Language
Specifies the language for the SAP Callback daemon to log on with.

31h An extra argument to specify that the SAP Callback daemon is for a 3.1h or 3.1i system.

Examples

- To start the **startcbd** daemon to support SAP Release 4 System TST after you have:
  - Configured Infoprint Manager as an OMS in TST
  - Created a CPIC user for the **sapcbd** daemon
  - Identified which instance and client you want the **startcbd** to log onto

  Then you would enter:
  ```
  startcbd TST ibmbtt15 15 ibm 030 ipmpass EN
  ```

startcbd

- To start the **startcbd** daemon to support SAP Release 3.1 System TST after you have:
  - Configured Infoprint Manager as an OMS in TST
  - Created a CPIC user for the **sapcbd** daemon
  - Identified which instance and client you want the **startcbd** to log onto

  Then you would enter:

  ```
  startcbd TST ibmbtt15 15 ibm 030 ipmpass EN 31h
  ```

stopcbd Utility: Stops the SAP Callback Daemon

Syntax

stopcbd *SAPSystemName*

Description

Use the **stopcbd** utility to stop the **sapcbd** daemon or SAP Callback daemon for an SAP system and stop its monitor.

Arguments

The **stopcbd** utility uses the following argument:

SAPSystemName
Specifies the three character ID of the SAP system that the **sapcbd** daemon is supporting. This is the specific **sapcbd** daemon to stop.

Examples

To stop or shutdown the **sapcbd** daemon for SAP System PRD, enter:

stopcbd PRD

stopcbd

Chapter 6. Infoprint Transform Commands

This chapter describes the following Infoprint transform commands:

Transform Name	AIX	NT and 2000
"db2afp Command: Transforms DBCS Data to AFP" on page 202	AIX	NT and 2000
"d2afp Command: Transforms ditroff Data to AFP in Infoprint Manager for AIX" on page 206	AIX	N/A
"gif2afp Command: Transforms GIF Data to AFP in Infoprint Manager for AIX" on page 209	AIX	N/A
"jpeg2afp Command: Transforms JPEG Data to AFP in Infoprint Manager for AIX" on page 223	AIX	N/A
"line2afp Command: Transforms S/370 Line Data and ASCII Data to AFP" on page 236	AIX	NT and 2000
"pcl2afp Command: Transforms PCL Data to AFP" on page 261	AIX	NT and 2000
"pdf2afp and ps2afp Transforms: Transform PDF or PostScript Data to AFP" on page 284	AIX	NT and 2000
"sap2afp Command: Transforms SAP OTF or ABAP Data to AFP in Infoprint Manager for AIX" on page 299	AIX	N/A
"tiff2afp Command: Transforms TIFF Data to AFP in Infoprint Manager for AIX" on page 310	AIX	N/A

Note: Infoprint invokes the appropriate transform automatically whenever you print a DBCS ASCII, DBCS EUC, ditroff, GIF, JPEG, line data, PCL, PDF, PostScript, SAP, or TIFF job on a PSF physical printer. You can pass options to these transforms using the **other-transform-options** document attribute on the Infoprint **pdpr** command or the **-o** flag of the AIX print commands (**enq**, **lp**, and **qprt**) and the Infoprint **lprafp** command.

For more information, see "Attributes for Documents and Default Documents" on page 449, "pdpr Command: Submits Jobs" on page 63, "lprafp Command: Submits Remote Jobs in Infoprint Manager for AIX" on page 15, or "Chapter 3. The -o Flag for AIX Print Commands" on page 103.

db2afp Command: Transforms DBCS Data to AFP

Syntax

db2afp [**-o** *-OutputFile*] [**-l** {**ja** | **ch** | **ko**}] [**-e**] [*InputFile*]

Description

Use the **db2afp** command to transform either a DBCS ASCII or an EUC file into an AFP data stream file so that you can print the file on an Infoprint printer.

The **db2afp** command can transform input files that use the following code pages:
- Japanese PC (code page number 932)
- Japanese EUC
- Traditional Chinese PC (code page number 938 and 950 for AIX)
- Traditional Chinese PC (code page number 950 for NT)
- Traditional Chinese EUC
- Korean EUC

You can run **db2afp** manually if you want to transform a DBCS ASCII or EUC file into an AFP data stream file without printing it immediately.

The PSF DSS automatically runs the **db2afp** command whenever:
- Infoprint identifies the format of a document in a print job as DBCS ASCII or EUC.
- You specify **document-format=dbcs-ascii** with the **-x** flag or in an attributes file on the **pdpr** command.

   Note: For EUC format, specify **document-format=dbcs-ascii** and an EUC code page as the value of the **default-character-mapping** attribute.
- You submit a DBCS ASCII or EUC print job and request **-odatatype=dbcsascii** with one of the AIX print commands (**enq**, **lp**, and **qprt**) or with the **lprafp** command
- You select an attributes file that shows **dbcs-ascii** in the `Type of Data in the Print File` field, using the Infoprint SMIT panels.

If you do not specify an input file, the **db2afp** command defaults to standard input. If no output file is specified, the **db2afp** command defaults to standard output.

Limitations

The **db2afp** command generates an AFP data stream file with double-byte character set (DBCS) font references. These DBCS fonts (for Japanese, Traditional Chinese, and Korean) are not part of Infoprint and are sold separately.

Flags and Values

You can specify these flags and values
- With the **db2afp** command
- With the **enq -o**, **lp -o**, **qprt -o**, or **lprafp** commands
- With the **pdpr** command, using the **other-transform-options** attribute or equivalent attributes on the command line or in an attributes file

   Note: If you are migrating from PSF for AIX, see "Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents" on page 691 for a table of

attributes equivalent to the job script keywords that you used to use to specify flags and values for transforms.

-o *OutputFile*

Specifies the name of the AFP data stream output file generated by the transform. If you do not specify the **-o** flag, Infoprint writes the result to standard output.

You cannot use **-o***OutputFile* on the command line with the **enq**, **lp**, **qprt**, or **lprafp** commands. You can only use **-o***OutputFile* with the **db2afp** command, or with the **other-transform-options** attribute on the **pdpr** command.

This flag is equivalent to the **transform-output-file-name** document attribute on the **pdpr** command.

-l {japanese | chinese |korean}

Specifies the language to be used for the transform. The values are:

ja | japanese

The input file is in Japanese.

ch | chinese

The input file is in Traditional Chinese for AIX (code page 938).

c2 The input file is in Traditional Chinese for NT/2000 (code page 950).

ko | korean

The input file is in Korean.

> **Note:** If you specify **-l ko**, you must also specify the **-e** flag. The **db2afp** command supports only Korean EUC, not Korean DBCS ASCII.

If you do not specify **-l** or **-e** on the command line, the **db2afp** command uses the value that has previously been set and exported with the **PSFDBLANG** environment variable. The **PSFDBLANG** environment variable can be set to one of the following:

j Japanese (code page 932)

je Japanese EUC

c Traditional Chinese (code page 938)

t Traditional Chinese (code page 950)

ce Traditional Chinese EUC

ke Korean EUC

With Infoprint Manager for AIX, if you are unsure about the value to use with the **PSFDBLANG** environment variable, enter the following command:

```
echo $LANG
```

The command displays one of the following output values:

Ja_JP Japanese DBCS ASCII

ja_JP Japanese EUC

zh_TW

Traditional Chinese EUC

ko_KR

Korean EUC

With Infoprint Manager for Windows NT and Windows 2000, if you are unsure about the value to use with the **PSFDBLANG** environment variable, enter the following at a Windows command prompt:

```
chcp
```

db2afp

| The command displays the following information:
| `Active code page: nnn`

| where *nnn* is the code page number 932, 938, 950.

Notes:

1. A Traditional Chinese DBCS ASCII locale does not exist.

   If you specify either **-l** or **-e** on the command line, the **db2afp** command ignores the value set in the **PSFDBLANG** environment variable. If the **PSFDBLANG** value has not been set and you do not specify **-l** (and **-e** for EUC files), the transform will not work.

2. The value set in the **PSFDBLANG** environment variable is used when you submit a DBCS ASCII or EUC print job with the AIX print commands (**enq**, **lp**, or **qprt**), with the **pdpr** or **lprafp** command, or in the SMIT `Submit an Infoprint Job` panel.

3. This flag and the **-e** flag, used together, are equivalent to the **default-character-mapping** document attribute on the **pdpr** command.

-e Tells the **db2afp** command to use the EUC code page when converting the input file into an AFP data stream. If the input file is in the Korean language, you should always use **-e**. If the input file is in Traditional Chinese or Japanese, you should use **-e** if your input data is in EUC format.

This flag and the **-l** flag, used together, are equivalent to the **default-character-mapping** document attribute on the **pdpr** command.

InputFile
Specifies the DBCS ASCII or EUC file that will be transformed into AFP. If you do not specify an input file, the **db2afp** command uses standard input.

Examples

- To transform the Japanese DBCS ASCII file `dbfile` into an AFP data stream file called `dbfile.afp`, enter:

  `db2afp -o dbfile.afp -l ja dbfile`

  The file is transformed, but not printed.

  Note: You could also use the following command to perform a similar task, except that the output is sent to the printer:

  `pdpr -p servC-lp -x "default-character-mapping=ibm-932" dbfile`

- To transform the Korean EUC file `korefile` into an AFP data stream file called `korefile.afp`, enter:

  `db2afp -o korefile.afp -l ko -e korefile`

  The file is transformed, but not printed.

  Note: You could also use the following command to transform the file, then print it:

  `pdpr -p servC-lp -x "other-transform-options='-e -l ko'" korefile`

  or

  `pdpr -p servC-lp -x "default-character-mapping=ibm-euckr" korefile`

- With Infoprint Manager for AIX, to transform a Traditional Chinese DBCS ASCII file named `memo.tc` into an AFP file and print it on an Infoprint printer named `servC-lp`, enter:

```
pdpr -X chinese.X -p servC-lp memo.tc
```

In this example, the attributes file named `chinese.X` contains the following settings:

```
document-format=dbcs-ascii
default-character-mapping=ibm-938
```

With Infoprint Manager for AIX, to set the `db2afp` command to default to Korean EUC, enter the following lines in the **.profile** file (Bourne shell or Korn shell) or the **.cshrc** file (C shell) in your home directory:

```
export PSFDBLANG=ke
```

The **db2afp** command now uses Korean EUC as long as the **PSFDBLANG** environment variable is set and exported, and **-l** or **-e** are not specified on the command line. So, to transform the Korean EUC file `korefile` into an AFP data stream file called `korefile.afp`, you now can enter:

```
db2afp -o korefile.afp korefile
```

Similarly, you could now use the following command to transform the Korean EUC file, then print it:

```
enq -PservC-lp -o datatype=dbcsascii korefile
```

Files

For Infoprint Manager for AIX, use the following locations:

/usr/lpp/psf/bin/db2afp
> Transform program

/usr/lpp/psf/db2afp/afpdfont.rc
> AFP font mapping file used by the **db2afp** command

/usr/lib/nls/loc/iconv/_ConverterName_
> Code page translation files (which contains mappings from the input code page to the output code page)

For Infoprint Manager for Windows NT and Windows 2000, use the following locations:

_install_path_**\bin\db2afp.exe**
> Transform program

_install_path_**\bin\afpdfont.rc**
> AFP font mapping file used by the **db2afp** command

_install_path_**\iconv**_ConverterName_
> Code page translation files (which contains mappings from the input code page to the output code page)

d2afp Command: Transforms ditroff Data to AFP in Infoprint Manager for AIX

Syntax

d2afp [**-o** *OutputFile*] [*InputFile*]

Description

The **d2afp** command transforms a ditroff data stream file preformatted for an AFP device into an AFP data stream file so that you can print the file on an Infoprint printer.

The process to transform troff files into AFP data stream files has two steps:

1. The troff file is first formatted by specifying the **troff -Tafp** command. This formatting step produces a device-independent troff (ditroff) file.

   Notes:

   a. Use the **-Tafp** flag and value; otherwise, you cannot transform the ditroff file with the **d2afp** command. If you do not want to specify the **-Tafp** flag and value each time you use the **troff** command, you can set the **TYPESETTER** environment variable to **afp.** To do this, enter the following at the AIX command-line prompt or add this line to your **.profile** file (Bourne shell or Korn shell) or the **.cshrc** file (C shell) in your home directory:

      ```
      export TYPESETTER=afp
      ```

   b. Although you cannot use the **d2afp** command to transform ditroff files formatted with **troff -Tpsc** or **troff -Thplj**, you can print them. Use the **psc** or **hplj** command to convert the file to PostScript or PCL format. Then use **ps2afp** or **pcl2afp** to transform it.

2. The ditroff file is then transformed into an AFP data stream file with the **d2afp** command.

The PSF DSS automatically runs the **d2afp** command whenever:

* Infoprint identifies the format of a document in a print job as ditroff.
* You specify **document-format=ditroff** with the **-x** flag or in an attributes file submitted with the **pdpr** command.
* You submit a ditroff print job and include the **-odatatype=ditroff** flag and keyword-value pair with one of the AIX print commands (**enq**, **lp**, and **qprt**) or with the **lprafp** command.
* You select an attributes file that has **ditroff** in the `Type of Data in Print File` field when using the Infoprint SMIT panels to submit a print job.

Limitations

The **d2afp** command limits the number of fonts that a ditroff file can load, change, or map. The following shows the maximum number of fonts for specific conditions:
ditroff Fonts

      Condition
40   Loaded at one time
127   Point size or font changes on one page
200   ditroff fonts mapped to AFP fonts

If your troff file has graphics, you might use a different method to print ditroff files. If one of the following conditions applies:

- Your PPDS or PCL printer does not support the PCL5 or PCL5C data streams.
- Your channel-attached printer does not have the Advanced Function Image and Graphics feature installed.

> **Note:** TCP/IP-attached IPDS printers print troff files with graphics; therefore, you do not need to use other procedures.

use this procedure to print troff files containing graphics:

1. Convert the troff file to ditroff format using the **troff -Thplj** command.
2. Convert the ditroff file to PCL format using the **hplj** command.
3. Submit the PCL file to print. Infoprint automatically invokes the **pcl2afp** command to convert the PCL file to AFP format.

Flags and Values

You can specify the *InputFile* and the **-o** *OutputFile* values in any order.

InputFile
> Specifies the name of the input file to transform. This input file must be a ditroff file; that is, a troff file formatted for an AFP printer device using the **troff -Tafp** command.
>
> If you do not specify an input file, the command uses standard input. The value for the input file is any valid AIX file name.

-o *OutputFile*
> Specifies the name of the AFP data stream output file generated by the transform. If you do not specify the **-o** flag, the output generated goes to standard output. The value for the output file is any valid AIX file name.

Examples

- To transform the ditroff file `myfile` into an AFP data stream file called `myfile.afp`, enter:

  ```
  d2afp myfile -o myfile.afp
  ```

- To create an AFP data stream output file from the troff file `doc.trf` and print the output file using the Infoprint logical printer `servC-lp`, enter:

  ```
  troff -Tafp doc.trf | d2afp | pdpr -p servC-lp
  ```

  In this example, the `troff` command searches the `/usr/lib/font/devafp` directory for the troff font and printer description files. The **d2afp** command also uses files in this directory.

  In the preceding example, the **d2afp** transform runs on the local AIX system whether the printer, `servC-lp` is a local or remote printer.

  > **Note:** You could also use the following command to perform the same function:
  >
  > ```
  > troff -Tafp doc.trf | pdpr -p servC-lp -odatatype=ditroff
  > ```

  In this case, if the printer, `servC-lp`, is local, the **d2afp** transform runs on the local AIX system; however, if the printer is remote, the **d2afp** transform runs on the remote AIX system.

- To print the ditroff file `report` on an Infoprint printer named `servD-lp`, enter:

  ```
  pdpr -X ditroff.X report
  ```

  In this example, the attributes file named `ditroff.X` contains the following settings:

d2afp

```
document-format=ditroff
printer-name-requested=servD-lp
```

Files

/usr/lpp/psf/bin/d2afp
> Transform program

/usr/lib/font/devafp/devafp.fontmap
> AFP font mapping file used by the **d2afp** command to map troff fonts to AFP code pages and AFP character sets

/usr/lib/font/devafp/*.d2afp
> Binary versions of the troff font and description files used by the **d2afp** command

/usr/lpp/psf/fontlib
> AFP font resource directory, which includes AFP character sets and AFP code pages for ditroff

/usr/lib/font/devafp/README.d2afp
> File that has useful information about AFP characters for troff and ditroff files

Other files associated with the **troff** command are described in *AIX for RS/6000 Commands Reference*.

gif2afp Command: Transforms GIF Data to AFP in Infoprint Manager for AIX

Syntax

> **gif2afp** [**-a** *ImageType*] [**-alg** *ProcessingAlgorithms*]
> [**-calib** *calibration*] [**-C** *ConfigurationFile*]
> [**-clean** *cleanup*] [**-cmp** *compression*]
> [**-crop** *CropFactors*] [**-fit** {**trim** | **scale**}]
> [**-gcorr** *GrayscaleMappingTable*] [**-ink** *color*] [**-inv**]
> [**-j** *ScanOffsetFileName*] [**-l** *ImageLength*]
> [**-M** *MemoryBound*] [**-ms** *space*] [**-msf** *SpaceFraction*]
> [**-o** *OutputFile*] [**-outbits** *NumberOfOutputBits*]
> [**-outcolor** *OutputColorModel*] [**-p** *PageRange*]
> [**-pagetype** *PageType*] [**-paper** *PaperSize*]
> [**-r** *resolution*] [**-respath** *ResourceSearchPath*]
> [**-rot** *rotation*] [**-scale** *ImageSize*]
> [**-sgcorr** *ScannerCorrection*]
> [**-sniff** | **-nosniff**] [**-term** | **-noterm**]
> [**-thresh** *HalftoneFile*] [**-v** | **-nov**] [**-w** *ImageWidth*]
> [**-x** *LeftMargin*] [**-y** *TopMargin*] [**-z**]
> [[*file* | *directory* | **-f** *FileList* | @*FileList*]...]

Description

The **gif2afp** command transforms a GIF (Graphical Interchange Format) data stream into an AFP (MO:DCA-P) or PostScript Level 2 data stream file.

The transform can process GIF images, including bilevel, grayscale and color images. The output can be bilevel (IM1 or IOCA FS10), 4-bit or 8-bit grayscale, or 24-bit YCbCr color (IOCA FS11). The transform automatically uses halftoning to convert the grayscale and color images to bilevel.

Automatic Invocation

The PSF DSS automatically invokes the **gif2afp** transform command whenever you submit a GIF file for printing. You can pass options to **gif2afp** using the **other-transform-options** attribute on the **pdpr** command or the **-o** flag of the AIX print commands and the **lprafp** command.

Input and Output

gif2afp can process either standard input, or multiple files specified on the command line. If no input file is specified, **stdin** is assumed. Only a single GIF file should be submitted via **stdin**. If multiple GIF files are concatenated via standard input, all except the first one are ignored.

If an input file is specified on the command line, it can be either a GIF file, a directory, or a file list (**-f** and @ prefixes). Multiple input file specifications are allowed. The transform processes each file in the order in which it was specified on the command line. If the **-z** option is specified, a list of file names to be processed is also submitted via standard input. The files on the list are processed as if the list were given via the **-f** option on the same place on the command line as **-z**.

gif2afp

If the file name points to a directory, **gif2afp** processes every file in that directory. The files are processed in the order they would be shown using the **ls -a** command. Directory search is not recursive, that is, the subdirectories are not searched.

If the file name is preceded by the **-f** option or the at sign (**@**), **gif2afp** assumes that the file contains the list of GIF files to be processed. Each of the files in the list is processed in the order it was listed.

If a GIF file has the extension **.gif** or **.GIF**, this extension need not be given explicitly. **gif2afp** first tries to open the file as specified and, if unsuccessful, tries to append the extensions **.gif** and **.GIF** in turn.

For example, suppose that:
- The directory `tFiles` contains the files `file1.gif`, `file2.gif`, `file3.gif`, and `file4.gif` and nothing else.
- The file `flist` in the current directory contains the two file names `tFiles/file2.gif` and `tFiles/file3.gif`. The names listed in the file list may have their extensions omitted.
- The file `flist2` contains the file name `tFiles/file4`. Again, the names listed in the file list may have their extensions omitted.

In order to process files `file1.gif`, `file2.gif`, `file3.gif`, and `file4.gif`, any of the following invocations of **gif2afp** would work:

```
gif2afp tFiles/file1.gif tFiles/file2.gif tFiles/file3.gif tFiles/file4.gif
gif2afp tFiles/file1 tFiles/file2 tFiles/file3 tFiles/file4
gif2afp tFiles/file*.gif
gif2afp tFiles
gif2afp tFiles/file1 -fflist tFiles/file4
gif2afp tFiles/file1 -f flist tFiles/file4
gif2afp tFiles/file1 -f flist -f flist2
gif2afp tFiles/file1 @flist @flist2
```

The file list files allow the display text to be added for each file. A display text is any text starting with the pound character (**#**) and extending to the end of the line. The display text should follow the file name, and can extend over several lines, up to 2048 characters long. The initial **#** character on each line is discarded. If a display text is present for a file name, that text is displayed in the status and error messages instead of the file name. This is useful if the **gif2afp** is invoked using temporary files whose names are meaningless to the user. Any display text before the first file name is treated as comment and discarded. Display text is allowed also if the **-z** option is used to submit the file list via standard input.

GIF files may contain multiple images. The **gif2afp** transform can process and output all the images in the file, subject to the values given in the **-p** option.

The output file name can be either specified explicitly via the **-o** option, or derived from the input file name. If multiple input files have been specified, the default output file is standard output. If a single input file is given and the output file is not specified explicitly, the transform strips the **.gif** or **.gif** extension from the input file name (if one is present), and appends the **.afp** extension for AFP output, or the **.ps** extension for PostScript output, to get the output file name.

To disable automatic output file name generation and force the default output stream to be the standard output in all cases, set the environment variable

GIF2AFP_o to **-** or **stdout**, or, alternatively, put the line **o=-** or **o=stdout** into the configuration file and invoke that configuration file using the **-C** option or the **GIF2AFP_C** environment variable.

For example, all the following commands:

```
gif2afp myfile
gif2afp myfile.gif
gif2afp myfile -o myfile.afp
```

have `myfile.afp` as the output file. Note that there is no requirement for the explicitly specified input and output files to have **.gif** and **.afp** extensions. To process GIF file `foo.bar` into an AFP file `foo.bar2`, invoke the transform using

```
gif2afp foo.bar -o foo.bar2
```

The output data stream is MODCA-P IS/1, MODCAP-P IS/2, or PostScript Level 2. IS/1 images are bilevel and are encoded as IOCA Function Set 10 or IM1. IM1 images are uncompressed. IOCA FS10 output images can be either uncompressed, or compressed via one of the four available compression algorithms (see the **-cmp** option). The default is ITU-T T.6 Group 4 compression. IM1 images are always uncompressed. IS/2 images can be either bilevel, 4-bit or 8-bit grayscale, or 24 bit YCbCr color. Multibit images are encoded as IOCA Function Set 11. Be aware that the only product that supports IOCA FS11 images is the AFP Workbench, that is, grayscale and color AFP images are not currently supported by any printer.

PostScript Level 2 images can be uncompressed or ITU-T T.6 Group 4 bilevel, uncompressed 8-bit grayscale or uncompressed 24-bit RGB color. By default, the transform leaves scaling and halftoning to the printer (that is, color GIF images are output as 24-bit RGB color images).

Errors and Error Recovery

gif2afp divides errors into fatal and non-fatal. The fatal error categories are the following:

- Errors in the user-specified parameters, either in the environment variables, the configuration file, or the command line arguments. These errors include unrecognized options, invalid values for parameters, or inability to open the configuration file or the output file.
- Out of memory errors. The requested memory is larger than the memory specified using the **-M** option or the dynamic memory allocation has failed.
- Disk space errors. The transform guards against trying to write to a full file system. See the **-ms** and **-msf** options for setting the minimum free disk space requirements. If the file system is full, the transform deletes the partial output file before terminating.
- Internal errors.

In the case of a fatal error, the last output page might not be complete.

Errors encountered in the GIF files are non-fatal and **gif2afp** attempts to recover from them. These errors include not being able to open an input file, an input file not being a GIF file, or an input file containing features that cannot be processed. If the transform fails to open 15 or more input files, it assumes an error in the parameter list (for example, **-f** was used with a file that does not contain a file list) and terminates.

If an error is encountered in a file, the transform attempts to recover with the next image in the file. If such recovery is not possible, **gif2afp** attempts to recover with the next input file. In both cases, a warning message is issued. Errors and warnings are output to standard error.

For example, let a directory `tFiles` contain files `file1.gif`, `file1.txt`, `file2.gif` and `file3.gif`, where `file1.txt` is an ASCII file. Invoking the transform via

`gif2afp tFiles`

processes the bilevel images in all three GIF files correctly. A warning is issued that `file1.txt` is not a GIF file.

Non-fatal errors can be made fatal by using the option **-term**, or the corresponding environment variable or configuration file entry. If **-term** is set, the transform terminates in error if it encounters an error in the GIF data stream.

Data Transformations

If the input image is grayscale or color, and the output image type is bilevel (IOCA FS10 or IM1), the transform internally scales the image to the desired size, then uses a halftoning algorithm (ordered dither, the default, or Floyd-Steinberg) to convert it to bilevel. In converting the image to bilevel, the characteristics of the output device such as dot shape and dot gain must be taken into consideration. The internal grayscale mapping table has been optimized for the 600-pel IBM Infoprint 4000 laser printer. The **-gcorr** option can be used to specify a different mapping of gray levels.

For very light or very dark images, the halftoning algorithms can be automatically recalibrated to preserve details that would be lost using the default calibration. See the **-alg** option for more information.

To maintain the image quality, scaling must be done prior to halftoning. Halftoning algorithm is very computation-intensive. Unless the images are small, **gif2afp** cannot process the color images fast enough to feed even a slow printer.

The size and position of the output image depend on several factors:
* The size specified to the transform
* The form map specified at print time
* The forms and options loaded in the printer

If the image is too large to to fit on the page, it is trimmed to size by default. Use the **-fit scale** option to instruct the printer to scale the image to the paper size. If the paper size is not specified explicitly via the **-paper** option, the paper size defaults to US letter size (8.5 by 11 inches). If the image is larger than this, the paper dimensions are increased as necessary. If the paper size is been specified explicitly, it is not increased if the image does not fit on paper. The options **-l** and **-w** have the same effect as **-paper**.

The size of the actual image (as opposed to the paper size) is controlled by the **-scale** option. You can either specify a value of **orig** for the **-scale** option or give an actual size. If you specify **orig**, the output image is the same size as the input image. If you specify **-scale** with an actual size, the output image is scaled to the desired size. You can also specify a percentage for enlargement or reduction.

Even if you specify **-scale orig**, the image may still have to be scaled if the input file specifies non-square pixels. By default, the transform leaves scaling to the printer. The exceptions are:

- Images that are being halftoned, which are always scaled in the transform,
- Images that have different resolutions in X and Y directions (non-square pixels)

Note: Because GIF files do not specify resolutions, the image is assumed to have the resolution of the output device.

You can use the **-alg** option to instruct the transform to perform internal image scaling. Options **-alg**, **-clean**, and **-ink** choose and configure various scaling algorithms.

GIF images are compressed using the LZW algorithm. Because LZW compression is not part of any current IOCA function set, **gif2afp** always reads and decompresses the image.

Parameters

gif2afp behavior is governed by many parameters. The parameters are set by the following hierarchy (least significant first):
- Internal defaults
- Environment variables
- Configuration file
- Command-line arguments

Command Line Arguments
Note the following points regarding the command line arguments for the **gif2afp** transform:

- Options and input file names can appear on the command line in any order.
- When you run **gif2afp** as a standalone transform, the blank between option and value is optional (for example, both `-inkblack` and `-ink black` are valid).
- When you use the **-o** flag of the **enq**, **lp**, **qprt**, or **lprafp** commands to pass options to **gif2afp**, no blank is permitted between option and value is optional (for example, `-o-inkblack` is valid, but `-o -ink black` is not).
- When you use the **other-transform-options** attribute on the **pdpr** command to pass options to **gif2afp**, any string containing a blank must be surrounded by single quotes (for example, both `other-transform-options=-inkblack` and `other-transform-options='-ink black'` are valid).
- All values except file names are case-insensitive.
- If an option is specified multiple times, the last specification remains in force.
- If multiple configuration file names are given, they are processed in order.

Configuration File
The configuration file has entries of the form *option=value*, where each pair must reside on a separate line. Options and other syntax are the same as for the command line arguments and the option names are the same. Input files and configuration files cannot be specified in the configuration file (that is, nested configuration files are not supported). In the case of options without values (for example, **-inv**), the equals sign must be present.

Some command line options, for example, **-calib**, cannot be used in the configuration file or as environment variables. Options available only on the command line are noted as such in their descriptions.

gif2afp

If you do not specify a configuration file on the command line with the **-C** option, the transform checks for the existence of the default configuration file, **/usr/lpp/psf/gif2afp/gif2afp.cfg**. If this file exists, the transform uses it as the configuration file.

The following is an example of a valid configuration file:

```
scale = letter
r= 300
o = -
inv=
alg=afp
```

Note that the spaces around the equals sign (**=**) are optional. In this example, the option-value pair **o = -** means that the default output file is the standard output. Output file name computation has been disabled.

Environment Variables

Environment variables have the form **GIF2AFP_***option*, where *option* is the same as on the command line and the configuration file.

Some command line options, for example, **-calib**, cannot be used in the configuration file or as environment variables. Options available only on the command line are noted as such in their descriptions.

For example, to achieve the same effect as the configuration file in the last example, the following statements have to be executed in the calling shell:

```
export GIF2AFP_scale=letter
export GIF2AFP_r=300
export GIF2AFP_o=-
export GIF2AFP_inv=" "
export GIF2AFP_alg=afp
```

There must be some value set for each desired option. For options that do not take a value, specify a blank surrounded by double quotes, for example:

```
export GIF2AFP_inv=" "    correct
export GIF2AFP_inv=       has no effect
```

Resource Search Path

For resource files, such as scan offset files and grayscale correction files, the transform searches the current directory by default. You can use the **-respath** option to specify a list of directories to be searched for such files. This resource path does not apply to the configuration file.

Limitations

- Timing data from GIF animation sequences is ignored.
- Animation sequences are processed as unrelated images.

Acknowledgments

This software is partially based on the Independent JPEG Group's JPEG compression and decompression code.

Options and Values

@FileList

Specifies a name of a file that contains a list of files to be processed by the transform. If the @ option is present, the output file defaults to standard

output, even if the list of files contains only a single entry. Multiple @ options are allowed. Also see the **-f** and **-z** options. The @ is not preceded by the dash, and is implemented to maintain compatibility with the **ps2afp** transform.

-a {<u>ioca</u> | ioca10 | ioca11 | im1 | PS.2}

-a {IO1_G4 | IM1 | IO1 | IO1_MMR | PSEG_IO1_G4 | PSEG_IM1 | PSEG_IO1 | PSEG_IO1_MMR | OVLY_IO1_G4 | OVLY_IM1 | OVLY_IO1 | OVLY_IO1_MMR}

Choice of the output image type. The first syntax chooses between the IOCA FS 10 (**ioca**, **ioca10**), IOCA FS11 (**ioca11**), IM1, and PostScript Level 2 (**PS.2**) output. IOCA FS10 and IM1 yield bilevel images, while IOCA FS11 results in 4-bit or 8-bit gray or 24-bit color output (see option **-outbits**). Note that presently the only product that supports IOCA FS11 is the AFP Workbench. The output compression algorithm is set via the option **-cmp**. To set the page type (page, overlay, page segment or object), use the **-pagetype** option.

The second syntax is to maintain compatibility with the **ps2afp** transform, and sets the image type (**IO1** for IOCA FS10 or **IM1** for IM1 output), compression (**G4** for Group 4 or **MMR** for Group 3), and page type (**PSEG** for page segment or **OVLY** for overlay). If **PSEG** or **OVLY** is not specified, the output is a printable page. If no compression algorithm is specified, the output is not compressed. The second syntax cannot be used for IOCA FS11 output.

Some older printers do not support IOCA images. In such cases, the IM1 output type should be chosen. IM1 images are uncompressed and thus use more space. The processing might also take longer since the IM1 image cannot be scaled by the printer and so internal scaling algorithms must be used. See option **-alg**.

The default is **ioca** for IOCA FS10 output compressed via Group 4 algorithm.

This option is similar to the **image-out-format** document attribute on the **pdpr** command.

-alg {<u>afp</u> | alg1 | alg2 | <u>alg3</u>}

-alg {<u>htod1</u> | htfs}

-alg htcal1

Choice of the scaling and halftoning algorithms. You can specify multiple choices, separated by commas, for one **-alg** option. The effect is the same as specifying multiple **-alg** options. For example, `-alg htfs,htcal` is equivalent to `-alg htfs -alg htcal`.

The scaling algorithms are:

- If **afp** is chosen, the scaling is done using the default algorithm in the printer. This makes the transform much faster. If the image must be reduced, however, this algorithm may drop some information from the image, such as thin lines.

- **alg1** activates the internal scaling algorithm to scale the image explicitly to the specified size. This algorithm is guaranteed not to discard any ink. "White space" in the image, however, may be lost (that is, features close to one another might merge). This algorithm makes the transform run

longer, and might occasionally make for a "dirty" image, since the occasional "noise pixels" in the scanned images tend to be amplified.

- **alg2** activates the more flexible version of **alg1**. If this algorithm is selected, option **-clean** can be used to specify the amount of ink "cleanup" to be performed. Option **-clean 0.0** makes the algorithm **alg2** perform like **alg1** (albeit more slowly). Increasing the value specified in **-clean** discards more and more ink, until **-clean 1.0** results in a blank page.

- **alg3** activates a scaling algorithm that works by deleting or duplicating rows and columns in the image. This is a fast general-purpose algorithm.

For bilevel images, the default is **afp** if the output image type is IOCA and **alg3** if the output image type is IM1. For color images with bilevel output, the scaling is always done prior to the halftoning algorithm. If a grayscale or color output is chosen (**-a ioca11**), this option is ignored and the algorithm is set to **afp**.

The halftoning algorithms are:

- **htod1** uses an ordered dither with a screen derived from the value of the **-thresh** option. The default is an 85 line per inch screen.

- **htfs** uses the Floyd-Steinberg algorithm.

- **htcal1** recalibrates the halftoning algorithm for each image. **htcal1** forces the transform to read the whole image into memory and requires an additional pass through the image. It should be used only for very light or very dark images.

The default is **htod1**. Each halftoning algorithm uses a different internal default calibration curve. If the automatic calibration is turned on, a still different set of calibration curves are used.

See options **-clean**, **-gcorr**, **-ink**, **-paper**, **-scale**, **-thresh**, **-l**, **-w**, **-x**, and **-y**.

-calib scanner

-calib {scanner | printer | patch | patchr},_name1_**...**
Transform calibration for the scanner or printer. If **scanner** is specified, **-sgcorr** must be present. If **printer** is specified, **-sgcorr** may or may not be present. If **patch** or **patchr** is specified, **-sgcorr** (if present) is ignored. Detailed explanation of the calibration process is beyond the scope of this entry.

You cannot specify **-calib** in the configuration file or as an environment variable.

-C _ConfigurationFileName_
The name of a configuration file containing option-value pairs. If multiple **-C** options are given on the command line, they are processed in order. Specifying the configuration file on the command line overrides any specification done via the **GIF2AFP_C** environment variable.

The default configuration file is **/usr/lpp/psf/gif2afp/gif2afp.cfg**.

-clean {0.5 | _x.xxx_**}**
The internal scaling algorithm **alg2** allows for variable thresholding. The scaled pixel is declared painted if the fraction of its area greater than the threshold is painted in the original image. The value _x.xxx_ is a real number between zero and 1 inclusive and gives this threshold.

If the option **-clean 0.0** is issued, **alg2** behaves like **alg1** and turns on a pixel as long as any part of the pixel has been painted in the original image. **-clean 1.0** results in a blank image because the output pixels are never painted.

Note that setting **-clean 0.95** and **0.9999999** turns on the pixels that had essentially all the area painted in the original picture. Depending on the data, most of the image will probably be preserved. Increasing **-clean** by a small amount to **1.0** erases the image. If the scaling algorithm is not **alg2**, this option is ignored. The default is **-clean 0.5**.

-cmp {none | mh | mmr | g3 | <u>g4</u> | jpeg}

Choice of the output image compression algorithm:

none   Uncompressed output

mh   ITU-T T.4 G3 Modified Huffman

mmr   IBM Modified Modified Read

g3   ITU-T T.4 G3 Modified Read

<u>g4</u>   ITU-T T.6 G4

jpeg   JPEG non-differential Huffman coding with baseline DCT. The output image data should be compressed to reduce the file sizes and increase the printing speed.

The default compression is ITU-T T.6 Group 4 for bilevel images and no compression for grayscale or color images. Note that some printers may not support Group 4 compression algorithm and require using the **-cmp** option to choose a different one. The JPEG algorithm can compress only 8-bit grayscale and 24-bit color images. 4-bit grayscale images cannot be compressed.

-crop *t,b,l,r*[**i** | **m** | **p** | <u>**d**</u>]

Image cropping. *t,b,l,r* specify how much should be cropped from the image top, bottom, left edge, and right edge. The numbers are floating point and can be either positive or negative. Negative numbers indicate that a blank space should be inserted. The units are inches, millimeters, points, and dots (pels), with the default being dots. The cropping is specified in the context of the output page, to that "top" means the top of the output page and so on, regardless of the **-rot** option. To crop, the transform will enlarge the image by the amount to be cropped, then crop the specified amount by manipulating the actual bitmap. The resulting image has the size as specified by the explicit (or implicit) **-scale** option. See also option **-j**.

If **-fit trim** is specified, the right and the bottom edge of the image are not cropped. Instead, the image grows as necessary. Because **-fit trim** causes the output data stream to contain the "position and trim" specification, the printer discards any extra image.

-f *FileList*

Specifies the name of a file that contains a list of files to be processed by the transform. If the **-f** option is present, the output file defaults to standard output, even if the list of files contains only a single entry. Multiple **-f** options are allowed. See also options **@** and **-z**.

-fit {<u>trim</u> | scale}

Determines whether the printer behavior will be position-and-trim or scale-to-fit if the image is too large to fit on the paper. The default is **trim**.

This option is equivalent to the **image-fit** document attribute on the **pdpr** command.

-gcorr *FileName*

Specifies a file with grayscale mapping table for halftoning of the grayscale and color images to bilevel for output. The mapping table must be provided to compensate for the printing characteristics of the particular output device and paper type, such as dot gain. This file must contain either:

- 256 real numbers, one for each level of gray in the 8-bit grayscale image
- The PostScript **settransfer** operator

The algorithm converts every image to 8-bit grayscale before applying the halftoning algorithm. The default internal mapping table has been optimized for the 600-pel IBM Infoprint 4000 laser printer. You shouldn't change this unless you know what you are doing. See also options **-alg** and **-thresh**. PostScript code submitted via the **-thresh** option can have the same effect as **-gcorr**.

-ink {black | white}

This option is used only with scaling algorithm **alg1** or **alg2**. The GIF images can be either black on white or white on black. The internal scaling algorithm must know which, because "ink" is preserved at the expense of "non-ink" The default value, "black", indicates that the image is black on white.

If the option **-inv** is used to print the reversed image, the inversion is done as the data is read by the transform, before any processing is done. The black or white must thus be specified in the terms of the printed image, not in the terms of the input GIF image.

-inv   Reverses the image. Areas that are black in the original image become white and vice versa. Note that the reversed image may be either black on white or white on black, depending on the original image.

-j *ScanOffsetFileName*

Sometimes input images must be shifted to get the desired positioning on the page. The scan offset file contains the directions for shifting. The file has the format of

```
[attribute]
values
    .
    .
    .
values
[attribute]
values
    .
    .
    .
values
```

Currently, the recognized attributes are **[Units]** (values **millimeters**, **mm**, **inches**, **in**, **points**, **dots**, **pels**) **[Page_Offset_Type]** (values **crop** or **grow**) and **[Page_Offsets]**. The values for page offsets are in the format *FileName*,**H***horiz*,**V***vert* Each entry refers to a file. The file names must be specified (or at least the leading comma must), but are currently ignored and the offset factors are applied to each file in turn. Note that the same factors are applied to each image in the file. The *horiz* and *vert* values are the amount that the image is to be shifted, in the horizontal and vertical direction. The positive directions are down and right (that is, the origin is in the left upper corner of the page). The default units are millimeters. Like the values for the **-crop** option, the shifts are specified in the output space context.

Extra spaces and blank lines are allowed. Unrecognized attributes and their values are ignored. See the sample file **shift.sample**.

If the image is moved left or up, part of the bitmap is removed. If the image is moved down or right, removal is governed by the value of the **[Page_Offset_Type]** attribute. If **crop** is chosen, the transform removes the requisite amount from the right and bottom edges of the bitmap. If **grow** is chosen, the transform does not remove any space. The bitmap grows and the trimming, if any, is left to the printer. If the **-fit trim** option (the default) is specified, **[Page_Offset_Type]** defaults to **grow**. For **-fit scale**, **[Page_Offset_Type]** defaults to **crop**.

-l {11i | *yyy.yy***[d | m | i | p]}**
Specifies the paper length. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. If the unit is dots, decimals (if any) are ignored. The default paper length is 11 inches. See options **-w** to set the paper width or **-paper** to set both dimensions at the same time.

-M {0 | nnn}
Limits the amount of memory available to **gif2afp**. *nnn* is the maximum amount of memory in kilobytes. A value of **0** means there is no memory limit. *nnn* can be set from **0** to the maximum value that AIX allows. The default is **0**.

-ms {10 | *nnn***}**
Requires that at least *nnn* kilobytes of disk space be available on the file system that contains the output file. This limit is enforced every time data is written to the output file. If the output is standard output, this option is ignored. The default is **10**. See option **-msf**.

-msf {0.1 | *x.xxx***}**
The number *x.xxx* is a real number between 0 and 1. It denotes the minimum space that must be left unused on the file system containing the output file. The space is given as a fraction of the total space in the file system. This limit is enforced every time data is written to the output file. If the output is standard output, this option is ignored. The default is **0.1**. See option **-ms**.

-nosniff
See [**-sniff** | **-nosniff**].

-noterm
See [**-term** | **-noterm**].

-nov See [**-v** | **-nov**].

-o *FileName*
Optional output file name. Specify **-** for standard output.

-outbits *NumberOfOutputBits*
Sets the number of bits per pel in output. This value must be **1**, **4**, **8**, or **24**. If the output image type is IOCA FS10 or IM1, the number of output bits is set to **1** and this option is ignored. For IOCA FS11 output, the default is **24**. Note that this number represents the maximum number of bits used per pel. Thus, even if the number of bits is set to **24**, a 4-bit grayscale image is still displayed in 4-bit format.

-outcolor {rgb | ycbcr | ycrcb}
Sets the output color model to RGB, YCbCr, or YCrCb if the image type is IOCA FS11 and the number of output bits is 24. Otherwise, this option is ignored. The default is **ycbcr**.

gif2afp

-p {even | odd | *nn* **|** *nn-mm* **|** *nn-***}**

Specifies that the output should only contain the specified pages. If no **-p** option is given, all the pages are output. Multiple **-p** options may be specified. Their effect is cumulative. Regardless of the order in which the pages are specified, they are always printed in ascending order. The recognized values are:

even Print all even pages

odd Print all odd pages

nn Print page *nn*

nn-mm

Print pages *nn* to *mm*, inclusive.

nn- Print all pages starting with page *nn*

Pages are numbered starting with 1.

-pagetype {page | overlay | ovly | pseg | object}

Sets the output page type to be page, overlay, page segment or object. The same page type is set for every page in the output. Thus, unless option **-p** is used to select a single page, multiple overlays, page segments or overlays are stored in the output file. The default is **page**. See option **-a**.

-paper {a5 | a4 | a3 | letter | folio | legal | ledger | *xxx.xx,yyy.yy***[d | m | i | p]}**

Specifies the output paper size. The supported values are:

a3 A3 format (297 by 420 mm or 11.69 by 16.54 inches)

a4 A4 format (210 by 297 mm or 8.27 by 11.69 inches)

a5 A5 format (148 by 210 mm or 5.83 by 8.27 inches)

letter 8.5 by 11 inches (216 by 279 mm)

folio 8.5 by 13.0 inches (216 by 330 mm)

legal 8.5 by 14.0 inches (216 by 356 mm)

ledger 11.0 by 17.0 inches (279 by 432 mm)

*xx.xx,yy.yy***[d | m | i | p]**

Horizontal and vertical page dimensions. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints.

The default paper size is letter. If **-paper** is not used, the paper size is increased, if necessary, to contain the output image.

See options **-l**, **-w**, and **-scale**.

-r {300 | *nnn***}**

The output device resolution, specified in dots per inch. The default is **300**.

This option is equivalent to the **default-printer-resolution** document attribute on the **pdpr** command.

-respath *directory***[:***directory***...]**

Sets the search path for resource files, such as the scan offset files and grayscale calibration curve files. If a resource file name is specified as a relative name (does not start with a **/**), the transform searches every directory in the path, in the order specified in the path, until it finds the file (or fails). See options **-j** and **-gcorr** for scan offsets and grayscale calibration curve. The default is the current directory.

-rot {0 | 90 | 180 | 270[p | i]}

The image is rotated in the clockwise direction by the amount specified. The default is zero, that is, no rotation.

If **p** is specified, the transform sets the output datastream in such a way that the printer performs the actual image rotation. If **i** is specified, the transform rotates the output bitmap. When **i** is chosen, the transform takes much longer to run and uses much more memory. If no letter is specified, the default or any previous value (such as the value specified in the configuration file) remains in force. The default is **p**.

-scale {orig | a5 | a4 | a3 | letter | folio | legal | ledger | *xxx.xx,yyy.yy***[d | m | i |p] |** *xxx%***}**

Specifies the output image size. The image is scaled to this size and centered in the area defined by the paper size and margin options. The supported values are:

orig Preserve the input image size, regardless of the printable paper area.

a3 A3 format (297 by 420 mm or 11.69 by 16.54 inches)

a4 A4 format (210 by 297 mm or 8.27 by 11.69 inches)

a5 A5 format (148 by 210 mm or 5.83 by 8.27 inches)

letter 8.5 by 11 inches (216 by 279 mm)

folio 8.5 by 13.0 inches (216 by 330 mm)

legal 8.5 by 14.0 inches (216 by 356 mm)

ledger 11.0 by 17.0 inches (279 by 432 mm)

*xx.xx,yy.yy***[d | m | i | p]**
Horizontal and vertical image dimensions. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints.

xxx% Magnification relative to the original image size. Numbers below 100% mean reduction, while Numbers above 100% mean enlargement. For example, **-scale 200%** causes the output image to be twice as long and twice as wide as the input image.

The default image size is **orig**.

-sgcorr *FileName*

Specifies the name of the scanner-related calibration file. If **-calib** is absent, this option is ignored.

A detailed discussion of **-sgcorr** is beyond the scope of this document.

[-sniff | -nosniff]

Turns automatic conversion to black on white for bilevel images on (**-sniff**) or off (**-nosniff**). The automatic conversion algorithm counts the number of 0 and 1 bits in the image. If there are fewer zeros, it assumes the printed features are represented by zeros (white on black), and inverts the image to be black on white. The detection and conversion are done after the conversion specified by the Photometric Interpretation tag is applied (if any).

This option is ignored if the image is not bilevel. The default is **-nosniff**.

[-term | -noterm]

Disables (**-term**) or enables (**-noterm**) error recovery.

- When error recovery is disabled, on encountering an error in a GIF file, the transform terminates with an error message and a nonzero return code.
- When error recovery is enabled, the errors in GIF files are treated as non-fatal. The transform attempts to recover with the next image in the file, or with the next file. The return code is zero.

The default is **-noterm**.

-thresh *FileName*
Specifies a file that contains a PostScript Type 1 or Type 3 halftone dictionary. Alternatively, the PostScript code can specify the **setscreen** operator instead of a Type 1 dictionary. The halftone cell in the dictionary is used to overwrite the default ordered dither clustered dot halftone cell. If the PostScript code contains a transfer function, either in the halftone dictionary or specified by the **settransfer** operator, the current grayscale correction curve is overwritten as if **-gcorr** were used.

[-v | -nov]
Turns verbose mode on (**-v**) or off (**-nov**).

- When verbose mode is on, the transform prints a message as it opens each resource file, then echoes the command line, then prints a message for each file name as it is processed.
- When verbose mode is off, the transform prints only error messages.

The default is **-nov**.

-w {8.5i | *yyy.yy***[d | m | i | p]}**
Specifies the paper width. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default page width is 8.5 inches. See options **-l** to set the paper length or **-paper** to set both dimensions at the same time.

-x {0 | *nnn.nn***[d| m | i | p]}**
Specifies the left margin. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default is zero (no margin).

-y {0 | *nnn.nn***[d| m | i | p]}**
Specifies the top margin. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default is zero (no margin).

-z
Signifies that a list of files to be processed is submitted from standard input. See also options **-f** and **@**.

jpeg2afp Command: Transforms JPEG Data to AFP in Infoprint Manager for AIX

Syntax

jpeg2afp [**-a** *ImageType*] [**-alg** *ProcessingAlgorithms*]
   [**-calib** *calibration*] [**-C** *ConfigurationFile*]
   [**-cmp** *compression*] [**-crop** *CropFactors*]
   [**-fit** {<u>trim</u> | **scale**}] [**-force**]
   [**-gcorr** *GrayscaleMappingTable*]
   [**-j** *ScanOffsetFileName*] [**-l** *ImageLength*]
   [**-M** *MemoryBound*] [**-ms** *space*] [**-msf** *SpaceFraction*]
   [**-o** *OutputFile*] [**-outbits** *NumberOfOutputBits*]
   [**-outcolor** *OutputColorModel*] [**-p** *PageRange*]
   [**-pagetype** *PageType*] [**-paper** *PaperSize*]
   [**-r** *resolution*] [**-respath** *ResourceSearchPath*]
   [**-rot** *rotation*] [**-scale** *ImageSize*]
   [**-sgcorr** *ScannerCorrection*] [**-term** | <u>**-noterm**</u>]
   [**-thresh** *HalftoneFile*] [**-v** | <u>**-nov**</u>]
   [**-w** *ImageWidth*] [**-wrkdir** *WorkDirectory*]
   [**-x** *LeftMargin*] [**-y** *TopMargin*] [**-z**]
   [[*file* | *directory* | **-f** *FileList* | @*FileList*]...]

Description

The **jpeg2afp** command transforms a JPEG (Joint Photographic Experts Group) data stream into an AFP (MO:DCA-P) or PostScript Level 2 data stream file.

The transform can process images compressed using baseline lossy JPEG compression. Only 8 bits per channel and Huffman coding are supported. The output can be bilevel (IM1 or IOCA FS10), 4-bit or 8-bit grayscale, or 24-bit YCbCr color (IOCA FS11). The transform automatically uses halftoning to convert the grayscale and color images to bilevel.

Automatic Invocation

The PSF DSS automatically invokes the **jpeg2afp** transform command whenever you submit a JPEG file for printing. You can pass options to **jpeg2afp** using the **other-transform-options** attribute on the **pdpr** command or the **-o** flag of the AIX print commands and the **lprafp** command.

Input and Output

jpeg2afp can process either standard input, or multiple files specified on the command line. If no input file is specified, **stdin** is assumed. Standard input is cached to a file (see the **-wrkdir** option) and then processed. Only a single JPEG file should be submitted via **stdin**. If multiple JPEG files are concatenated via standard input, all except the first one are ignored.

If an input file is specified on the command line, it can be either a JPEG file, a directory, or a file list (**-f** and @ prefixes). Multiple input file specifications are allowed. The transform processes each file in the order in which it was specified on the command line. If the **-z** option is specified, a list of file names to be processed is also submitted via standard input. The files on the list are processed as if the list were given via the **-f** option on the same place on the command line as **-z**.

jpeg2afp

If the file name points to a directory, **jpeg2afp** processes every file in that directory. The files are processed in the order they would be shown using the **ls -a** command. Directory search is not recursive, that is, the subdirectories are not searched.

If the file name is preceded by the **-f** option or the at sign (**@**), **jpeg2afp** assumes that the file contains the list of JPEG files to be processed. Each of the files in the list is processed in the order it was listed.

If a JPEG file has the extension **.jpg**, **.jpeg**, **.JPG**, or **.JPEG**, this extension need not be given explicitly. **jpeg2afp** first tries to open the file as specified and, if unsuccessful, tries to append the extensions **.jpg .jpeg**, **.JPG**, and **.JPEG** in turn.

For example, suppose that:
- The directory `tFiles` contains the files `file1.jpg`, `file2.jpg`, `file3.jpg`, and `file4.jpg` and nothing else.
- The file `flist` in the current directory contains the two file names `tFiles/file2.jpg` and `tFiles/file3.jpg`. The names listed in the file list may have their extensions omitted.
- The file `flist2` contains the file name `tFiles/file4`. Again, the names listed in the file list may have their extensions omitted.

In order to process files `file1.jpg`, `file2.jpg`, `file3.jpg`, and `file4.jpg`, any of the following invocations of **jpeg2afp** would work:
```
jpeg2afp tFiles/file1.jpg tFiles/file2.jpg tFiles/file3.jpg tFiles/file4.jpg
jpeg2afp tFiles/file1 tFiles/file2 tFiles/file3 tFiles/file4
jpeg2afp tFiles/file*.jpg
jpeg2afp tFiles
jpeg2afp tFiles/file1 -fflist tFiles/file4
jpeg2afp tFiles/file1 -f flist tFiles/file4
jpeg2afp tFiles/file1 -f flist -f flist2
jpeg2afp tFiles/file1 @flist @flist2
```

The file list files allow the display text to be added for each file. A display text is any text starting with the pound character (**#**) and extending to the end of the line. The display text should follow the file name, and can extend over several lines, up to 2048 characters long. The initial **#** character on each line is discarded. If a display text is present for a file name, that text is displayed in the status and error messages instead of the file name. This is useful if the **jpeg2afp** is invoked using temporary files whose names are meaningless to the user. Any display text before the first file name is treated as comment and discarded. Display text is allowed also if the **-z** option is used to submit the file list via standard input.

The output file name can be either specified explicitly via the **-o** option, or derived from the input file name. If multiple input files have been specified, the default output file is standard output. If a single input file is given and the output file is not specified explicitly, the transform strips the **.jpg** or **.jpeg** extension from the input file name (if one is present), and appends the **.afp** extension for AFP output, or the **.ps** extension for PostScript output, to get the output file name.

To disable automatic output file name generation and force the default output stream to be the standard output in all cases, set the environment variable **JPEG2AFP_o** to **-** or **stdout**, or, alternatively, put the line **o=-** or **o=stdout** into the configuration file and invoke that configuration file using the **-C** option or the **JPEG2AFP_C** environment variable.

For example, all the following commands:

```
jpeg2afp myfile
jpeg2afp myfile.jpg
jpeg2afp myfile -o myfile.afp
```

have `myfile.afp` as the output file. Note that there is no requirement for the explicitly specified input and output files to have **.jpg** and **.afp** extensions. To process JPEG file `foo.bar` into an AFP file `foo.bar2`, invoke the transform using

```
jpeg2afp foo.bar -o foo.bar2
```

The output data stream is MODCA-P IS/1, MODCAP-P IS/2, or PostScript Level 2. IS/1 images are bilevel and are encoded as IOCA Function Set 10 or IM1. IM1 images are uncompressed. IOCA FS10 output images can be either uncompressed, or compressed via one of the four available compression algorithms (see the **-cmp** option). The default is ITU-T T.6 Group 4 compression. IM1 images are always uncompressed. IS/2 images can be either bilevel, 4-bit or 8-bit grayscale, or 24 bit YCbCr color. Multibit images are encoded as IOCA Function Set 11. Be aware that the only product that supports IOCA FS11 images is the AFP Workbench, that is, grayscale and color AFP images are not currently supported by any printer.

PostScript Level 2 images can be uncompressed or ITU-T T.6 Group 4 bilevel, uncompressed 8-bit grayscale or uncompressed 24-bit RGB color. By default, the transform leaves scaling and halftoning to the printer (that is, color JPEG images are output as 24-bit RGB color images).

Errors and Error Recovery

jpeg2afp divides errors into fatal and non-fatal. The fatal error categories are the following:

- Errors in the user-specified parameters, either in the environment variables, the configuration file, or the command line arguments. These errors include unrecognized options, invalid values for parameters, or inability to open the configuration file or the output file.
- Out of memory errors. The requested memory is larger than the memory specified using the **-M** option or the dynamic memory allocation has failed.
- Disk space errors. The transform guards against trying to write to a full file system. See the **-ms** and **-msf** options for setting the minimum free disk space requirements. If the file system is full, the transform deletes the partial output file before terminating.
- Internal errors.

In the case of a fatal error, the last output page might not be complete.

Errors encountered in the JPEG files are non-fatal and **jpeg2afp** attempts to recover from them. These errors include not being able to open an input file, an input file not being a JPEG file, or an input file containing features that cannot be processed. If the transform fails to open 15 or more input files, it assumes an error in the parameter list (for example, **-f** was used with a file that does not contain a file list) and terminates.

If an error is encountered in a file, the transform attempts to recover with the next input file. A warning message is issued. Errors and warnings are output to standard error.

For example, let a directory `tFiles` contain files `file1.jpg`, `file1.txt`, `file2.jpg` and `file3.jpg`, where `file1.txt` is an ASCII file. Invoking the transform via

```
jpeg2afp tFiles
```

processes the bilevel images in all three JPEG files correctly. A warning is issued that `file1.txt` is not a JPEG file.

Non-fatal errors can be made fatal by using the option **-term**, or the corresponding environment variable or configuration file entry. If **-term** is set, the transform terminates in error if it encounters an error in the JPEG data stream.

Data Transformations

If the input image is grayscale or color, and the output image type is bilevel (IOCA FS10 or IM1), the transform internally scales the image to the desired size, then uses a halftoning algorithm (ordered dither, the default, or Floyd-Steinberg) to convert it to bilevel. In converting the image to bilevel, the characteristics of the output device such as dot shape and dot gain must be taken into consideration. The internal grayscale mapping table has been optimized for the 600-pel IBM Infoprint 4000 laser printer. The **-gcorr** option can be used to specify a different mapping of gray levels.

For very light or very dark images, the halftoning algorithms can be automatically recalibrated to preserve details that would be lost using the default calibration. See the **-alg** option for more information.

To maintain the image quality, scaling must be done prior to halftoning. Halftoning algorithm is very computation-intensive. Unless the images are small, **jpeg2afp** cannot process the color images fast enough to feed even a slow printer.

The size and position of the output image depend on several factors:
- The size specified to the transform
- The form map specified at print time
- The forms and options loaded in the printer

If the image is too large to to fit on the page, it is trimmed to size by default. Use the **-fit scale** option to instruct the printer to scale the image to the paper size. If the paper size is not specified explicitly via the **-paper** option, the paper size defaults to US letter size (8.5 by 11 inches). If the image is larger than this, the paper dimensions are increased as necessary. If the paper size is been specified explicitly, it is not increased if the image does not fit on paper. The options **-l** and **-w** have the same effect as **-paper**.

The size of the actual image (as opposed to the paper size) is controlled by the **-scale** option. You can either specify a value of **orig** for the **-scale** option or give an actual size. If you specify **orig**, the output image is the same size as the input image. If you specify **-scale** with an actual size, the output image is scaled to the desired size. You can also specify a percentage for enlargement or reduction.

By default, the transform leaves scaling to the printer. The exceptions are images that are being halftoned, which are always scaled in the transform.

Note: Because JPEG files do not specify resolutions, the image is assumed to have the resolution of the output device.

If possible, **jpeg2afp** rewraps the JPEG raster data in MODCA-P headers.

For 8-bit grayscale and 24-bit color images, both JPEG and IOCA FS11 support JPEG compression algorithms. However, the JPEG standard has different

subsampling defaults than IOCA FS11. Thus, most 24-bit color images are not suitable for rewrapping, even if they use a JPEG compression algorithm and a color model supported by IOCA FS11.

Note also that JPEG is a lossy compression algorithm. Decompressing a JPEG image and then recompressing it for output might result in reduced image quality. For that reason, the default is to use no compression for the gray or color output.

Be aware that not all the printers support all the recognized IOCA compression standards. If the output image is IM1, the image is always decompressed and scaled in the transform.

Parameters

jpeg2afp behavior is governed by many parameters. The parameters are set by the following hierarchy (least significant first):
- Internal defaults
- Environment variables
- Configuration file
- Command-line arguments

Command Line Arguments

Note the following points regarding the command line arguments for the **jpeg2afp** transform:
- Options and input file names can appear on the command line in any order.
- When you run **jpeg2afp** as a standalone transform, the blank between option and value is optional (for example, both `-fittrim` and `-fit trim` are valid).
- When you use the **-o** flag of the **enq**, **lp**, **qprt**, or **lprafp** commands to pass options to **jpeg2afp**, no blank is permitted between option and value is optional (for example, `-o-fittrim` is valid, but `-o -fit trim` is not).
- When you use the **other-transform-options** attribute on the **pdpr** command to pass options to **jpeg2afp**, any string containing a blank must be surrounded by single quotes (for example, both `other-transform-options=-fittrim` and `other-transform-options='-fit trim'` are valid).
- All values except file names are case-insensitive.
- If an option is specified multiple times, the last specification remains in force.
- If multiple configuration file names are given, they are processed in order.

Configuration File

The configuration file has entries of the form *option=value*, where each pair must reside on a separate line. Options and other syntax are the same as for the command line arguments and the option names are the same. Input files and configuration files cannot be specified in the configuration file (that is, nested configuration files are not supported). In the case of options without values (for example, **-v**), the equals sign must be present.

Some command line options, for example, **-calib**, cannot be used in the configuration file or as environment variables. Options available only on the command line are noted as such in their descriptions.

If you do not specify a configuration file on the command line with the **-C** option, the transform checks for the existence of the default configuration file, **/usr/lpp/psf/jpeg2afp/jpeg2afp.cfg**. If this file exists, the transform uses it as the configuration file.

jpeg2afp

The following is an example of a valid configuration file:

```
scale = letter
r= 300
o = -
v=
```

Note that the spaces around the equals sign (**=**) are optional. In this example, the option-value pair **o = -** means that the default output file is the standard output. Output file name computation has been disabled.

Environment Variables

Environment variables have the form **JPEG2AFP_***option*, where *option* is the same as on the command line and the configuration file.

Some command line options, for example, **-calib**, cannot be used in the configuration file or as environment variables. Options available only on the command line are noted as such in their descriptions.

For example, to achieve the same effect as the configuration file in the last example, the following statements have to be executed in the calling shell:

```
export JPEG2AFP_scale=letter
export JPEG2AFP_r=300
export JPEG2AFP_o=-
export JPEG2AFP_v=" "
```

There must be some value set for each desired option. For options that do not take a value, specify a blank surrounded by double quotes, for example:

```
export JPEG2AFP_v=" "      correct
export JPEG2AFP_v=         has no effect
```

Resource Search Path

For resource files, such as scan offset files and grayscale correction files, the transform searches the current directory by default. You can use the **-respath** option to specify a list of directories to be searched for such files. This resource path does not apply to the configuration file.

Limitations

- Only Huffman coding with baseline DCT JPEG algorithm is supported.
- At most 8-bit grayscale and 24-bit color are supported.

Acknowledgments

This software is partially based on the Independent JPEG Group's JPEG compression and decompression code.

Options and Values

@*FileList*
> Specifies a name of a file that contains a list of files to be processed by the transform. If the **@** option is present, the output file defaults to standard output, even if the list of files contains only a single entry. Multiple **@** options are allowed. Also see the **-f** and **-z** options. The **@** is not preceded by the dash, and is implemented to maintain compatibility with the **ps2afp** transform.

-a {ioca | ioca10 | ioca11 | im1 | PS.2}

-a {IO1_G4 | IM1 | IO1 | IO1_MMR | PSEG_IO1_G4 | PSEG_IM1 | PSEG_IO1 | PSEG_IO1_MMR | OVLY_IO1_G4 | OVLY_IM1 | OVLY_IO1 | OVLY_IO1_MMR}

Choice of the output image type. The first syntax chooses between the IOCA FS 10 (**ioca**, **ioca10**), IOCA FS11 (**ioca11**), IM1, and PostScript Level 2 (**PS.2**) output. IOCA FS10 and IM1 yield bilevel images, while IOCA FS11 results in 4-bit or 8-bit gray or 24-bit color output (see option **-outbits**). Note that presently the only product that supports IOCA FS11 is the AFP Workbench. The output compression algorithm is set via the option **-cmp**. To set the page type (page, overlay, page segment or object), use the **-pagetype** option.

The second syntax is to maintain compatibility with the **ps2afp** transform, and sets the image type (**IO1** for IOCA FS10 or **IM1** for IM1 output), compression (**G4** for Group 4 or **MMR** for Group 3), and page type (**PSEG** for page segment or **OVLY** for overlay). If **PSEG** or **OVLY** is not specified, the output is a printable page. If no compression algorithm is specified, the output is not compressed. The second syntax cannot be used for IOCA FS11 output.

Some older printers do not support IOCA images. In such cases, the IM1 output type should be chosen. IM1 images are uncompressed and thus use more space. The processing might also take longer since the IM1 image cannot be scaled by the printer and so internal scaling algorithms must be used. See option **-alg**.

The default is **ioca** for IOCA FS10 output compressed via Group 4 algorithm.

This option is similar to the **image-out-format** document attribute on the **pdpr** command.

-alg afp

-alg {htod1 | htfs}

-alg htcal1

Choice of the scaling and halftoning algorithms. You can specify multiple choices, separated by commas, for one **-alg** option. The effect is the same as specifying multiple **-alg** options. For example, `-alg htfs,htcal` is equivalent to `-alg htfs -alg htcal`.

The scaling algorithms are:

- If **afp** is chosen, the scaling is done using the default algorithm in the printer. This makes the transform much faster. If the image must be reduced, however, this algorithm may drop some information from the image, such as thin lines.

For color images with bilevel output, the scaling is always done prior to the halftoning algorithm. If a grayscale or color output is chosen (**-a ioca11**), this option is ignored and the algorithm is set to **afp**.

The halftoning algorithms are:

- **htod1** uses an ordered dither with a screen derived from the value of the **-thresh** option. The default is an 85 line per inch screen.
- **htfs** uses the Floyd-Steinberg algorithm.

- **htcal1** recalibrates the halftoning algorithm for each image. **htcal1** forces the transform to read the whole image into memory and requires an additional pass through the image. It should be used only for very light or very dark images.

The default is **htod1**. Each halftoning algorithm uses a different internal default calibration curve. If the automatic calibration is turned on, a still different set of calibration curves are used.

See options **-gcorr**, **-paper**, **-scale**, **-thresh**, **-l**, **-w**, **-x**, and **-y**.

-calib scanner

-calib {scanner | printer | patch | patchr},*name1***...**
Transform calibration for the scanner or printer. If **scanner** is specified, **-sgcorr** must be present. If **printer** is specified, **-sgcorr** may or may not be present. If **patch** or **patchr** is specified, **-sgcorr** (if present) is ignored. Detailed explanation of the calibration process is beyond the scope of this entry.

You cannot specify **-calib** in the configuration file or as an environment variable.

-C *ConfigurationFileName*
The name of a configuration file containing option-value pairs. If multiple **-C** options are given on the command line, they are processed in order. Specifying the configuration file on the command line overrides any specification done via the **JPEG2AFP_C** environment variable.

The default configuration file is **/usr/lpp/psf/jpeg2afp/jpeg2afp.cfg**.

-cmp {none | mh | mmr | g3 | g4 | jpeg}
Choice of the output image compression algorithm:

none Uncompressed output

mh ITU-T T.4 G3 Modified Huffman

mmr IBM Modified Modified Read

g3 ITU-T T.4 G3 Modified Read

g4 ITU-T T.6 G4

jpeg JPEG non-differential Huffman coding with baseline DCT. The output image data should be compressed to reduce the file sizes and increase the printing speed.

The default compression is ITU-T T.6 Group 4 for bilevel images and no compression for grayscale or color images. Note that some printers may not support Group 4 compression algorithm and require using the **-cmp** option to choose a different one. The JPEG algorithm can compress only 8-bit grayscale and 24-bit color images. 4-bit grayscale images cannot be compressed.

-crop *t,b,l,r***[i | m | p | d]**
Image cropping. *t,b,l,r* specify how much should be cropped from the image top, bottom, left edge, and right edge. The numbers are floating point and can be either positive or negative. Negative numbers indicate that a blank space should be inserted. The units are inches, millimeters, points, and dots (pels), with the default being dots. The cropping is specified in the context

of the output page, to that "top" means the top of the output page and so on, regardless of the **-rot** option. To crop, the transform will enlarge the image by the amount to be cropped, then crop the specified amount by manipulating the actual bitmap. The resulting image has the size as specified by the explicit (or implicit) **-scale** option. See also option **-j**.

If **-fit trim** is specified, the right and the bottom edge of the image are not cropped. Instead, the image grows as necessary. Because **-fit trim** causes the output data stream to contain the "position and trim" specification, the printer discards any extra image.

-f *FileList*

Specifies the name of a file that contains a list of files to be processed by the transform. If the **-f** option is present, the output file defaults to standard output, even if the list of files contains only a single entry. Multiple **-f** options are allowed. See also options **@** and **-z**.

-fit {trim | scale}

Determines whether the printer behavior will be position-and-trim or scale-to-fit if the image is too large to fit on the paper. The default is **trim**.

This option is equivalent to the **image-fit** document attribute on the **pdpr** command.

-force   If present, this option forces **jpeg2afp** to decompress and recompress the image, regardless of other factors.

-gcorr *FileName*

Specifies a file with grayscale mapping table for halftoning of the grayscale and color images to bilevel for output. The mapping table must be provided to compensate for the printing characteristics of the particular output device and paper type, such as dot gain. This file must contain either:

- 256 real numbers, one for each level of gray in the 8-bit grayscale image
- The PostScript **settransfer** operator

The algorithm converts every image to 8-bit grayscale before applying the halftoning algorithm. The default internal mapping table has been optimized for the 600-pel IBM Infoprint 4000 laser printer. You shouldn't change this unless you know what you are doing. See also options **-alg** and **-thresh**. PostScript code submitted via the **-thresh** option can have the same effect as **-gcorr**.

-j *ScanOffsetFileName*

Sometimes input images must be shifted to get the desired positioning on the page. The scan offset file contains the directions for shifting. The file has the format of

```
[attribute]
values
    .
    .
    .
values
[attribute]
values
    .
    .
    .
values
```

Currently, the recognized attributes are **[Units]** (values **millimeters**, **mm**, **inches**, **in**, **points**, **dots**, **pels**) **[Page_Offset_Type]** (values **crop** or **grow**) and **[Page_Offsets]**. The values for page offsets are in the format *FileName*,**H***horiz*,**V***vert* Each entry refers to a file. The file names must be specified (or at least the leading comma must), but are currently ignored

and the offset factors are applied to each file in turn. The *horiz* and *vert* values are the amount that the image is to be shifted, in the horizontal and vertical direction. The positive directions are down and right (that is, the origin is in the left upper corner of the page). The default units are millimeters. Like the values for the **-crop** option, the shifts are specified in the output space context.

Extra spaces and blank lines are allowed. Unrecognized attributes and their values are ignored. See the sample file **shift.sample**.

If the image is moved left or up, part of the bitmap is removed. If the image is moved down or right, removal is governed by the value of the **[Page_Offset_Type]** attribute. If **crop** is chosen, the transform removes the requisite amount from the right and bottom edges of the bitmap. If **grow** is chosen, the transform does not remove any space. The bitmap grows and the trimming, if any, is left to the printer. If the **-fit trim** option (the default) is specified, **[Page_Offset_Type]** defaults to **grow**. For **-fit scale**, **[Page_Offset_Type]** defaults to **crop**.

-l {11i | *yyy.yy***[d | m | i | p]}**
Specifies the paper length. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. If the unit is dots, decimals (if any) are ignored. The default paper length is 11 inches. See options **-w** to set the paper width or **-paper** to set both dimensions at the same time.

-M {0 | nnn}
Limits the amount of memory available to **jpeg2afp**. *nnn* is the maximum amount of memory in kilobytes. A value of **0** means there is no memory limit. *nnn* can be set from **0** to the maximum value that AIX allows. The default is **0**.

-ms {10 | *nnn***}**
Requires that at least *nnn* kilobytes of disk space be available on the file system that contains the output file. This limit is enforced every time data is written to the output file. If the output is standard output, this option is ignored. The default is **10**. See option **-msf**.

-msf {0.1 | *x.xxx***}**
The number *x.xxx* is a real number between 0 and 1. It denotes the minimum space that must be left unused on the file system containing the output file. The space is given as a fraction of the total space in the file system. This limit is enforced every time data is written to the output file. If the output is standard output, this option is ignored. The default is **0.1**. See option **-ms**.

-noterm
See [**-term** | **-noterm**].

-nov See [**-v** | **-nov**].

-o *FileName*
Optional output file name. Specify **-** for standard output.

-outbits *NumberOfOutputBits*
Sets the number of bits per pel in output. This value must be **1**, **4**, **8**, or **24**. If the output image type is IOCA FS10 or IM1, the number of output bits is set to **1** and this option is ignored. For IOCA FS11 output, the default is **24**. Note that this number represents the maximum number of bits used per pel. Thus, even if the number of bits is set to **24**, a 4-bit grayscale image is still displayed in 4-bit format.

-outcolor {rgb | <u>ycbcr</u> | ycrcb}

    Sets the output color model to RGB, YCbCr, or YCrCb if the image type is IOCA FS11 and the number of output bits is 24. Otherwise, this option is ignored. The default is **ycbcr**.

-p {even | odd | *nn* **|** *nn-mm* **|** *nn-***}**

    Specifies that the output should only contain the specified pages. If no **-p** option is given, all the pages are output. Multiple **-p** options may be specified. Their effect is cumulative. Regardless of the order in which the pages are specified, they are always printed in ascending order. The recognized values are:

    even   Print all even pages

    odd   Print all odd pages

    nn   Print page *nn*

    nn-mm

        Print pages *nn* to *mm*, inclusive.

    nn-   Print all pages starting with page *nn*

    Pages are numbered starting with 1.

-pagetype {<u>page</u> | overlay | ovly | pseg | object}

    Sets the output page type to be page, overlay, page segment or object. The same page type is set for every page in the output. Thus, unless option **-p** is used to select a single page, multiple overlays, page segments or overlays are stored in the output file. The default is **page**. See option **-a**.

-paper {a5 | a4 | a3 | <u>letter</u> | folio | legal | ledger | *xxx.xx,yyy.yy***[<u>d</u> | m | i | p]}**

    Specifies the output paper size. The supported values are:

    a3   A3 format (297 by 420 mm or 11.69 by 16.54 inches)

    a4   A4 format (210 by 297 mm or 8.27 by 11.69 inches)

    a5   A5 format (148 by 210 mm or 5.83 by 8.27 inches)

    <u>letter</u>   8.5 by 11 inches (216 by 279 mm)

    folio   8.5 by 13.0 inches (216 by 330 mm)

    legal   8.5 by 14.0 inches (216 by 356 mm)

    ledger   11.0 by 17.0 inches (279 by 432 mm)

    *xx.xx,yy.yy***[<u>d</u> | m | i | p]**

        Horizontal and vertical page dimensions. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints.

    The default paper size is letter. If **-paper** is not used, the paper size is increased, if necessary, to contain the output image.

    See options **-l**, **-w**, and **-scale**.

-r {<u>300</u> | *nnn***}**

    The output device resolution, specified in dots per inch. The default is **300**.

    This option is equivalent to the **default-printer-resolution** document attribute on the **pdpr** command.

-respath *directory***[:***directory***...]**

    Sets the search path for resource files, such as the scan offset files and grayscale calibration curve files. If a resource file name is specified as a relative name (does not start with a **/**), the transform searches every directory in the path, in the order specified in the path, until it finds the file

(or fails). See options **-j** and **-gcorr** for scan offsets and grayscale calibration curve. The default is the current directory.

-rot {0 | 90 | 180 | 270[p | i]}

The image is rotated in the clockwise direction by the amount specified. The default is zero, that is, no rotation.

If **p** is specified, the transform sets the output datastream in such a way that the printer performs the actual image rotation. If **i** is specified, the transform rotates the output bitmap. When **i** is chosen, the transform takes much longer to run and uses much more memory. If no letter is specified, the default or any previous value (such as the value specified in the configuration file) remains in force. The default is **p**.

-scale {orig | a5 | a4 | a3 | letter | folio | legal | ledger | *xxx.xx,yyy.yy***[d | m | i |p] |** *xxx%***}**

Specifies the output image size. The image is scaled to this size and centered in the area defined by the paper size and margin options. The supported values are:

orig   Preserve the input image size, regardless of the printable paper area.

a3   A3 format (297 by 420 mm or 11.69 by 16.54 inches)

a4   A4 format (210 by 297 mm or 8.27 by 11.69 inches)

a5   A5 format (148 by 210 mm or 5.83 by 8.27 inches)

letter   8.5 by 11 inches (216 by 279 mm)

folio   8.5 by 13.0 inches (216 by 330 mm)

legal   8.5 by 14.0 inches (216 by 356 mm)

ledger   11.0 by 17.0 inches (279 by 432 mm)

*xx.xx,yy.yy***[d | m | i | p]**

Horizontal and vertical image dimensions. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints.

xxx%   Magnification relative to the original image size. Numbers below 100% mean reduction, while Numbers above 100% mean enlargement. For example, **-scale 200%** causes the output image to be twice as long and twice as wide as the input image.

The default image size is **orig**.

-sgcorr *FileName*

Specifies the name of the scanner-related calibration file. To use this option in the calibration process (with the option **-calib**) you must specify a single file name. If **-calib** is absent, this option is ignored.

A detailed discussion of **-sgcorr** is beyond the scope of this document.

[-term | -noterm]

Disables (**-term**) or enables (**-noterm**) error recovery.

- When error recovery is disabled, on encountering an error in a JPEG file, the transform terminates with an error message and a nonzero return code.
- When error recovery is enabled, the errors in JPEG files are treated as non-fatal. The transform attempts to recover with the next file. The return code is zero.

The default is **-noterm**.

-thresh *FileName*

Specifies a file that contains a PostScript Type 1 or Type 3 halftone dictionary. Alternatively, the PostScript code can specify the **setscreen** operator instead of a Type 1 dictionary. The halftone cell in the dictionary is used to overwrite the default ordered dither clustered dot halftone cell. If the PostScript code contains a transfer function, either in the halftone dictionary or specified by the **settransfer** operator, the current grayscale correction curve is overwritten as if **-gcorr** were used.

[-v | -nov]

Turns verbose mode on (**-v**) or off (**-nov**).

- When verbose mode is on, the transform prints a message as it opens each resource file, then echoes the command line, then prints a message for each file name as it is processed.

- When verbose mode is off, the transform prints only error messages.

The default is **-nov**.

-w {8.5i | *yyy.yy***[d | m | i | p]}**

Specifies the paper width. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default page width is 8.5 inches. See options **-l** to set the paper length or **-paper** to set both dimensions at the same time.

-wrkdir *WorkDirectoryName*

Input to **jpeg2afp** from **stdin** must be cached on disk before it can be processed. This option specifies which directory to use for the caching of the standard input. If this option is absent or the directory cannot be opened, the transform first tries to use **/var/psf/jpeg2afp** as the working directory and, if **/var/psf/jpeg2afp** is absent, uses **/tmp**.

The **stdin** cache file is never visible to the user because it is immediately unlinked after creation. Thus, the cache file is always deleted when **jpeg2afp** finishes execution, even if **jpeg2afp** is killed or otherwise terminates in error.

-x {0 | *nnn.nn***[d| m | i | p]}**

Specifies the left margin. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default is zero (no margin).

-y {0 | *nnn.nn***[d| m | i | p]}**

Specifies the top margin. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default is zero (no margin).

-z Signifies that a list of files to be processed is submitted from standard input. See also options **-f** and **@**.

line2afp Command: Transforms S/370 Line Data and ASCII Data to AFP

Syntax

line2afp [**cc=***value*] [**cctype=***value*]
[**chars=***FontName[, ...]*] [**fdeflib=***PathList*] [**fileformat=***value*]
[**fontlib=***PathList*] **formdef=***FormDefinitionName* [**imageout=***value*]
[**inpexit=***ProgramName*] [**inputdd=***FileName*] [**msgdd=***FileName*]
[**outexit=***ProgramName*] [**outputdd=***FileName*]
[**ovlylib=***PathList*] **pagedef=***PageDefinitionName*
[**parmdd=***FileName*] [**pdeflib=***PathList*]
[**prmode=***value*] [**pseglib=***PathList*] [**resexit=***ProgramName*]
[**reslib=***PathList*] [**trc=***value*] [**userlib=***PathList*]

With Infoprint Manager for AIX, if you need guidance in passing the **line2afp** command option syntax through the shell, refer to the documentation for the shell you are using in the *AIX for RS/6000 Commands Reference*.

Table 7 shows the **line2afp** command options that specify resource names or resource directories, and the corresponding AIX print command options and Infoprint attributes:

Table 7. line2afp Resource Options and Corresponding Options and Attributes

line2afp option	AIX -o *flag* option	*Document attribute*	*Physical printer attribute*
chars	**-ochars**	**chars**	
fdeflib	**-orespath**	**resource-context-form-definition**	**resource-context-form-definition**
fontlib	**-osrchfontlib**	**resource-context-font**	**resource-context-font**
formdef	**-oformdef**	**form-definition**	**form-definition**
ovlylib	**-orespath**	**resource-context-overlay**	**resource-context-overlay**
pagedef	**-opagedef**	**page-definition**	
pdeflib	**-opdeflib**	**resource-context-page-definition**	**resource-context-page-definition**
pseglib	**-orespath**	**resource-context-page-segment**	**resource-context-page-segment**
reslib	**-orespath**	**resource-context**	
userlib	**-ouserlib**	**resource-context-user**	

For these options, you should specify the same value with the **line2afp** command as you specify to Infoprint when you submit the print job or predefine for the physical printer where the job prints. In this way, the search paths and resources used at transform time are identical to the search paths and resources used at print time.

In addition to the usual command notational conventions, the **line2afp** command follows these additional rules. These rules apply to options you type at the command line. See also the **parmdd** option for the syntax of options contained in the **line2afp** option file.

- When the **line2afp** command processes any unrecognized or unsupported option, **line2afp** issues a message, ignores the option, and continues processing any remaining options. The **line2afp** command then stops processing.

- With Infoprint Manager for AIX, though the options themselves are not case-sensitive, associated values, such as file names, attribute names, and directory names *are* case-sensitive. For example,

  ```
  formdef=F1MINE
  ```

  is *not* the same as

  ```
  formdef=f1mine
  ```

  Be sure to specify these values in the case in which they exist in the file system (for external resources) or in the print file (for inline resources).
- If the same option is specified more than one time, the **line2afp** command uses the last value specified. For example, if you specify the following:

  ```
  pagedef=P1MINE
  pagedef=P1YOURS
  ```

  the **line2afp** command uses page definition **P1YOURS** only.

Description

The **line2afp** command transforms S/370 line data, mixed-mode data, and ASCII files into the AFP (MO:DCA-P) data stream, so that you can print the file on an Infoprint printer.

When you use the **line2afp** command to convert S/370 line data or ASCII data, you must specify a page definition (**pagedef** option). If the page definition names fonts, Infoprint uses those fonts. If the page definition does not name any fonts, and if you want the file to print with more than one font, then the input file must contain table reference characters (TRCs), and you must:

- Specify **trc=yes**.
- Use **chars** to indicate the fonts to be associated with each TRC.

If the page definition does not specify fonts, and you have not specified any TRCs, your job will print, although the output may not be formatted correctly.

If the page definition does not name any fonts, and you want the whole file to print with one font, then you must:

- Specify **trc=no**.
- Use **chars** to indicate the single fonts in which the file should be printed.

If the page definition does not specify fonts, and you have not specified any TRCs, your job will print, although the output may not be formatted correctly.

If the page definition does not name any fonts, and you want the whole file to print with one font, then you must:

The **line2afp** command searches for resources in the following order:

1. Paths specified by the **userlib** option for miscellaneous user resources. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context-user** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.
2. Paths specified by the **fdeflib**, **fontlib**, **ovlylib**, **pdeflib**, and **pseglib** options for specific types of resources.
3. Paths specified by the **reslib** option. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **-orespath** flag on an AIX print

command, or with the **resource-context** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

4. Paths specified by the **PSFPATH** environment variable.

5. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, and **resource-context-page-segment** physical printer attributes for specific types of resources.

6. With AIX:
   a. **/usr/lpp/psf/reslib**
   b. **/usr/lpp/afpfonts**
   c. **/usr/lpp/psf/fontlib**

7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
   a. *install_path***reslib**
   b. *install_path***afpfonts**
   c. *install_path***fontlib**

When the **line2afp** command finds more than one resource with the same name in the same directory, it selects the resource to be used depending on the file extension. Table 8 shows the order in which resources with the same name but different file extensions are used by **line2afp**.

Note: If a file name includes a period (.), the file extension is that part of the file name that follows the period. For example, the file extension of the file name **ARTWORK.PSEG3820** is **PSEG3820**.

Table 8. File Extensions for Resources

Type of Resource	*File Extensions Searched (see note)*
BCOCA (bar code) objects	1. No file extension
Code pages	1. No file extension 2. **FONT3820** 3. **FONT38PP** 4. **CDP**
Coded fonts	1. No file extension 2. **FONT3820** 3. **FONT38PP** 4. **CFT**
Font character sets, 240-pel resolution	1. No file extension 2. **240** 3. **FONT3820** 4. **FONT38PP**
Font character sets, 300-pel resolution	1. **300** 2. **FONT300** 3. No file extension
Fonts, outline	1. **OLN** 2. **FONTOLN**
Form definitions	1. No file extension 2. **FDEF3820** 3. **FDEF38PP** 4. **FDE**
GOCA (graphics) objects	1. No file extension

Table 8. File Extensions for Resources (continued)

Type of Resource	File Extensions Searched (see note)
IOCA (IO image) objects	1. No file extension
Overlays	1. No file extension 2. **OVLY3820** 3. **OVLY38PP** 4. **OVL**
Page definitions	1. No file extension 2. **PDEF3820** 3. **PDEF38PP** 4. **PDE**
Page segments	1. No file extension 2. **PSEG3820** 3. **PSEG38PP** 4. **PSG** 5. **PSE**
Setup data	1. No file extension 2. **SETUP** 3. **SET** 4. **COMSETUP**
Note: All file extensions must be in upper case.	

The PSF DSS automatically invokes **line2afp** whenever you submit a line-data or unformatted ASCII job. You can specify **document-format=line-data** or **document-format=ascii** on the **pdpr** command, or **-odatatype=line** or **-odatatype=ascii** on an AIX print command or the **lprafp** command, or you can allow Infoprint to identify the data type.

Flags and Values

You can specify many of these flags and values with the **other-transform-options** attribute on the **pdpr** command or with the **enq -o**, **lp -o**, **qprt -o**, or **lprafp -o** command.

See "pdpr Command: Submits Jobs" on page 63 and "Attributes for Documents and Default Documents" on page 449 or "Chapter 3. The -o Flag for AIX Print Commands" on page 103 for more information.

cc={yes | no}
>   Specifies whether the input file has carriage-control characters.
>
>   Values are:
>   **yes**   The file contains carriage-control characters. **yes** is the default.
>   **no**   The file does not contain carriage-control characters.
>
>   Carriage-control characters, if present, are located in the first byte (column) of each line in a document. They are used to control how the line will be formatted (single space, double space, triple space, and so forth). In addition, other carriage-controls can be used to position the line anywhere on the page. If there are no carriage-controls, single spacing is assumed.
>
>   This option and the **cctype** option, used together, are equivalent to the document attribute **carriage-control-type** on the **pdpr** command.

cctype={z | a | m}
>   Specifies the type of carriage-control characters in the input file. The

line2afp

line2afp command supports ANSI carriage-control characters in either ASCII or EBCDIC encoding, as well as machine carriage-control characters. The **line2afp** command does not allow a mixture of ANSI and machine carriage-control characters within a file. Values are:

z̲
> The file contains ANSI carriage-control characters that are encoded in ASCII. **z** is the default.
>
> The carriage-control characters are the ASCII hexadecimal values that directly relate to ANSI carriage-controls, which cause the action of the carriage-control character to occur *before* the line is printed. For example, if the carriage-control character is zero (X'30'), which represents double spacing, double spacing will occur *before* the line is printed.

a
> The file contains ANSI carriage-control characters that are encoded in EBCDIC.
>
> The use of ANSI carriage-control characters cause the action of the carriage-control character to occur *before* the line of data is printed. For example, if the carriage-control character is a zero (X'F0'), which represents double spacing, the double spacing will occur *before* the line is printed.

m
> The file contains machine code carriage-control characters that are encoded in hexadecimal format.
>
> The use of machine code carriage-control characters cause the action of the carriage-control character to occur *after* the line of data is printed. For example, if the carriage-control character is a X'11', which represents double spacing, the line will be printed and the double spacing will occur *after* the line is printed. In addition, machine code carriage-control has a set of carriage-control characters that perform the action, but do not print the associated line.

If you specify **cc=yes** but you do not specify **cctype**, the **line2afp** command assumes that the file contains ANSI carriage-control characters encoded in ASCII.

If you are not sure which type of carriage-control characters are in your input file, consult your system support group.

This option and the **cc** option, used together, are equivalent to the document attribute **carriage-control-type** on the **pdpr** command.

chars=*FontName1, FontName2, FontName3, FontName4*
Specifies the file name of from one to four coded fonts to be used in processing the print file. A coded font specifies a character set and code page pair.

The value is:

FontName
> The name of the desired coded font. The font name is limited to 4 alphanumeric or national characters, and should not include the 2-character prefix of the coded-font name (**X0** through **XG**). With Infoprint Manager for AIX, the font name is case-sensitive.

With Infoprint Manager for AIX, if you use the ASCII fonts that are supplied with Infoprint, use the 4-character names. If you use your own coded font that has a file name with more than 6 characters (including the X*n* prefix), then do one of the following:

- Rename the font file to a shorter name. For example,

  ```
  mv X0423002 X04202
  ```

- Copy the font file to a file that has a shorter name. For example,

  ```
  cp X0423002 X04202
  ```

- Link the original font file to a shorter name. For example,

  ```
  ln -s X0423002 X04202
  ```

With Infoprint Manager for Windows NT and Windows 2000, if you use the ASCII fonts that are supplied with Infoprint, use the 4-character names. If you use your own coded font that has a file name with more than 6 characters (including the X*n* prefix), then do one of the following:

- Rename the font file to a shorter name. For example,

  ```
  rename X0423002 X04202
  ```

- Copy the font file to a file that has a shorter name. For example,

  ```
  copy X0423002 X04202
  ```

When you use the **line2afp** command to convert S/370 line-mode data or unformatted ASCII data, you must specify a page definition (**pagedef** option). If the page definition names some fonts, the **line2afp** command uses those fonts, and ignores the **chars** option. If the page definition does not name any fonts (like the sample page definitions supplied with Infoprint), and if you want the file to print with more than one font, then the input file must contain table reference characters, and you must:

- Specify **trc=yes**.
- Use **chars** to indicate the fonts to be associated with each table reference character (TRC). *Fontname1* is associated with TRC 0, *FontName2* is associated with TRC 1, and so on.

If the page definition does not name any fonts, and you want the whole file to print with only one font, then the input file must not contain table reference characters and you must:

- Specify **trc=no**.
- Use **chars** to indicate the single font in which the file should be printed.

Consider the following when specifying fonts with the **chars** option:

- If your input file is unformatted ASCII, you can do one of the following:
  - Specify a font that has the appropriate ASCII code points. To specify a font search path, either use the **fontlib** option to specify it explicitly, or set the **PSFPATH** environment variable to search the appropriate directories. See "IBM AFP Fonts for ASCII Data" in *AFP Conversion and Indexing Facility: User's Guide* for a list of suggested ASCII fonts.
  - Use the **apka2e** or **asciinpe** input record exit programs to convert the ASCII code points in the input file into EBCDIC, and use EBCDIC fonts. To do this, use the **inpexit** option, specifying:

    For AIX
    ```
    inpexit=/usr/lpp/psf/bin/apka2e
    ```

For NT/2000

> `inpexit=c:\Program Files\IBM Printing Systems\bin\apka2e`
> where this path assumes you installed into the default path.

If the ASCII input file contains form feeds or carriage returns, specify:

For AIX

> `inpexit=/usr/lpp/psf/bin/asciinpe`

For NT/2000

> `inpexit=c:\Program Files\IBM Printing Systems\bin\asciinpe` where this path assumes you installed into the default path.

- You can specify fonts with the **chars** option only if you want the entire file printed in a single printing direction. The **line2afp** command uses the fonts that have 0-degree character rotation for the specified direction. When a file requires fonts with more than one print direction or character rotation, you must specify the fonts in the page definition.

- You can specify from one to four fonts with the **chars** option. If you specify more than one font with the **chars** option, then the input file must contain table reference characters, and you must specify **trc=yes**.

- If you use **chars** to specify fonts, but you also use the **pagedef** option to specify a page definition that names fonts, the **chars** option is ignored. Therefore, if your page definition names fonts, you should not use **chars**.

- If you do not specify a **chars** option, and if no fonts are contained in the page definition you specified, the **line2afp** command uses the default font that is set in the printer's hardware.

This option is equivalent to the document attribute **chars** on the **pdpr** command.

fdeflib=_PathList_
Specifies the directories in which form definitions are stored. The value is:

PathList
Any valid search path. The **line2afp** command searches the paths in the order in which they are specified.

With AIX, you must use a colon (:) to separate multiple paths.

With NT/2000, you must use a semi-colon (;) to separate multiple paths.

The **line2afp** command searches for the form definition in the following order:

1. The paths you specified with **userlib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context-user** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

2. The paths you specified with **fdeflib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-form-definition** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

3. The paths you specified with **reslib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **-orespath** flag

on an AIX print command, or with the **resource-context** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

4. The paths specified by the **PSFPATH** environment variable.

5. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-form-definition** physical printer attribute.

6. With AIX:

   a. **/usr/lpp/psf/reslib**

   b. **/usr/lpp/afpfonts**

   c. **/usr/lpp/psf/fontlib**

7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:

   a. *install_path***reslib**

   b. *install_path***afpfonts**

   c. *install_path***fontlib**

For S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by piping **line2afp**'s output to an AIX print command or the **pdpr** command, you should specify the same form definition search path on both sides of the pipe, unless you are sure that the same form definition will be found by **line2afp** and Infoprint using each program's default search path.

With Infoprint Manager for AIX, for S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by specifying **-odatatype=line** with an AIX print command, you must specify the form definition search path with **-orespath** instead of **fdeflib**. For example:

```
enq -odatatype=line -oformdef=myfd -opagedef=mypdef
   -orespath=/home/greg/resources -Pprinter myfile
```

This option is equivalent to the document attribute **resource-context-form-definition** on the **pdpr** command.

fileformat={record | record,*n* | stream | stream,(newline=X'*nn*')}
Specifies the format of the input file. If you do not specify **fileformat**, the **line2afp** command uses **stream** as the default.

The **fileformat** option does not apply to input files that are resources. Resource files are in MO:DCA-P or AFP data stream format, and the **line2afp** command automatically determines that the file is a resource.

Values are:

record
The input file is formatted in S/370 record format, where the first two bytes of each line specify the length of the line. Files with **record** format typically are MVS or VM files that have a variable record format and are downloaded to AIX or Windows.

record,*n*
The input file is formatted in such a way that each record (including AFP data stream and MO:DCA-P records) is a fixed length, *n* bytes long. The value of *n* is a number from 1 to 32767. The encapsulated size of the AFP structured field must be less than the

size of *n*. Files with **record,***n* format typically are MVS or VM files that have a fixed record format and are downloaded to AIX or Windows.

stream

The input file has no length information; it is a stream of data separated by a newline character. The AFP portion (if any) of the input file has its length information encapsulated in the structured field. Files with **stream** format typically come from a workstation operating system like AIX, Windows, OS/2, or DOS.

The **line2afp** command examines the first six bytes of the first line data record of the input file, to determine whether the input file is ASCII or EBCDIC. If **line2afp** determines that the input file is ASCII, **line2afp** looks for ASCII newline characters (X'0A') to delimit the end of a record. If **line2afp** determines that the input file is EBCDIC, **line2afp** looks for EBCDIC newline characters (X'25') to delimit the end of a record. The **line2afp** command does not include newline characters in the MO:DCA-P data stream that **line2afp** produces.

stream is the default.

stream,(newline=X'*nn***')**

Use **newline** to specify a hexadecimal value for the newline character in the input data file.

You can use **newline** when **line2afp**'s algorithm cannot determine the correct newline character (if blanks are at the beginning of the file, for instance). Or you can use **newline** if you want to specify a newline character that is not the standard default. For example, you could use **newline** as follows:

```
fileformat=stream,(newline=X'0D')
```

If **newline** is not specified, **line2afp** uses the algorithm specified under **fileformat=stream**.

This option is equivalent to the document attribute **new-line-options** on the **pdpr** command.

fontlib=*PathList*

Specifies the directories in which fonts are stored.

The value is:

PathList

Any valid search path. The **line2afp** command searches the paths in the order in which they are specified.

With AIX, you must use a colon (:) to separate multiple paths.

With NT/2000, you must use a semi-colon (;) to separate multiple paths.

The **line2afp** command searches for the fonts in the following order:

1. The paths you specified with **userlib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context-user** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

2. The paths you specified with **fontlib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **-osrchfontlib** flag on an AIX print command, or with the **resource-context-font** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

3. The paths you specified with **reslib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

4. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-font** physical printer attribute.

5. The paths specified by the **PSFPATH** environment variable.

6. With AIX:

   a. **/usr/lpp/psf/reslib**
   b. **/usr/lpp/afpfonts**
   c. **/usr/lpp/psf/fontlib**

7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:

   a. *install_path***reslib**
   b. *install_path***afpfonts**
   c. *install_path***fontlib**

For S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by piping **line2afp**'s output to an AIX print command or the **pdpr** command, you should specify the same font search path on both sides of the pipe, unless you are sure that the same fonts will be found by **line2afp** and Infoprint using each program's default search path.

With Infoprint Manager for AIX, for S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by specifying **-odatatype=line** with an AIX print command, you must specify the font search path (if any) with **-osrchfontlib** instead of **fontlib**, as shown in the following example:

```
enq -odatatype=line -osrchfontlib=/home/greg/resources
   -oformdef=myfdef -opagedef=mypdef -Pprinter myfile
```

Note: If the input file is ASCII data that you want to format with a page definition, you can do one of the following:

- Specify a font that has the appropriate ASCII code points. To specify a font search path, either use the **fontlib** option to specify it explicitly, or set the **PSFPATH** environment variable to search the appropriate directories.

- Use the **apka2e** or **asciinpe** input record exit to convert the ASCII code points in the input file into EBCDIC, and use EBCDIC fonts. To do this, use the **inpexit** option, specifying:

  For AIX

  ```
  inpexit=/usr/lpp/psf/bin/apka2e
  ```

  For NT/2000

  ```
  inpexit=c:\Program Files\IBM Printing
  Systems\bin\apka2e
  ```
  where this path assumes you installed into the default path.

or

For AIX

inpexit=/usr/lpp/psf/bin/asciinpe

For NT/2000

inpexit=c:\Program Files\IBM Printing
Systems\bin\asciinpe where this path assumes you
installed into the default path.

This option is equivalent to the document attribute **resource-context-font**
on the **pdpr** command.

formdef=_FormDefinitionName_

Specifies the file name of the form definition. A form definition defines how
a page of data is placed on a form, the number of copies of a page, any
modifications to that group of copies, the paper source, and duplexing. The
form definition is actually used at print time, not at transform time.

The value is:

FormDefinitionName

Any valid form definition file name. The _FormDefinitionName_ can be
1 to 8 alphanumeric or national characters, including the
two-character prefix, if there is one. For AIX, the
FormDefinitionName is case-sensitive.

Note: If the file name of the form definition includes a file
extension, do not use the file extension when specifying the
form definition. For example, to use a form definition named
memo.FDEF38PP, specify **formdef=memo**.

The **line2afp** command requires a form definition in order to process the
input file (even though the form definition actually gets used at print time). If
you do not specify **formdef=**, or if you specify **formdef=** without a form
definition file name, the **line2afp** command will not work.

For S/370 line data and for ASCII data that you want to format with a page
definition, if you are transforming and printing a file by piping **line2afp**'s
output to an AIX print command or the **pdpr** command, you should specify
the same form definition on both sides of the pipe. If you are using the
default form definition for the target printer, you do not need to specify a
form definition with the AIX print command or **pdpr** command.

The form definition you use may be located:
• In a directory
• Inline in the file (that is, within the file itself)

If the form definition file is in a directory, use the **userlib** option or **fdeflib**
option to specify the path to the file. For example:

For AIX

formdef=memo userlib=/usr/afp/resources

For NT/2000

formdef=memo userlib=d:\afp\resources

or

For AIX

```
formdef=memo fdeflib=/usr/lib/formdefns
```

For NT/2000

```
formdef=memo fdeflib=d:\lib\formdefns
```

If the form definition is an inline resource, you must do the following:

- Specify **cc=yes** to indicate that the file contains carriage-control characters.

- Specify **formdef=**_FormDefinitionName_, where _FormDefinitionName_ is the name of the inline form definition; or specify **formdef=dummy**.

  If you specify **formdef=dummy** but the file does not include an inline form definition, the **line2afp** command looks for the form definition named **dummy**.

  If you use **formdef** to specify an inline form definition that is different than the actual form definition used inline, the **line2afp** command looks for the **formdef** value instead of the inline form definition.

An input file can contain multiple form definitions, but only one form definition can be used for printing. If a file contains more than one inline form definition, and you specify **formdef=**_FormDefinitionName_, **line2afp** uses the first inline form definition named _FormDefinitionName_. If a file contains more than one inline form definition, and you specify **formdef=dummy**, **line2afp** uses the first inline form definition in the input file.

This option is equivalent to the document attribute **form-definition** on the **pdpr** command.

imageout={asis | ioca}

Specifies the format of the image data produced by the **line2afp** command in the output document.

Values are:

asis   The **line2afp** command produces all image data in the same format that it was in the input file.

ioca   The **line2afp** command produces all image data in the Image Object Content Architecture uncompressed format. **ioca** is the default.

This option is similar to the document attribute **image-out-format** on the **pdpr** command.

inpexit=_ProgramName_

Specifies the name or the full path name of the input record exit program. The **line2afp** command calls this program for every record (every line) it reads from the input file (**inputdd**). If you specify the file name without a path, the **line2afp** command searches for the exit program in the paths specified by the **PATH** environment variable. If you do not specify this option, the **line2afp** command will not use an input record exit program.

The value is:

ProgramName

Any valid input record exit program name. With Infoprint Manager for AIX, the exit program name is case-sensitive.

line2afp

If the input file is unformatted ASCII, but the fonts you are using contain EBCDIC, not ASCII, code points (for example, you specify **chars=GT15**), you can specify:

With AIX:

/usr/lpp/psf/bin/apka2e
    Converts ASCII stream data to EBCDIC stream data.

/usr/lpp/psf/bin/asciinpe
    Converts unformatted ASCII data into a record format that contains an American National Standards Institute (ANSI) carriage control character in byte 0 of every record, and then converts the ASCII stream data to EBCDIC stream data.

With NT/2000:

c:\Program Files\IBM Printitng Systems\bin\apka2e
    Converts ASCII stream data to EBCDIC stream data. This path assumes you installed into the default directory.

c:\Program Files\IBM Printitng Systems\bin\asciinpe
    Converts unformatted ASCII data into a record format that contains an American National Standards Institute (ANSI) carriage control character in byte 0 of every record, and then converts the ASCII stream data to EBCDIC stream data. This path assumes you installed into the default directory.

If your input file uses fonts that have ASCII code points (for example, you specify **chars=H292**, or any of the fonts listed in "IBM AFP Fonts for ASCII Data" in *AFP Conversion and Indexing Facility: User's Guide*) you should *not* use the **apka2e** or **asciinpe** exit programs. However, if your unformatted ASCII file contains carriage returns and form feeds, you may want to specify the following exit program supplied with Infoprint:

For AIX: /usr/lpp/psf/bin/asciinp
    Converts unformatted ASCII data that contains carriage returns and form feeds into a record format that contains an American National Standards Institute (ANSI) carriage control character. This exit encodes the ANSI carriage control character in byte 0 of every record.

For NT/2000: c:\Program Files\IBM Printing Systems\bin\asciinp
    Converts unformatted ASCII data that contains carriage returns and form feeds into a record format that contains an American National Standards Institute (ANSI) carriage control character. This exit encodes the ANSI carriage control character in byte 0 of every record.

This option is equivalent to the document attribute **input-exit** on the **pdpr** command.

inputdd=*FileName*
Specifies the full path name of the input file that the **line2afp** command will process. If you do not specify **inputdd**, the **line2afp** command uses standard input.

You cannot use **inputdd=**_FileName_ on the command line with the **enq**, **lp**, **qprt**, or **lprafp.** commands, or with the **other-transform-options** attribute on the **pdpr** command. You can only use **inputdd=**_FileName_ with the **line2afp** command.

msgdd=_FileName_

Specifies the name or the full path name of the file where the **line2afp** command writes error messages. If you specify the file name without a path, the **line2afp** command puts the error file into your current directory. If you do not specify **msgdd**, the **line2afp** command uses standard error for its message output.

This option is equivalent to the document attribute **transform-message-file-name** on the **pdpr** command.

outexit=_ProgramName_

Specifies the name or the full path name of the output record exit program. The **line2afp** command calls this program for every output record (every line) it writes to the output document file (**outputdd**). If you specify the file name without a path, the **line2afp** command searches for the file name in the paths specified by the PATH environment variable. If you do not specify this option, the **line2afp** command will not use an output record exit program.

The value is:

ProgramName

Any valid output record exit program name. With Infoprint Manager for AIX, the exit program name is case-sensitive.

This option is equivalent to the document attribute **output-exit** on the **pdpr** command.

outputdd=_FileName_

Specifies the name or the full path name of the output document file. If you specify the file name without a path, the **line2afp** command puts the output file into your current directory. If you do not specify **outputdd**, the **line2afp** command writes the output to standard output.

You cannot use **outputdd=**_FileName_ on the command line with the **enq**, **lp**, or **qprt** commands, or with the **other-transform-options** attribute on the **pdpr** command. You can only use **outputdd=**_FileName_ with the **line2afp** command.

This option is equivalent to the document attribute **transform-output-file-name** on the **pdpr** command.

ovlylib=_PathList_

Specifies the directories in which overlays are stored. The value is:

PathList

Any valid search path. The **line2afp** command searches the paths in the order in which they are specified.

With AIX, you must use a colon (:) to separate multiple paths.

With NT/2000, you must use a semi-colon (;) to separate multiple paths.

The **line2afp** command searches for an overlay in the following order:

1. The paths you specified with **userlib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the

resource-context-user attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

2. The paths you specified with **ovlylib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context-overlay** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

3. The paths specified in **reslib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **-orespath** flag on an AIX print command, or with the **resource-context** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

4. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-overlay** physical printer attribute.

5. The paths specified by the **PSFPATH** environment variable.

6. With AIX:
   a. **/usr/lpp/psf/reslib**
   b. **/usr/lpp/afpfonts**
   c. **/usr/lpp/psf/fontlib**

7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
   a. *install_path***reslib**
   b. *install_path***afpfonts**
   c. *install_path***fontlib**

For S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by piping **line2afp**'s output to an AIX print command or the **pdpr** command, you should specify the same overlay search path on both sides of the pipe, unless you are sure that the same overlays will be found by **line2afp** and Infoprint using each program's default search path.

Infoprint Manager for AIX, for S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by specifying **-odatatype=line** with an AIX print command, you must specify the overlay search path with **-orespath** instead of **ovlylib**. For example:

```
enq -odatatype=line -oformdef=myfd -opagedef=mypd
   -orespath=/home/greg/resources -Pprinter myfile
```

This option is equivalent to the document attribute **resource-context-overlay** on the **pdpr** command.

pagedef=*PageDefinitionName*
Specifies the file name of the page definition. A page definition defines the page format that the **line2afp** command uses to compose the input file into pages. The page definition is actually used at transform time, not at print time.

The value is:

PageDefinitionName
Any valid page definition file name. The *PageDefinitionName* can

be 1 to 8 alphanumeric or national characters, including the two-character prefix, if there is one. With AIX, the **pdefname** is case-sensitive.

> **Note:** If the file name of the page definition includes a file extension, do not use the file extension when specifying the page definition. For example, to use a page definition named **memo.PDEF38PP**, specify **pagedef=memo**.

The **line2afp** command requires a page definition in order to process the input file. If you do not specify **pagedef=**, or if you specify **pagedef=** without a page definition file name, the **line2afp** command will not work.

The page definition you use may be located:
- In a directory
- Inline in the file (that is, within the file itself)

If the page definition file is in a directory, use the **userlib** option or **pdeflib** option to specify the path to the file. For example:

For AIX
```
pagedef=memo userlib=/usr/afp/resource
```

For NT/2000
```
pagedef=memo userlib=d:\afp\resource
```

or

For AIX
```
pagedef=memo pdeflib=/usr/lib/pagedefns
```

For NT/2000
```
pagedef=memo pdeflib=d:\lib\pagedefns
```

If the page definition is an inline resource, you must do the following:
- Specify **cc=yes** to indicate that the file contains carriage-control characters.
- Specify **pagedef=**_PageDefinitionName_, where _PageDefinitionName_ is the name of the inline page definition; or specify **pagedef=dummy**.

  If you specify **pagedef=dummy** but the file does not include an inline page definition, the **line2afp** command looks for the page definition named **dummy**.

  If you use **pagedef** to specify an inline page definition that is different than the actual page definition used inline, the **line2afp** command looks for the **pagedef** value instead of the inline page definition.

An input file can contain multiple page definitions, but only one page definition can be used by the **line2afp** command. If a file contains more than one inline page definition, and you specify **pagedef=**_PageDefinitionName_, **line2afp** uses the first inline page definition named _PageDefinitionName_. If a file contains more than one inline page definition, and you specify **pagedef=dummy**, the **line2afp** command uses the first inline page definition in the input file.

This option is equivalent to the document attribute **page-definition** on the **pdpr** command.

parmdd=*FileName*

Specifies the name or the full path name of a file that contains the **line2afp** options and their values. If you specify the file name without a path, the **line2afp** command searches for the file name in your current directory.

You may find it convenient to put the **line2afp** options and values into a file, so that you do not have to type all of them on the command line whenever you use **line2afp**.

Values are:

FileName

The name of the file containing **line2afp** command options and values.

Notes:

1. The beginning delimiter for comments is "/*". For example:

   ```
   formdef=F1TEMP  /* Temporary formdef
   formdef=F1PROD  /* Production-level formdef
   ```

   Comments can appear anywhere, but the **line2afp** command ignores all information in the line following the "/*" character string.

2. Each option must be on a separate line. For example:

   ```
   chars=GT10 cctype=a  /* This is NOT allowed.
   ```

3. If the option file contains the name of the input file (**inputdd=***FileName*), you cannot specify the option file with an AIX print command's **-o** flag or with the **other-transform-options** attribute on the **pdpr** command. For example, these commands are not valid:

   ```
   enq -odatatype=line -oparmdd=myparms
   pdpr -x "document-format=line-data
      other-transform-options='parmdd=myparms'"
   ```

   However, these are valid:

   ```
   line2afp parmdd=myparms │ enq
   line2afp parmdd=myparms │ pdpr -d my-printer
   ```

pdeflib=*PathList*

Specifies the directories in which page definitions are stored.

The value is:

PathList

Any valid search path. The **line2afp** command searches the paths in the order in which they are specified.

With AIX, you must use a colon (:) to separate multiple paths.

With NT/2000, you must use a semi-colon (;) to separate multiple paths.

The **line2afp** command searches for a page definition in the following order:

1. The paths you specified with **userlib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context-user** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

2. The paths you specified with **pdeflib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the

> **resource-context-page-definition** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

3. The paths specified in **reslib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **-orespath** flag on an AIX print command, or with the **resource-context** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

4. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-page-definition** physical printer attribute.

5. The paths specified by the **PSFPATH** environment variable.

6. With AIX:

   a. **/usr/lpp/psf/reslib**
   b. **/usr/lpp/afpfonts**
   c. **/usr/lpp/psf/fontlib**

7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:

   a. *install_path***reslib**
   b. *install_path***afpfonts**
   c. *install_path***fontlib**

This option is equivalent to the document attribute **resource-context-page-definition** on the **pdpr** command.

prmode={SOSI1 | SOSI2 | *aaaaaaaa***}**

> Specifies the type of data in the input file and whether the **line2afp** command must perform optional processing of that data.

> Values are:

SOSI1 Specifies that each shift-out, shift-in code be converted to a blank and a Set Coded Font Local text control.

SOSI2 Specifies that each shift-out, shift-in code be converted to a Set Coded Font Local text control.

aaaaaaaa
> Any 8-byte alphanumeric string. This value is supplied to all of the ACIF user exits. (Refer to *AFP Conversion and Indexing Facility: User's Guide* for information about ACIF user exits.)

> For the **SOSI** process modes to work correctly, the first font specified in the **chars** option (or in a font list in a page definition) must be a single-byte font, and the second font must be a double-byte font.

> This option is equivalent to the document attribute **shift-out-shift-in** on the **pdpr** command.

pseglib=*PathList*

> Specifies the directories in which page segments and BCOCA, GOCA, and IOCA objects are stored.

> The value is:

PathList
> Any valid search path. The **line2afp** command searches the paths in the order in which they are specified.

With AIX, you must use a colon (:) to separate multiple paths.

With NT/2000, you must use a semi-colon (;) to separate multiple paths.

The **line2afp** command searches for page segments in the following order:

1. The paths you specified with **userlib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context-user** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

2. The paths you specified with **pseglib**, if any. If **line2afp** is invoked as part of submitting a print job, the paths you specified with the **resource-context-page-segment** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

3. The paths specified in **reslib**, if any. If the **line2afp** command is invoked as part of submitting a print job, the paths you specified with the **-orespath** flag on an AIX print command, or with the **resource-context** attribute on the **pdpr** command, in an attributes file, or in a default document, are also searched.

4. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-page-segment** physical printer attribute.

5. The paths specified by the **PSFPATH** environment variable.

6. With AIX:
   a. **/usr/lpp/psf/reslib**
   b. **/usr/lpp/afpfonts**
   c. **/usr/lpp/psf/fontlib**

7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
   a. *install_path***reslib**
   b. *install_path***afpfonts**
   c. *install_path***fontlib**

For S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by piping **line2afp**'s output to an AIX print command or the **pdpr** command, you should specify the same page segment search path on both sides of the pipe, unless you are sure that the same page segments will be found by **line2afp** and Infoprint using each program's default search path.

For S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by specifying **-odatatype=line** with an AIX print command, you must specify the page segment search path with **-orespath** instead of **pseglib**. For example:

```
enq -odatatype=line -oformdef=myfd -opagedef=mypd
    -orespath=/home/greg/resources -Pprinter myfile
```

This option is equivalent to the document attribute **resource-context-page-segment** on the **pdpr** command.

resexit=*ProgramName*
Specifies the name or the full path name of the resource exit program. This is the program the **line2afp** command calls each time it attempts to retrieve a requested resource from a directory. If you specify the file name without a

path, the **line2afp** command searches for the file name in the paths specified by the **PATH** environment variable. If you do not specify this option, the **line2afp** command does not use a resource exit program. The exit program name is case-sensitive.

The value is:

ProgramName
> Any valid resource exit program name.

This option is equivalent to the document attribute **resource-exit** on the **pdpr** command.

reslib=*PathList*
> Specifies the paths for the system resource directories. System resource directories typically contain resources that are shared by many users. The directories can contain any AFP resources (fonts, page segments, overlays, page definitions, or form definitions).
>
> For S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by piping **line2afp**'s output to an AIX print command or the **pdpr** command, you should specify the same resource search path on both sides of the pipe, unless you are sure that the same resources will be found by **line2afp** and Infoprint using each program's default search path.
>
> For S/370 line data and for ASCII data that you want to format with a page definition, if you are transforming and printing a file by specifying **-odatatype=line** with an AIX print command, you must specify the search path for AFP resources with **-orespath** instead of **reslib**. For example:

```
enq -odatatype=line -oformdef=myfd -opagedef=mypd
  -orespath=/home/greg/resources -Pprinter myfile
```

> The value is:
>
> *PathList*
>> Any valid search path. The **line2afp** command searches the paths in the order in which they are specified.
>>
>> With AIX, you must use a colon (:) to separate multiple paths.
>>
>> With NT/2000, you must use a semi-colon (;) to separate multiple paths.
>
> The **line2afp** command searches for resources in the following order:
>
> 1. Paths specified by the **userlib** option for miscellaneous user resources, or the **resource-context-user** attribute on the **pdpr** command if **line2afp** was invoked as part of submitting a print job.
> 2. Paths specified by the **fdeflib**, **fontlib**, **ovlylib**, **pdeflib**, and **pseglib** options for specific types of resources or the equivalent options of an AIX print command or equivalent document attributes on the **pdpr** command if **line2afp** was invoked as part of submitting a print job.
> 3. Paths specified by the **reslib** option, or the **-orespath** flag of an AIX print command or the **resource-context** attribute on the **pdpr** command if **line2afp** was invoked as part of submitting a print job.
> 4. Paths specified by the **PSFPATH** environment variable.
> 5. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-**

> **definition**, and **resource-context-page-segment** physical printer attributes for specific types of resources.
>
> 6. With AIX:
>   a. **/usr/lpp/psf/reslib**
>   b. **/usr/lpp/afpfonts**
>   c. **/usr/lpp/psf/fontlib**
> 7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
>   a. *install_path***reslib**
>   b. *install_path***afpfonts**
>   c. *install_path***fontlib**
>
> This option is equivalent to the document attribute **resource-context** on the **pdpr** command.

trc={yes | <u>no</u>}
> Specifies whether the input file contains table reference characters (TRCs). Some applications may produce output that uses different fonts on different lines of a file by specifying TRCs at the beginning of each line after the carriage-control character, if one is present.
>
> Values are:
>
> **yes**   The input file contains table reference characters.
>
> **<u>no</u>**   The input file does not contain table reference characters. **no** is the default.
>
> Consider the following when you use TRCs:
> - The order in which the fonts are specified in the **chars** option establishes which number is assigned to each associated TRC. For example, the first font specified is assigned 0, the second font 1, and so on.
> - If you specify **trc=yes** but TRCs are not contained in the file, the **line2afp** command interprets the first character (or second, if carriage-control characters are used) of each line as the font identifier. Consequently, the font used to process each line of the file may not be the one you expect, and one byte of data will be lost from each line.
> - If you specify **trc=no** or you do not specify **trc** at all, but your data contains a TRC as the first character (or second if carriage-control characters are used) of each line, the **line2afp** command interprets the TRC as a text character in the processed output, rather than using it as a font identifier.
>
> This option is equivalent to the document attribute **table-reference-characters** on the **pdpr** command.

userlib=*PathList*
> Specifies the names of user directories containing AFP resources for processing the input file. The directories can contain any AFP resources (fonts, page segments, overlays, page definitions, or form definitions).
>
> By convention, these resources are typically used by one user, as opposed to the system resources (specified with the **reslib** option) that are shared by many users. Therefore, you should use the **userlib** option to specify resources that are not retrieved with the **fdeflib**, **fontlib**, **ovlylib**, **pdeflib**, or **pseglib** options.

The value is:

PathList

> Any valid search path. The **line2afp** command searches the paths in the order in which they are specified.

> With AIX, you must use a colon (:) to separate multiple paths.

> With NT/2000, you must use a semi-colon (;) to separate multiple paths.

The **line2afp** command searches for resources in the following order:

1. Paths specified by the **userlib** option, or the **resource-context-user** attribute on the **pdpr** command if **line2afp** was invoked as part of submitting a print job.

2. Paths specified by the **fdeflib**, **fontlib**, **pdeflib**, **pseglib**, **ovlylib**, options for specific types of resources or the equivalent options of an AIX print command or equivalent document attributes on the **pdpr** command if **line2afp** was invoked as part of submitting a print job.

3. Paths specified by the **reslib** option, or the **-orespath** flag of an AIX print command or the **resource-context** attribute on the **pdpr** command if **line2afp** was invoked as part of submitting a print job.

4. Paths specified by the **PSFPATH** environment variable.

5. If **line2afp** is invoked as part of submitting a print job, the paths specified with the **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, and **resource-context-page-segment** physical printer attributes for specific types of resources.

6. With AIX:
   a. **/usr/lpp/psf/reslib**
   b. **/usr/lpp/afpfonts**
   c. **/usr/lpp/psf/fontlib**

7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
   a. *install_path***reslib**
   b. *install_path***afpfonts**
   c. *install_path***fontlib**

Examples

- To print a "flat" ASCII file called `timesheet` that does not contain carriage controls, on the Infoprint printer named `servC-lp`, enter:

```
pdpr -p servC-lp -x "document-format=line-data
   form-definition=FDEF1 page-definition=PDEF3 input-exit=apka2e
   carriage-control-type=none" timesheet
```

  Because you specified `document-format=line data`, Infoprint invokes the **line2afp** command. Because you specified `form-definition=FDEF1`, the **line2afp** command uses the `FDEF1` form definition. Because you specified `page-definition=PDEF3`, the **line2afp** command uses the `PDEF3` page definition.

  If the `PDEF3` page definition specifies 2-up printing, then the `timesheet` file prints 2-up — that is, with two "pages" printed side by side on the same physical page.

- On AIX, assume that you want to print a S/370 line data file called `statements`. Assume that the file contains ANSI carriage-control characters.

To print this file on the Infoprint printer named `servA-lp`; use form definition `FDEF6` in your current directory (`/usr/liz/fdefs`) and use page definition `P1USER10` which might be in the directory `/usr/res/pdefs1` or in the directory `/usr/res/pdefs2`, enter:

```
pdpr -p servA-lp -x "document-format=line-data form-definition=FDEF6
  resource-context=/usr/liz/fdefs page-definition=P1USER10
  resource-context-page-definition=/usr/res/pdefs1:/usr/res/pdefs2
  carriage-control-type=ansi-ebcdic new-line-options=record"
  /usr/370/statements
```

- Because you specified `document-format=line data`, Infoprint invokes the **line2afp** command.

- Because you specified `page-definition=P1USER10`, the **pdpr** command tells the **line2afp** command to use the page definition named `P1USER10`.

- Because you specified `resource-context-page-definition`, the **pdpr** command tells the **line2afp** command to search the two directories you specified for the page definition.

- Because you specified `form-definition=FDEF6`, the **pdpr** command tells the **line2afp** command to use the form definition named `FDEF6`.

- Because you specified `carriage-control-type=ansi-ebcdic`, and `new-line-options=record`, the **pdpr** command gives **line2afp** information about the data stream format of `statements`.

• Suppose you downloaded a file called `myfile` from a S/370 host to the Windows NT/2000 PC. The file transfer process converted the file's EBCDIC encoding to ASCII; the file still retains table reference characters and carriage controls. The file also retains the line length it had on the host (100 characters long). Also suppose that your current directory is `d:\Host.Files`.

To print this file on the Infoprint printer `BServ-lp`; use the coded fonts Courier 12-pitch (**X042B2**) and Times New Roman 14-pitch (**X0N2D2**) for the output; use the form definition called `F1USER10` in your current directory; and use the page definition called `MYP1` (which does not name any fonts) in your current directory, enter:

```
pdpr -X 370files.X myfile
```

where the attributes file named `370files.X` contains the following settings:

```
document-format=line-data
chars=42B2,N202
form-definition=F1USER10
resource-context=d:\Host.Files
page-definition=MYP1
resource-context-page-definition=d:\Host.Files
new-line-options=record,100
table-reference-characters=yes
carriage-control-type=ansi-ascii
printer-name-requested=BServ-lp
```

- Because you specified `document-format=line-data`, Infoprint invokes the **line2afp** command.

- The page definition you specified with `page-definition` does not name any fonts, but the input file contained table reference characters that indicate when fonts should be changed. You specified `table-reference-characters=yes` and `chars=42B2,N2D2`, and **pdpr** passes these values to **line2afp**.

  You had to use `resource-context-page-definition` to specify the path to the page definition; **line2afp** does not automatically look in your current directory.

- Because you specified `chars=42B2,N2D2`, **pdpr** tells **line2afp** to associate font `42B2` with the first table reference character, and font `N2D2` with the second table reference character. Any lines in the input file that begin with table

| reference character 0 will now print using font 42B2; lines beginning with table reference character 1 will print using font N2D2.

| – Because you specified `form-definition=F1USER10`, **pdpr** tells **line2afp** to use form definition F1USER10. You had to use **resource-context** to specify the path to the form definition; **pdpr** and **line2afp** do not automatically look in your current directory.

| • Suppose you downloaded a file called `myfile` from a S/370 host to the RS/6000. The file transfer process converted the file's EBCDIC encoding to ASCII; the file still retains table reference characters, plus ANSI carriage controls. You want to print this file on the Infoprint printer `servC-lp`, but you do not have any ASCII fonts; you only have the EBCDIC coded fonts Gothic 10-pitch (**X0GT10**) and Gothic 12-pitch (**X0GT12**).

To print this file using the form definition called F1USER10 and the page definition called MYPDEF2, which does not name any fonts, enter:

```
pdpr -p servC-lp -x "document-format=line-data
   chars=GT10,GT12 input-exit=apka2e
   form-definition=F1USER10 page-definition=MYPDEF2
   table-reference-characters=yes
   carriage-control-type=ansi-ebcdic
   resource-context=/usr/mydir" myfile
```

– Because you specified `document-format=line-data`, Infoprint invokes the **line2afp** command.

– The page definition you specified with **page-definition** does not name any fonts, but the input file contains table reference characters that specify when fonts are to be changed. You specified `table-reference-characters=yes` and `chars=GT10,GT12`, and **pdpr** passes these values to **line2afp**.

– Because you specified `chars=GT10,GT12`, **pdpr** tells **line2afp** to associate font GT10 with the first table reference character, and font GT12 with the second table reference character. Any lines in the input file that begin with table reference character 0 will now print using font GT10; lines beginning with table reference character 1 will print using font GT12.

– Because you specified `input-exit=apka2e`, **pdpr** tells **line2afp** to convert the ASCII input file into EBCDIC so you can use your EBCDIC coded fonts (GT10 and GT12). Your carriage controls are also in EBCDIC now, so you have to specify `carriage-control-type=ansi-ebcdic`. This example assumes you have **/usr/lpp/psf/bin** in your **PATH** environment variable.

– Because you specified `form-definition=F1USER10`, **pdpr** tells **line2afp** to use form definition F1USER10. You had to use **resource-context** to specify the path to the form definition; **pdpr** and **line2afp** do not automatically look in your current directory.

Files

For AIX:

/usr/lpp/psf/bin/line2afp
Symbolic link to the **acif** command

/usr/lpp/psf/bin/acif
The **acif** command

/usr/lpp/psf/acif/apkinp.c, apkind.c, apkres.c, apkout.c, apka2e.c, asciinp.c asciinpe.c
acif user exits (see *AFP Conversion and Indexing Facility: User's Guide* for more information)

line2afp

> **/usr/lpp/psf/bin/apka2e, apkinp, apkind, apkres, apkout, apka2e, asciinp, asciinpe**
>> User exit executables (see *AFP Conversion and Indexing Facility: User's Guide* for more information)
>
> **/usr/lpp/psf/bin/Makefile**
>> The build rules for the ACIF user exits
>
> **/usr/lpp/psf/acif/apkexits.h**
>> C language header file for the ACIF user exits

For NT/2000:

*install_path***\bin\line2afp.exe**
> The **acif** executable

*install_path***\bin\acif.exe**
> The **acif** command

*install_path***\exits\acif\apkinp.c, apkind.c, apkres.c, apkout.c, apka2e.c, asciinp.c asciinpe.c**
> **acif** user exits (see *AFP Conversion and Indexing Facility: User's Guide* for more information)

*install_path***\bin\apka2e.dll, apkinp.dll, apkind.dll, apkres.dll, apkout.dll, apka2e.dll, asciinp.dll, asciinpe.dll**
> User exit executables (see *AFP Conversion and Indexing Facility: User's Guide* for more information)

*install_path***\exits\acif\apkexits.h**
> C language header file for the ACIF user exits

*install_path***\exits\acif\apka2e.dsw, apkinp.dsw, apkind.dsw, apkres.dsw, apkout.dsw, apka2e.dsw, asciinp.dsw, asciinpe.dsw**
> Microsoft Visual C++ 6.0 Workspaces for the user exists

*install_path***\exits\acif\apka2e.dsp, apkinp.dsp, apkind.dsp, apkres.dsp, apkout.dsp, apka2e.dsp, asciinp.dsp, asciinpe.dsp**
> Microsoft Visual C++ 6.0 Project files for the user exits.

Messages

For AIX, message files for the **line2afp** transform can be found in **/usr/lib/nls/msg/***LANG***/acif.cat**, where *LANG* is the name of a locale, for example, en_US.

pcl2afp Command: Transforms PCL Data to AFP

Syntax

> **pcl2afp** [**-a**_OutputType_] [**-C**_ConfigurationFile_] [**-c**] [**-j** _nnnn_]
> [**-l**_nnnn.nnnu_] [**-M**_nnnnn_] [**-o**_OutputFile_] [**-P** _nnnnn_]
> [**-p**_PageRange_] [**-q**] [**-r**_nnn_] [**-S** _ServerName_] [**-s**_nnnn_]
> [**-w**_nnnn.nnnu_] [**-x**_nnnn.nnnu_] [**-y** _nnnn.nnnu_] [_InputFile ..._]

Description

The **pcl2afp** command transforms a PCL data stream file into an AFP data stream file.

The PSF DSS runs the **pcl2afp** command automatically whenever:
- Infoprint identifies the format of a document in a print job as PCL.
- You use the **pdpr** command to specify **document-format=pcl** with the **-x** flag or in an attributes file.
- You specify a data type of **-odatatype=pcl** with an AIX print command (**enq**, **lp**, or **qprt**) or with the **lprafp** command.

If you specify multiple values of the same flag, **pcl2afp** uses the last value specified, with the exception of the **-p** flag. Multiple values of the **-p** flag are accumulated and the pages identified for printing are printed in normal numerical sequence, regardless of the order you specify.

When using the **pcl2afp** command, you can specify an optional input file name. If you do not specify an input file name, **pcl2afp** uses standard input. The output file name is also optional; if you do not specify one, the **pcl2afp** command writes the results to standard output.

Note the following about the flags you can specify with the **pcl2afp** command:
1. You can pass flags to **pcl2afp** using the **other-transform-options** document attribute on the Infoprint **pdpr** command or the **-o** flag of the AIX print commands (**enq**, **lp**, and **qprt**) and the Infoprint **lprafp** command.
2. When you run **pcl2afp** as a standalone transform, flags can appear anywhere on the command line with or without a blank in the flag and value pair.

   When you specify **pcl2afp** transform flags with the **other-transform-options** attribute, any string containing a blank must be surrounded by single quotes.

   Do not use a blank between the flag and the value when you specify **pcl2afp** transform flags with an AIX print command or with the **lprafp** command.
3. When you specify flags with the **pcl2afp** command, **pcl2afp** echoes them back to your display along with the settings for the flags. To suppress the command echoing, enter the **-q** (quiet) flag along with the **pcl2afp** command.
4. The order in which Infoprint uses PCL options is as follows:
   a. Any options you specify on the command line with the **pcl2afp** command (for example, **-r300**), including values contained in the customized configuration file you specify with the **pcl2afp -C** command. If you specify the same option more than once, Infoprint uses the last value.
   b. Values contained in the configuration file, **pcl2afp.cfg**, in the current directory, if you invoked **pcl2afp** directly. If you invoked **pcl2afp** indirectly by

submitting a print job with a data type of PCL, **pcl2afp** ignores any configuration files in the current directory, and proceeds to step 4c.

c. Values contained in the **pcl2afp.cfg** file in the user's home directory.

d. Values contained in the default **pcl2afp** command configuration file:

For AIX
> **/usr/lpp/psf/pcl2afp/pcl2afp.cfg**

For NT/2000
> *install_path***\pcl2afp\pcl2afp.cfg**

e. Values contained in the customized configuration file you specify with the **pcl2afpd -C** command.

f. Values contained in the default **pcl2afpd** daemon configuration file:

For AIX
> **/usr/lpp/psf/pcl2afp/pcl2afpd.cfg**

For NT/2000
> *install_path***\pcl2afp\pcl2afpd.cfg**

g. Values contained in the **pcl2afpd.cfg** file when **pcl2afpd** was started.

h. The defaults that are built into **pcl2afpd**. These defaults are the same as the defaults for the **pcl2afp** flags.

5. The position of PCL data on the page depends on the interaction of the **-l** and **-w** flags, the **-x** and **-y** flags, and the form definition you use. In general, to position data on the page:

- Use **-l** and **-w** to set the physical page dimensions.
- Use a form definition that specifies zero vertical offset and zero horizontal offset (for example, F100S, F100D, or F100T) or specify X and Y offsets of 0 when you submit the print job. For more information, see page 272.
- Use **-x** and **-y** to avoid any areas that your printer cannot print.

6. You can specify the **pcl2afp** flags and values with the **pcl2afp** command, with the **pdpr -x "other-transform-options"** command, or with **enq -o**, **lp -o**, **qprt -o**, or **lprafp -o** command. You can also specify equivalent attributes with the **-x** flag or in an attributes file with the **pdpr** command.

Note: If you are migrating from PSF for AIX, see "Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents" on page 691 for a table of attributes equivalent to the job script keywords that you used to use to specify flags and values for transforms.

Limitations

- The **pcl2afp** transform must be installed, and the **pcl2afpd** daemon must be running.
- PCL data can contain device commands (for example, to begin or end duplexing or to change the input bin). Because the AFP architecture defines those device functions in a form definition resource instead of the print data, the **pcl2afp** transform ignores the device commands in the print data. To access those device functions (such as duplexing and bin selection), you must specify them in the form definition or attributes file, or on a print command, when you print the job.
- Resolution conversion algorithms may yield degraded appearance when used to reduce the resolution of a data stream. For this reason, **pcl2afp** may degrade the appearance of higher-resolution data streams when used with 240-pel printers. You should verify that print fidelity is satisfactory.

- There are subtle differences between PCL4 and PCL5e when it comes to handling fonts. While many PCL4 files will work with **pcl2afp**, some may not produce the expected output.

Flags and Values

-a {IO1_G4 | IM1 | IO1 | IO1_MMR | PSEG_IO1_G4 | PSEG_IM1 | PSEG_IO1 | PSEG_IO1_MMR | OVLY_IO1_G4 | OVLY_IM1 | OVLY_IO1 | OVLY_IO1_MMR}

Determines the type of AFP data stream image to generate for each page in the PCL file.

Values are:

IO1_G4

Compressed Image Object Content Architecture (IOCA) image in Modified TSS (formerly CCITT) T.6 G4 Facsimile Coding Scheme (G4 MMR) format. This is the recommended output type because it takes up less space on the fixed disk, and it prints faster. It is the default specified in the **pcl2afpd** daemon and **pcl2afp** command configuration files.

Note: The IBM 3812 and 3816 printers do not support printing with an image type of **IO1_G4**. For these printers, specify an image type of **IO1_MMR** because it is the compressed image type supported by these printers, and it will result in faster printing than uncompressed image types.

PPDS, PCL, and TCP/IP-attached IPDS printers can print IOCA images; however, only channel-attached printers that have the Advanced Function Image and Graphics (AFIG) feature installed can print IOCA images. Therefore, if you are printing images on channel-attached printers without the AFIG feature, select the **IM1** value.

IM1 IM1 image. This type of image is not compressed.

IO1 IOCA image. This type of image is not compressed.

IO1_MMR

Compressed IOCA image in Modified Modified Read (MMR) format.

PSEG_IO1_G4 | PSEG_IM1 | PSEG_IO1 | PSEG_IO1_MMR

Page segment of the specified image type.

Note: When generating page segments from multiple-page documents, you may want to use the **-p** flag to select which page is to be made into a page segment; otherwise, multiple page segments will be created, one for each page of PCL.

OVLY_IO1_G4 | OVLY_IM1 | OVLY_IO1 | OVLY_IO1_MMR

Overlay of the specified image type.

Note: When generating overlays from multiple-page documents, you may want to use the **-p** flag to select which page is to be made into an overlay; otherwise, multiple overlays will be created, one for each page of PCL.

This flag is similar to the **image-out-format** document attribute on the **pdpr** command.

-C *ConfigurationFile*
Specifies the path and file name of the customized configuration file **pcl2afp** uses with the transform. If you specify the **-C** flag with an AIX print command (**enq**, **lp**, or **qprt**), or with the **lprafp** command. specify the fully qualified name of the file, including its path; for example:

For AIX
/usr/lpp/psf/pcl2afp/myfile.cfg

For NT/2000
d:\pcl\myfile.cfg

-c Concatenates multiple input files without putting a Esc-E (end of job) characters between the files. The **pcl2afp** command interprets the input files as a continuous data stream, and processes them as if they were one PCL job. This flag can be useful when processing PCL files with inline resources.

>   **Note:** Do not use this flag when you perform the PCL-to-AFP data stream transform by submitting a print job with the **pdpr** command.

InputFile ...
Specifies one or more input files to be transformed. If you specify more than one input file name, the **pcl2afp** command concatenates the files and separates them with the Esc-E (end of job) characters. The results of the transform are written to a single output file (if one is specified) or to standard output.

In addition, you can specify PCL inline resource files as input files to the **pcl2afp** command. The file name of the inline resource file must precede the file name of the PCL print file so that **pcl2afp** concatenates the files in the correct order. The **pcl2afp** command concatenates the resources in front of the print file when the **-c** flag is specified.

If you do not specify an input file, **pcl2afp** uses standard input. If the **pcl2afp** command cannot read from standard input, the command issues a message.

-j {20 | 1 to **9998 | 9999}**
Specifies the maximum amount of time, in minutes, to spend processing the job.

Values are:

20 20 minutes, the default

1 to **9998**
The timer ranges from 1 to 9998 minutes, in one-minute increments

9999 No time limit

-l *nnnn.nnnu*
Specifies the length of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **pcl2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

>   **Note:** If a text margin is already built into the file, try **-l11i** to set the length to 11 inches.

For 240-pel resolution printers, values are:

11i   11 inches, the default

16 to **5280**

> The length can be from 16 pels to 5280 pels, 0.067i to 22.002i, or 1.701m to 558.852m. For example, the following are all valid:
>
> ```
> -l 40m
> -l 200.5m
> -l 13i
> -l 4000
> ```

For 300-pel resolution printers, values are:

11i   11 inches, the default

16 to **6600**

> The length can be from 16 pels to 6600 pels, 0.053i to 22.001i, or 1.346m to 558.842m. For example, the following are all valid:
>
> ```
> -l 40m
> -l 200.5m
> -l 13i
> -l 5000
> ```

For 480-pel resolution printers, values are:

11i   11 inches, the default

16 to **10560**

> The length can be from 16 pels to 10560 pels, 0.033i to 22.002i, or 0.838m to 558.852m. For example, the following are all valid:
>
> ```
> -l 40m
> -l 200.5m
> -l 13i
> -l 8000
> ```

For 600-pel resolution printers, values are:

11i   11 inches, the default

16 to**20400**

> The length can be from 16 pels to 20400 pels, 0.0267i to 34.001i, or 0.678m to 863m. For example, the following are all valid:
>
> ```
> -l 40m
> -l 200.5m
> -l 13i
> -l 10000
> ```

This flag is equivalent to the **image-length** document attribute on the **pdpr** command.

-M {6000 | 2000 to *nnnnn***}**
> Determines the maximum amount of memory, in KB, that the transform can use. This flag may be useful if you are processing large PCL jobs that require a lot of memory.

Values are:

6000   6000KB (6MB), the default

2000 to *nnnnn*

> The maximum memory ranges from 2000 to *nnnnn* (where *nnnnn* is the maximum upper limit allowed by AIX or Windows) up to 64MB.

-o *OutputFile*

Specifies the output path and file into which the transformed PCL files are to be written. If more than one output file is specified, the last specified file name and path is the one used. If no output file is specified, the result is written to standard output.

You cannot use **-o** *OutputFile* on the command line with the **enq**, **lp**, **qprt**, or **lprafp** commands. You can only use **-o** *OutputFile* with the **pcl2afp** command, or with the **other-transform-options** attribute on the **pdpr** command.

This option is equivalent to the **transform-output-file-name** document attribute on the **pdpr** command.

-P {8253 | 924 to *nnnnn***}**

Specifies the TCP/IP port number **pcl2afp** uses to make a connection with the workstation on which the **pcl2afpd** daemon is running (set by the **-S** flag). If your Infoprint installation uses more than one PCL daemon, use this flag to select the daemon.

This port should not be the same port used by the TCP/IP-attached IPDS printer or by the PostScript transform. On AIX, to find out which ports are already being used on your system (although they may or may not be active), look in the **/etc/services** file.

Values are:

8253 The default port number.

924 to *nnnnn*

Any valid port number greater than or equal to 924. With AIX, the maximum value, *nnnnn*, depends on AIX, but it must be equal to or less than 65535.

Note: You can only access secure ports, 924 to 1023, with **root** user authority.

-p *PageRange*

Specifies that the output should only contain selected pages. When you specify multiple **-p** flags, the **pcl2afp** command accumulates them and prints the identified pages in normal numerical order, regardless of the order you specify. Examples of values include:

-p even

Output even pages.

-p odd

Output odd pages.

-p 1-10

Output pages 1 through 10.

-p 10- Output pages from page 10 until the end of the job.

-p 1 -p 3 -p 6

Output pages 1, 3, and 6, in that order.

-p1 -p6 -p3

Output pages 1, 3, and 6, in that order.

This flag is equivalent to the **page-select** document attribute on the **pdpr** command.

-q Quiets (suppresses) the echoing of the **pcl2afp** command to the display.

-r {240 | 300 | 480 | 600}

Specifies the resolution of the output image. Select the resolution based on the printer on which you will be printing the image.

Values are:

240   240 pels-per-inch (for example, IBM 3812, 3825, 3827, 3835, and 3900 printers), the default

300   300 pels-per-inch (for example, IBM 3112, 3116, 4019, 4028, 4029, and 4039 printers and Hewlett-Packard printers)

480   480 pels-per-inch

600   600 pels-per-inch (for example, IBM 3900 printers)

Note: If you specify a resolution that the printer does not support, Infoprint will print the image under most conditions, but with degraded results. Specify the correct resolution for the printer on which you will print the PCL job.

This flag is equivalent to the **default-printer-resolution** document attribute on the **pdpr** command.

-S *ServerName*

Specifies the name of the AIX system on which the **pcl2afpd** daemon is running. If you do not specify this flag, the *ServerName* defaults to the effective name of the workstation on which you issued the **pcl2afp** command. The value is:

ServerName

Any valid AIX workstation name on which the **pcl2afpd** daemon is installed and running. The name is defined in the **/etc/hosts** file or by a name server, and may be a nickname like **molly**, or a dotted decimal address like **9.99.9.23**.

-s {20 | 1 to **9998 | 9999}**

Specifies the maximum amount of time, in minutes, that the PCL interpreter remains idle between jobs before it goes down. When the PCL interpreter is running, it uses some of the workstation memory. If the PCL interpreter goes down, you do not need to bring it back up; the interpreter automatically starts when you submit another PCL job as long as the **pcl2afpd** daemon is running.

Values are:

20   The default time is 20 minutes.

1 to **9998**

The time is the number of minutes specified in one-minute increments.

9999   There is no time limit.

-w *nnnn.nnnu*

Specifies the width of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **pcl2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

Note: If a text margin is already built into the file, try **-w8.5i** to set the width to 8.5 inches.

For 240-pel resolution printers, values are:

8.5i   8.5 inches, the default

16 to **4080**

The width can be from 16 pels to 4080 pels, 0.065i to 17.002i, or 1.641m to 431.852m. For example, the following are all valid:

```
-w 40m
-w 200.5m
-w 13i
-w 3300
```

For 300-pel resolution printers, values are:

8.5i   8.5 inches, the default

16 to **5100**

The width can be from 16 pels to 5100 pels, 0.052i to 17.001i, or 1.313m to 431.842m. For example, the following are all valid:

```
-w 40m
-w 200.5m
-w 13i
-w 5000
```

For 480-pel resolution printers, values are:

8.5i   8.5 inches, the default

16 to **8160**

The width can be from 16 pels to 8160 pels, 0.065i to 17.002i, or 1.641m to 431.852m. For example, the following are all valid:

```
-w 40m
-w 200.5m
-w 13i
-w 6600
```

For 600-pel resolution printers, values are:

8.5i   8.5 inches, the default

16 to **10200**

The width can be from 16 pels to 10200 pels, 0.052i to 17.001i, or 1.313m to 431.842m. For example, the following are all valid:

```
-w 40m
-w 200.5m
-w 13i
-w 10000
```

This flag is equivalent to the **image-width** document attribute on the **pdpr** command.

-x *nnnn.nnnu*

Specifies an X offset (horizontal offset) of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **pcl2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

An offset value specifies a border or margin around the generated image to avoid the non-printable areas of some printers. An X-offset value specifies the left and right margins of the generated image.

For all printers, values are:

0.167i 0.167 inches, the default

0 to **8.5i**

> The X offset can be no more than half of the width (**-w**) of the generated image. For example, if you specify a width of 13i, then the X offset can be no larger than 6.5i.

This flag is equivalent to the **x-image-shift** document attribute on the **pdpr** command.

Notes:

1. The X offset specified with **-x** must be less than the width specified with **-w**. If the **-x** value is greater than or equal to the **-w** value, a blank page is printed.

2. The X-offset value specifies margins on *both* the left and right sides of the page. If you have a width of 8.5 inches and specify an X offset of 5 inches, a blank page will also result because the margins on the left and right sides of the paper exceed the width of the paper.

3. PCL processing is slower when you use the **-x** flag, because the **pcl2afpd** daemon must stop and re-start the PCL interpreter. You may improve performance by changing the **pcl_x_offset** value in the **pcl2afpd** daemon configuration file rather than using **-x** on a regular basis.

-y *nnnn.nnnu*

> Specifies a Y offset (vertical offset) of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **pcl2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

> An offset value specifies a border or margin around the generated image to avoid the non-printable areas of some printers. A Y-offset value specifies the top and bottom margins of the generated image.

> For all printers, values are:

0.167i 0.167 inches, the default

0 to **8.5i**

> The Y offset can be no more than half of the width (**-w**) of the generated image. For example, if you specify a width of 14i, then the X offset can be no larger than 7.0i.

This flag is equivalent to the **y-image-shift** document attribute on the **pdpr** command.

Notes:

1. The Y offset specified with **-y** must be less than the length specified with **-l**. If the **-y** value is greater than or equal to the **-l** value, a blank page is printed.

2. The Y-offset value specifies margins on *both* the top and bottom edges of the page. If you have a length of 11 inches and specify an Y offset of 6 inches, a blank page will also result because the margins on the top and bottom of the paper exceed the length of the paper.

3. PCL processing is slower when you use the **-y** flag, because the **pcl2afpd** daemon must stop and re-start the PCL interpreter. You may

improve performance by changing the **pcl_y_offset** value in the **pcl2afpd** daemon configuration file rather than using **-y** on a regular basis.

Transforming PCL Image Data

The output of the PCL transform (the **pcl2afp** command) is AFP image data for any type of PCL input, whether it be text or images. The image that the **pcl2afp** command creates minimizes white space within an image block by defining the image block size to be exactly the right size to contain all of the black pels of the image. A PCL image may not print if any part of the image lies outside of the valid printable area. In addition, be aware that using form definitions that specify a non-zero logical page origin may move a valid PCL image out of the printable area; thus, the image won't print.

The **pcl2afp** command, the **pcl2afp.cfg** configuration file, and the **pcl2afpd.cfg** configuration file all let you specify the length and the width of PCL images. Before you use the **-l** and **-w** flags of the **pcl2afp** command or modify the **pcl_length** and **pcl_width** options in the configuration file, it's helpful to understand how Infoprint places PCL images on the page.

Figure 1 on page 271 shows an example of a PCL image. This image is 8.5 inches high and 11 inches wide, measured from the lower-left corner of the image.

If you want to print the entire image, specify a length of 11i and a width of 8.5i. When Infoprint prints the image, the upper-left corner of the image is placed at the point on the page called the logical page origin, which is specified in the form definition. The logical page origin is the point on the form where the page of data is positioned, and it is specified as an offset from the top-left corner of the sheet. Therefore, if the form definition has a logical page origin of 0.165 inches from both the left and top sides of the sheet, then the top-left corner of the image is placed 0.165 inches down and to the left of the upper left corner of the sheet.

Length = 11.0 inches
Width = 8.5 inches

PCL Image

Logical
page
origin

Length = 11.0 inches
Width = 8.5 inches

Logical
page

Physical
page

Printed Image
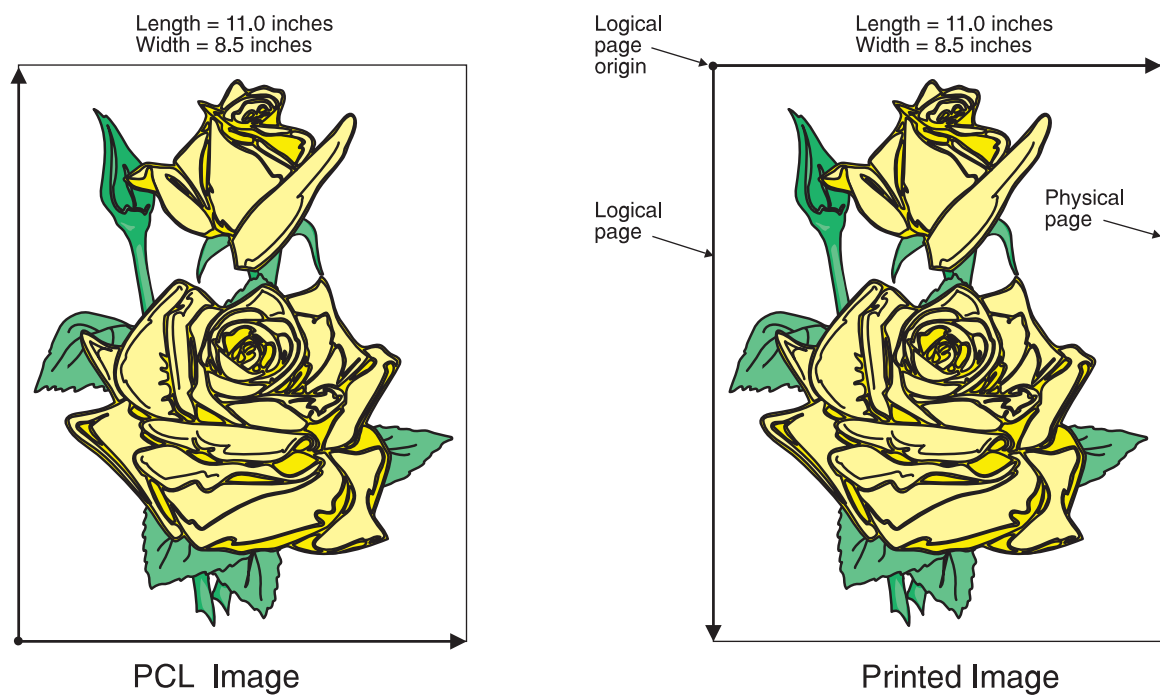
Figure 1. A PCL Image

All this gets more complicated if you don't specify the entire image. For example, if you want to crop the image so that you only use the lower left corner, you would specify a width of 7i and a length of 7i with the **pcl2afp** command. The upper left corner of the resulting image is then placed at the logical page origin (Figure 2).

Length = 7.0 inches
Width = 7.0 inches

Cropped PCL Image

Logical
page
origin
.5,.5

Length = 7.0 inches
Width = 7.0 inches

Physical
page

Logical
page

Printed Image
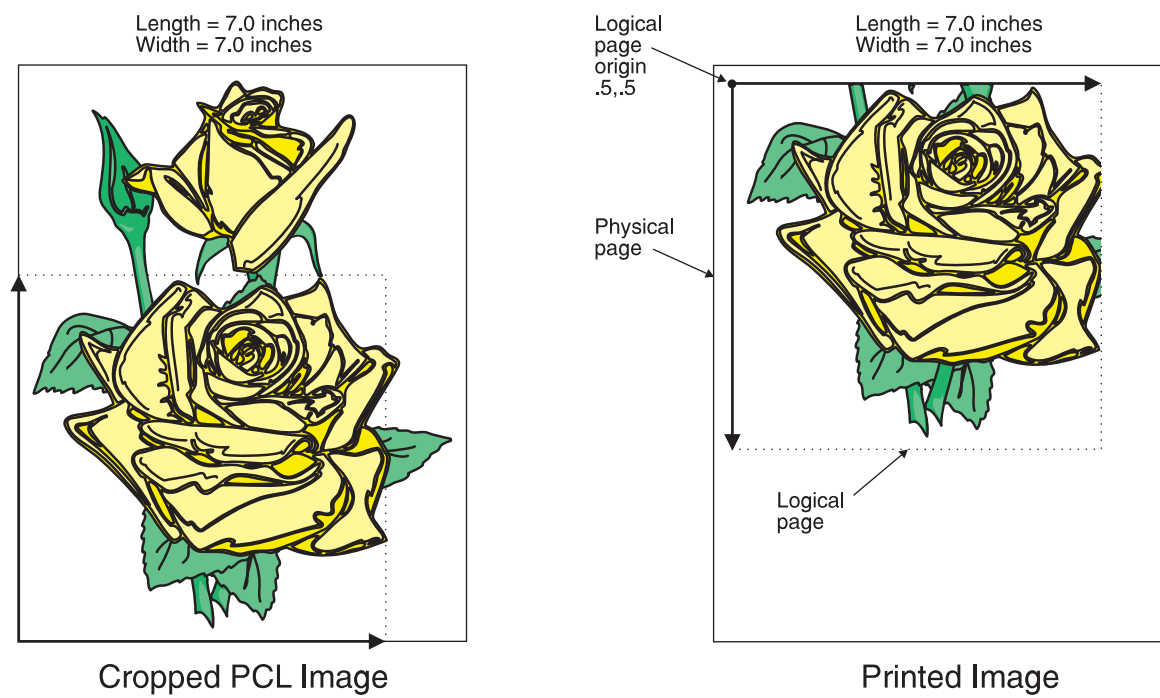
Figure 2. A Cropped PCL Image

In this final example, specify a PCL image that is 8.5 inches wide and 11 inches high. Again, the upper-left corner of the transformed image is placed at the logical page origin. Unless you specify a form definition with the print job that has a zero logical page origin (for example, **F100S**, **F100D**, or **F100T**), the page will not print because part of the image is outside the valid printable area (Figure 3).

Length = 11.0 inches
Width = 8.5 inches

Logical page origin .5, .5

Length = 11.0 inches
Width = 8.5 inches

Physical page

Logical page

PCL Image

Unprintable Image (outside of Physical page)
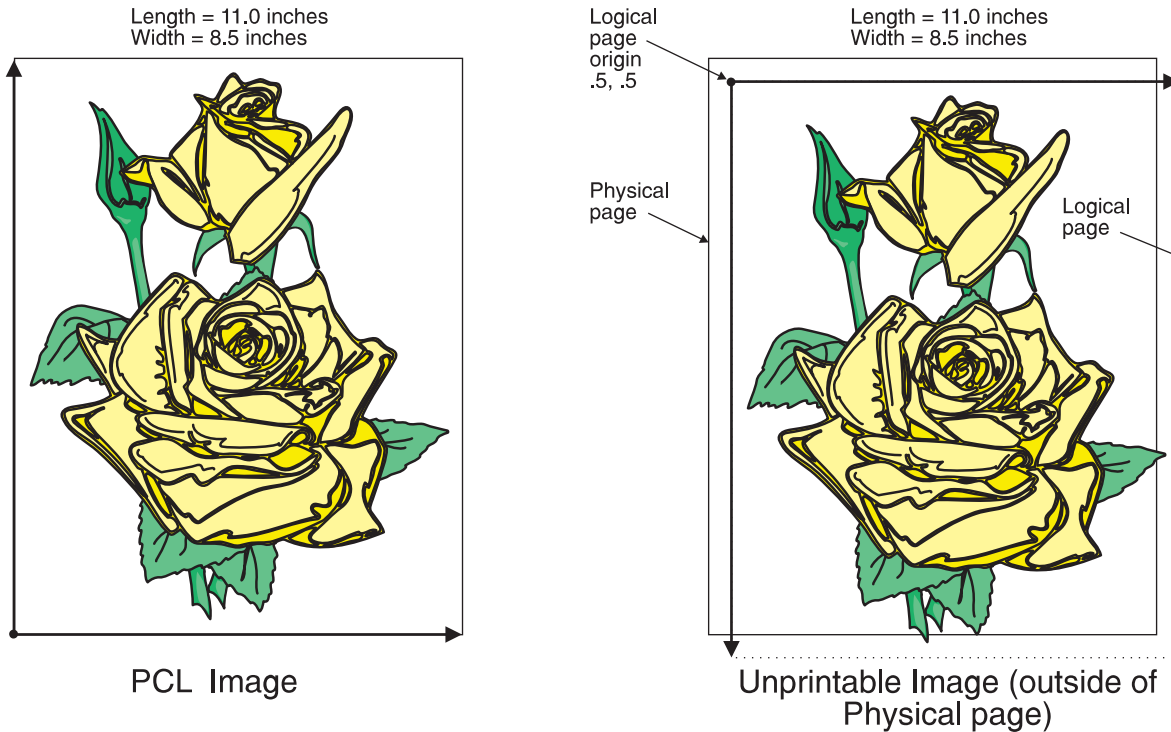
Figure 3. A PCL Image Offset from the Top-Left Corner

As you can see from Figure 3, specifying the correct form definition is extremely important, particularly when you are printing a full-page image.

The default length and width values specified in the PCL configuration files, **pcl2afp.cfg** and **pcl2afpd.cfg** work with the default form definitions that Infoprint provides for each type of Infoprint printers.

However, if you want to specify exact placement of your PostScript output on the page using a zero vertical and horizontal offset from the top-left corner of the page, do one of the following:

- Specify one of the following form definitions:
     F100S
     F100D
     F100T

- Specify an X- and Y-offset value of **0** to override the values set in the form definition, using one of the following:
    - The **-oxoffset** and **-oyoffset** flags on the AIX print commands
    - The `X offset` and `Y offset` fields on the SMIT `Submit an Infoprint Job` panel
    - The **x-image-shift** and **y-image-shift** attributes with the **-x** flag or in an attributes submitted with the **pdpr** command

If you specify a 0 horizontal and vertical offset in the form definition, with an AIX print command, or in an attributes file, the image produced by the **pcl2afp** transform might be printed in the unprintable area of the printer. To avoid printing in the unprintable area, you can specify the **-x** (X offset) and **-y** (Y offset) flags on the **pcl2afp** command. These flags add white space to the top and left side of the image produced by the transform, ensuring that no data will print in the unprintable area. For more information about the unprintable area of your printer, refer to *Advanced Function Presentation: Printer Information*.

The pcl2afp and pcl2afpd Configuration Files

Instead of typing flags on the command line with the **pcl2afp** command, you can use the **-C** flag to specify a configuration file that contains the flags. In this way, you can simply specify a configuration file name, rather than typing many flags. You may find it convenient to use a configuration file if you repeatedly use the same flags with the **pcl2afp** command, or if you are using different PCL processing values than the defaults defined by your system support group.

When your system support group installed the **pcl2afp** transform, a default **pcl2afp** command configuration file, **pcl2afp.cfg**, was installed as follows:

For AIX
> **/usr/lpp/psf/pcl2afp**

For NT/2000
> *install_path***\pcl2afp**

If you want to create your own files, copy the **pcl2afp.cfg** file and then use a system editor to modify the options in this ASCII file to suit your needs.

A default **pcl2afpd** daemon configuration file, **pcl2afpd.cfg**, was also installed as follows:

For AIX
> **/usr/lpp/psf/pcl2afp**

For NT/2000
> *install_path***\pcl2afp**

The **pcl2afpd** daemon configuration file can contain most of the same keywords as the **pcl2afp** command configuration file, plus some keywords that control the operation of the **pcl2afpd** daemon. Values in the command configuration file override values in the daemon configuration file.

Figure 4 on page 274 shows an example of a configuration file.

pcl2afp

```
# pcl2afp configuration file


# KEYWORD                  EQUIVALENT                      PURPOSE
#                          pcl2afp FLAG
##############################################################


        port = 8253            # -P              which TCP/IP port to use
        server = 127.0.0.1     # -S            which server to connect with

        pcl_max_memory = 6000K # -M          maximum amount of memory that
                               #                PCL uses; the 'K' is ignored

        pcl_job_timeout = 20   # -j              maximum number of minutes
                               #                        to process PCL job
        pcl_server_timeout = 20 # -s            maximum number of minutes
                               #                   server waits between jobs

        pcl_width = 8.5i       # -w              width of generated image
        pcl_length = 11i       # -l             length of generated image
        pcl_x_offset = 0.167i  # -x                left and right margins
        pcl_y_offset = 0.167i  # -y                top and bottom margins
        pcl_resolution = 240   # -r                 resolution of printer
        pcl_output_type = IO1_G4 # -a        type of AFP image to generate
```

Figure 4. Sample pcl2afp Configuration File

Table 9 shows the **pcl2afp** flags and their equivalent configuration file keywords. To override the values in the default configuration file, **pcl2afp.cfg**, you can do one of the following:

- Specify flags with the **pcl2afp** command at transform time.
- Specify a configuration file with **pcl2afp -C** at transform time.
- Specify **pcl2afp** flags with **-o** flags on an AIX print command, or with equivalent attributes with the **-x** flag or in an attributes file on the **pdpr** command, to transform a file and print it at the same time.

> **Note:** If you are migrating from PSF for AIX, see "Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents" on page 691 for a table of attributes equivalent to the job script keywords that you used to use to specify flags and values for transforms.

Table 9. PCL Printing and Processing Options

pcl2afp Flag	Keyword in pcl2afp Configuration File	Keyword in pcl2afpd Configuration File
Note: The valid values for configuration file keywords are the same as for the corresponding **pcl2afp** command flag. For keywords used only in the **pcl2afpd** daemon configuration file, which have no corresponding command flag, see"pcl2afpd Utility: Starts the pcl2afpd Daemon" on page 188.		
-a *OutputType*	**pcl_output_type=***value*	**pcl_output_type=***value*
-C *ConfigurationFile*	None	None
-c	None	None
InputFile ...	None	None
-j *nnnn*	**pcl_job_timeout=***nnnn*	**pcl_job_timeout=***nnnn*
-l *nnnn.nnnu*	**pcl_length=***nnnn.nnnu*	**pcl_length=***nnnn.nnnu*
-M *nnnnn*	**pcl_max_memory=***nnnnn*	**pcl_max_memory=***nnnnn*

Table 9. PCL Printing and Processing Options (continued)

pcl2afp Flag	Keyword in pcl2afp Configuration File	Keyword in pcl2afpd Configuration File
-o *OutputFile*	None	None
-P *nnnnn*	**port=***PortNumber*	**port=***PortNumber*
-p *PageRange*	None	None
-q	None	None
-r *nnn*	**pcl_resolution=***nnn*	**pcl_resolution=***nnn*
-S *ServerName*	**server=***ServerName*	None
-s *nnnn*	**pcl_server_timeout=***nnnn*	**pcl_server_timeout=***nnnn*
-w *nnnn.nnnu*	**pcl_width=***nnnn.nnnu*	**pcl_width=***nnnn.nnnu*
-x *nnnn.nnnu*	**pcl_x_offset=***nnnn.nnnu*	**pcl_x_offset=***nnnn.nnnu*
-y *nnnn.nnnu*	**pcl_y_offset=***nnnn.nnnu*	**pcl_y_offset=***nnnn.nnnu*
None	None	**log_file=***PathName*
None	None	**mail_command=***PathName*
None	None	**notify=***UserID*
None	None	**pcl_program=***PathName*
None	None	**pcl_support_program=***PathName*
None	None	**work_directory=***PathName*

Simple Examples

This section shows some simple examples of using **pcl2afp**. For more detailed examples, see "More Complex Examples" on page 276.

- To submit the sample PCL file `sample.pcl` supplied with Infoprint Manager for AIX to the logical printer named `Pserv-lp`, enter:

  ```
  enq -PPserv-lp -odatat=pcl /usr/lpp/psf/pcl2afp/sample.pcl
  ```

- To transform the PCL file `myfile` into an AFP data stream, and then submit it to the Infoprint logical printer called `Pserv-lp`, enter:

  ```
  pdpr -p Pserv-lp -x "default-printer-resolution=300" myfile
  ```

  or

  ```
  pcl2afp -r300 myfile | pdpr -p Pserv-lp
  ```

  Note: You need to specify a resolution of 300 pels (**default-printer-resolution=300**) because the Pserv-lp printer routes jobs to a 4019 printer device. The 4019 is a 300-pel resolution printer and the default resolution for the **pcl2afp** command is 240 pels.

- To transform the PCL file `myfile` into an AFP data stream, with an image that is 8 inches high and 5 inches wide, and write the result to a file called `myfile.afp`, enter:

  ```
  pcl2afp -l 8i -w 5i -o myfile.afp myfile
  ```

  or

  ```
  pcl2afp -l 8i -w 5i myfile > myfile.afp
  ```

- To transform the PCL `myfile` file into an AFP data stream in 300-pel resolution, as an IO1_MMR image, and send the result to the printer with the **pdpr** command, enter:

pcl2afp

```
pcl2afp -aIO1_MMR -r300 myfile | pdpr -X myafp.X -p lserv-lp
```

or

```
pdpr -X mypcl.X myfile -p Pserv-lp
```

where the attributes file named `myafp.X` contains the following settings:

```
document-format=modca-p
printer-name-requested=robin-lp
```

and the attributes file named `mypcl.X` contains the following settings:

```
document-format=pcl
printer-name-requested=robin-lp
image-output-format=io1_mmr
default-printer-resolution=300
```

- Assume that the PCL file `myfile` uses the `BarKode.pcl` font that is a PCL resource on a system named `molly`. Also assume that the **pcl2afpd** daemon is running on `robin`, but you are logged in to the AIX system named `molly`. To transform `myfile` into an AFP data stream, but not print it:

```
pcl2afp -S robin -c -o myfile.afp BarKode.pcl myfile
```

  The **-c** flag concatenates the two input files, with the file `BarKode.pcl` first, so that the two files are processed together. In this way, `myfile` uses `BarKode.pcl` as an inline resource.

- Because the **pcl2afp** transform does not accept HP-GL/2 directly as input, you can use the **-c** flag to concatenate some sample PCL files that allow the HP-GL/2 file to be processed. To transform the HP-GL/2 file `myfile.gl` into a MO:DCA-P data stream file `myfile.afp`, enter:

  For AIX

```
pcl2afp -o myfile.afp -c /usr/lpp/psf/pcl2afp/gl_before.pcl
   myfile.gl /usr/lpp/psf/pcl2afp/gl_after.pcl
```

  For NT/2000

```
pcl2afp -o myfile.afp -c install_path\pcl2afp\gl_before.pcl
   myfile.gl install_path\pcl2afp\gl_after.pcl
```

  The **-c** flag concatenates the three input files, making `myfile.gl` appear as a PCL file that includes HP-GL/2 commands.

More Complex Examples

This section shows the following examples of transforming and printing PCL files:
- "Printing a PCL File"
- "Printing a PCL File with a Defined Image Size" on page 277
- "Printing a PCL File at 300-Pel Resolution" on page 278
- "Printing a PCL File with a Custom Configuration File" on page 280
- "Transforming Three PCL Files at the Same Time" on page 281
- "Transforming an HP-GL/2 File" on page 282

Printing a PCL File

In this example, you will submit a PCL file called `PCLFile1` for printing on an Infoprint printer called `molly-lp`.

Configuration Assumptions: This example assumes the following tasks have been performed by your system support group:
- Infoprint, including the **pcl2afp** transform, has been installed on the workstation on which the **pcl2afp** command is executed.

- The **pcl2afpd** daemon has been started on the workstation on which the **pcl2afp** command is executed.
- A 3825 printer device has been installed and defined to Infoprint. A logical printer called `molly-lp` routes jobs to the physical printer representing that device.

Using the AIX SMIT Submit an Infoprint Job Panel: To print this example, do the following steps:

1. On the AIX command line, enter:

   ```
   smit ipsub
   ```

   SMIT displays a list of attributes files to select from.

   Note: The attributes file must contain the **document-format** attribute. Although Infoprint can determine the document format without being told, SMIT cannot.

2. Select `template_PCL.X`.

   SMIT displays the `Submit an Infoprint Job` panel.

3. Enter `PCLFile1` in the `NAMES of files to be submitted in the job` field.

4. Select `molly-lp` from the list for the `Logical PRINTER` field.

5. Press Enter (ASCII interface) or select **Do** (AIXwindows interface).

Using the Command Line Options: To print this example, enter the following on the command line: or

```
pdpr -p molly-lp PCLFile1
```

or on AIX

```
enq -P molly-lp PCLFile1
```

Using an Attributes File with the pdpr Command: To print this example, enter the following on the command line:

```
pdpr -X pclex1.X -p molly-lp PCLFile1
```

where the attributes file named `pclex1.X` contains the following settings:

document-format=pcl
> A data type of PCL

Printing a PCL File with a Defined Image Size

In this example, you will submit a PCL file called `PCLFile2.pcl` for printing on an Infoprint printer called `Dserv-lp`. In addition, you will specify the form definition `F100S` and an image size of 9 inches in length and 6 inches in width, measured from the upper-left corner of the image.

Configuration Assumptions: This example assumes the following tasks have been performed by your system support group:

- Infoprint, including the **pcl2afp** transform, has been installed on the workstation on which the **pcl2afp** command is executed.
- The **pcl2afpd** daemon has been started on the workstation on which the **pcl2afp** command is executed.
- A 3900 printer device has been installed and defined to Infoprint. A logical printer called `Dserv-lp` routes jobs to the physical printer representing that device.

Using the AIX SMIT Submit an Infoprint Job Panel: To print this example, do the following steps:

pcl2afp

1. On the AIX command line, enter:

   ```
   smit ipsub
   ```

   SMIT displays a list of attributes files to select from.

   Note: The attributes file must contain the **document-format** attribute. Although Infoprint can determine the document format without being told, SMIT cannot.

2. Select `template_PCL.X`.

   SMIT displays the `Submit an Infoprint Job` panel.

3. Enter `PCLFile2.pcl` in the `NAMES of files to be submitted in the job` field.
4. Select `Dserv-lp` from the list for the `Logical PRINTER` field.
5. Enter `F100S` in the `FORM DEFINITION name` field.
6. Enter `9i` in the `Image LENGTH` field.
7. Enter `6i` in the `Image WIDTH` field.
8. Press Enter (ASCII interface) or select `Do` (AIXwindows interface).

Using the Command Line Options: To print this example, enter the following on the command line:

```
pdpr -p Dserv-lp -x "form-definition=F100S
   image-length=19i image-width=6i" PCLFile2.pcl
```

or on AIX

```
enq -P Dserv-lp -oformdef=F100S -o-l9i -o-w6i PCLFile2.pcl
```

Infoprint identifies the input data type as PCL without being told. Infoprint automatically runs **pcl2afp**, and passes `-l9i` and `-w6i` from the **enq** command to **pcl2afp**.

You can get the same result by piping the output of the **pcl2afp** command to the input of the **enq** command:

```
pcl2afp PCLFile2.pcl -l9i -w 6i | enq -P Dserv-lp -oformdef=F100S
```

Using an Attributes File with the pdpr Command: To print this example, enter the following on the command line:

```
pdpr -X pclex2.X -p Dserv-lp PCLFile2.pcl
```

where the attributes file named `pclex2.X` contains the following settings:

image-length=9i
　　Image length is nine inches

image-width=6i
　　Image width is six inches

form-definition=F100S
　　Use the F100S formdef for printing the job

Printing a PCL File at 300-Pel Resolution

In this example, you will submit a PCL file called `PCLFile3.pcl` for printing on an Infoprint printer called `G4019-Serv1`. In addition, you will specify a resolution of 300 pels.

Configuration Assumptions: This example assumes the following tasks have been performed by your system support group:

- Infoprint, including the **pcl2afp** transform, has been installed on the workstation on which the **pcl2afp** command is executed.
- The **pcl2afpd** daemon has been started on the workstation on which the **pcl2afp** command is executed.
- The 4019 printer has been installed and defined to AIX. A logical printer, named G4019-Serv1, has been configured to route jobs to the physical printer representing the 4019.

Using the AIX SMIT Submit an Infoprint Job Panel: To print this example, do the following steps:

1. On the AIX command line, enter:

   ```
   smit ipsub
   ```

   SMIT displays a list of attributes files to select from.

   Note: The attributes file must contain the **document-format** attribute. Although Infoprint can determine the document format without being told, SMIT cannot.

2. Select template_PCL.X.

   SMIT displays the Submit an Infoprint Job panel.

3. Enter PCLFile3.pcl in the NAMES of files to be submitted in the job field.
4. Select G4019-Serv1 from the list for the Logical PRINTER field.
5. Select 300 from the list for the Printer RESOLUTION field.
6. Press Enter (ASCII interface) or select Do (AIXwindows interface).

Using the Command Line Options: To print this example, enter the following on the command line:

```
pdpr -o G4019-Serv1 -x "default-printer-resolution=300" PCLFile3.pcl
```

or on AIX

```
enq -P G4019-Serv1 -o-r300 PCLFile3.pcl
```

Infoprint determines that the input data type is PCL and automatically runs **pcl2afp**, passing -r300 from the **enq** command to **pcl2afp**.

You can get the same result by piping the output of the **pcl2afp** command to the input of the **enq** command:

```
pcl2afp PCLFile3.pcl -r 300 | enq -P G4019-Serv1
```

Using an Attributes File with the pdpr Command: To print this example, enter the following on the command line:

```
pdpr -X pclex3.X PCLFile3.pcl
```

where the attributes file named pclex3.X contains the following settings:

document-format=pcl
        A data type of PCL

default-printer-resolution=300
        Image resolution is 300 pels

printer-name-requested=G4019-Serv1
        Submit the job to the G4019-Serv1 logical printer

Printing a PCL File with a Custom Configuration File

In this example, you will submit a PCL file called `PCLFile4.pcl` for printing on an Infoprint printer called `molly-lp`. In addition, you will specify the form definition `F100D`, as well as a customized PCL configuration file called `custom.cfg`, which is located in the directory

For AIX

> `/usr/lpp/psf/pcl2afp`

For NT/2000

> *install_path*\pcl2afp

The output file name is `PCLFile4.afp`.

Configuration Assumptions: This example assumes the following items have been done by your system support group:

- Infoprint, including the **pcl2afp** transform, has been installed on the workstation on which the **pcl2afp** command is executed.
- The **pcl2afpd** daemon has been started on the workstation on which the **pcl2afp** command is executed.
- A 3825 printer device has been installed and defined to Infoprint. A logical printer called `molly-lp` routes jobs to the physical printer representing that device.
- The customized configuration file is `custom.cfg`, located in the **pcl2afp**directory; and you have permission to read this file.

Using the AIX SMIT Submit an Infoprint Job Panel: To print this example, do the following steps:

1. On the AIX command line, enter:

   `smit ipsub`

   SMIT displays a list of attributes files to select from.

   Note: The attributes file must contain the **document-format** attribute. Although Infoprint can determine the document format without being told, SMIT cannot.

2. Select `template_PCL.X`.

   SMIT displays the `Submit an Infoprint Job`.

3. Enter `PCLFile4.pcl` in the `NAMES of files to be submitted in the job` field.

4. Select `molly-lp` from the list for the `Logical PRINTER` field.

5. Enter `F100D` in the `FORM DEFINITION name` field.

6. Enter `/usr/lpp/psf/pcl2afp/custom.cfg` in the `PCL transform OPTIONS file` field.

7. Press Enter (ASCII interface) or select `Do` (AIXwindows interface).

Using the Command Line Options: To print this example, enter the following on the command line:

For AIX

```
pdpr -p molly-lp -x "form-definition=F100D
   other-transform-options='-o-C/usr/lpp/psf/pcl2afp/custom.cfg'"
   PCLFile4.pcl
```

> or

```
enq -P molly-lp -oformdef=F100D
   -o-C/usr/lpp/psf/pcl2afp/custom.cfg PCLFile4.pcl
```

For NT/2000

   install_path\pcl2afp\custom.cfg

Infoprint determines the data type, automatically runs **pcl2afp**, and passes:

For AIX

   -C/usr/lpp/psf/pcl2afp/custom.cfg to **pcl2afp** (When you use the **-C** flag
   with an AIX print command, no spaces are allowed between the **-C** flag and
   the configuration file name, and the configuration file name must be fully
   qualified).

For NT/2000

   -C *install_path*\custom.cfg

(

On AIX, you can get the same result by invoking **pcl2afp** first, then using **enq** to
process the output of **pcl2afp**:

```
pcl2afp PCLFile4.pcl -o PCLFile4.afp -C /usr/lpp/psf/pcl2afp/custom.cfg
enq -P molly-lp -oformdef=F100D PCLFile4.afp
```

Using an Attributes File with the pdpr Command: To print this example, enter
the following on the command line:

```
pdpr -X pclex4.X PCLFile4.pcl
```

where the attributes file named pclex4.X contains the following settings:

For AIX:

document-format=pcl
   A data type of PCL

other-transform-options='-C /usr/lpp/psf/pcl2afp/custom.cfg'
   Use the /usr/lpp/psf/pcl2afp/custom.cfg **pcl2afp** configuration file

form-definition=F100D
   Use the F100D form definition for printing the job

printer-name-requested=molly-lp
   Submit the job to the molly-lp logical printer

For NT/2000:

document-format=pcl
   A data type of PCL

other-transform-options='-C *install_path***\pcl2afp\custom.cfg'**
   Use the *install_path***pcl2afp\custom.cfg** configuration file

form-definition=F100D
   Use the F100D form definition for printing the job

printer-name-requested=molly-lp
   Submit the job to the molly-lp logical printer

Transforming Three PCL Files at the Same Time

In this example, you will transform three PCL files to create one AFP data stream
file. The PCL files are called PCLFile5.pcl, PCLFile6.pcl, and PCLFile7.pcl. You
write the output of the transform to the file called PCLFile0.afp. Other options you
want to specify are an image type of **IM1**.

Configuration Assumptions: This example assumes the following tasks have been performed by your system support group:

- Infoprint, including the **pcl2afp** transform, has been installed on the workstation on which the **pcl2afp** command is executed.
- The **pcl2afpd** daemon has been started on the workstation on which the **pcl2afp** command is executed.

Using the AIX SMIT Submit an Infoprint Job Panel: You cannot perform the PCL to AFP data stream transform using the `Submit an Infoprint Job` panel without also submitting the output file as a print job.

Using the Command Line Options: To transform this example, enter the following on the command line:

```
pcl2afp -aim1 PCLFile5.pcl PCLFile6.pcl PCLFile7.pcl -oPCLFile0.afp
```

Transforming an HP-GL/2 File
Because the **pcl2afp** transform does not accept HP-GL/2 directly as input, you can use the **-c** flag to concatenate some sample PCL files that allow the HP-GL/2 file to be processed. To transform the HP-GL/2 file `myfile.gl` into a MO:DCA-P data stream file `myfile.afp`, enter:

For AIX

```
pcl2afp -o myfile.afp -c /usr/llp/psf/pcl2afp/gl_before.pcl
    myfile.gl /usr/lpp/psf/pcl2afp/gl_after.pcl
```

For NT/2000

```
pcl2afp -o myfile.afp -c install_path\pcl2afp/gl_before.pcl
    myfile.gl install_path\pcl2afp\gl_after.pcl
```

The **-c** flag concatenates the three input files, making `myfile.gl` appear as a PCL file that includes HP-GL/2 commands.

Files

For AIX:

/usr/lpp/psf/pcl2afp/sample.pcl
> PCL sample program

/usr/lpp/psf/bin/pcl2afp
> Transform program

/usr/lpp/psf/bin/pcl2afpd
> PCL daemon

/usr/lpp/psf/bin/ppxpcli
> PCL interpreter program

/usr/lpp/psf/bin/ppxpclis
> PCL interpreter support program

/usr/lpp/psf/pcl2afp/pcl2afp.cfg
> PCL **pcl2afp** command configuration file

/usr/lpp/psf/pcl2afp/pcl2afpd.cfg
> PCL **pcl2afpd** daemon configuration file

/var/psf/pcl2afp
> Work directory for PCL transform

For NT/2000:

*install_path***\pcl2afp\sample.pcl**
> PCL sample program

*install_path***\bin\pcl2afp.exe**
> Transform program

| *install_path***\bin\pcl2afpd.exe**
| PCL daemon
| *install_path***\bin\ppxpcli.exe**
| PCL interpreter program
| **/usr/lpp/psf/pcl2afp/pcl2afp.cfg**
| PCL **pcl2afp** command configuration file
| *install_path***\pcl2afp\pcl2afpd.cfg**
| PCL **pcl2afpd** daemon configuration file
| *install_path***\var\psf\pcl2afp**
| Work directory for PCL transform

|

pdf2afp and ps2afp Transforms: Transform PDF or PostScript Data to AFP

Syntax

{**pdf2afp** | **ps2afp**}
[**-a**_OutputType_] [**-C**_ConfigurationFile_] [**-c**]
[**-F**_FontMapFile_[**:**_FontMapFile_...]] [**-g** _PageRange_] [**-j**_nnnn_]
[**-l**_nnnn.nnnu_] [**-M**_nnnnn_] [**-o**_OutputFile_]
[**-P**_nnnnn_] [**-p**_PageRange_] [**-q**] [**-r**_nnn_]
[**-S**_ServerName_] [**-s**_nnnn_] [**-w**_nnnn.nnnu_]
[**-x**_nnnn.nnnu_] [**-y**_nnnn.nnnu_] [_InputFile_ ...]

Description

The **ps2afp** command and its alias, the **pd2afp** command, transform a PostScript or Portable Document Format (PDF) data stream file into an AFP data stream file.

The PSF DSS runs the **ps2afp** command automatically whenever:
* Infoprint identifies the format of a document in a print job as PostScript or PDF.
* You use the **pdpr** command to specify **document-format=postscript** or **document-format=pdf** with the **-x** flag or in an attributes file.
* You specify a data type of **-odatatype=ps** or **-odatatype=pdf** with an AIX print command (**enq**, **lp**, or **qprt**) or with the **lprafp** command.

If you specify multiple values of the same flag, **ps2afp** uses the last value specified, with the exception of the **-F**, **-g**, and **-p**, flags. **ps2afp** concatenates multiple values of the **-F** flag from left-to-right (first entered to last entered). Multiple values of the **-g** and **-p** flags are accumulated and the pages identified for printing are printed in normal numerical sequence, regardless of the order you specify.

When using the **ps2afp** or **pdf2afp** command, you can specify an optional input file name. If you do not specify an input file name, **ps2afp** reads standard input. The output file name is also optional; if you do not specify one, the **ps2afp** command writes the results to standard output.

Note the following about the flags you can specify with the **ps2afp** or **pdf2afp** command:
1. When you run **ps2afp** or **pdf2afp** as a standalone transform, flags can appear anywhere on the command line with or without a blank in the flag and value pair.

   When you specify **ps2afp** transform flags with the **other-transform-options** attribute, any string containing a blank must be surrounded by single quotes.

   Do not use a blank between the flag and the value when you specify **ps2afp** transform flags with an AIX print command or with the **lprafp** command.
2. When you specify flags with the **ps2afp** or **pdf2afp** command, the command echoes them back to your display along with the settings for the flags. To suppress the command echoing, enter the **-q** (quiet) flag along with the **ps2afp** or **pdf2afp** command.
3. Finally, be aware that the PostScript or PDF file may contain the commands **letter** and **legal**. If these commands are present in the PostScript or PDF file, you may not get what you expect due to the interaction of the **letter** and **legal**

commands with the **-l** and **-w** flags of the **ps2afp** or **pdf2afp** command. The order in which **ps2afp** uses PostScript and PDF options is as follows:

a. The PostScript program commands **letter** and **legal**, if they are present.

b. Any options you specify on the command line with the **ps2afp** or **pdf2afp** command (for example, **-r300**), including values contained in the customized configuration file you specify with the **ps2afp -C** or **pdf2afp** command. If you specify the same option more than once, Infoprint uses the last value.

c. Values contained in the configuration file, **ps2afp.cfg**, in the current directory, if you invoked **ps2afp** or **pdf2afp** directly. If you invoked **ps2afp** indirectly by requesting **enq -odatatype=ps**, or **enq -odatatype=pdf**, **ps2afp** ignores any configuration files in the current directory, and proceeds to step 3d.

d. Values contained in the **ps2afp.cfg** file in the user's home directory.

e. Values contained in the default **ps2afp** command configuration file:

For AIX
  /usr/lpp/psf/ps2afp/ps2afp.cfg

For NT/2000
  *install_path***\ps2afp\ps2afpd.cfg**

f. Values contained in the customized configuration file you specify with the **ps2afpd -C** command.

g. Values contained in the default **ps2afpd** daemon configuration file:

For AIX
  /usr/lpp/psf/ps2afp/ps2afpd.cfg

For NT/2000
  *install_path***\ps2afp\ps2afpd.cfg**

h. Values contained in the **ps2afpd.cfg** file when **ps2afpd** was started.

i. The defaults that are built into **ps2afpd**. These defaults are the same as the defaults for the **ps2afp** flags, except that the default output type (**-a** flag) is an IM1 uncompressed image.

4. The position of PostScript or PDF data on the page depends on the interaction of the **-l** and **-w** flags, the **-x** and **-y** flags, and the form definition you use. In general, to position data on the page,
   - Use **-l** and **-w** to set the physical page dimensions.
   - Use a form definition that specifies zero vertical offset and zero horizontal offset (for example, **F100S**, **F100D**, or **F100T**) or specify X and Y offsets of 0 when you submit the print job.
   - Use **-x** and **-y** to avoid any areas that your printer cannot print.

5. You can specify the **ps2afp** flags and values with the **ps2afp** or **pdf2afp** command, or with **enq -o**, **lp -o**, **qprt -o**, or or **lprafp**. You can also specify equivalent attribute values with the **-x** flag or in an attributes file with the **pdpr** command.

   Note: If you are migrating from PSF for AIX, see "Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents" on page 691 for a table of attributes equivalent to the job script keywords that you used to use to specify flags and values for transforms.

Limitations

- Infoprint, including the **psf2afp** transform, must be installed, and the **ps2afpd** daemon must be running.

- PostScript data can contain device commands (for example, to begin or end duplexing or to change the input bin). Because the AFP architecture defines those device functions in a form definition resource instead of the print data, the **ps2afp** transform ignores the device commands in the print data. To access those device functions (such as duplexing and bin selection), you must specify them in the form definition or attributes file, or on a print command, when you print the job.

- Resolution conversion algorithms may yield degraded appearance when used to reduce the resolution of a datastream. For this reason, **ps2afp** may degrade the appearance of higher-resolution datastreams when used with 240-pel printers. You should verify that print fidelity is satisfactory.

Flags and Values

-a {IO1_G4 | IM1 | IO1 | IO1_MMR | PSEG_IO1_G4 | PSEG_IM1 | PSEG_IO1 | PSEG_IO1_MMR | OVLY_IO1_G4 | OVLY_IM1 | OVLY_IO1 | OVLY_IO1_MMR}

Determines the type of AFP data stream image to generate for each page in the PostScript or PDF file.

Values are:

IO1_G4

Compressed Image Object Content Architecture (IOCA) image in Modified TSS (formerly CCITT) T.6 G4 Facsimile Coding Scheme (G4 MMR) format. This is the recommended output type because it takes up less space on the fixed disk, and it prints faster. It is the default specified in the **ps2afpd** daemon and **ps2afp** command configuration files.

Note: The IBM 3812 and 3816 printers do not support printing with an image type of **IO1_G4**. For these printers, specify an image type of **IO1_MMR** because it is the compressed image type supported by these printers. This will result in faster printing than uncompressed image types.

PPDS, PCL, and TCP/IP-attached IPDS printers can print IOCA images; however, only channel-attached printers that have the Advanced Function Image and Graphics (AFIG) feature installed can print IOCA images. Therefore, if you are printing images on channel-attached printers without the AFIG feature, select the **IM1** value.

IM1   IM1 image. This type of image is not compressed.

IO1   IOCA image. This type of image is not compressed.

IO1_MMR

Compressed IOCA image in Modified Modified Read (MMR) format.

PSEG_IO1_G4 | PSEG_IM1 | PSEG_IO1 | PSEG_IO1_MMR

Page segment of the specified image type.

Note: When generating page segments from multiple-page documents, you may want to use the **-p** flag to select which page is to be made into a page segment; otherwise, multiple page segments will be created, one for each page of PostScript or PDF.

OVLY_IO1_G4 | OVLY_IM1 | OVLY_IO1 | OVLY_IO1_MMR
Overlay of the specified image type.

Note: When generating overlays from multiple-page documents, you may want to use the **-p** flag to select which page is to be made into an overlay; otherwise, multiple overlays will be created, one for each page of PostScript or PDF.

This flag is similar to the **image-out-format** document attribute on the **pdpr** command.

-C *ConfigurationFile*
Specifies the path and file name of the customized configuration file Infoprint uses with the transform. If you specify the **-C** flag with an AIX print command (**enq**, **lp**, or **qprt**), or with the **lprafp** command, specify the fully qualified name of the file, including its path; for example:

With AIX
/usr/lpp/ps2afp/myfile.cfg

With NT/2000
*install_path***\ps2afp\myfile.cfg**

-c Concatenates multiple input files without putting a Ctrl-D (end of job) character between the files. The **ps2afp** command interprets the input files as a continuous data stream, and processes them as if they were one PostScript or PDF job. This flag can be useful when processing PostScript or PDF files with inline resources. (See "Examples" on page 296).

Note: Do not use this flag when you perform the data stream transform by submitting a print job with the **pdpr** command.

-F *FontMapFile***[:***FontMapFile***...]**
Specifies the path and file name **ps2afp** uses for the font mapping file. This file correlates PostScript font names with their file locations. A font mapping file must exist on the AIX system where the **ps2afpd** daemon is running (specified by the **-S** flag).

You can include multiple values in the **-F** flag by separating each value with a colon (:). The files will be concatenated. When you specify multiple **-F** flags, **ps2afp** concatenates them from left-to-right (first entered to last entered) in that order.

The **-F** value overrides the **ps_font_map_files** value in the **ps2afp** configuration file and the **ps2afpd** configuration file. If you do not specify **-F**, **ps2afp** uses the font mapping file specified in the **ps2afp** command or **ps2afpd** daemon configuration file. (By default, the **ps2afpd** daemon configuration file specifies the font mapping file as follows:

For AIX
/usr/lpp/psf/ps/psfonts.map

For NT/2000
*install_path***\ps\fonts.map**

If you specify **-F** without a file name, or if the file does not exist, the **ps2afp** command does not work.

Notes:

1. PostScript or PDF processing is slower when you use the **-F** flag, because the **ps2afpd** daemon must stop and re-start the PostScript

interpreter. You may improve performance by changing the **ps_font_map_files** value in the **ps2afpd** daemon configuration file rather than using **-F** on a regular basis.

2. Specify the fully qualified name of the file if you specify the **-F** flag with an AIX print command.

-g *PageRange*

Specifies that the output should only contain selected pages. When you specify multiple **-g** flags, the **ps2afp** command transforms only the specified pages in the PostScript or PDF input data stream, then prints the transformed pages in normal numerical order, regardless of the order you specify. Examples of values include:

-g even

Output even pages.

-g odd

Output odd pages.

-g 1-10

Output pages 1 through 10.

-g 10- Output pages from page 10 until the end of the job.

-g 1 -g 3 -g 6

Output pages 1, 3, and 6, in that order.

-g1 -g6 -g3

Output pages 1, 3, and 6, in that order.

This flag is equivalent to the **page-select** document attribute on the **pdpr** command.

Note: You should only specify the **-g** flag when the input data conforms to Adobe Document Structuring Conventions (DSC). If you have any doubt about the input data, use the **-p** flag.

You cannot specify both the **-g** flag and the **-p** flag.

InputFile ...

Specifies one or more input files to be transformed. If you specify more than one input file name, the **ps2afp** command concatenates the files and separates them with the Ctrl-D (end of job) character. The results of the transform are written to a single output file (if one is specified) or to standard output.

In addition, you can specify PostScript inline resource files as input files to the **ps2afp** command. The file name of the inline resource file must precede the file name of the PostScript or PDF print file so that **ps2afp** concatenates the files in the correct order.

If you do not specify an input file, **ps2afp** uses standard input. If the **ps2afp** command cannot read from standard input, **ps2afp** issues a message.

-j {20 | 1 to **9998 | 9999}**

Specifies the maximum amount of time, in minutes, to spend processing the job.

Values are:

20 20 minutes, the default

1 to **9998**

The timer ranges from 1 to 9998 minutes, in one-minute increments

9999 No time limit

-l *nnnn.nnnu*

Specifies the length of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **ps2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

Note: If a text margin is already built into the file, try **-l11i** to set the length to 11 inches.

For 240-pel resolution printers, values are:

11i   11 inches, the default

16 to **8160**

The length can be from 16 pels to 8160 pels, 0.065i to 34i, or 1.641m to 863.628m. For example, the following are all valid:

```
-l 40m
-l 200.5m
-l 13i
-l 4000
```

For 300-pel resolution printers, values are:

11i   11 inches, the default

16 to **10200**

The length can be from 16 pels to 10200 pels, 0.052i to 34i, or 1.313m to 863.628m. For example, the following are all valid:

```
-l 40m
-l 200.5m
-l 13i
-l 5000
```

For 480-pel resolution printers, values are:

11i   11 inches, the default

16 to **16320**

The length can be from 16 pels to 16320 pels, 0.065i to 34i, or 1.641m to 863.628m. For example, the following are all valid:

```
-l 40m
-l 200.5m
-l 13i
-l 8000
```

For 600-pel resolution printers, values are:

11i   11 inches, the default

16 to **20400**

The length can be from 16 pels to 20400 pels, 0.052i to 34i, or 1.313m to 863.628m. For example, the following are all valid:

```
-l 40m
-l 200.5m
-l 13i
-l 10000
```

This flag is equivalent to the **image-length** document attribute on the **pdpr** command.

-M {15000 | 11000 to *nnnnn***}**

Determines the maximum amount of memory, in KB, that the transform can use. This flag may be useful if you are processing large PostScript or PDF jobs that require a lot of memory.

Values are:

15000 15000KB (15MB)

11000 to *nnnnn*

The maximum memory ranges from 11000 to *nnnnn* (where *nnnnn* is the maximum upper limit allowed by AIX) up to 64MB. 15000 is the default.

-o *OutputFile*

Specifies the output path and file into which the transformed files are to be written. If more than one output file is specified, the last specified file name and path is the one used. If no output file is specified, the result is written to standard output.

You cannot use **-o** *OutputFile* on the command line with the **enq**, **lp**, **qprt**, or **lprafp** commands. You can only use **-o** *OutputFile* with the **ps2afp** command. You can also specify the **transform-output-file-name** document attribute on the **pdpr** command.

-P {8251 | 924 to *nnnnn***}**

Specifies the TCP/IP port number **ps2afp** uses to make a connection with the workstation on which the **ps2afpd** daemon is running (set by the **-S** flag). If your Infoprint installation uses more than one PostScript daemon, use this flag to select the daemon.

This port should not be the same port used by the TCP/IP-attached IPDS printer or the PCL transform. To find out which ports are already being used on your system (although they may or may not be active), look in the **/etc/services** file.

Values are:

8251 The default port number.

924 to *nnnnn*

Any valid port number greater than or equal to 924. The maximum value, *nnnnn*, depends on AIX, but it must be equal to or less than 65535.

Note: You can only access secure ports, 924 to 1023, with **root** user authority.

-p *PageRange*

Specifies that the output should only contain selected pages. When you specify multiple **-p** flags, the **ps2afp** command transforms all the pages in the input, then extracts the specified MO:DCA-P pages and prints them in normal numerical order, regardless of the order you specify.

You cannot specify both the **-g** flag and the **-p** flag.

Examples of values include:
-p even

Output even pages.
-p odd

Output odd pages.

-p 1-10
Output pages 1 through 10.

-p 10- Output pages from page 10 until the end of the job.

-p 1 -p 3 -p 6
Output pages 1, 3, and 6, in that order.

-p1 -p6 -p3
Output pages 1, 3, and 6, in that order.

This flag is equivalent to the **page-select** document attribute on the **pdpr** command.

-q Quiets (suppresses) the echoing of the **ps2afp** command to the display.

-r {240 | 300 | 480 | 600}
Specifies the resolution of the output image. Select the resolution based on the printer on which you will be printing the image.

Values are:

240 240 pels-per-inch (for example, IBM 3812, 3825, 3827, 3835, and 3900 printers).

300 300 pels-per-inch (for example, IBM 4019, 4028, 4029, and 4039 printers and Hewlett-Packard printers)

480 480 pels-per-inch

600 600 pels-per-inch (for example, IBM 3900 printers), the default

This flag is equivalent to the **default-printer-resoulution** document attribute on the **pdpr** command.

Note: If you specify a resolution that the printer does not support, Infoprint will print the image under most conditions, but with degraded results. Specify the correct resolution for the printer on which you will print the job.

-S *ServerName*
Specifies the name of the AIX system on which the **ps2afpd** daemon is running. If you do not specify this flag, the *ServerName* defaults to the effective name of the workstation on which you issued the **ps2afp** command. The value is:
ServerName
Any valid AIX workstation name on which the **ps2afpd** daemon is installed and running. The name is defined in the **/etc/hosts** file or by a name server, and may be a nickname like **molly**, or a dotted decimal address like **9.99.9.23**.

-s {20 | 1 to 9998 | 9999}
Specifies the maximum amount of time, in minutes, that the PostScript interpreter remains idle between jobs before it goes down. When the PostScript interpreter is running, it uses some of the workstation memory. If the PostScript interpreter goes down, you do not need to bring it back up; the interpreter automatically starts when you submit another PostScript or PDF job as long as the **ps2afpd** daemon is running.

Values are:

20 The default time is 20 minutes.

1 to **9998**

> The time is the number of minutes specified in one-minute increments.

9999 There is no time limit.

-w *nnnn.nnnu*

> Specifies the width of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **ps2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

> **Note:** If a text margin is already built into the file, try **-w8.5i** to set the width to 8.5 inches.

> For 240-pel resolution printers, values are:

> <u>**8.5i**</u> 8.5 inches, the default

> **16** to **8160**

>> The width can be from 16 pels to 8160 pels, 0.065i to 34i, or 1.641m to 863.628m. For example, the following are all valid:

>> ```
>> -w 40m
>> -w 200.5m
>> -w 13i
>> -w 3300
>> ```

> For 300-pel resolution printers, values are:

> <u>**8.5i**</u> 8.5 inches, the default

> **16** to **10200**

>> The width can be from 16 pels to 10200 pels, 0.052i to 34i, or 1.313m to 863.628m. For example, the following are all valid:

>> ```
>> -w 40m
>> -w 200.5m
>> -w 13i
>> -w 5000
>> ```

> For 600-pel resolution printers, values are:

> <u>**8.5i**</u> 8.5 inches, the default

> **16** to **20400**

>> The width can be from 16 pels to 20400 pels, 0.052i to 34i, or 1.313m to 863.628m. For example, the following are all valid:

>> ```
>> -w 40m
>> -w 200.5m
>> -w 13i
>> -w 5000
>> ```

> This flag is equivalent to the **image-width** document attribute on the **pdpr** command.

-x *nnnn.nnnu*

> Specifies an X offset (horizontal offset) of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **ps2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

An offset value specifies a border or margin around the generated image to avoid the non-printable areas of some printers. An X-offset value specifies the left and right margins of the generated image.

Values are:

<u>0</u>   No border is specified. This is the default.

0 to **17i**

      The value specified here can be no greater than half of the value specified on the **-w** flag. For example, if you specified -w=12i, this value can be no greater than 6i.

This flag is equivalent to the **x-image-shift** document attribute on the **pdpr** command.

Notes:

1. The X offset specified with **-x** must be less than the width specified with **-w**. If the **-x** value is greater than or equal to the **-w** value, a blank page is printed.

2. The X-offset value specifies margins on both the left and right sides of the page. If you have a width of 8.5 inches and specify an X offset of 5 inches, a blank page will also result because the margins on the left and right sides of the paper exceed the width of the paper.

3. PostScript or PDF processing is slower when you use the **-x** flag, because the **ps2afpd** daemon must stop and re-start the PostScript interpreter. You may improve performance by changing the **ps_x_offset** value in the **ps2afpd** daemon configuration file rather than using **-x** on a regular basis.

-y *nnnn.nnnu*

      Specifies a Y offset (vertical offset) of the generated image; *nnnn.nnn* is a number that can optionally contain a decimal point, and *u* is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit (**i** or **m**), then **ps2afp** uses pels as the unit type. You cannot specify fractional values (that is, you cannot use a decimal point) for pels.

An offset value specifies a border or margin around the generated image to avoid the non-printable areas of some printers. A Y-offset value specifies the top and bottom margins of the generated image.

Values are:

<u>0</u>   No border is specified. This is the default.

0 to **17i**

      The value specified here can be no greater than half of the value specified on the **-l** flag. For example, if you specified -l=16i, this value can be no greater than 8i.

This flag is equivalent to the **y-image-shift** document attribute on the **pdpr** command.

Notes:

1. The Y offset specified with **-y** must be less than the length specified with **-l**. If the **-y** value is greater than or equal to the **-l** value, a blank page is printed.

2. The Y offset value specifies margins on *both* the top and bottom edges of the page. If you have a length of 11 inches and specify an Y offset of

6 inches, a blank page will also result because the margins on the top and bottom of the paper exceed the length of the paper.

3. PostScript or PDF processing is slower when you use the **-y** flag, because the **ps2afpd** daemon must stop and re-start the PostScript interpreter. You may improve performance by changing the **ps_y_offset** value in the **ps2afpd** daemon configuration file rather than using **-y** on a regular basis.

The ps2afp and ps2afpd Configuration Files

Instead of typing flags on the command line with the **ps2afp** or **pdf2afp** command, you can use the **-C** flag to specify a configuration file that contains the flags. In this way, you can simply specify a configuration file name, rather than typing many flags. You may find it convenient to use a configuration file if you repeatedly use the same flags with the **ps2afp** or **pdf2afp** command, or if you are using different PostScript or PDF processing values than the defaults defined by your system support group.

When your system support group installed the **ps2afp** transform and its alias, **pdf2afp**, a default **ps2afp** command configuration file, **ps2afp.cfg**, was installed in the following directory:

With AIX
> **/usr/lpp/psf/ps2afp**

With NT/2000
> *install_path***\ps2afp**

If you want to create your own files, copy the **ps2afp.cfg** file and then use a system editor to modify the options in this ASCII file to suit your needs.

A default **ps2afpd** daemon configuration file, **ps2afpd.cfg**, was also installed in the following directory:

With AIX
> **/usr/lpp/psf/ps2afp**

With NT/2000
> *install_path***\ps2afp**

The **ps2afpd** daemon configuration file can contain most of the same keywords as the **ps2afp** command configuration file, plus some keywords that control the operation of the **ps2afpd** daemon. Values in the command configuration file override values in the daemon configuration file.

Figure 5 on page 295 shows an example of a configuration file.

```
# ps2afp configuration file


# KEYWORD           EQUIVALENT ps2afp FLAG                PURPOSE
################################################################


port = 8251            # -P              which TCP/IP port to use
server = 127.0.0.1     # -S            which server to connect with

ps_max_memory = 14000K # -M          maximum amount of memory that
                       #         PostScript uses; the 'K' is ignored

ps_job_timeout = 20    # -j              maximum number of minutes
                       #                 to process PostScript job
ps_server_timeout =  20 # -s            maximum number of minutes
                       #                 server waits between jobs

ps_width =  8.5i       # -w              width of generated image
ps_length =  11i       # -l              length of generated image
ps_x_offset = 0i       # -x                left and right margins
ps_y_offset = 0i       # -y                top and bottom margins
ps_resolution = 600    # -r                 resolution of printer
ps_output_type = IO1_G4 # -a        type of AFP image to generate
```

Figure 5. Sample ps2afp Configuration File

Table 10 shows the **ps2afp** flags and their equivalent configuration file keywords. To override the values in the default configuration file, **ps2afp.cfg**, you can do one of the following:

- Specify flags with the **ps2afp** or **pdf2afp** command at transform time.
- Specify a configuration file with **ps2afp -C** at transform time.
- Specify **ps2afp** flags with **-o** flags on an AIX print command, or with equivalent attributes with the **-x** flag or in an attributes file on the **pdpr** command, to transform a file and print it at the same time.

  Note: If you are migrating from PSF for AIX, see "Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents" on page 691 for a table of attributes equivalent to the job script keywords that you used to use to specify flags and values for transforms.

Table 10. PostScript and PDF Printing and Processing Options

ps2afp or pdf2afp Flag	Keyword in ps2afp Configuration File	Keyword in ps2afpd Configuration File
Note: The valid values for configuration file keywords are the same as for the corresponding **ps2afp** or **pdf2afp** command flag. For keywords used only in the**ps2afpd** daemon configuration file, which have no corresponding command flag, see"ps2afpd Utility: Starts the ps2afpd Daemon" on page 191.		
-a *OutputType*	**ps_output_type=**value	**ps_output_type=**value
-C *ConfigurationFile*	None	None
-c	None	None
-F *FontMapFile[: ...]*	**ps_font_map_file=**PathName	**ps_font_map_file=**PathName
-g *PageRange*	None	None
InputFile ...	None	None
-j *nnnn*	**ps_job_timeout=**nnnn	**ps_job_timeout=**nnnn
-l *nnnn.nnnu*	**ps_length=**nnnn.nnnu	**ps_length=**nnnn.nnnu

pdf2afp and ps2afp

Table 10. PostScript and PDF Printing and Processing Options (continued)

ps2afp or pdf2afp Flag	Keyword in ps2afp Configuration File	Keyword in ps2afpd Configuration File
-M *nnnnn*	**ps_max_memory=***nnnnn*	**ps_max_memory=***nnnnn*
-o *OutputFile*	None	None
-P *nnnnn*	**port=***PortNumber*	**port=***PortNumber*
-p *PageRange*	None	None
-q	None	None
-r *nnn*	**ps_resolution=***nnn*	**ps_resolution=***nnn*
-S *ServerName*	**server=***ServerName*	None
-s *nnnn*	**ps_server_timeout=***nnnn*	**ps_server_timeout=***nnnn*
-w *nnnn.nnnu*	**ps_width=***nnnn.nnnu*	**ps_width=***nnnn.nnnu*
-x *nnnn.nnnu*	**ps_x_offset=***nnnn.nnnu*	**ps_x_offset=***nnnn.nnnu*
-y *nnnn.nnnu*	**ps_y_offset=***nnnn.nnnu*	**ps_y_offset=***nnnn.nnnu*
None	None	**log_file=***PathName*
None	None	**mail_command=***PathName*
None	None	**notify=***UserID*
None	None	**ps_init_file=***PathName*
None	None	**ps_program=***PathName*
None	None	**ps_support_program=***PathName*
None	None	**work_directory=***PathName*

Examples

- To submit the PostScript file `sample.ps` to the logical printer named `molly-lp`, enter the follwoing:

  For AIX

      enq -Pmolly-lp -odatat=ps /usr/lpp/psf/ps2afp/sample.ps

  For NT/2000

      pdpr -pmolly-lp install_path\ps\sample.ps

- To transform the PDF file `myfile1` into an AFP data stream, and then submit it to the Infoprint logical printer called `robin-lp`, enter:

  or

      pdpr -p robin-lp -x "default-printer-resolution=300" myfile1

  or

      pdf2afp -r300 myfile1 | pdpr -p robin-lp

  Note: You need to specify a resolution of 300 pels (`default-printer-resolution=300` or `-r300`) because `robin-lp` routes jobs to a 4019 printer device. The 4019 printer is a 300-pel resolution printer and the default resolution for the **pdf2afp** command is 600 pels.

- To transform the PostScript file `myfile2` into an AFP data stream, with an image that is 8 inches high and 5 inches wide, and write the result to a file called `myfile2.afp`, enter:

      ps2afp -l 8i -w 5i -o myfile2.afp myfile2

or

```
ps2afp -l 8i -w 5i myfile2 > myfile2.afp
```

- To transform the PostScript file `myfile2` into an AFP data stream, creating a compressed IO (IOCA) image (the default image type for the **ps2afp** command), and piping the result to the **pdpr** command to submit the file to the Infoprint logical printer called `molly-lp`, enter:

```
ps2afp myfile2 | pdpr -p molly-lp
```

You can get the same result without piping (that is, using **pdpr** directly) by entering:

```
pdpr -p molly-lp myfile2
```

- To transform the PDF `myfile1` file into an AFP data stream in 300-pel resolution, as an IO1_MMR image, and send the result to the printer with the **pdpr** command, enter:

```
pdf2afp -aIO1_MMR -r300 myfile1 | pdpr -X myafp.X
```

or

```
pdpr -X myps.X myfile1
```

where the attributes file named `myafp.X` contains the following settings:

```
document-format=modca-p
printer-name-requested=david-lp
```

and the attributes file named `myps.X` contains the following settings:

```
document-format=pdf
printer-name-requested=david-lp
image-out-format=io1_mmr
default-printer-resolution=300
```

- Assume that the PostScript file `myfile2` uses the **BarKode.pfa** font that is a PostScript resource not installed for use by the **ps2afpd** on an AIX system named `robin`. Also assume that the **ps2afpd** daemon is running on `robin`, but you are logged into the AIX system named `molly`. To transform `myfile2` into an AFP data stream, but not print it:

```
ps2afp -S robin -c -o myfile2.afp BarKode.pfa myfile2
```

The **-c** flag concatenates the two input files, with the file `BarKode.pfa` first, so that the two files are processed together. In this way, `myfile2` uses `BarKode.pfa` as an inline resource.

Files

For AIX:
/usr/lpp/psf/bin/ps2afpd
      PostScript daemon
/usr/lpp/psf/bin/ps2afp
      PostScript transform executable
/usr/lpp/psf/bin/pdf2afp
      PDF transform executable (linked to **/usr/lpp/psf/bin/ps2afp**)
/usr/lpp/psf/ps2afp/ps2afpd.cfg
      ps2afpd daemon configuration file
/usr/lpp/psf/ps2afp/ps2afp.cfg
      ps2afp command configuration file
/usr/lpp/psf/bin/ppxps2i
      PostScript level 2 interpreter program

pdf2afp and ps2afp

/usr/lpp/psf/bin/ps2afpi
> PostScript Level 1 interpreter program

/usr/lpp/psf/bin/ps2afpi.vm
> PostScript interpreter program initial virtual memory

/usr/lpp/psf/ps2afp/ppxps2.ps
> PostScript level 2 initialization file

/usr/lpp/psf/ps2afp/ps2afp.ps
> PostScript Level 1 initialization file

/usr/lpp/psf/ps2afp/ps2afpe.ps
> PostScript Level 1 initialization file for extended error reporting

/usr/lpp/psf/bin/fontsave
> PostScript executable for saving fonts

/usr/lpp/psf/psfonts.map
> Default PostScript font mapping file

/var/psf/psfonts
> User-defined PostScript fonts file

For NT/2000:

*install_path***\bin\ps2afpd.exe**
> PostScript daemon

*install_path***\bin\ps2afp.exe**
> PostScript transform executable

*install_path***\bin\pdf2afp.exe**
> PDF transform executable

*install_path***\ps2afp\ps2afpd.cfg**
> **ps2afpd** daemon configuration file

*install_path***\ps2afp\ps2afp.cfg**
> **ps2afp** command configuration file

*install_path***\bin\ps2afpi.exe**
> PostScript Level 1 interpreter program

*install_path***\bin\ps2afpi.vm**
> PostScript interpreter program initial virtual memory

*install_path***\ps2afp\ps2afp.ps**
> PostScript Level 1 initialization file

*install_path***\ps\fonts.map**
> Default PostScript font mapping file

*install_path***\var\psf\psfonts**
> User-defined PostScript fonts file

sap2afp Command: Transforms SAP OTF or ABAP Data to AFP in Infoprint Manager for AIX

Syntax

sap2afp -d *DeviceName* {**-f** *FileName* | **-i** | **-q**} [**-g**]
[**-r** { 240 | 300 | 480 | 600}] [**-t**]

Description

Use the **sap2afp** command to transform an SAP Output Text Format (OTF) or Advanced Business Application Programming (ABAP) file into an AFP data stream file and to submit it to an Infoprint destination.

Flags

-d *DeviceName*
Specifies the name of the R/3 output device. This name is converted to the name of an Infoprint logical destination as specified in the **printer.tab** configuration file.

-f *FileName*
Specifies the input file to be converted. This file is erased after successful conversion.

-g Invokes the Graphics Object Content Architecture (GOCA) feature of the printer device. The GOCA feature allows you to print boxes with four different levels of shading, as well as clear and solid boxes.

-i Specifies that input comes from standard input (**stdin**). A temporary file (**sap2afp.tmp**) is created, processed as with the **-f** parameter, then erased.

-q Invokes the **lpq** command to display the queue.

-r { 240 | 300 | 480 | 600}
Specifies the printer resolution used to print image data in the job. If you do not specify the **-r** flag, the **DEFRES** value in the **image.tab** file is used. In the **image.tab** file shipped with Infoprint, the **DEFRES** value is **600**.

-t Traces program execution.

The sap2afp Configuration Files

This section consists of examples for the following configuration files that are required for the **sap2afp** transform:
> **barcode.tab**
> **defcp.tab**
> **fonts.tab**
> **image.tab**
> **pagedef.tab**
> **printer.tab**
> *xxxxyyyy*.**tab**

Notes:

1. All tables can contain comments (starting with **//** in column 1) and empty lines. These lines are ignored by the **sap2afp** transform.
2. All table entries are case-sensitive.

barcode.tab Configuration File

This table describes the bar code mappings. SAP calls bar codes by names that must be mapped into the matching bar codes available with Bar Code Object Content Architecture (BCOCA).

barcode.tab uses the following keyword-value pairs:

BarCode
> Specifies the OTF bar code names (**SAPBARCODE** parameter of the **BC** OTF command). The maximum length of this field is 8 bytes. It can contain any value.

Type Specifies the AFP bar code type as defined in *IBM Data Stream and Object Architectures: Bar Code Object Content Architecture Reference* for the **Barcode Type** parameter of the **Barcode Data Descriptor** Structured Field. The content can be any decimal value between 0 and 999. The **sap2afp** transform does not verify that this value maps to a valid hexadecimal barcode type.

Mode Specifies the modifier byte within the **Barcode Modifier** parameter of the **Barcode Data Descriptor** Structured Field. Any numeric value between 0 and 999 is accepted and not verified.

Flag Controls the printing of the Human Readable Interface (**HRI**) character. Specify one of the following values:

> **0** Causes the **HRI** character to be printed

> **128** Causes the **HRI** character not to be printed

ModWidth=n
> This optional keyword specifies the width of the smallest defined bar code element, using mils (thousandths of an inch). For bar code types that explicitly specify the module width, such as POSTNET or RM4SCC, this field is ignored. The range of values allowed is 1–254. If **ModWidth** is not specified, the printer default ModWidth is used.

> n specifies the width of each module, using thousandths of an inch (1/1000) as the unit of measurement.

Ratio=n
> This optional keyword specifies the ratio between the width of the wide and the narrow bar code elements. The range of values allowed is 100–500, but you must specify a value appropriate for your printer and bar code type. If the values you specify are not appropriate for your printer, error messages are issued at printing time. If **Ratio** is not specified, the printer default Ratio is used.

> n specifies the **Ratio** as a percent value. The ratio value should between 200 and 300 in the form nnn. For example, 200 represents a ratio of 2 to 1; 250 represents a ratio of 2.5 to 1. For bar code types that explicitly specify the module width (for example, POSTNET and RM4SCC, this field is ignored. If RATIO is not specified, the default ratio for the bar code symbol is used.

> **Note:** Many barcode types do not support Ratio values or if they do, the Ratio values are within certain ranges that are type-specific.

The following example uses both the **Ratio** and **ModWidth** optional keywords:

```
BarCode=BC_CD39 Type=001 Mode=001 Flag=128 Ratio=200 ModWidth=10
```

Notes:

1. The system administrator is responsible for the values entered in the table. Invalid values are not verified and may result in errors.

2. The second group of bar codes in the **barcode.tab** file (following the blank line) is supported from R/3 Release 3.0A only.

Figure 6 shows a sample **barcode.tab** configuration file.

```
// Barcode table

// Format : Barcode=ARTNR Type=017 Mode=002

//BarCode = 30F9     Type = 001 Mode = 001 Flag = 000
//BarCode = 30F91    Type = 001 Mode = 002 Flag = 000
//BarCode = MSI      Type = 002 Mode = 002 Flag = 000
//BarCode = UPCA     Type = 003 Mode = 000 Flag = 000
//BarCode = UPCE     Type = 005 Mode = 000 Flag = 000
//BarCode = UPC2     Type = 006 Mode = 000 Flag = 000
//BarCode = UPC5     Type = 007 Mode = 000 Flag = 000
//BarCode = EAN8     Type = 008 Mode = 000 Flag = 000
//BarCode = EAN13    Type = 009 Mode = 000 Flag = 000
//BarCode = IND25    Type = 010 Mode = 002 Flag = 000
//BarCode = MAT25    Type = 011 Mode = 002 Flag = 000
//BarCode = INTER    Type = 012 Mode = 002 Flag = 000
//BarCode = CODA     Type = 013 Mode = 002 Flag = 000
//BarCode = C128     Type = 017 Mode = 002 Flag = 000
//BarCode = EAN2     Type = 022 Mode = 000 Flag = 000
//BarCode = EAN5     Type = 023 Mode = 000 Flag = 000
//BarCode = POST     Type = 024 Mode = 002 Flag = 000
//BarCode = AUFNR    Type = 001 Mode = 001 Flag = 128

BarCode = ARTNR    Type = 017 Mode = 002 Flag = 000
BarCode = AUFNR    Type = 017 Mode = 002 Flag = 000
BarCode = BARCLVS  Type = 001 Mode = 001 Flag = 000

BarCode = BC_C128B Type = 017 Mode = 002 Flag = 128
BarCode = BC_CD39  Type = 001 Mode = 001 Flag = 128
BarCode = BC_CD39C Type = 001 Mode = 002 Flag = 128
BarCode = BC_EAN13 Type = 009 Mode = 000 Flag = 128
BarCode = BC_EAN8  Type = 008 Mode = 000 Flag = 128
BarCode = BC_I25   Type = 012 Mode = 001 Flag = 128
BarCode = BC_I25C  Type = 012 Mode = 002 Flag = 128
BarCode = BC_MSI   Type = 002 Mode = 001 Flag = 128
BarCode = BC_MSIC  Type = 002 Mode = 002 Flag = 128
BarCode = BC_MSIC1 Type = 002 Mode = 003 Flag = 128
BarCode = BC_MSIC2 Type = 002 Mode = 005 Flag = 128

BarCode = KUNAUNR  Type = 017 Mode = 002 Flag = 000
BarCode = KUNAUPS  Type = 017 Mode = 002 Flag = 000
BarCode = MBBARC   Type = 017 Mode = 002 Flag = 000
BarCode = MBBARC1  Type = 008 Mode = 000 Flag = 000
BarCode = RSNUM    Type = 017 Mode = 002 Flag = 000
BarCode = RSPOS    Type = 017 Mode = 002 Flag = 000
BarCode = RUECKNR  Type = 017 Mode = 002 Flag = 000
```

Figure 6. Sample barcode.tab Configuration File

defcp.tab Configuration File

Figure 7 shows the default conversion table for the conversion of ASCII characters into EBCDIC. The **sap2afp** transform uses this table for ABAP data conversion.

The left column consists of the ASCII code, while the right column contains the corresponding EBCDIC value. The values are checked for a numeric value between 0 and 255.

```
// Linedata CodePage
//-----------------------------------------------------
// This file is used internally by sap2afp, as well as
// to convert ABAP data to linedata.

// Format : Ascii=Ebcdic

// T1000819 + box characters -> T1DABASE

000 = 064
001 = 064
002 = 064
    :
253 = 064
254 = 062
255 = 223
```

Figure 7. Sample defcp.tab Configuration File

fonts.tab Configuration File

This table maps the fonts used in the OTF data stream to AFP fonts.

The following font families are predefined with R/3:

FONTFAMILY	*Font*
COURIER	Courier
HELVE	Helvetica
LETGOTH	Letter Gothic
LNPRINT	Line Print
TIMES	Times New Roman
OCRA	Optical Character Recognition A
OCRB	Optical Character Recognition B
JPMINCHO	Heisei Mincho
DBMINCHO	Heisei Mincho
DBGOTHIC	Heisei Gothic

Note: JPMINCHO and **DBMINCHO** are different names for the same font.

A font named **BARCODE** must be defined for the **HRI** character of a bar code.

The following parameters in the **fonts.tab** configuration file set the format of the fonts you use to print with R/3:

DefCodePage
> Specifies the default SBCS code page used if no **FC** OTF command is given or if the requested font is not found in the **fonts.tab** table.

DefCharSet
> Specifies the default SBCS character set used if no **FC** OTF command is given or if the requested font is not found in the **fonts.tab** table.

DBDefCodePage

Specifies the default DBCS code page used if no **FC** OTF command is given or if the requested font is not found in the **fonts.tab** table.

DBDefCharSet

Specifies the default DBCS character set used if no **FC** OTF command is given or if the requested font is not found in the **fonts.tab** table.

SBDefCodePage

Specifies the default SBCS code page used for half-width characters in DBCS fonts if no **FC** OTF command is given or if the requested font is not found in the **fonts.tab** table.

SBDefCharSet

Specifies the default SBCS character set used for half-width characters in DBCS fonts if no **FC** OTF command is given or if the requested font is not found in the **fonts.tab** table.

Font   Describes the font family (**FONTFAMILY** parameter of the **FC** OTF command). The maximum size is 8 bytes and content is not verified.

Size   Specifies the font size in 1/10 of a point (**FONT SIZE** parameter of the **FC** OTF command). The value must be numeric and is not verified.

Type   Defines the font type (**BOLD** and **ITALIC** parameter of the **FC** OTF command). **Type=0** is normal, **Type=1** is italic, **Type=2** is bold, and **Type=3** is italic bold. Any other value is invalid.

CodePage

Specifies the code page and requires a valid AFP code page name (8 bytes). The value is not verified. An invalid name can result in an error message.

CharSet

Specifies the AFP font character set. The content is not verified.

CodedFont

Specifies the AFP coded font. The content is not verified.

DB   Specifies whether the font is an SBCS font (**DB=0**) or a DBCS font (**DB=1**).

SBCodePage

Specifies the single-byte code page used for half-width characters in DBCS fonts. The value is not verified. An invalid name can result in an error message.

SBCharSet

Specifies the AFP single-byte font character set used for half-width characters in DBCS fonts. The content is not verified.

SBCodedFont

Specifies the AFP single-byte coded font used for half-width characters in DBCS fonts. The content is not verified.

If an SBCS font that matches the **Font**, **Size** and **Type** values is not found, the code page and font character set from the **DefCodePage** and **DefCharSet** keywords are used and a warning message is displayed. If a DBCS font that matches the **Font**, **Size** and **Type** values is not found, the code pages and font character sets from the **DBDefCodePage**, **SBDefCodePage**, **DBDefCharSet**, and **SBDefCharSet** keywords are used and a warning message is displayed.

The device types **IBMAFP** and **IBMAFP3** support the predefined font families. These font families are also supported as IBM Expanded Core Fonts, or IBM Chinese, Japanese, and Korean (CJK) Fonts.

ISO 8859-1 (Latin-1) is the default code page that maps to the **1148** code page in the **fonts.tab** configuration table. This ISO code page maps to the German **T1V10273** code page and must be modified for non-Latin-1 R/3 installations. You can make this change on the *xxxxyyyy*.**tab** configuration file that is used to convert data from ASCII data to EBCDIC data so that these characters are mapped correctly. If you have installed a SAP R/3 Release 2.2 or earlier, use the **S9148.CPA** file to determine the modifications you need to make.

Use the font Letter Gothic Latin1 of the coordinated font family for ABAP listings. If you do not want to install the coordinated font family and plan to use the traditional Gothic text fonts found within the IBM Compatibility Fonts, you can adjust the font names in the **pagedef.tab** configuration file.

If you wish to use fonts that are not supported, take the following steps:
1. Obtain the font as Adobe Type 1.
2. Convert the font into a raster using the Type Transformer in the IBM AFP Font Collection (program number 5648-113).
3. Contact your IBM representative for further details.

Figure 8 on page 305 and Figure 9 on page 305 show examples of sections of the **fonts.tab** configuration file.

```
// Fonts table

// Format : Font=COURIER Size=070 Type=0 CodePage=T1V10273 CharSet=C0420070 DB=0
//          or
//          Font=COURIER Size=090 Type=0 CodedFont=X0GT2A DB=0
//          or
//          Font=JPMINCHO Size=060 Type=0 CodePage=T10300 CharSet=CZJHMN DB=1 SBCodePage=T1H01027 SBCharSet=CZJHMN
//          or
//          Font=JPMINCHO Size=060 Type=0 CodedFont=XZJHMN DB=1 SBCodedFont=XZN16J

DefCodePage = T1V10273
DefCharSet  = C0420000
DBDefCodePage = T10300
DBDefCharSet  = CZJHMN
SBDefCodePage = T1H01027
SBDefCharSet  = CZJHMN

// Courier
Font=COURIER  Size=070 Type=0 CodePage=T1V10273 CharSet=C0420070 DB=0
Font=COURIER  Size=070 Type=1 CodePage=T1V10273 CharSet=C0430070 DB=0
Font=COURIER  Size=070 Type=2 CodePage=T1V10273 CharSet=C0440070 DB=0
Font=COURIER  Size=070 Type=3 CodePage=T1V10273 CharSet=C0450070 DB=0
Font=COURIER  Size=080 Type=0 CodePage=T1V10273 CharSet=C0420080 DB=0
Font=COURIER  Size=080 Type=1 CodePage=T1V10273 CharSet=C0430080 DB=0
Font=COURIER  Size=080 Type=2 CodePage=T1V10273 CharSet=C0440080 DB=0
Font=COURIER  Size=080 Type=3 CodePage=T1V10273 CharSet=C0450080 DB=0
Font=COURIER  Size=100 Type=0 CodePage=T1V10273 CharSet=C0420000 DB=0
Font=COURIER  Size=100 Type=1 CodePage=T1V10273 CharSet=C0430000 DB=0
Font=COURIER  Size=100 Type=2 CodePage=T1V10273 CharSet=C0440000 DB=0
Font=COURIER  Size=100 Type=3 CodePage=T1V10273 CharSet=C0450000 DB=0
Font=COURIER  Size=120 Type=0 CodePage=T1V10273 CharSet=C04200B0 DB=0
Font=COURIER  Size=120 Type=1 CodePage=T1V10273 CharSet=C04300B0 DB=0
Font=COURIER  Size=120 Type=2 CodePage=T1V10273 CharSet=C04400B0 DB=0
Font=COURIER  Size=120 Type=3 CodePage=T1V10273 CharSet=C04500B0 DB=0
Font=COURIER  Size=140 Type=0 CodePage=T1V10273 CharSet=C04200D0 DB=0
Font=COURIER  Size=140 Type=1 CodePage=T1V10273 CharSet=C04300D0 DB=0
Font=COURIER  Size=140 Type=2 CodePage=T1V10273 CharSet=C04400D0 DB=0
Font=COURIER  Size=140 Type=3 CodePage=T1V10273 CharSet=C04500D0 DB=0
Font=COURIER  Size=200 Type=0 CodePage=T1V10273 CharSet=C04200J0 DB=0
Font=COURIER  Size=200 Type=1 CodePage=T1V10273 CharSet=C04300J0 DB=0
Font=COURIER  Size=200 Type=2 CodePage=T1V10273 CharSet=C04400J0 DB=0
Font=COURIER  Size=200 Type=3 CodePage=T1V10273 CharSet=C04500J0 DB=0
```

Figure 8. Header and Courier Portions of a Sample fonts.tab Configuration File

```
// Japanese Gothic

Font=DBGOTHIC  Size=060 Type=0 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
Font=DBGOTHIC  Size=080 Type=0 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
Font=DBGOTHIC  Size=100 Type=0 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
Font=DBGOTHIC  Size=100 Type=1 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
Font=DBGOTHIC  Size=120 Type=0 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
Font=DBGOTHIC  Size=140 Type=0 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
Font=DBGOTHIC  Size=160 Type=0 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
Font=DBGOTHIC  Size=180 Type=0 CodePage=T10300 CharSet=CZJHKG DB=1 SBCodePage=T1H01027 SBCharSet=CZJHKG
```

Figure 9. Heisei Gothic Portion of a Sample fonts.tab Configuration File

image.tab Configuration File

This table defines values used to print image data. It contains the following parameters:

DEFRES
> Specifies the default resolution used for printing image data if you do not specify a value for the **-r** flag of the **sap2afp** command. Valid values are **240**, **300**, **480**, and **600**.

Width Specifies the width of the dither matrix.

Height
> Specifies the height of the dither matrix.

Cell   Specifies the values for the dither matrix.

Transform
        Specifies 256 grayscale correction values.

Figure 10 shows an example of the **image.tab** configuration file.

```
// image.tab
// from image.tab.85lr
//
// This file is used to determine the dither matrix and the
// grayscale correction values.

// Define the default output resolution
DEFRES = 600

// Define the dither matrix
Width = 78
Height = 78
Cell =
 15   63 184 219 249 240 158 109   98   54   82 118 133 113   75   64
 87 104 166 215 234 229 179   62   38    4   15   59 186 220 246 240
166 123   87   61   65 108 133 118   78   64 100 105 167 219 234 230
    :
    :
 28   73 193 223 253 247 199   76   31    8   20   93 148 156 203 178
136 126 144 186 201 155 151   90   43   24   28   75 199 222 254 251
196   79   31    7

//
// Grayscale correction values
//

Transform =
0
1
2
:
:
248
252
255
```

Figure 10. Sample image.tab Configuration File

pagedef.tab Configuration File
The pagedef table provides the **PAGEDEF** and **FORMDEF** values used from the value of the ***PJPAPER** parameter that is passed to the **sap2afp** transform with the **Z** access method. It also provides the fonts used for ABAP data.

The name of a **PAGEDEF** for line data is restricted to five digits instead of the usual six characters. The reason for this restriction is that the **PJPAPER** field is twelve bytes long and **must** begin with a **Z**. This restriction applies to ABAP reports (line data) with user-specific formatting only.

Paper   Specifies the value of the OTF print option parameter **PJPAPER**. The value is not verified.

FormDef
        Specifies the name of the form definition to be used for printing both OTF and ABAP reports. This value is not verified. An error results if the form definition is not found on the print server system.

PageDef

Specifies the name of the page definition to be used for printing ABAP reports. This value is not verified. An error results if the page definition is not found on the print server system.

FontNorm

Specifies the normal coded font used for line data printing. The value is not verified.

FontBold

Specifies the bold coded font used for line data printing. The value is not verified.

Figure 11 shows a sample **pagedef.tab** configuration file:

```
// PageDef table
// Format : Paper=X_65_132 FormDef=F1A10111 PageDef=P1H01SP1
// FontNorm = 50D0 FontBold = 50F0

// Notes:
// ======
// 1) The pagedefs apply to letter size paper.
//    A4 paper size may require modifying the PageDef field.
// 2) Z_INCH12 is a sample for a user specification

Paper=X_65_132 FormDef=F1A10111 PageDef=P1V06683 FontNorm = GB2A FontBold = GB2A
Paper=X_44_120 FormDef=F1A10111 PageDef=P1V06683 FontNorm = GB2A FontBold = GB2A
Paper=X_58_170 FormDef=F1A10111 PageDef=P1V06683 FontNorm = GT8A FontBold = GT8A
Paper=X_65_255 FormDef=F1A10111 PageDef=P1V06683 FontNorm = GT24 FontBold = GT24
Paper=X_65_80  FormDef=F1A10111 PageDef=P1C09182 FontNorm = GT2A FontBold = GB2A
Paper=X_90_120 FormDef=F1A10111 PageDef=P1C09182 FontNorm = GT5A FontBold = GT5A
Paper=X_PAPER  FormDef=F1A10111 PageDef=P1C09182 FontNorm = GT2A FontBold = GB2A
// Sample of an added user-defined pagedef entry:
// Paper=Z_INCH12 FormDef=F1SAPFD  PageDef=P1SAPPD  FontNorm = GT2A FontBold = GB2A
```

Figure 11. Sample pagedef.tab Configuration File

printer.tab Configuration File

Before you can use the R/3 output device, you must map it to an Infoprint logical printer. This is done in the **printer.tab** configuration file that comes with the **sap2afp** transform. **printer.tab** is located in the **/usr/lpp/psf/sap2afp** directory. Because SAP R/3 restricts the names of output devices to four characters, the **printer.tab** configuration file allows you to map these names to longer and more meaningful names.

Note: You must update the **printer.tab** file every time you add or delete an R/3 AFP printer.

printer.tab uses the following keyword-value pairs:

Dest   Specifies the four-character name of the R/3 output device. Specify this value for the **-d** flag of the **sap2afp** command.

System

Specifies the operating system from which the **sap2afp** output is printed.

Queue

Specifies the name of the Infoprint logical destination.

Node   Specifies the IP address of the target operating system. The content (a maximum of 15 bytes) is not verified.

> **Node** is required for all values of the **System** keyword, but the value is used only when **System=OS/2**.

Figure 12 shows a sample **printer.tab** configuration file. Note that you can include comments in lines preceded by two slashes (**//**).

```
// Printer table
// Format : Dest=SPRT System=AIX Queue=pcl4039 Node=192.9.200.220

// Note:  The Node parameter is not used for entries where the
// System field is AIX or MVS, but you must still enter a value.
Dest=MVSP System=MVS Queue=pcl4039 Node=192.9.200.220
Dest=AIX1 System=AIX Queue=pcl4029 Node=192.9.200.116
Dest=AIX2 System=AIX Queue=PSF4039 Node=192.9.200.220
Dest=OS2P System=OS2 Queue=OS2AFP  Node=192.9.201.66
Dest=OS2  System=OS2 Queue=OS2AFP  Node=192.9.201.66
```

Figure 12. Sample printer.tab Configuration File

For example, suppose that you have defined an R/3 AFP printer called **AFPT**. To map **AFPT** to the Infoprint logical destination **psf3116**, add the following line to **printer.tab**:

```
Dest=AFPT System=AIX Queue=psf3116 Node=0.0.0.0
```

xxxxyyyy.tab Configuration File

These tables are used for the mapping of characters of an individual SAP ASCII code page into an EBCDIC codepage. SAP uses two kinds of code pages: input code pages and output code pages.

SAP provides the the code page configuration files listed in Table 11.

Table 11. SAP Code Page Configuration Files

File Name	Input Code Page	Description	Output Code Page	Description
00000000.tab	T1000819	Latin-1 ISO ANSI 8-bit	T1V10273	Germany F.R./Austria-CECP
11000000.tab	T1000819	Latin-1 ISO ANSI 8-bit	T1V10273	Germany F.R./Austria-CECP
40010000.tab	T1000876 [1]	OCR-A ASCII	T1000892	OCR-A
40040000.tab	T1000877 [1]	OCR-B ASCII	T1000893	OCR-B
80000000.tab	IBM-932	Japanese	IBM-1031-SAP2AFP	Japanese
1. Both the OCR-A and the OCR-B code pages are equivalent to ISO-8859/1 with the special characters **hook**, **fork**, and **chair**.				

The file names correspond to the 4-digit value of the **INPUTCODEPAGE** plus the 4-digit value **OUTPUTCODEPAGE** parameter of the **CP** OTF command.

```
// Codepage table

// Inp CodePage 0000
// Out CodePage 0000

// Format : Ascii=Ebcdic

000 = 000
001 = 001
002 = 002
003 = 003
    ⋮
253 = 064
254 = 062
255 = 223
```

Figure 13. Sample xxxxyyyy.tab Configuration File (Single-Byte Code Pages)

```
// Japanese
// SAP2AFP is configured to use IBM-932-SAP2AFP as the iconv
// "From" value.
// This table sets the "To" value to IBM-1031-SAP2AFP.
//

CONVERT FOR=8000
CONVERT TO=IBM-1031-SAP2AFP
```

Figure 14. Sample xxxxyyyy.tab Configuration File (Double-Byte Code Pages)

Examples

Transforming and Printing a File
This command converts the file **FONTSHP.OTF** and queues the AFP datastream for
the destination called **3825**. After conversion, SAP R/3 erases the input file
FONTSHP.OTF.

```
sap2afp -d 3825 -f FONTSHP.OTF
```

Transforming and Printing from Standard Input
This command redirects the spooled file **SP11041** to **stdin**, which is read by the
sap2afp transform. The input from **stdin** is placed in the **sap2afp.tmp** file, which is
processed and then erased. AFP data stream output is sent to destination **LPRT**.

```
sap2afp -d LPRT -i < /usr/sap/DEV/DVEBMGS00/SP11041
```

Tracing the Transform
This command converts the file **ANYFILE.OTF** and sends output to destination
3825. A trace of the execution can be found in the file **sap2afp.trc**, which is placed
in the current directory.

```
sap2afp -d 3825 -f ANYFILE.OTF -t
```

tiff2afp Command: Transforms TIFF Data to AFP in Infoprint Manager for AIX

Syntax

tiff2afp [**-a** *ImageType*] [**-alg** *ProcessingAlgorithms*]
[**-calib** *calibration*] [**-choice** *ImageChoice*]
[**-C** *ConfigurationFile*] [**-clean** *cleanup*]
[**-cmp** *compression*] [**-crop** *CropFactors*]
[**-fit** {<u>**trim**</u> | **scale**}] [**-force**]
[**-gcorr** *GrayscaleMappingTable*] [**-ink** *color*] [**-inv**]
[**-j** *ScanOffsetFileName*] [**-l** *ImageLength*]
[**-M** *MemoryBound*] [**-mp** | <u>**-nomp**</u>]
[**-ms** *space*] [**-msf** *SpaceFraction*]
[**-o** *OutputFile*] [**-outbits** *NumberOfOutputBits*]
[**-outcolor** *OutputColorModel*] [**-p** *PageRange*]
[**-pagetype** *PageType*] [**-paper** *PaperSize*]
[**-r** *resolution*] [**-respath** *ResourceSearchPath*]
[**-rot** *rotation*] [**-scale** *ImageSize*]
[**-sgcorr** *ScannerCorrection*]
[**-sniff** | <u>**-nosniff**</u>] [**-term** | <u>**-noterm**</u>]
[**-thresh** *HalftoneFile*] [**-v** | <u>**-nov**</u>]
[**-w** *ImageWidth*] [**-wrkdir** *WorkDirectory*]
[**-x** *LeftMargin*] [**-y** *TopMargin*] [**-z**]
[[*file* | *directory* | **-f** *FileList* | **@***FileList*]...]

Description

The **tiff2afp** command transforms a TIFF (Tag Image Format File) data stream into an AFP (MO:DCA-P) or PostScript Level 2 data stream file.

The transform can process extended TIFF Revision 6.0 images, including bilevel, grayscale and color images. The output can be bilevel (IM1 or IOCA FS10), 4-bit or 8-bit grayscale, or 24-bit YCbCr color (IOCA FS11). The transform automatically uses halftoning to convert the grayscale and color images to bilevel.

Automatic Invocation

The PSF DSS automatically invokes the **tiff2afp** transform command whenever you submit a TIFF file for printing. You can pass options to **tiff2afp** using the **other-transform-options** attribute on the **pdpr** command or the **-o** flag of the AIX print commands and the **lprafp** command.

Input and Output

tiff2afp can process either standard input, or multiple files specified on the command line. If no input file is specified, **stdin** is assumed. Standard input is cached to a file (see the **-wrkdir** option) and then processed. Only a single TIFF file should be submitted via **stdin**. If multiple TIFF files are concatenated via standard input, all except the first one are ignored.

If an input file is specified on the command line, it can be either a TIFF file, a directory, or a file list (**-f** and **@** prefixes). Multiple input file specifications are allowed. The transform processes each file in the order in which it was specified on the command line. If the **-z** option is specified, a list of file names to be processed

is also submitted via standard input. The files on the list are processed as if the list were given via the **-f** option on the same place on the command line as **-z**.

If the file name points to a directory, **tiff2afp** processes every file in that directory. The files are processed in the order they would be shown using the **ls -a** command. Directory search is not recursive, that is, the subdirectories are not searched.

If the file name is preceded by the **-f** option or the at sign (**@**), **tiff2afp** assumes that the file contains the list of TIFF files to be processed. Each of the files in the list is processed in the order it was listed.

If a TIFF file has the extension **.tif**, **.tiff**, **.TIF**, or **.TIFF**, this extension need not be given explicitly. **tiff2afp** first tries to open the file as specified and, if unsuccessful, tries to append the extensions **.tif .tiff**, **.TIF**, and **.TIFF** in turn.

For example, suppose that:
- The directory `tFiles` contains the files `file1.tif`, `file2.tif`, `file3.tif`, and `file4.tif` and nothing else.
- The file `flist` in the current directory contains the two file names `tFiles/file2.tif` and `tFiles/file3.tif`. The names listed in the file list may have their extensions omitted.
- The file `flist2` contains the file name `tFiles/file4`. Again, the names listed in the file list may have their extensions omitted.

In order to process files `file1.tif`, `file2.tif`, `file3.tif`, and `file4.tif`, any of the following invocations of **tiff2afp** would work:
```
tiff2afp tFiles/file1.tif tFiles/file2.tif tFiles/file3.tif tFiles/file4.tif
tiff2afp tFiles/file1 tFiles/file2 tFiles/file3 tFiles/file4
tiff2afp tFiles/file*.tif
tiff2afp tFiles
tiff2afp tFiles/file1 -fflist tFiles/file4
tiff2afp tFiles/file1 -f flist tFiles/file4
tiff2afp tFiles/file1 -f flist -f flist2
tiff2afp tFiles/file1 @flist @flist2
```

The file list files allow the display text to be added for each file. A display text is any text starting with the pound character (**#**) and extending to the end of the line. The display text should follow the file name, and can extend over several lines, up to 2048 characters long. The initial **#** character on each line is discarded. If a display text is present for a file name, that text is displayed in the status and error messages instead of the file name. This is useful if the **tiff2afp** is invoked using temporary files whose names are meaningless to the user. Any display text before the first file name is treated as comment and discarded. Display text is allowed also if the **-z** option is used to submit the file list via standard input.

TIFF files may contain multiple images. The **tiff2afp** transform can process and output all the images in the file, both full and reduced resolutions, subject to the values given in the **-choice** and **-p** options. Transparency maps are ignored. If the page numbers are available in the TIFF data, the pages are sorted on output. The pages are not sorted across file boundaries.

The output file name can be either specified explicitly via the **-o** option, or derived from the input file name. If multiple input files have been specified, the default output file is standard output. If a single input file is given and the output file is not specified explicitly, the transform strips the **.tif** or **.tiff** extension from the input file

name (if one is present), and appends the **.afp** extension for AFP output, or the **.ps** extension for PostScript output, to get the output file name.

To disable automatic output file name generation and force the default output stream to be the standard output in all cases, set the environment variable **TIFF2AFP_o** to **-** or **stdout**, or, alternatively, put the line **o=-** or **o=stdout** into the configuration file and invoke that configuration file using the **-C** option or the **TIFF2AFP_C** environment variable.

For example, all the following commands:

```
tiff2afp myfile
tiff2afp myfile.tif
tiff2afp myfile -o myfile.afp
```

have `myfile.afp` as the output file. Note that there is no requirement for the explicitly specified input and output files to have **.tif** and **.afp** extensions. To process TIFF file `foo.bar` into an AFP file `foo.bar2`, invoke the transform using

```
tiff2afp foo.bar -o foo.bar2
```

The output data stream is MODCA-P IS/1, MODCAP-P IS/2, or PostScript Level 2. IS/1 images are bilevel and are encoded as IOCA Function Set 10 or IM1. IM1 images are uncompressed. IOCA FS10 output images can be either uncompressed, or compressed via one of the four available compression algorithms (see the **-cmp** option). The default is ITU-T T.6 Group 4 compression. IM1 images are always uncompressed. IS/2 images can be either bilevel, 4-bit or 8-bit grayscale, or 24 bit YCbCr color. Multibit images are encoded as IOCA Function Set 11. Be aware that the only product that supports IOCA FS11 images is the AFP Workbench, that is, grayscale and color AFP images are not currently supported by any printer.

PostScript Level 2 images can be uncompressed or ITU-T T.6 Group 4 bilevel, uncompressed 8-bit grayscale or uncompressed 24-bit RGB color. By default, the transform leaves scaling and halftoning to the printer (that is, color TIFF images are output as 24-bit RGB color images).

Errors and Error Recovery

tiff2afp divides errors into fatal and non-fatal. The fatal error categories are the following:

- Errors in the user-specified parameters, either in the environment variables, the configuration file, or the command line arguments. These errors include unrecognized options, invalid values for parameters, or inability to open the configuration file or the output file.
- Out of memory errors. The requested memory is larger than the memory specified using the **-M** option or the dynamic memory allocation has failed.
- Disk space errors. The transform guards against trying to write to a full file system. See the **-ms** and **-msf** options for setting the minimum free disk space requirements. If the file system is full, the transform deletes the partial output file before terminating.
- Internal errors.

In the case of a fatal error, the last output page might not be complete.

Errors encountered in the TIFF files are non-fatal and **tiff2afp** attempts to recover from them. These errors include not being able to open an input file, an input file not being a TIFF file, or an input file containing features that cannot be processed.

If the transform fails to open 15 or more input files, it assumes an error in the parameter list (for example, **-f** was used with a file that does not contain a file list) and terminates.

If an error is encountered in a file, the transform attempts to recover with the next image in the file. If such recovery is not possible, **tiff2afp** attempts to recover with the next input file. In both cases, a warning message is issued. Errors and warnings are output to standard error.

For example, let a directory `tFiles` contain files `file1.tif`, `file1.txt`, `file2.tif` and `file3.tif`, where `file1.txt` is an ASCII file. Invoking the transform via

`tiff2afp tFiles`

processes the bilevel images in all three TIFF files correctly. A warning is issued that `file1.txt` is not a TIFF file.

Non-fatal errors can be made fatal by using the option **-term**, or the corresponding environment variable or configuration file entry. If **-term** is set, the transform terminates in error if it encounters an error in the TIFF data stream.

Data Transformations

If the input image is grayscale or color, and the output image type is bilevel (IOCA FS10 or IM1), the transform internally scales the image to the desired size, then uses a halftoning algorithm (ordered dither, the default, or Floyd-Steinberg) to convert it to bilevel. In converting the image to bilevel, the characteristics of the output device such as dot shape and dot gain must be taken into consideration. The internal grayscale mapping table has been optimized for the 600-pel IBM Infoprint 4000 laser printer. The **-gcorr** option can be used to specify a different mapping of gray levels.

For very light or very dark images, the halftoning algorithms can be automatically recalibrated to preserve details that would be lost using the default calibration. See the **-alg** option for more information.

To maintain the image quality, scaling must be done prior to halftoning. Halftoning algorithm is very computation-intensive. Unless the images are small, **tiff2afp** cannot process the color images fast enough to feed even a slow printer.

The size and position of the output image depend on several factors:
- The size specified to the transform
- The form map specified at print time
- The forms and options loaded in the printer

If the image is too large to to fit on the page, it is trimmed to size by default. Use the **-fit scale** option to instruct the printer to scale the image to the paper size. If the paper size is not specified explicitly via the **-paper** option, the paper size defaults to US letter size (8.5 by 11 inches). If the image is larger than this, the paper dimensions are increased as necessary. If the paper size is been specified explicitly, it is not increased if the image does not fit on paper. The options **-l** and **-w** have the same effect as **-paper**.

The size of the actual image (as opposed to the paper size) is controlled by the **-scale** option. You can either specify a value of **orig** for the **-scale** option or give an actual size. If you specify **orig**, the output image is the same size as the input

image. If you specify **-scale** with an actual size, the output image is scaled to the desired size. You can also specify a percentage for enlargement or reduction.

Even if you specify **-scale orig**, the image may still have to be scaled if the input resolution is different from the output resolution. By default, the transform leaves scaling to the printer. The exceptions are:

- Images that are being halftoned, which are always scaled in the transform
- Images that have different resolutions in X and Y directions

You can use the **-alg** option to instruct the transform to perform internal image scaling. Options **-alg**, **-clean**, and **-ink** choose and configure various scaling algorithms.

If possible, **tiff2afp** rewraps the TIFF raster data in MODCA-P headers. This does not change the compression algorithm used in the data, even though it might be different from the output compression algorithm specified on the command line. The data is rewrapped only if no changes are to be made in the image and if the compression algorithm is supported by the IOCA standard. Besides uncompressed data, the bilevel compression algorithms supported by both TIFF and IOCA are ITU-T Group 3 and Group 4 algorithms.

For 8-bit grayscale and 24-bit color images, both TIFF and IOCA FS11 support JPEG compression algorithms. However, TIFF and JPEG standards have different subsampling defaults than IOCA FS11. Thus, most 24-bit color images are not suitable for rewrapping, even if they use a JPEG compression algorithm and a color model supported by IOCA FS11.

Note also that JPEG is a lossy compression algorithm. Decompressing a JPEG image and then recompressing it for output might result in reduced image quality. For that reason, the default is to use no compression for the gray or color output.

Be aware that not all the printers support all the recognized IOCA compression standards. To make sure that the transform decompresses the data and recompresses it using the specified algorithm, use the option **-force**. If the output image is IM1, the image is always decompressed and scaled in the transform.

The TIFF images are often divided into many segments for efficient memory handling. Some printers terminate the printing in error if the page is too complex. For that reason, **tiff2afp** decompresses, repartitions, and compresses the data if it deems there are too many segments in the picture.

Parameters

tiff2afp behavior is governed by many parameters. The parameters are set by the following hierarchy (least significant first):

- Internal defaults
- Environment variables
- Configuration file
- Command-line arguments

Command Line Arguments

Note the following points regarding the command line arguments for the **tiff2afp** transform:

- Options and input file names can appear on the command line in any order.
- When you run **tiff2afp** as a standalone transform, the blank between option and value is optional (for example, both `-inkblack` and `-ink black` are valid).

- When you use the **-o** flag of the **enq**, **lp**, **qprt**, or **lprafp** commands to pass options to **tiff2afp**, no blank is permitted between option and value is optional (for example, `-o-inkblack` is valid, but `-o -ink black` is not).
- When you use the **other-transform-options** attribute on the **pdpr** command to pass options to **tiff2afp**, any string containing a blank must be surrounded by single quotes (for example, both `other-transform-options=-inkblack` and `other-transform-options='-ink black'` are valid).
- All values except file names are case-insensitive.
- If an option is specified multiple times, the last specification remains in force.
- If multiple configuration file names are given, they are processed in order.

Configuration File

The configuration file has entries of the form *option=value*, where each pair must reside on a separate line. Options and other syntax are the same as for the command line arguments and the option names are the same. Input files and configuration files cannot be specified in the configuration file (that is, nested configuration files are not supported). In the case of options without values (for example, **-inv**), the equals sign must be present.

Some command line options, for example, **-calib**, cannot be used in the configuration file or as environment variables. Options available only on the command line are noted as such in their descriptions.

If you do not specify a configuration file on the command line with the **-C** option, the transform checks for the existence of the default configuration file, **/usr/lpp/psf/tiff2afp/tiff2afp.cfg**. If this file exists, the transform uses it as the configuration file.

The following is an example of a valid configuration file:

```
scale = letter
r= 300
o = -
inv=
alg=afp
```

Note that the spaces around the equals sign (**=**) are optional. In this example, the option-value pair **o = -** means that the default output file is the standard output. Output file name computation has been disabled.

Environment Variables

Environment variables have the form **TIFF2AFP_***option*, where *option* is the same as on the command line and the configuration file.

Some command line options, for example, **-calib**, cannot be used in the configuration file or as environment variables. Options available only on the command line are noted as such in their descriptions.

For example, to achieve the same effect as the configuration file in the last example, the following statements have to be executed in the calling shell:

```
export TIFF2AFP_scale=letter
export TIFF2AFP_r=300
export TIFF2AFP_o=-
export TIFF2AFP_inv=" "
export TIFF2AFP_alg=afp
```

tiff2afp

There must be some value set for each desired option. For options that do not take a value, specify a blank surrounded by double quotes, for example:

```
export TIFF2AFP_inv=" "    correct
export TIFF2AFP_inv=       has no effect
```

Resource Search Path

For resource files, such as scan offset files and grayscale correction files, the transform searches the current directory by default. You can use the **-respath** option to specify a list of directories to be searched for such files. This resource path does not apply to the configuration file.

Limitations

- Only Huffman coding with baseline DCT JPEG algorithm is supported.
- Old style JPEG specification (Photometric Interpretation 6) is not supported. Photometric Interpretation 6 is obsolete and will be removed from the TIFF specification. Use the Photometric Interpretation 7 to incorporate the JPEG compressed images in TIFF files.
- Additional color information, such as alpha data, is disregarded.
- Transparency maps are ignored.
- At most 8-bit grayscale and 24-bit color are supported.

Acknowledgments

This software is partially based on the Independent JPEG Group's JPEG compression and decompression code.

Options and Values

@FileList
> Specifies a name of a file that contains a list of files to be processed by the transform. If the **@** option is present, the output file defaults to standard output, even if the list of files contains only a single entry. Multiple **@** options are allowed. Also see the **-f** and **-z** options. The **@** is not preceded by the dash, and is implemented to maintain compatibility with the **ps2afp** transform.

-a {ioca | ioca10 | ioca11 | im1 | PS.2}

-a {IO1_G4 | IM1 | IO1 | IO1_MMR | PSEG_IO1_G4 | PSEG_IM1 | PSEG_IO1 | PSEG_IO1_MMR | OVLY_IO1_G4 | OVLY_IM1 | OVLY_IO1 | OVLY_IO1_MMR}
> Choice of the output image type. The first syntax chooses between the IOCA FS 10 (**ioca**, **ioca10**), IOCA FS11 (**ioca11**), IM1, and PostScript Level 2 (**PS.2**) output. IOCA FS10 and IM1 yield bilevel images, while IOCA FS11 results in 4-bit or 8-bit gray or 24-bit color output (see option **-outbits**). Note that presently the only product that supports IOCA FS11 is the AFP Workbench. The output compression algorithm is set via the option **-cmp**. To set the page type (page, overlay, page segment or object), use the **-pagetype** option.

> The second syntax is to maintain compatibility with the **ps2afp** transform, and sets the image type (**IO1** for IOCA FS10 or **IM1** for IM1 output), compression (**G4** for Group 4 or **MMR** for Group 3), and page type (**PSEG** for page segment or **OVLY** for overlay). If **PSEG** or **OVLY** is not specified,

the output is a printable page. If no compression algorithm is specified, the output is not compressed. The second syntax cannot be used for IOCA FS11 output.

Some older printers do not support IOCA images. In such cases, the IM1 output type should be chosen. IM1 images are uncompressed and thus use more space. The processing might also take longer since the IM1 image cannot be scaled by the printer and so internal scaling algorithms must be used. See option **-alg**.

The default is **ioca** for IOCA FS10 output compressed via Group 4 algorithm.

This option is similar to the **image-out-format** document attribute on the **pdpr** command.

-alg {afp | alg1 | alg2 | alg3}

-alg {htod1 | htfs}

-alg htcal1

> Choice of the scaling and halftoning algorithms. You can specify multiple choices, separated by commas, for one **-alg** option. The effect is the same as specifying multiple **-alg** options. For example, `-alg htfs,htcal` is equivalent to `-alg htfs -alg htcal`.

> The scaling algorithms are:
> - If **afp** is chosen, the scaling is done using the default algorithm in the printer. This makes the transform much faster. If the image must be reduced, however, this algorithm may drop some information from the image, such as thin lines.
> - **alg1** activates the internal scaling algorithm to scale the image explicitly to the specified size. This algorithm is guaranteed not to discard any ink. "White space" in the image, however, may be lost (that is, features close to one another might merge). This algorithm makes the transform run longer, and might occasionally make for a "dirty" image, since the occasional "noise pixels" in the scanned images tend to be amplified.
> - **alg2** activates the more flexible version of **alg1**. If this algorithm is selected, option **-clean** can be used to specify the amount of ink "cleanup" to be performed. Option **-clean 0.0** makes the algorithm **alg2** perform like **alg1** (albeit more slowly). Increasing the value specified in **-clean** discards more and more ink, until **-clean 1.0** results in a blank page.
> - **alg3** activates a scaling algorithm that works by deleting or duplicating rows and columns in the image. This is a fast general-purpose algorithm.

> For bilevel images, the default is **afp** if the output image type is IOCA and **alg3** if the output image type is IM1. For color images with bilevel output, the scaling is always done prior to the halftoning algorithm. If a grayscale or color output is chosen (**-a ioca11**), this option is ignored and the algorithm is set to **afp**.

> The halftoning algorithms are:
> - **htod1** uses an ordered dither with a screen derived from the value of the **-thresh** option. The default is an 85 line per inch screen.
> - **htfs** uses the Floyd-Steinberg algorithm.

- **htcal1** recalibrates the halftoning algorithm for each image. **htcal1** forces the transform to read the whole image into memory and requires an additional pass through the image. It should be used only for very light or very dark images.

  The default is **htod1**. Each halftoning algorithm uses a different internal default calibration curve. If the automatic calibration is turned on, a still different set of calibration curves are used.

  See options **-clean**, **-gcorr**, **-ink**, **-paper**, **-scale**, **-thresh**, **-l**, **-w**, **-x**, and **-y**.

-calib scanner

-calib {scanner | printer | patch | patchr},_name1_**...**
: Transform calibration for the scanner or printer. If **scanner** is specified, **-sgcorr** must be present. If **printer** is specified, **-sgcorr** may or may not be present. If **patch** or **patchr** is specified, **-sgcorr** (if present) is ignored. Detailed explanation of the calibration process is beyond the scope of this entry.

  You cannot specify **-calib** in the configuration file or as an environment variable.

-choice {full | reduced | both}
: TIFF image files may contain both full and reduced resolution versions of each image. The transform can output both versions, or full resolution only, or reduced resolution only, depending on the value for this option. The default is to output the full resolution images only.

  See the **-mp** and **-nomp** options.

-C _ConfigurationFileName_
: The name of a configuration file containing option-value pairs. If multiple **-C** options are given on the command line, they are processed in order. Specifying the configuration file on the command line overrides any specification done via the **TIFF2AFP_C** environment variable.

  The default configuration file is **/usr/lpp/psf/tiff2afp/tiff2afp.cfg**.

-clean {0.5 | _x.xxx_**}**
: The internal scaling algorithm **alg2** allows for variable thresholding. The scaled pixel is declared painted if the fraction of its area greater than the threshold is painted in the original image. The value _x.xxx_ is a real number between zero and 1 inclusive and gives this threshold.

  If the option **-clean 0.0** is issued, **alg2** behaves like **alg1** and turns on a pixel as long as any part of the pixel has been painted in the original image. **-clean 1.0** results in a blank image because the output pixels are never painted.

  Note that setting **-clean 0.95** and **0.9999999** turns on the pixels that had essentially all the area painted in the original picture. Depending on the data, most of the image will probably be preserved. Increasing **-clean** by a small amount to **1.0** erases the image. If the scaling algorithm is not **alg2**, this option is ignored. The default is **-clean 0.5**.

-cmp {none | mh | mmr | g3 | g4 | jpeg}
: Choice of the output image compression algorithm:

  none Uncompressed output

mh   ITU-T T.4 G3 Modified Huffman

mmr   IBM Modified Modified Read

g3   ITU-T T.4 G3 Modified Read

g4   ITU-T T.6 G4

jpeg   JPEG non-differential Huffman coding with baseline DCT. The
         output image data should be compressed to reduce the file sizes
         and increase the printing speed.

The default compression is ITU-T T.6 Group 4 for bilevel images and no
compression for grayscale or color images. Note that some printers may not
support Group 4 compression algorithm and require using the **-cmp** option
to choose a different one. The JPEG algorithm can compress only 8-bit
grayscale and 24-bit color images. 4-bit grayscale images cannot be
compressed.

-crop *t,b,l,r*[**i** | **m** | **p** | **d**]
Image cropping. *t,b,l,r* specify how much should be cropped from the image
top, bottom, left edge, and right edge. The numbers are floating point and
can be either positive or negative. Negative numbers indicate that a blank
space should be inserted. The units are inches, millimeters, points, and dots
(pels), with the default being dots. The cropping is specified in the context
of the output page, to that "top" means the top of the output page and so
on, regardless of the **-rot** option. To crop, the transform will enlarge the
image by the amount to be cropped, then crop the specified amount by
manipulating the actual bitmap. The resulting image has the size as
specified by the explicit (or implicit) **-scale** option. See also option **-j**.

If **-fit trim** is specified, the right and the bottom edge of the image are not
cropped. Instead, the image grows as necessary. Because **-fit trim** causes
the output data stream to contain the "position and trim" specification, the
printer discards any extra image.

-f *FileList*
Specifies the name of a file that contains a list of files to be processed by
the transform. If the **-f** option is present, the output file defaults to standard
output, even if the list of files contains only a single entry. Multiple **-f** options
are allowed. See also options **@** and **-z**.

-fit {trim | scale}
Determines whether the printer behavior will be position-and-trim or
scale-to-fit if the image is too large to fit on the paper. The default is **trim**.

This option is equivalent to the **image-fit** document attribute on the **pdpr**
command.

-force If present, this option forces **tiff2afp** to decompress and recompress the
image, regardless of other factors.

-gcorr *FileName*
Specifies a file with grayscale mapping table for halftoning of the grayscale
and color images to bilevel for output. The mapping table must be provided
to compensate for the printing characteristics of the particular output device
and paper type, such as dot gain. This file must contain either:
• 256 real numbers, one for each level of gray in the 8-bit grayscale image
• The PostScript **settransfer** operator

The algorithm converts every image to 8-bit grayscale before applying the halftoning algorithm. The default internal mapping table has been optimized for the 600-pel IBM Infoprint 4000 laser printer. You shouldn't change this unless you know what you are doing. See also options **-alg** and **-thresh**. PostScript code submitted via the **-thresh** option can have the same effect as **-gcorr**.

-ink {black | white}

This option is used only with scaling algorithm **alg1** or **alg2**. The TIFF images can be either black on white or white on black. The internal scaling algorithm must know which, because "ink" is preserved at the expense of "non-ink" The default value, "black", indicates that the image is black on white.

If the option **-inv** is used to print the reversed image, the inversion is done as the data is read by the transform, before any processing is done. The black or white must thus be specified in the terms of the printed image, not in the terms of the input TIFF image.

-inv   Reverses the image. Areas that are black in the original image become white and vice versa. Note that the reversed image may be either black on white or white on black, depending on the original image.

-j *ScanOffsetFileName*

Sometimes input images must be shifted to get the desired positioning on the page. The scan offset file contains the directions for shifting. The file has the format of

```
[attribute]
values
   .
   .
values
[attribute]
values
   .
   .
values
```

Currently, the recognized attributes are **[Units]** (values **millimeters**, **mm**, **inches**, **in**, **points**, **dots**, **pels**) **[Page_Offset_Type]** (values **crop** or **grow**) and **[Page_Offsets]**. The values for page offsets are in the format *FileName*,**H***horiz*,**V***vert* Each entry refers to a file. The file names must be specified (or at least the leading comma must), but are currently ignored and the offset factors are applied to each file in turn. Note that the same factors are applied to each image in the file. The *horiz* and *vert* values are the amount that the image is to be shifted, in the horizontal and vertical direction. The positive directions are down and right (that is, the origin is in the left upper corner of the page). The default units are millimeters. Like the values for the **-crop** option, the shifts are specified in the output space context.

Extra spaces and blank lines are allowed. Unrecognized attributes and their values are ignored. See the sample file **shift.sample**.

If the image is moved left or up, part of the bitmap is removed. If the image is moved down or right, removal is governed by the value of the **[Page_Offset_Type]** attribute. If **crop** is chosen, the transform removes the requisite amount from the right and bottom edges of the bitmap. If **grow** is chosen, the transform does not remove any space. The bitmap grows and the trimming, if any, is left to the printer. If the **-fit trim** option (the default) is

specified, **[Page_Offset_Type]** defaults to **grow**. For **-fit scale**,
[Page_Offset_Type] defaults to **crop**.

-l {11i | *yyy.yy***[d | m | i | p]}**
Specifies the paper length. The optional units are **d**ots (pels), **m**illimeters,
inches, or **p**oints. The default unit is dots. If the unit is dots, decimals (if
any) are ignored. The default paper length is 11 inches. See options **-w** to
set the paper width or **-paper** to set both dimensions at the same time.

-M {0 | nnn}
Limits the amount of memory available to **tiff2afp**. *nnn* is the maximum
amount of memory in kilobytes. A value of **0** means there is no memory
limit. *nnn* can be set from **0** to the maximum value that AIX allows. The
default is **0**.

[-mp | -nomp]
Each TIFF image is supposed to have a marker bit set if there are multiple
TIFF images in the file. This marker is sometimes missing, even if there are
multiple images present in the file. The **-mp** option instructs the transform to
behave as if the multipage marker bit were set. The transform then
processes all the images in the file, subject to the **-p** and **-choice** options.
The default is to leave the marker bit unset (**-nomp**).

-ms {10 | *nnn***}**
Requires that at least *nnn* kilobytes of disk space be available on the file
system that contains the output file. This limit is enforced every time data is
written to the output file. If the output is standard output, this option is
ignored. The default is **10**. See option **-msf**.

-msf {0.1 | *x.xxx***}**
The number *x.xxx* is a real number between 0 and 1. It denotes the
minimum space that must be left unused on the file system containing the
output file. The space is given as a fraction of the total space in the file
system. This limit is enforced every time data is written to the output file. If
the output is standard output, this option is ignored. The default is **0.1**. See
option **-ms**.

-nomp
See [**-mp** | **-nomp**].

-nosniff
See [**-sniff** | **-nosniff**].

-noterm
See [**-term** | **-noterm**].

-nov See [**-v** | **-nov**].

-o *FileName*
Optional output file name. Specify **-** for standard output.

-outbits *NumberOfOutputBits*
Sets the number of bits per pel in output. This value must be **1**, **4**, **8**, or **24**.
If the output image type is IOCA FS10 or IM1, the number of output bits is
set to **1** and this option is ignored. For IOCA FS11 output, the default is **24**.
Note that this number represents the maximum number of bits used per pel.
Thus, even if the number of bits is set to **24**, a 4-bit grayscale image is still
displayed in 4-bit format.

-outcolor {rgb | <u>ycbcr</u> | ycrcb}

Sets the output color model to RGB, YCbCr, or YCrCb if the image type is IOCA FS11 and the number of output bits is 24. Otherwise, this option is ignored. The default is **ycbcr**.

-p {even | odd | *nn* | *nn-mm* | *nn*-}

Specifies that the output should only contain the specified pages. If no **-p** option is given, all the pages are output (but see the **-choice** option for printing full or reduced resolution images of each page). Multiple **-p** options may be specified. Their effect is cumulative. Regardless of the order in which the pages are specified, they are always printed in ascending order. The recognized values are:

even   Print all even pages
odd   Print all odd pages
nn   Print page *nn*
nn-mm
        Print pages *nn* to *mm*, inclusive.
nn-   Print all pages starting with page *nn*

Pages are numbered starting with 1.

-pagetype {<u>page</u> | overlay | ovly | pseg | object}

Sets the output page type to be page, overlay, page segment or object. The same page type is set for every page in the output. Thus, unless option **-p** is used to select a single page, multiple overlays, page segments or overlays are stored in the output file. The default is **page**. See option **-a**.

-paper {a5 | a4 | a3 | <u>letter</u> | folio | legal | ledger | *xxx.xx,yyy.yy*[<u>d</u> | m | i | p]}

Specifies the output paper size. The supported values are:

a3   A3 format (297 by 420 mm or 11.69 by 16.54 inches)

a4   A4 format (210 by 297 mm or 8.27 by 11.69 inches)

a5   A5 format (148 by 210 mm or 5.83 by 8.27 inches)

<u>**letter**</u>   8.5 by 11 inches (216 by 279 mm)

folio   8.5 by 13.0 inches (216 by 330 mm)

legal   8.5 by 14.0 inches (216 by 356 mm)

ledger 11.0 by 17.0 inches (279 by 432 mm)

xx.xx,yy.yy[<u>d</u> | m | i | p]
        Horizontal and vertical page dimensions. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints.

The default paper size is letter. If **-paper** is not used, the paper size is increased, if necessary, to contain the output image.

See options **-l**, **-w**, and **-scale**.

-r {<u>300</u> | *nnn*}

The output device resolution, specified in dots per inch. The default is **300**.

This option is equivalent to the **default-printer-resolution** document attribute on the **pdpr** command.

-respath *directory*[:*directory*...]

Sets the search path for resource files, such as the scan offset files and grayscale calibration curve files. If a resource file name is specified as a relative name (does not start with a **/**), the transform searches every

directory in the path, in the order specified in the path, until it finds the file (or fails). See options **-j** and **-gcorr** for scan offsets and grayscale calibration curve. The default is the current directory.

-rot {0 | 90 | 180 | 270[p | i]}

The image is rotated in the clockwise direction by the amount specified. The default is zero, that is, no rotation.

If **p** is specified, the transform sets the output datastream in such a way that the printer performs the actual image rotation. If **i** is specified, the transform rotates the output bitmap. When **i** is chosen, the transform takes much longer to run and uses much more memory. If no letter is specified, the default or any previous value (such as the value specified in the configuration file) remains in force. The default is **p**.

-scale {orig | a5 | a4 | a3 | letter | folio | legal | ledger | *xxx.xx,yyy.yy***[d | m | i |p] |** *xxx***%}**

Specifies the output image size. The image is scaled to this size and centered in the area defined by the paper size and margin options. The supported values are:

orig Preserve the input image size, regardless of the printable paper area.

a3 A3 format (297 by 420 mm or 11.69 by 16.54 inches)

a4 A4 format (210 by 297 mm or 8.27 by 11.69 inches)

a5 A5 format (148 by 210 mm or 5.83 by 8.27 inches)

letter 8.5 by 11 inches (216 by 279 mm)

folio 8.5 by 13.0 inches (216 by 330 mm)

legal 8.5 by 14.0 inches (216 by 356 mm)

ledger 11.0 by 17.0 inches (279 by 432 mm)

*xx.xx,yy.yy***[d | m | i | p]**

Horizontal and vertical image dimensions. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints.

*xxx***%** Magnification relative to the original image size. Numbers below 100% mean reduction, while Numbers above 100% mean enlargement. For example, **-scale 200%** causes the output image to be twice as long and twice as wide as the input image.

The default image size is **orig**.

-sgcorr *FileName*

Specifies the name of the scanner-related calibration file. To use this option in the calibration process (with the option **-calib**) you must specify a single file name. If **-calib** is absent, this option is ignored.

A detailed discussion of **-sgcorr** is beyond the scope of this document.

[-sniff | -nosniff]

Turns automatic conversion to black on white for bilevel images on (**-sniff**) or off (**-nosniff**). The automatic conversion algorithm counts the number of 0 and 1 bits in the image. If there are fewer zeros, it assumes the printed features are represented by zeros (white on black), and inverts the image to be black on white. The detection and conversion are done after the conversion specified by the Photometric Interpretation tag is applied (if any).

This option is ignored if the image is not bilevel. The default is **-nosniff**.

[-term | -noterm]

Disables (**-term**) or enables (**-noterm**) error recovery.

- When error recovery is disabled, on encountering an error in a TIFF file, the transform terminates with an error message and a nonzero return code.
- When error recovery is enabled, the errors in TIFF files are treated as non-fatal. The transform attempts to recover with the next image in the file, or with the next file. The return code is zero.

The default is **-noterm**.

-thresh *FileName*

Specifies a file that contains a PostScript Type 1 or Type 3 halftone dictionary. Alternatively, the PostScript code can specify the **setscreen** operator instead of a Type 1 dictionary. The halftone cell in the dictionary is used to overwrite the default ordered dither clustered dot halftone cell. If the PostScript code contains a transfer function, either in the halftone dictionary or specified by the **settransfer** operator, the current grayscale correction curve is overwritten as if **-gcorr** were used.

[-v | -nov]

Turns verbose mode on (**-v**) or off (**-nov**).

- When verbose mode is on, the transform prints a message as it opens each resource file, then echoes the command line, then prints a message for each file name as it is processed.
- When verbose mode is off, the transform prints only error messages.

The default is **-nov**.

-w {8.5i | *yyy.yy***[d | m | i | p]}**

Specifies the paper width. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default page width is 8.5 inches. See options **-l** to set the paper length or **-paper** to set both dimensions at the same time.

-wrkdir *WorkDirectoryName*

The TIFF data stream is by definition non-sequential. Thus, input from **stdin** must be cached on disk before it can be processed. This option specifies which directory to use for the caching of the standard input. If this option is absent or the directory cannot be opened, the transform first tries to use **/var/psf/tiff2afp** as the working directory and, if **/var/psf/tiff2afp** is absent, uses **/tmp**.

The **stdin** cache file is never visible to the user because it is immediately unlinked after creation. Thus, the cache file is always deleted when **tiff2afp** finishes execution, even if **tiff2afp** is killed or otherwise terminates in error.

-x {0 | *nnn.nn***[d| m | i | p]}**

Specifies the left margin. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default is zero (no margin).

-y {0 | *nnn.nn***[d| m | i | p]}**

Specifies the top margin. The optional units are **d**ots (pels), **m**illimeters, **i**nches, or **p**oints. The default unit is dots. The default is zero (no margin).

-z Signifies that a list of files to be processed is submitted from standard input. See also options **-f** and **@**.

Chapter 7. Infoprint Object Attributes

This chapter lists the attributes for these Infoprint print objects:

Attribute Disclaimer

There are attributes and attribute values identified in the *ISO 10175-1 Information Technology - Text and Office Systems - Document Printing Application (DPA) Part 1: Abstract-Service Definition and Procedures* standard that Infoprint does not support. If you use any of these non-supported attributes or values, Infoprint may accept them. However, the results may be different than you expect. Sometimes, Infoprint may issue a message indicating that it does not support the attribute or value.

About Destination Support Systems

The programs that the actual destination uses to send jobs to the output device are called the destination support system (DSS).

Infoprint Manager for AIX supports the following DSSs:

AIX DSS

The AIX DSS permits Infoprint Manager to bridge to the AIX print-spooling subsystem. In standard AIX printing, users submit jobs to an AIX print queue. The AIX print-spooling subsystem schedules the jobs and passes them to a printer device by means of a backend program, usually **piobe**, or if the queue is a remote queue, **rembak**.

In the AIX DSS, users submit jobs to a destination from which an Infoprint queue receives them. The Infoprint physical printer submits jobs to the printer device using an AIX backend program.

You must attach this type of printer device as specified by its documentation before creating its associated Infoprint actual destination.

BSD DSS

The BSD DSS permits Infoprint Manager to bridge to existing UNIX/BSD printing subsystems. Infoprint Manager sends jobs submitted to BSD physical printers as separate print requests to a local or remote print queue.

For local printer devices, Infoprint Manager can use the **piobe** backend program. More typically, Infoprint Manager uses the **rembak** program to send jobs to a printer device connected to another processor. This processor can run AIX or any other operating system that supports the **lpd** protocol and that connects to the network using TCP/IP.

For remote printer devices, you must set up a remote queue and configure the remote system. Refer to the printer configuration documentation of the remote system.

PSF DSS

The PSF DSS permits Infoprint Manager to bridge to the IBM print Services Facility (PSF) printing subsystem. This DSS allows communication with output devices that have Intelligent Printer Data Stream (IPDS) functionality. The PSF DSS is the most flexible DSS. It provides a single point of control and tracking for print jobs. Infoprint Manager transforms jobs submitted to PSF destinations to IPDS or PCL before sending them to the output device.

The way in which Infoprint Manager communicates with the output device depends on the type of actual destination. For PSF DSS actual destinations, it also depends on the attachment type.

3170 DSS

Infoprint Manager uses the 3170 DSS to communicate with IBM InfoColor 70 printer devices. Before creating the actual destination, you must determine the Internet Protocol (IP) address of the printer device.

Infoprint 2000 DSS

Infoprint Manager uses the Infoprint 2000 DSS to communicate with IBM Infoprint 2000 printer devices. Before creating the actual destination, you must determine the Internet Protocol (IP) address of the printer device.

Email DSS

Infoprint Manager uses the email DSS to communicate with electronic mailing systems.

Fax DSS

Infoprint Manager uses the fax DSS to communicate with fax devices.

Infoprint Manager for Windows NT and Windows 2000 supports the following DSSs:

BSD DSS

The BSD DSS permits Infoprint Manager to bridge to remote printers or printing subsystems. Infoprint Manager sends jobs submitted to BSD physical printers as separate print requests to a remote print queue.

Infoprint Manager typically uses the **lpr** command to send jobs to a printer device or to another system. This can be any device or system that supports the **lpd** protocol and that connects to the network using TCP/IP. Refer to the printer configuration documentation of the remote device or system for details on how to set up a remote queue.

PSF DSS

The PSF DSS permits Infoprint Manager to bridge to the IBM Print Services Facility printing subsystem. This DSS allows communication with output devices that have Intelligent Printer Data Stream (IPDS) functionality or that have PCL functionality. The PSF DSS is the most flexible DSS. It provides a single point of control and tracking for print jobs. Infoprint Manager transforms jobs submitted to PSF destinations to the IPDS or PCL data stream before sending them to the output device.

The way in which Infoprint Manager communicates with the output device depends on the type of actual destination. For PSF DSS actual destinations, it also depends on the attachment type. (See "Understanding Attachment Types for PSF Actual Destinations".)

Passthrough DSS

The Passthrough DSS permits Infoprint Manager to bridge to the Windows print-spooling subsystem. This DSS supports mono-IPDS (PostScript or PCL) printers by using standard Windows NT/Windows 2000 ports and port monitors.

You must attach this type of printer device as specified by its documentation before creating its associated Infoprint Manager destination.

IPP DSS

Infoprint Manager uses the IPP DSS to communicate with destinations through the Internet Print Protocol (IPP). This DSS allows Infoprint Manager to access a printer using a Uniform Resource Locator (URL) string.

Understanding Attachment Types for PSF Actual Destinations

The attachment type for an actual destination defines how the printer device attaches to the server and communications with Infoprint Manager. Based on the printer device, the attachment type is one of the following:

- **TCP/IP**. The printer device communicates using the Intelligent Printer Data Stream (IPDS) and attaches to the server through the TCP/IP network. To create the actual destination, you must specify the Internet Protocol (IP) address of the printer device and the port number through which Infoprint Manager communicates with the device. The port number for TCP/IP-attached printers is an integer from 5001 to 65535. For printers attached using the i-data 7913 IPDS Printer LAN Attachment, you must use **5001** as the port number.
- **Channel**. The IPDS printer device attaches to the server through a S/370 Channel Emulator/A adapter for Infoprint Manager for AIX and an IBM 4159

Model 001 S/390 Parallel Channel Emulator Card (suing S/390 bus/tag cabling) for Infoprint Manager for Windows NT and Windows 2000. Before creating the actual destination, you must identify the slot number in the server that contains the card and the hexadecimal control unit address of the printer device.

- **Other-driver**. The PCL, PostScript, or PPDS printer device communicates using TCP/IP or attaches directly to the server through a parallel/serial port (or through a hardware alternative to such direct attachment. When you want to create the actual destination with Infoprint Manager for Windows NT and Windows 2000, you must specify the port associated with a port monitor needed to operate the printer.

- **Command**. You must attach this type of printer as specified by its documentation and configure it in AIX before creating its associated actual destination for Infoprint Manager for AIX **or** configure it to function as a Windows printer (using the standard Windows **Add Printer Wizard)** before creating its associated actual destination for Infoprint Manager for Windows NT and Windows 2000.

- **Upload-SNA**. With Infoprint Manager for AIX, the printer device is attached to a host system. Infoprint Manager communicates with PSF for OS/390 or PSF for MVS through the SNA network. Before creating the actual destination, you must determine the code pages used on both the AIX and host systems.

- **Upload-TCP/IP**. With Infoprint Manager for AIX, the printer device is attached to a host system. Infoprint Manager communicates with PSF for OS/390 or PSF for MVS through the TCP/IP network. Before creating the actual destination, you must determine the Internet Protocol (IP) address of the printer device and the port number through which Infoprint Manager communicates with the device. The port number for TCP/IP-attached printers is an integer from 5001 to 65535. You must also determine the code pages used on both the AIX and host systems.

Attributes Displayed in the Infoprint Manager Administration GUI

Attributes that include **GUI Label** are shown in the corresponding properties notebooks in the Infoprint Manager Administration GUI. The following objects have properties notebooks:

- Actual Destination
- Documents and Default Documents
- Jobs and Default Jobs
- Logical Destinations
- Servers
- Transforms

Attributes for Actual Destinations

- Infoprint uses actual destinations for job validation and scheduling. See "Appendix C. Job Validation and Scheduling" on page 695 for an explanation of job validation and scheduling and for tables showing the attributes used for these tasks.

- Infoprint uses the actual destination *xxx*-**supported** attributes for job validation. Infoprint uses both the *xxx*-**ready** and the *xxx*-**supported** attributes for job scheduling.

- Infoprint issues an error if you update an *xxx*-**ready** attribute with a value not currently assigned to the corresponding *xxx*-**supported** attribute.

- Actual destinations have different attribute sets based on the DSS that supports the destination.

- Infoprint supplies some files containing attributes that have the values for some of the actual destination attributes already set, based on the output device model or destination attachment type. You will find these files containing attributes in the **/usr/lpp/pd/attr** directory for Infoprint Manager for AIX and in the *****install_path***\\attr** directory for Infoprint Manager for Windows NT and Windows 2000.

Attributes Not Displayed in the Infoprint Administrator's GUI

While all actual destination attributes and attribute values are supported for both basic and advanced Infoprint installations, neither Infoprint administrator's GUI displays a complete set.

- The basic Infoprint administrator's GUI displays only the attributes of greatest interest to Print on Demand (Commercial Printing) Infoprint administrators.
- The advanced Infoprint administrator's GUI displays most attributes and attribute values of greatest interest to Data Center (Production Printing) Infoprint administrators, but omits a few that are used primarily in basic Infoprint installations.

You can list the values of attributes not displayed in the Infoprint administrator's GUI using the **pdls** command. You can set the values of initially settable and resettable attributes using the **pdcreate** command. You can change the values of resettable attributes using the **pdset** command.

Initially Settable Attribute Listing

You can set these attributes with the **pdcreate** command when you create an actual destination.
> **attachment-type**
> **destination-data-stream**
> **destination-realization**
> **destination-support-system**
> **device-name**
> **print-queue-name**

Resettable Attribute Listing

You can set these attributes with the **pdcreate** command when you create an actual destination or modify them with the **pdset** command after you create the actual destination.
> **accept-jobs**
> **accounting-exit**
> **ack-interval**
> **add-carriage-returns**
> **add-line-feeds**
> **ascii-character-mapping**
> **ascii-font-map**
> **associated-queue**
> **attribute-map**
> **audit-exit**
> **automatic-postscript-mode-switch**
> **auxiliary-sheet-selections-supported**
> **booklet-fold**
> **carriage-control-types-supported**
> **character-mappings-supported**
> **checkpoint-at-stacker**
> **color-mapping-table**

Actual Destination

color-rip-servers
connection-timeout
content-orientations-supported
convert-to-ebcdic-supported
data-fidelity-problem-reported-supported
default-font-fidelity-action
default-font-resolution
default-input-tray
descriptor
destination-command
destination-locations
destination-model
destination-pass-through
destination-register-threshold
destination-release-timer
destination-tcpip-internet-address
destination-tcpip-port-number
document-finishings-supported
document-formats-ripped-at-destination
document-formats-supported
document-types-supported
dss-job-message-disposition
dss-job-message-log-size
dss-job-message-log-wrap
ebcdic-character-mapping
end-message-supported
end-sheets-supported
font-resolutions-supported
force-destination-setup
form-definition
halftones-supported
image-fit-supported
image-length
image-out-formats-supported
image-width
input-data-user-exit
input-trays-medium
input-trays-supported (BSD only; otherwise non-settable)
intervention-timer
job-batches-ready
job-finishings-supported
job-retry-count-limit
job-retry-interval
job-rip-actions-supported
job-size-range-ready
job-size-range-supported
job-start-wait-supported
list-of-managers
log-accounting-data
logical-destinations-assigned
maximum-concurrent-jobs
maximum-copies-supported
maximum-fonts-to-keep
maximum-overlays-to-keep
maximum-segments-to-keep
media-ready (BSD only; otherwise non-settable)

media-supported
message
message-font-type
message-form-definition
non-process-runout-timer
notification-profile
notify-operator
number-up-supported
offset-stacking-available
optimize-for-multiple-copies
output-appearances-supported
output-bin
output-bin-numbers
output-data-user-exit
output-format-supported
overlay
page-select-supported
pcl-server-address
pcl-server-port
plex
plexes-supported
postscript-server-address
postscript-server-port
presentation-fidelity-problem-reported
print-edge-marks
print-qualities-supported
printer-end-sheet
printer-escape-codes
printer-memory
printer-resolutions-ready
printer-resolutions-supported
printer-separator-sheet
printer-start-sheet
printer-s370-channel-device-address
printer-s370-channel-slot-number
printer-timeout-period
protected-attributes
psf-tray-characteristics
remote-queue
resource-context
resource-context-font
resource-context-form-definition
resource-context-overlay
resource-context-page-definition
resource-context-page-segment
reverse-output
rip-ini-file
rip-server
scanner-corrections-supported
screen-frequencies-supported
scheduler-sort-primary-order
scheduler-sort-secondary-order
separator-sheets-supported
sides
sides-supported
snmp-community-name

Actual Destination

> **snmp-retry-count**
> **snmp-timeout**
> **start-message-supported**
> **start-sheets-supported**
> **table-reference-characters-supported**
> **transform-sequence**
> **use-snmp**
> **wait-for-job-completion**
> **windows-nt-driver-names**
> **x-image-shift-range-supported**
> **y-image-shift-range-supported**

accept-jobs

Indicates whether Infoprint can assign newly submitted or resubmitted jobs to this actual destination.

GUI Label
Accept jobs

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
- A value of **false** does not prevent you from using the basic Infoprint administrator's GUI to reassign jobs that have been assigned to another actual destination to this actual destination.
- When this value is **false** and the queue attribute **assign-to-destination** is true, Infoprint rejects jobs sent to this actual destination.
- Infoprint can assign jobs to this actual destination even if it is disabled. Of course, the jobs will not be printed or transmitted until the destination is enabled.
- The **accept-unsupported-jobs** server attribute overrides the **accept-jobs** attributes.

accounting-exit

Specifies the name of an auxiliary-sheet object that sets accounting exit parameters.

GUI Label
Accounting exit

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter the name of an auxiliary sheet or any of these fixed values:
accounting-log
>Accounting information is written to the:
>
>- **/var/psf/accounting.log** file for AIX
>- *install_ path***var\psf\accounting.log** file Windows NT and Windows 2000, where *install_path* indicates the path where you installed Infoprint Manager.

blank   This value is technically valid, but should not be used.
brief   A sheet with brief accounting information is printed after the job.
full   A sheet with full accounting information is printed after the job.
job-ticket
>Accounting information is written to:
>
>- **/var/psf/podaccounting.log** file for AIX
>- *install_path***var\psf\podaccounting.log** file Windows NT and Windows 2000, where *install_path* is the path where you intaslled Infoprint Manager for Windows NT and Windows 2000.

none   No accounting information is produced.

Default Value
- For Infoprint Manager for AIX:
  Basic Infoprint administrator's GUI
  >job-ticket
  Advanced Infoprint administrator's GUI and command line
  >accounting-log
- For Infoprint Manager for Windows NT and Windows 2000: **accounting-log**

Usage Guidelines
For fax and email destinations, you can use **accounting-log**; however, while the name of entries is valid, the content of the entries may be inaccurate.

ack-interval

Determines how often Infoprint sends acknowledgement requests to the destination.

GUI Label
Acknowledgement interval (pages)

DSS
PSF, Fax, Email

Type
Resettable, single-valued

Allowed Values
You can enter a value of 1 through 9999. This value represents pages.

Default Value
100

Usage Guidelines
The unit for this attribute is pages. If you change this attribute value, the change can affect performance. You can control how often Infoprint updates the job attribute **pages-completed** by decreasing or increasing this value:

Actual Destination

- Decreasing the value (number of pages) increases the number of acknowledgement requests during normal printing activities. This decreases the destination throughput and reduces the complexity of the exception recovery activities that Infoprint performs.

- Increasing the value (number of pages) decreases the number of acknowledgement requests. This provides less accurate information about the destination and exception conditions.

Note: This attribute is only used for IPDS printers.

add-carriage-returns

Indicates whether Infoprint should add carriage return characters when transforming ASCII documents for printing on this actual destination.

GUI Label
Add ASCII carriage returns

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value

add-line-feeds

Indicates whether Infoprint should add line feed characters when transforming ASCII documents for printing on this actual destination.

GUI Label
Add ASCII line feeds

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value

ascii-character-map

Indicates the ASCII code page that AIX uses to map the attributes of this PSF
upload-TCP/IP-attached or PSF upload-SNA-attached actual destination.

GUI Label
ASCII code page to use

DSS
PSF (AIX Only)

Type
Resettable, single-valued

Allowed Values
You can enter the name of an ASCII code page, such as ISO8859–1.

Default Value
No default value

Usage Guidelines
Infoprint requires this attribute for PSF upload-SNA-attached and
upload-TCP/IP-attached actual destinations and ignores it for other attachment
types.

ascii-font-map

Defines how the destination maps the ASCII font escape sequences to AFP
character sets that Infoprint uses for ASCII fonts. Infoprint uses this attribute to map
each font-change escape to an AFP font character set.

GUI Label
ASCII fonts mappings

DSS
PSF

Type
Resettable, multi-valued, complex

Syntax

font-escape:font-name

Separate each pair of values with a colon, for example:
10cpi:C02055D0

Components

font-escape: Specifies the name of an ASCII font-escape sequence.

Type: Single-valued

Allowed Values: You can enter a text string containing the sequence name.

font-name: Specifies the name of an AFP font character set.

Type: Single-valued

Allowed Values: You can enter a text string containing the font character set name.

Actual Destination

Default Values

font-escape Value	*font-name Value*
10cpi	C02055D0
10cpi-emphasized	C02075D0
10cpi-subscript	C02055P0
10cpi-subscript-emphasized	C02075P0
10cpi-2wide	C02059A0
10cpi-2wide-emphasized	C02079A0
10cpi-2wide-2high	C02059L0
10cpi-2wide-2high-emphasized	C02079L0
10cpi-2wide-subscript	C02055J0
10cpi-2wide-subscript-emphasized	C02075J0
10cpi-2high	C02051K0
10cpi-2high-emphasized	C02071K0
10cpi-condensed	C02055F0
10cpi-condensed-subscript	C02051R0
10cpi-condensed-2wide	C02059C0
10cpi-condensed-2wide-subscript	C02056N0
12cpi	C02055E0
12cpi-emphasized	C02075E0
12cpi-subscript	C02054Q0
12cpi-subscript-emphasized	C02074Q0
12cpi-2wide	C02059B0
12cpi-2wide-emphasized	C02079B0
12cpi-2wide-subscript	C02058M0
12cpi-2wide-subscript-emphasized	C02078M0
proportional	C02055G0
proportional-emphasized	C02075G0
proportional-subscript	C02055S0
proportional-subscript-emphasized	C02075S0
proportional-2wide	C02059G0
proportional-2wide-emphasized	C02079G0
proportional-2wide-subscript	C02051H0
proportional-2wide-subscript-emphasized	C02071H0
proportional-2high	C02055H0
proportional-2high-emphasized	C02075H0

associated-queue

Identifies the queue from which this actual destination receives jobs.

GUI Label
Queue fed by

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 255 characters long that contains the ID of the queue. The ID cannot contain the cell name.

Default Value
No default value

Usage Guidelines
The value for this attribute is the name of a queue. The associated queue must exist and be in communication with the destination before you can enable the actual destination.

associated-server

Identifies the name of the server in which this actual destination resides.

GUI Label
Server

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the value of the *ServerName* portion of the argument from the **pdcreate** command used to create this actual destination.

Default Value
No default value

attachment-type

Identifies how the output device that this actual destination represents attaches to the PSF DSS and how Infoprint communicates with the output device.

DSS
PSF

Type
Initially settable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Explanation*
command	Infoprint communicates with this printer device by forwarding print requests to the remote print system or printer with a command. You may need to create a queue on the remote print system.
channel	Infoprint communicates with this S/370 channel-attached printer device through the channel.
other-driver	Infoprint communicates directly with the printer device through an AIX printer backend program or a Windows NT or Windows 2000 printer port.
tcpip	Infoprint communicates with this TCP/IP LAN-attached printer device directly through the TCP/IP network.
upload-sna	This printer device is attached to an MVS system. Infoprint communicates with PSF/MVS through the SNA LU 6.2 network. **Note:** This value is only supported by the PSF DSS for AIX.
upload-tcpip	This printer device is attached to an MVS system. Infoprint communicates with PSF/MVS through the TCP/IP network.

Actual Destination

> **Note:** This value is only supported by the PSF DSS for AIX.

Default Value
No default value

Usage Guidelines
- You need to specify a value for this attribute when you create a PSF actual destination.
- Some actual destination attributes apply only to certain attachment types.

attribute-map

Provides a list of Infoprint attributes and their associated generated command flags.

GUI Label
Map attributes to flags

DSS
BSD

Type
Resettable, multi-valued, complex

Syntax

attribute:flag

Separate each pair of values with a colon, for example:

```
destination-pass-through:-o
```

Components

attribute: The name of an Infoprint document, job, or destination attribute that corresponds to a flag of the generated print command.

GUI Label: Infoprint attribute

Type: Single-valued

Allowed Values: You can enter a text string containing an attribute name.

flag: The name of a flag of the generated print command.

GUI Label: Output command option

Type: Single-valued

Allowed Values: You can enter a text string containing a flag.

Default Values
  destination-pass-through:-o

Usage Guidelines
- With AIX by default, BSD assumes the generated command is a **rembak** command.
- With Windows NT or Window 2000 by default, BSD assumes the generated command is an **lpr** command.

• Some printer devices, for example, the IBM 4317 Network Printer 17, IBM
Infoprint 20 Printer, and IBM Infoprint 32 Printer, do not support the BSD **-Z** flag.
If you receive the following error message when you try to print on one of these
printers:

```
0782-597 The value of _Z attribute is not in the ring list
         specified in the limits field
```

delete the **job-name:-o-Z** value from the **attribute-map** attribute.

audit-exit

Specifies the name of the auxiliary-sheet object that sets audit exit parameters.

GUI Label
Audit exit

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter the name of an auxiliary sheet or any of these fixed values:
accounting-log
> Audit information is written to the:
>
> • **/var/psf/audit.log** file for AIX
>
> • *install_path***var\psf\audit.log** file for Windows NT and Windows 2000,
> where *install_path* indicates the path where you installed Infoprint
> Manager.

blank This value is technically valid, but should not be used.
brief A sheet with brief audit information is printed after the job.
full A sheet with full audit information is printed after the job.
job-ticket
> A sheet with full audit information from the job ticket is printed after the job.
none No audit information is produced.

Default Value
No default value

Usage Guidelines
If you do not set a value, Infoprint produces no audit information at the end of a job
submitted to this actual destination.

automatic-postscript-mode-switch

Indicates whether this actual destination supports switching into PostScript mode
using controls placed in the data stream.

GUI Label
Switch to PostScript automatically

DSS
AIX

Type
Resettable, single-valued

Actual Destination

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
false

Usage Guidelines
- If this actual destination has this feature, it can print PostScript documents among non-PostScript documents.
- The value for this attribute does not change if you delete the **document-formats-supported** value of **postscript**.

auxiliary-sheet-selections-supported

Identifies the combination of start, separator, and end sheets selection that this actual destination supports for jobs.

GUI Label
Auxiliary sheets allowed

DSS
AIX, PSF, Infoprint 2000, IPP, Passthrough

Type
Resettable, multi-valued

Allowed Values
For AIX, PSF, and Infoprint 2000, you can enter any of these fixed values:
> **end**
> **none**
> **sep**
> **sep-end**
> **start**
> **start-end**
> **start-sep**
> **start-sep-end**

For IPP and Passthrough, you can enter any of these fixed values:
> **none**
> **start**

Default Values
AIX, PSF, and Infoprint 2000 defaults: **end**, **none**, **sep**, **sep-end**, **start**, **start-end**, **start-sep**, **start-sep-end**.

Internet Printing Protocol (IPP) and Passthrough defaults: **none**, **start**.

Usage Guidelines
- Infoprint compares the job attribute **auxiliary-sheet-selection** to this attribute for validation and scheduling.
- You can use this attribute to restrict how much control users have over **auxiliary-sheet-selection** on this actual destination.

- If you remove all values that specify a particular auxiliary sheet (such as **start**), the job submitter cannot "turn off" the corresponding actual destination attribute (such as **printer-start-sheet**).

booklet-fold

Specifies how booklets are ordered and folded on this output device.

GUI Label
Fold booklet

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:
> **up**
> **down**

Default Value
up

Usage Guidelines
- The Infoprint 60 Finisher folds booklets **up**; that is, the cover (if any) is inserted at the beginning of the booklet, and after the booklet prints, the cover is saddle-stitched from the bottom and folded upward.
- The Infoprint 2000 and inline booklet makers attached to the Infoprint 4000 fold booklets **down**; that is, the cover (if any) is inserted at the end of the booklet, and after the booklet prints, it is saddle-stitched from the top and folded downward.

  Note: The Infoprint 2000 DSS sets the booklet-fold to **down**, so that Infoprint 2000 customers don't have to specify the **booklet-fold** attribute. However, customers using the Infoprint 4000 need to specify the **booklet-fold** attribute at **down**.

cancel-individual-document-supported

Indicates whether this actual destination is capable of cancelling a single document within a multi-document job.

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **false**.

Default Value
false

carriage-control-types-supported

Identifies the types of carriage controls that this actual destination supports.

Actual Destination

GUI Label
Carriage control types allowed

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
  ansi-ascii
  ansi-ebcdic
  machine
  none

Default Values
ansi-ascii, **ansi-ebcdic**, **machine**, **none**

Usage Guidelines
- Infoprint compares the document attribute **carriage-control-type** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

character-mappings-supported

Identifies the character mappings (code pages) that this actual destination supports.

GUI Label
Character mappings allowed

DSS
AIX, PSF, Email, Fax, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
  ibm-437
  ibm-850
  ibm-860
  ibm-863
  ibm-865
  ibm-932
  ibm-938 with Infoprint Manager for AIX only
  ibm-euccn
  ibm-eucjp
  ibm-euckr
  ibm-euctw

Default Values
AIX   The value of the **destination-model** attribute for the actual destination determines the default value.

PSF, Email, Fax, Infoprint 2000
        ibm-437, **ibm-850**, **ibm-860**, **ibm-863**, **ibm-865**, **ibm-eucjp**, **ibm-euckr**, **ibm-euctw**

Usage Guidelines
Infoprint compares the document attribute **default-character-mapping** to this attribute for scheduling.

checkpoint-at-stacker

Indicates where to pause jobs printing on this actual destination.

GUI Label
Checkpoint at stacker

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
false

Usage Guidelines
When this attribute is set to **false** (the default), the checkpoint for paused jobs occurs at the operator viewing point on the printer device (the printhead). This means that when a paused job resumes, printing begins where it stopped, without reprinting any pages.

Set this attribute to **yes** if you want the checkpoint to occur at the stacker. This means that when a paused job resumes, all pages not stacked will be reprinted. This guarantees that, even if there is a paper jam between the printhead and the stacker, you will have at least one copy of each printed page.

checkpoint-formats-supported

Infoprint sets this attribute to identify the checkpoints supported for paused jobs for this actual destination.

GUI Label
Checkpoint formats allowed

DSS
AIX, PSF, Email, Fax, 3170, Infoprint 2000

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets this value to any of these fixed values:
    dsf-document-number
    dsf-job-copy
    dsf-results-profile
    no-context-info
    psf-interrupt

Actual Destination

Default Values
AIX   **dsf-document-number**, **dsf-job-copy**, **dsf-results-profile**
PSF   **dsf-results-profile**, **psf-interrupt**
Email, Fax, Infoprint 2000
         dsf-results-profile

Usage Guidelines
Infoprint uses this information to reschedule paused jobs.

color-mapping-table

Identifies the default color mapping table (CMT) that the output device uses when printing a document.

GUI Label
Color mapping table

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 8 characters that contains the identification of the color mapping table.

Default Value
No default value

color-rip-servers

Identifies the Internet Protocol address (IP Address parameter) and port number of hosts capable of RIPping documents for this actual destination.

GUI Label
Color RIP servers

DSS
3170

Type
Resettable, multi-valued

Allowed Values
You can enter a text string up to 4095 characters long that contains either of these types of address:
Dotted decimal address
        A series of integers within the range of 0 to 255, each separated by a period, . (decimal address). For example:

        `9.99.12.85:11126`
Hostname
        For example:

        `leo.boulder.IBM.com:11126`

Default Value
The value of the **destination-tcpip-internet-address** attribute with a port number of 11126

command

See **destination-command**.

connection-timeout

Sets the connection timeout parameter for TCP/IP-attached actual destinations. This time period is the amount of time that Infoprint waits before it stops trying to communicate with the output device when it cannot make a connection.

GUI Label
Connection time out (sec)

DSS
PSF, Email, Fax

Type
Resettable, single-valued

Allowed Values
You can enter a value of 0 through 9999. The unit is seconds.

Default Value
30

Usage Guidelines
- A value of **0** prevents any time out.
- Infoprint uses this attribute with TCP/IP-attached actual destinations and ignores it for other attachment types.

content-orientations-supported

Identifies the page presentations that this actual destination supports.

GUI Label
Orientations allowed

DSS
AIX, 3170

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **orientations-supported**.

Allowed Values
You can enter any of these fixed values:
    landscape
    portrait
    reverse-landscape
    reverse-portrait

Default Values
portrait

Usage Guidelines
- Infoprint compares the document attribute **content-orientation** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

convert-to-ebcdic-supported

Indicates whether this actual destination supports converting document data from ASCII to EBCDIC.

GUI Label
Convert to EBCDIC allowed

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	**Input Synonym**
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
- Infoprint compares the value of the document attribute **convert-to-ebcdic** to this attribute for job validation and scheduling.
- Infoprint uses the document attribute **convert-to-ebcdic** when printing line-data documents.
- You can use this attribute to restrict use of this actual destination.

data-fidelity-problem-reported-supported

Identifies which types of data fidelity errors this actual destination reports.

GUI Label
Data fidelity problems allowed

DSS
PSF, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
all
character
none
position

Default Values
all, **character**, **none**, **position**

Usage Guidelines
- Infoprint compares the document attribute **data-fidelity-problem-reported** to this attribute for scheduling.

- Use this attribute to specify whether Infoprint issues error messages for print-positioning and invalid-character errors that occur for channel-attached, TCP/IP-attached, upload-SNA-attached, and upload-TCP/IP-attached printer devices.

  Print positioning errors occur when the print position for the data is beyond the valid printable areas as defined by the intersection of the physical and logical pages. (A logical page identifies the printing boundaries of a physical page.)

  Invalid-character errors occur when the code point does not map to a character in a font.

default-font-fidelity-action

Indicates what Infoprint should do if a font required to print a document is not available in the resolution specified by the data stream, the document **font-resolution** attribute, or the actual destination **default-font-resolution** attribute.

GUI Label
Default font fidelity action

DSS
PSF, Email, Fax

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Explanation*
stop	Stop printing the job.
continue	Attempt to substitute a similar font at a different resolution.

Default Value
continue

Usage Guidelines
The value of the document attribute **font-fidelity-action** and the value specified in the data stream override the value of this attribute.

default-font-resolution

Specifies the font resolution used for documents printed on this actual destination when no value is specified in the data stream or by the document **font-resolution** attribute.

GUI Label
Default font resolution

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:
  240
  300

Actual Destination

outline

Default Value
outline

Usage Guidelines
- The value of this attribute must be one of the values of the **font-resolutions-supported** attribute.
- Usually the font resolution and the printer resolution match, but there are two cases when they do not:
    - Some printer devices, for example, the Infoprint 60 and Infoprint 4000, can print fonts of any resolution, although the print head is always 600 pels.
    - It is possible to print a document created with fonts of one resolution on a printer device with a different resolution by substituting fonts. Depending on the document, the output may or may not be acceptable.

default-input-tray

Specifies the name of the default input tray for a PSF actual destination.

GUI Label
Default input tray

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter any value as long as the value maps to one of the actual destination **input-trays-supported** or **psf-tray-characteristics** attribute values.

Default Value
No default value

Usage Guidelines
- The value you specify must be one of the values specified for the **input-trays-supported** or **psf-tray-characteristics** actual destination attribute.
- Infoprint only uses the value you supply for this attribute if:
    - The user does not specify a medium or input tray.
    - The form definition Infoprint uses for the job does not specify an input tray.

descriptor

Provides a textual description of this actual destination.

GUI Label
Description

DSS
All

Type
Resettable, single-valued

Allowed Values

You can enter a text string up to 4095 characters long that describes this actual destination. You may want to include such things as the type and location of the output device that this actual destination represents and any usage information, such as restrictions for this actual destination.

Default Value

No default value

Usage Guidelines

The use of this attribute is optional. However, a detailed description is useful to users who want to specify a given destination or to determine which destination can handle their jobs. A description is also helpful when you create a new logical destination and want to determine which actual destinations you should associate with the new logical destination.

destination-command

Specifies the command-line entry to print the job data.

GUI Label

Printer command

DSS

AIX, BSD, PSF

Type

Resettable, single-valued

Input Synonyms

You can use the synonym **printer-command** or **command**.

Allowed Values

You can enter a text string up to 4095 characters long that contains the command.

Default Value

AIX   **/usr/lib/lpd/piobe**

BSD for Infoprint Manager for AIX
      /usr/lpd/rembak

BSD for Infoprint Manager for Windows NT and Windows 2000
      No Default

PSF other-driver attached actual destinations for Infoprint Manager for AIX only   **/usr/lib/lpd/piobe**

PSF command-attached actual destinations for Infoprint Manager for AIX
      qprt -P*xxx* **-dp -Z!**

      where *xxx* is the value of the **print-queue-name** attribute. If there is no value for the **print-queue-name** attribute, *xxx* is
      asc   If the **destination-data-stream=ppds**
      pcl   If the **destination-data-stream=pcl4, pcl5,** or **pcl5c**

PSF command-attached actual destinations for Infoprint Manager for Windows NT and Windows 2000
      No Default

Usage Guidelines

- For AIX actual destinations:

Actual Destination

 – Infoprint uses the value as the command that the AIX actual destination executes for each document printed. It should include the full path name for the print driver you are using for your printer device.

 With the addition of the **wait-for-job-completion** actual destination attribute, there is a new backend program called pioinfo that can be used in place of the piojetd backend program. For example, **destination-command=/usr/lpd/pio/etc/pioinfo** *ip_address*, where *ip_address* is the ip address of the printer.

 See "wait-for-job-completion" on page 439 for more information.

 – If the printer backend program is a variation of, or front end to, **rembak**, specify **true** on the **remote-queue** actual destination attribute. Examples of **rembak**–based backend programs include **piorflb** and **piocolor**.

 For more information on **rembak**, see "remote-queue" on page 421.

- For PSF actual destinations:
 – Infoprint uses the value as the command string to print a job on the command-attached printer and to send the job to the correct remote queue.
 – With the PSF DSS for AIX:
  - Infoprint uses the command string to invoke the printer backend program for other-driver attached actual destinations.
  - If you do not specify this attribute for command-attached actual destinations, Infoprint fills in the value of *XXX* (shown under Default Value) with the value of the **print-queue-name** attribute.
  - With a PSF-other-driver attached printer, **destination-command** is supported for an AIX server; however, it is not supported for an NT server.

destination-data-stream

Identifies the data stream format that is output to the printer device.

GUI Label
Data Stream

DSS
PSF

Type
Initially settable, single-valued

Allowed Values
You can enter one of these fixed values:
> **pcl4**
> **pcl5**
> **pcl5c**
> **ppds**
> **ipds**

> **Note: ipds** is not an allowed value for command-attached and other-driver attached printers.
> **afpds**

> **Note: afpds** is only allowed with an attachment type of Upload-SNA or Upload-TCPIP.

For more information on attachment types, see "Understanding Attachment Types for PSF Actual Destinations" on page 327.

Input Synonym

You can use the synonym **printer-data-stream**.

Default Value

Other-driver attached actual destinations

pcl4

Command-attached actual destinations

pcl4

Other attachment types

ipds

destination-locations

Identifies the location of the output device.

GUI Label

Locations

DSS

All

Type

Resettable, multi-valued

Input Synonyms

You can use the synonym **printer-locations** or **locations**.

Allowed Values

You can enter a text string up to 4095 characters long, for each value, that describes the physical location of the output device. Each value is a different description for the same location.

Default Values

No default values

Usage Guidelines

Infoprint compares the job attribute **destination-locations-requested** to this attribute for scheduling. The user can specify the **destination-locations-requested** job attribute to request that Infoprint use the output device at this specific location to process the job.

destination-model

Identifies the make and model number defined by the manufacturer of the output device.

GUI Label

Model

DSS

AIX, PSF, BSD, 3170, Infoprint 2000, Email, Fax, Passthrough, IPP

Type

Non-settable with AIX and PSF other-driver attached actual destinations; resettable, single-valued with other listed DSSs

Input Synonyms

You can use the synonym **printer-model** or **model**.

Actual Destination

Allowed Values
You can enter a text string up to 4095 characters long that contains the make and model number of the output device.

Default Value
If SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise no default value.

With Internet Printing Protocol (IPP) printers when SNMP communication is not active, the default comes from IPP.

Usage Guidelines
- You must set this value when you create an AIX or PSF actual destination, unless Infoprint can determine the value by means of SNMP.
- If you allow SNMP to determine this value for an AIX actual destination or a PSF other-driver attached actual destination, it must be one of the values of the server **snmp-aix-printer-models** attribute.
- For AIX actual destinations and PSF other-driver attached actual destinations, this value must match the file prefix of a file in the **/usr/lib/lpd/pio/predef** directory on the AIX processor on which the actual destination was created.
- For AIX actual destinations, Infoprint uses the value you specify here to determine the values to set for the **document-formats-supported** attribute.
- For PSF TCP/IP-attached actual destinations capable of printing halftones, and for any PSF actual destination that represents a printer device with a finisher attached, specify the model name in the format **Infoprint**xxxx. where xxxx is the model number, for example, **Infoprint4000-708**. Do not put a space between **Infoprint** and the model number.

  Note: If you configure these printer models as PSF other-driver attached actual destinations or as AIX actual destinations, specify the model name as the file prefix of a file in the **/usr/lib/lpd/pio/predef** directory.
- Infoprint compares the job attribute **destination-models-requested** to this attribute for scheduling.
- For IPP printers, Infoprint uses the **destination-model** information for validation and scheduling.
- If you specify a value for the **destination-model** attribute, you deactivate the default provided by SNMP.

destination-name

Identifies the name of this actual destination.

DSS
All

Type
Non-settable, single-valued

Input Synonyms
You can use the synonym **printer-name**, **printer**, or **physical-printer**.

Allowed Values
Infoprint set this value to the *DestinationName* portion of the argument used with the **pdcreate** command or with the **pdmigpp** utility when this actual destination was created.

Default Value
No default value

Usage Guidelines
- Infoprint compares the job attribute **actual-destination-requested** to this attribute for validation and scheduling.
- The name must be unique within the namespace.

destination-needs-attention-time

Reports the amount of time the output device has been waiting for simple intervention, such as loading paper.

GUI Label
Attention needed

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **printer-needs-attention-time**.

Allowed Values
Infoprint sets this value to *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
No default value

destination-needs-key-operator-attention-time

Reports the amount of time the output device has been waiting for the attention of a key (or skilled) operator.

GUI Label
Operator needed

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **printer-needs-key-operator-attention-time**.

Allowed Values
Infoprint sets this value to *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
No default value

destination-pass-through

Contains information used to update the printer's colon file.

Actual Destination

GUI Label
Other options

DSS
AIX

Type
Resettable, single-valued

Input Synonyms
You can use the synonym **printer-pass-through** or **other-options**.

Allowed Values
You can enter a text string up to 4095 characters long containing update information.

Syntax

'_colon-file-attribute_**=**_value_ ...**'**

For example, to set the datastream filter attribute (**_d**) in the printer colon file to "passthrough" (**p**), enter:

```
destination-pass-through='_d=p'
```

Default Value
No default value

destination-poll-interval

Specifies the amount of time in seconds between job status polls of a Internet Printing Protocol (IPP) printer or a Passthrough printer.

GUI Label
Poll interval (sec)

DSS
IPP, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter a value from 0 through 2147483647.

Default Value
2

destination-realization

Indicates whether the destination is an actual destination or a logical destination.

DSS
All

Type
Initially settable, single-valued

Input Synonym
You can use the synonym **printer-realization**.

Allowed Values
You can enter one of these fixed values:
actual
logical

Default Value
logical

destination-register-threshold

Specifies the amount of time that this actual destination will wait between attempts to communicate (register) with the server.

GUI Label
Attempt to register with server

DSS
All

Type
Resettable, single-valued

Input Synonyms
You can use the synonym **printer-register-threshold** or **register-threshold**.

Allowed Values
You can enter a value of *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
10

Usage Guidelines
- If you lower this value, network traffic increases when the server is down, but the actual destination registers more quickly when you bring up the server.
- If you raise this value, network traffic decreases when the server is down, but the actual destination registers more slowly when you bring up the server.

destination-release-timer

Specifies the maximum amount of time between jobs, in seconds, before Infoprint gives up control of a PSF actual destination.

GUI Label
Release time (sec)

DSS
PSF

Type
Resettable, single-valued

Input Synonym
You can use the synonym **printer-release-timer**.

Allowed Values
You can enter an integer from 0 through 9999. The unit value is seconds.

Default Value
9999

Usage Guidelines

- The **destination-release-timer** allows Infoprint to share an output device with a print manager, such as PSF Direct. Specify a value of 9999 if the output device is not shared.

- The **destination-release-timer** allows time for all processes to stop running gracefully as Infoprint gives up control of the attached PSF actual destination.

- If the **non-process-runout-timer** attribute has a greater value than the **destination-release-timer** attribute, Infoprint issues an automatic NPRO. However, IBM recommends that you set **non-process-runout-timer** to a lower value than **destination-release-timer**.

destination-state

Identifies the current state of the actual destination.

GUI Label
State

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **printer-state**.

Allowed Values
Infoprint sets and updates the value to one of these fixed values:

Fixed Value	*Explanation*
connecting-to-printer	The actual destination has received a job and is trying to connect to its printer device. After it connects to the device, the actual destination locks the printer device until it finishes processing the job so that another print system cannot use the device.
	Note: This state applies only to AIX actual destinations and PSF other-driver attached actual destinations on Infoprint Manager for AIX.
idle	The actual destination is waiting for a job. An actual destination can be idle even if its output device is printing a job from some other AIX process or from the AIX print-spooling subsystem; or from some other Windows application or the Windows spooler.
needs-attention	The actual destination can connect to the output device, but for some reason the output device cannot print.
needs-key-operator	This state occurs when there is a serious problem with the output device. Either the actual destination cannot connect to the output device or there is some other problem. For example, a printer device may be out of toner. Infoprint automatically disables the actual destination when the actual destination

enters this state. If the actual destination uses SNMP, Infoprint automatically re-enables it when the problem is corrected. To prevent automatic re-enabling, manually disable the actual destination.

paused	The actual destination was paused with the **pdpause** command or by a job with **job-start-wait=true**.
printing	The actual destination is processing a job.
shutdown	The actual destination was shut down with the **pdshutdown** command.

> **Note:** This state applies only to PSF actual destinations.

timed-out	The actual destination received a job, but the actual destination could not connect to the printer device in the time specified by the **printer-timeout-period** actual destination attribute.

> **Note:** This state applies only to AIX actual destinations and PSF other-driver attached actual destinations.

Default Value
No default value

destination-support-system

Identifies the type of destination support system for this actual destination.

DSS
All

Type
Initially settable, single-valued

Input Synonym
You can use the synonym **device-support-system**.

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
aix	**piobe**
bsd	
psf	
3170	
email	
fax	
IP2000	
IPP	
windows	**passthrough**

Default Value
psf

Usage Guidelines

- Infoprint compares the job attribute **dss-requested** to this attribute for scheduling.
- You must enter a value for this attribute when you create an actual destination unless it will use the PSF DSS.

destination-tcpip-internet-address

Identifies the Internet Protocol address (IP Address parameter) of this actual destination. This is the Internet Protocol address assigned to the output device.

GUI Label
TCP/IP address

DSS
AIX, BSD, PSF, 3170, Infoprint 2000, IPP, Passthrough

Type
Resettable, single-valued

Input Synonym
You can use the synonym **printer-tcpip-internet-address**.

Allowed Values
You can enter a text string up to 4095 characters long that is either of these types of address:

Dotted decimal address
    A series of integers within the range of 0 to 255, each separated by a period, . (decimal address). For example:

    `9.99.12.85`

Hostname
    For example:

    `leo.boulder.ibm.com`

Note: When you create an SNMP printer, you must specify either the fully-qualified printer name or the internet address. If you create an SNMP printer with an abbreviated printer name, Infoprint issues the `SNMP connection lost` message when you attempt to enable the printer.

Default Value
No default value

Usage Guidelines

- You must enter a value for destinations to use SNMP. When you use NPM, the value for destinations to use SNMP must be a decimal address.
- You must enter a value for PSF TCP/IP-attached actual destinations, for PSF upload-TCP/IP-attached actual destinations, for 3170 actual destinations, and for Infoprint 2000 actual destinations.
- Infoprint ignores this attribute for PSF channel-attached and upload-SNA-attached actual destinations.
- For printers attached using the i-data 7913 IPDS Printer LAN Attachment, use the IP address of the 7913.

destination-tcpip-port-number

Identifies the Port Number parameter for PSF TCP/IP-attached and upload-TCP/IP-attached actual destinations. This is the TCP/IP port number configured at the output device.

GUI Label
TCP/IP port number

DSS
PSF

Type
Resettable, single-valued

Input Synonym
You can use the synonym **printer-tcpip-port-number**.

Allowed Values
You can enter an integer from 1 through 2147483647, but you typically enter an integer from 5001 to 65535. For devices whose port is configurable, the port you specify must match the port configured at the output device. For printers attached using the i-data 7913 IPDS Printer LAN attachment, you must use the value of 5001.

Default Value
No default value

Usage Guidelines
You must enter a value for PSF TCP/IP-attached and upload-TCP/IP-attached actual destinations. Infoprint ignores this attribute for other attachment types.

destination-timeout-period

Specifies the amount of time, in seconds, that Infoprint allows for the server to try to connect to a shared network printer (printer device) after the actual destination receives a new job request.

DSS
AIX, PSF

Type
Resettable, single-valued

Input Synonym
You can use the synonym **timeout-period** or **printer-timeout-period**.

Allowed Values
You can enter an integer from 0 through 2147483647. The unit is seconds.

Default Value
60

Usage Guidelines
- For PSF actual destinations, this attribute applies only to actual destinations with an attachment type of **other**.
- While the server is attempting to connect to the printer device, this actual destination is in the **timed-out** state, but it can still accept jobs.

Actual Destination

- If the server cannot connect to the printer device within the specified time, the following happens:
  - The printer state becomes **timed-out**.
  - This actual destination will not accept new jobs.
  - Infoprint may issue a warning message, depending on the notification profile of this actual destination.
  - The server continues to try to connect to the printer device until successful, or until this actual destination is disabled.
  - Infoprint sends a warning message at the end of each timeout period (if specified by the notification profile).

device-name

Identifies the output device that this actual destination represents.

GUI Label

Windows port name (Passthrough)
Device (all other DSSs)
URL (IPP)

DSS

AIX, PSF, Email, Fax, Infoprint 2000, IPP, Passthrough

Type

Initially settable, single-valued

Allowed Values

You can enter a text string up to 255 characters long that contains the name (ID) of the output device that prints jobs assigned to this actual destination. The value usually identifies the path to the device name, commonly located in a **/dev** directory.

For Internet Printing Protocol (IPP) printers, enter the URL for the IPP printer.

For Passthrough printers, enter the Windows NT or Window 2000 **Port Name**.

Default Value

No default value

Usage Guidelines

- You must enter a value for this attribute when you create a PSF command-attached actual destination on an AIX server; however, it is not supported for an NT server.
- You must enter a value for this attribute when you create a PSF other-driver-attached actual destination on Windows NT or Windows 2000; however, it is not supported on an AIX Server.
- On Windows NT and Windows 2000, the device name must be the name of a Windows NT or Windows 2000 port that has already been created.
- You must configure the device name you specify in AIX. You can determine which device names exist by using the SMIT fastpath **smit pdp** and then listing all defined printers and plotters. If you need to create the output device within AIX, use the SMIT fastpath **smit makprt**.
- If an AIX print queue has been configured for this actual destination, the device name appears in the **/etc/qconfig** file.

- Do not specify a value for PSF TCP/IP-attached, upload-TCP/IP-attached, upload-SNA-attached, or channel-attached destinations.
- When you are working with AIX DSS actual destinations, see "Creating and Managing Actual Destinations" in the *Infoprint Manager for AIX: Administrator's Guide* for information on correcting the configuration of **remote-queue** printers that have **device-name** set to /dev/null.

device-support-system

See **destination-support-system**.

document-attributes-supported

Identifies the document attributes that this actual destination supports. Infoprint checks this attribute during validation to allow jobs whose documents have these attributes to continue on to this actual destination.

DSS
All

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets a text string that contains a list of document attributes that this actual destination supports.

Note: This list includes only document attributes that directly affect the actual destination. Documents with attributes that affect the server, for example, **initial-value-document**, can be printed even though those attributes are not on this list.

Default Value

AIX **content-orientation**, **copy-count**, **default-input-tray**, **default-medium**, **destination-pass-through**, **document-comment**, **document-content**, **document-content-list**, **document-format**, **document-type**, **maximum-messages-printed**, **plex**, **print-quality**, **sides**

BSD **copy-count**, **destination-pass-through**, **document-comment**, **document-content**, **document-content-list**, **document-format**, **document-type**, **maximum-messages-printed**, **plex**, **print-quality**, **sides**

PSF DSS for AIX
account-text, **address1-text**, **address2-text**, **address3-text**, **address4-text**, **base-printer**, **building-text**, **carriage-control-type**, **chars**, **convert-to-ebcdic**, **copy-count**, **data-fidelity-problem-reported**, **default-character-mapping**, **default-input-tray**, **default-medium**, **default-printer-resolution**, **department-text**, **destination-pass-through**, **document-comment**, **document-content**, **document-content-list**, **document-finishing**, **document-format**, **document-type**, **font-fidelity-action**, **font-resolution**, **form-definition**, **image-fit**, **image-length**, **image-out-format**, **image-width**, **input-exit**, **input-tray-select**, **maximum-messages-printed**, **maximum-transform-pages-ahead**, **mvs-class**, **mvs-destination**, **mvs-forms**, **mvs-segment-id**, **name-text**, **new-line-option**, **node-id-text**, **number-up**, **other-transform-options**, **output-appearance**, **output-bin**, **output-format**, **overlay**, **page-definition**, **page-media-select**, **page-select**, **plex**, **programmer-text**, **resource-context**, **resource-context-font**,

resource-context-form-definition, resource-context-overlay, resource-context-page-definition, resource-context-page-segment, resource-context-user, resource-exit, room-text, scanner-correction, screen-frequency, segment-file-size, shared-formdef, shift-out-shift-in, sides, start-on-new-sheet, table-reference-characters, title-text, transform-message-file-name, transform-output-file-name, user-id-text, x-image-shift, x-image-shift-back, y-image-shift, y-image-shift-back

PSF DSS for Windows NT and Windows 2000

account-text, address1-text, address2-text, address3-text, address4-text, base-printer, building-text, carriage-control-type, chars, convert-to-ebcdic, copy-count, data-fidelity-problem-reported, default-character-mapping, default-input-tray, default-medium, default-printer-resolution, department-text, destination-pass-through, document-comment, document-content, document-content-list, document-finishing, document-format, document-type, font-fidelity-action, font-resolution, form-definition, image-fit, image-length, image-out-format, image-width, input-exit, input-tray-select, maximum-messages-printed, maximum-transform-pages-ahead, mvs-class, mvs-destination, mvs-forms, mvs-segment-id, name-text, new-line-option, node-id-text, number-up, other-transform-options, output-bin, output-format, overlay, page-definition, page-media-select, page-select, plex, programmer-text, resource-context, resource-context-font, resource-context-form-definition, resource-context-overlay, resource-context-page-definition, resource-context-page-segment, resource-context-user, resource-exit, room-text, segment-file-size, shared-formdef, shift-out-shift-in, sides, start-on-new-sheet, table-reference-characters, title-text, transform-message-file-name, transform-output-file-name, user-id-text, x-image-shift, x-image-shift-back, y-image-shift, y-image-shift-back

3170 bits-per-spot, black-overprint, cms-proclink, cms-product, compressed-output, content-orientation, control-strip, copy-count, default-medium, default-printer-resolution, destination-pass-through, document-content, document-content-list, document-format, document-type, dot-shape, enable-settrap, image-center-x, image-center-y, image-length, image-scale, image-width, maximum-messages-printed, output-bin, output-face-up, overprint, page-clip, plex, sides, x-image-shift, y-image-shift

Email account-text, address1-text, address2-text, address3-text, address4-text, carriage-control-type, chars, convert-to-ebcdic, copy-count, default-character-mapping, document-comment, document-content, document-format, document-type, email-from-address, email-to-address, form-definition, image-fit, image-length, image-width, input-exit, maximum-messages-printed, new-line-option, number-up, other-transform-options, output-format, overlay, page-definition, page-select, resource-context, resource-context-font, resource-context-form-definition, resource-context-overlay, resource-context-page-definition, resource-context-page-segment, resource-context-user, resource-exit, shared-formdef, shift-out-shift-in, subject-text, table-reference-characters, title-text, transform-message-file-name, transform-output-file-name, x-image-shift, y-image-shift

Fax account-text, address1-text, address2-text, address3-text, address4-text, callback-number, carriage-control-type, chars, convert-to-ebcdic, copy-count, default-character-mapping,

> **destination-company-text**, **document-comment**, **document-content**,
> **document-format**, **document-type**, **fax-number**, **fax-to-name**,
> **form-definition**, **image-fit**, **image-length**, **image-width**, **input-exit**,
> **maximum-messages-printed**, **new-line-option**, **number-up**,
> **originating-company-text**, **other-transform-options**, **output-format**,
> **overlay**, **page-definition**, **page-select**, **resource-context**,
> **resource-context-font**, **resource-context-form-definition**,
> **resource-context-overlay**, **resource-context-page-definition**,
> **resource-context-page-segment**, **resource-context-user**, **resource-exit**,
> **shared-formdef**, **shift-out-shift-in**, **subject-text**, **table-reference-
> characters**, **title-text**, **transform-message-file-name**,
> **transform-output-file-name**, **x-image-shift**, **y-image-shift**

Infoprint 2000

> **account-text**, **base-printer**, **carriage-control-type**, **chars**, **copy-count**,
> **convert-to-ebcdic**, **default-character-mapping**, **default-medium**,
> **default-print-resolution**, **document-comment**, **document-content**,
> **document-format**, **document-type**, **form-definition**, **halftone**, **image-fit**,
> **image-length**, **image-out-format**, **image-width**, **input-exit**,
> **new-line-option**, **number-up**, **other-transform-options**, **output-bin**,
> **output-format**, **overlay**, **page-definition**, **page-select**, **plex**,
> **printer-pass-through**, **resource-context**, **resource-context-font**,
> **resource-context-form-definition**, **resource-context-page-definition**,
> **resource-context-page-segment**, **resource-context-overlay**,
> **resource-context-user**, **resource-exit**, **shift-out-shift-in**, **sides**,
> **start-on-new-sheet**, **table-reference-characters**, **transform-message-file-
> name**, **transform-output-file-name**, **x-image-shift**, **x-image-shift-back**
> **y-image-shift**, **y-image-shift-back**

Passthrough

> **copy-count**, **default-medium**, **destination-pass-through**,
> **document-content**, **document-type**

IPP **copy-count**, **default-medium**, **destination-pass-through**,
document-content, **document-type**

document-finishings-supported

Identifies the document finishing options that this actual destination supports.

GUI Label
Finishing options allowed

DSS
PSF

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
>   **z-fold**

Default Values
z-fold

Usage Guidelines
- Infoprint compares the document attribute **document-finishing** to this attribute
  for validation and scheduling.

- You can use this attribute to restrict use of this actual destination.

document-formats-ripped-at-destination

Identifies the document formats that can be ripped at this actual destination.

GUI Label
Formats to RIP at destination

DSS
Email, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	Input Synonym	DSS
ascii		Infoprint 2000
kgl		Infoprint 2000
pcl	**hppcl, hp-pcl**	Infoprint 2000
postscript	**ps**	Email, Infoprint 2000
tiff		Email

Default Values
No default values

document-formats-supported

Identifies the document formats that this actual destination supports. Infoprint sets this value dynamically based on the DSS and the document formats for which transforms are available.

GUI Label
Formats allowed

DSS
All

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	Input Synonym	DSS
ascii		AIX, BSD, PSF (except upload printers), Passthrough, IPP
dbcs-ascii		AIX, BSD, PSF, Infoprint 2000
ditroff		BSD, PSF DSS for AIX, email, fax, Infoprint 2000
d630		AIX, BSD
gif		BSD, PSF DSS for AIX, email, fax, Infoprint 2000
hpgl	**hp-gl**	AIX, BSD
iso-6429		AIX, BSD, Passthrough, IPP
jpeg		BSD, PSF DSS for AIX, email, fax, Infoprint 2000
kgl		BSD, Infoprint 2000
lcds		BSD

Fixed Value	Input Synonym	DSS
line-data		BSD, PSF, email, fax, Infoprint 2000
metacode		BSD
modca-p	afpds	BSD, PSF, email, fax, Infoprint 2000
passthru		AIX, BSD
pcl	hppcl, hp-pcl	AIX, BSD, PSF, email, fax, Infoprint 2000, Passthrough, IPP
pdf		BSD, PSF, email, fax, Infoprint 2000
postscript	ps	All
ppds		BSD
sap		BSD, PSF DSS for AIX, email, fax, Infoprint 2000, Passthrough
sap-abap		BSD, PSF DSS for AIX, email, fax, Infoprint 2000, Passthrough
simple-text	text	BSD, Passthrough, IPP
tiff		BSD, PSF DSS for AIX, email, fax, Infoprint 2000

Default Values

AIX   **ascii**, **hpgl**, **iso-6429**, **passthru**, **pcl**, **pdf**, and **postscript**.

Based on the value of the **destination-model** attribute and how the **/usr/lpd/pio/predef** directory defines the printer model.

BSD   **ascii**, **iso-6429**, **pcl**, **ppds**, **postscript**, **simple-text**.

PSF upload-SNA-attached and upload-TCP/IP-attached actual destinations
If all transforms are available, **dbcs-ascii**, **ditroff**, **gif**, **jpeg**, **line-data**, **modca-p**, **pcl**, **postscript**, **sap**, **sap-abap**, **tiff**

Other PSF actual destinations with PSF DSS for AIX
If all transforms are available, **ascii**, **dbcs-ascii**, **ditroff**, **gif**, **jpeg**, **line-data**, **modca-p**, **pcl**, **pdf**, **postscript**, **sap**, **sap-abap**, **tiff**

Other PSF actual destinations with PSF DSS for Windows NT and Windows 2000   If all transforms are available, **ascii**, **dbcs-ascii**, **line-data**, **modca-p**, **pcl**, **pdf**, **postscript**

3170   **postscript**

Infoprint 2000
If all transforms are available, **dbcs-ascii**, **ditroff**, **gif**, **jpeg**, **kgl**, **line-data**, **modca-p**, **pcl**, **pdf**, **postscript**, **sap**, **sap-abap**, **sap-otf**, **tiff**

Fax, Email
If all transforms are available, **dbcs-ascii**, **ditroff**, **gif**, **jpeg**, **line-data**, **modca-p**, **pcl**, **pdf**, **postscript**, **sap**, **sap-abap**, **sap-otf**, **tiff**

Passthrough
ascii, **iso-6429**, **pcl**, **ppds**, **postscript**, **simple-text**.

IPP   **ascii**, **iso-6429**, **pcl**, **ppds**, **postscript**, **simple-text**.

Usage Guidelines

- When you create a PSF, email, fax, or Infoprint 2000 actual destination, Infoprint sets these values to the document formats for which transforms are available. When the server is shut down and restarted, Infoprint updates the values to reflect transforms that have been added or deleted. You can also modify these values.

- Infoprint compares the document attribute **document-format** to this attribute for validation and scheduling.

Actual Destination

- Delete attribute values to restrict use of this actual destination.

document-types-supported

Identifies the types of documents that this actual destination supports.

GUI Label
Types allowed

DSS
All

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	DSS
color-mapping-table	PSF
cover-sheet	Fax
document-definition	PSF DSS for AIX, 3170, email, fax, Infoprint 2000
email-body	Email
email-signature	Email
file-reference	All
font	PSF, email, fax, Infoprint 2000
form-definition	PSF, email, fax. Infoprint 2000
formatted-job-ticket	PSF, 3170, email, fax, Infoprint 2000
insert-sheet	PSF, email, fax, Infoprint 2000
job-ticket	PSF, 3170, email, fax. Infoprint 2000
overlay	PSF, email, fax, Infoprint 2000
page-definition	PSF, email, fax, Infoprint 2000
page-segment	PSF, email, fax, Infoprint 2000
page-shift-file	PSF, email, fax, Infoprint 2000
printable	All
resource	PSF DSS for AIX, 3170, email, fax, Infoprint 2000
variable-data	PSF DSS for AIX, 3170, email, fax, Infoprint 2000

Default Values

AIX **file-reference**, **printable**

BSD **file-reference**, **printable**

PSF DSS for AIX
> **color-mapping-table**, **document-definition**, **file-reference**, **font**, **form-definition**, **formatted-job-ticket**, **insert-sheet**, **job-ticket**, **overlay**, **page-definition**, **page-segment**, **page-shift-file**, **printable**, **resource**, **variable-data**

PSF DSS for Windows NT and Windows 2000
> **color-mapping-table**, **file-reference**, **font**, **form-definition**, **formatted-job-ticket**, **insert-sheet**, **job-ticket**, **overlay**, **page-definition**, **page-segment**, **page-shift-file**, **printable**

3170 **document-definition**, **file-reference**, **formatted-job-ticket**, **job-ticket** **printable**, **resource**, **variable-data**

Email **document-definition**, **email-body**, **email-signature**, **file-reference**, **font**,

form-definition, **formatted-job-ticket**, **insert-sheet**, **job-ticket**, **overlay**,
page-definition, **page-segment**, **page-shift-file**, **printable**, **resource**,
variable-data

Fax   **cover-sheet**, **document-definition**, **file-reference**, **font**, **form-definition**,
formatted-job-ticket, **insert-sheet**, **job-ticket**, **overlay**, **page-definition**,
page-segment, **page-shift-file**, **printable**, **resource**, **variable-data**

Infoprint 2000
document-definition, **file-reference**, **font**, **form-definition**,
formatted-job-ticket, **form-definition**, **insert-sheet**, **job-ticket**, **overlay**,
page-definition, **page-shift-file**, **printable resource**, **variable-data**

Passthrough
file-reference, **printable**

IPP   **file-reference**, **printable**

Usage Guidelines
- Infoprint compares the document attribute **document-type** to this attribute for scheduling.
- You can use this attribute to restrict use of this actual destination.

dss-job-message-disposition

Indicates how job messages about errors detected by the the device support system (DSS), such as data stream errors, are recorded.

GUI Label
Record job messages

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:
    log
    print

Default Value
print

Usage Guidelines
If you specify **log**, messages are written to the
- **/var/psf/**DestinationName**/jobmessage.log** file for AIX, where DestinationName is the name of this actual destination.
- \install_ path**\var\psf**DestinationName**\jobmessage.log** file Windows NT and Windows 2000, where DestinationName is the name of this actual destination and install_path indicates the path where you installed Infoprint Manager.

dss-job-message-log-size

Indicates the size, in kilobytes, the DSS job message log can grow to.

GUI Label
Job message log size (KBytes)

Actual Destination

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 to Infoprint 2000000. The unit is kilobytes.

Default Value
8192

Usage Guidelines
This attribute is used only when the value of the **dss-job-message-disposition** attribute is **log**.

dss-job-message-log-wrap

Indicates whether Infoprint should start overwriting messages at the beginning of the DSS job message log when the log is full.

GUI Label
Wrap job message log

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
This attribute is used only when the value of the **dss-job-message-disposition** attribute is **log**.

ebcdic-character-mapping

Indicates the EBCDIC code page that PSF/MVS uses to map the attributes of this PSF upload-TCP/IP-attached or PSF upload-SNA-attached actual destination.

GUI Label
EBCDIC code page to use

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter the name of an EBCDIC code page.

Default Value
ibm-037

Usage Guidelines
Infoprint requires this attribute for PSF upload-SNA-attached and
upload-TCP/IP-attached actual destinations and ignores it for other attachment
types.

enabled

Indicates whether this actual destination is enabled and can accept jobs.

GUI Label
Enabled

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to:

• **true** when an Infoprint administrator has issued the **pdenable** command, and the
  queue associated with the destination exists and is in communication with this
  actual destination.

• **false** when an Infoprint administrator has disabled this actual destination with the
  pddisable command, or when some printer error has been detected.

Default Value
false

end-message-supported

Indicates whether this actual destination supports the job attribute
job-end-message.

GUI Label
Send job completed message

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
• Use this attribute to allow operators to receive messages that users specify with
  the **job-end-message** job attribute when they submit the job. When the value of

Actual Destination

this attribute is **true**, Infoprint sends the message to the operators specified by the **notify-operator** attribute for this actual destination when the job finishes printing.

- Infoprint compares the job attribute **job-end-message** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

end-sheets-supported

Identifies the types of end sheets that this actual destination supports.

GUI Label
End sheets allowed

DSS
AIX, PSF

Type
Resettable, multi-valued

Allowed Values
You can enter any of the following fixed values. For PSF only, you can enter a string up to 255 characters long that contains identifiers of auxiliary-sheet objects.

Fixed Value	DSS	Explanation
accounting-log	PSF	This value is technically valid, but should not be used for end sheets.
blank	PSF	The end sheet is blank.
brief	AIX, PSF	The end sheet style is brief.
full	AIX, PSF	The end sheet style is full.
job-ticket	PSF	The job ticket is printed on the end sheet.
none	AIX, PSF	No end sheet prints.

Default Values

AIX **brief**, **full**, **none**

PSF **accounting-log**, **blank**, **brief**, **full**, **job-ticket**, **none**, and the names of other defined auxiliary sheets which have legal PSF auxiliary sheet attributes.

Usage Guidelines
- PSF actual destinations can use auxiliary-sheet objects if they have valid **psf-exit-***xxx* values. AIX actual destinations print start and end sheets, but they do not use auxiliary-sheet objects.
- Infoprint verifies that the value of the **printer-end-sheet** attribute is a value of this attribute.
- You cannot delete a value from this attribute if the value you want to delete is the value of the **printer-end-sheet** attribute.
- For PSF actual destinations, Infoprint sets this value dynamically to the names of all defined auxiliary sheets with legal attributes. You should never have to reset this value.

font-resolutions-supported

Indicates the values of the document attribute **font-resolution** that this actual destination accepts.

GUI Label
Font resolutions allowed

DSS
PSF

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
240
300
outline

Default Values
240, **300**, **outline**

Usage Guidelines
• Usually the font resolution and the printer resolution match, but there are two cases when they do not:
  – Some printer devices, for example, the Infoprint 60 and Infoprint 4000, can print fonts of any resolution, although the print head is always 600 pels.
  – It is possible to print a document created with fonts of one resolution on a printer device with a different resolution by substituting fonts. Depending on the document, the output may or may not be acceptable.
• Infoprint compares the document attribute **font-resolution** to this attribute for validation and scheduling.
• You can use this attribute to restrict use of this actual destination.

force-destination-setup

Indicates whether jobs requiring resources that this actual destination does not have ready or does not support should be held or scheduled to print.

GUI Label
Disable on job mismatch

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **force-printer-setup**.

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
false

Actual Destination

Usage Guidelines

- When the value of **force-destination-setup** is **false**, Infoprint checks that the actual destination can process each job in the queue before scheduling the job to print. If the job requires any resources that are not ready or not supported, the job is RIPped if appropriate, then held. The **required-resources-not-ready** job attribute indicates what resources are not ready. The **required-resources-not-supported** job attribute indicates what resources are not supported.

- When the value of **force-destination-setup** is **true**, Infoprint does not check whether the actual destination can process the job until the job is sent to the actual destination. At that time, if any required resources are not ready or not supported, Infoprint disables the actual destination and sends a message to the operator to change the destination setup. When the operator enables the actual destination, the job is printed or transmitted.

force-printer-setup

See **force-destination-setup**.

form-definition

Identifies the default form definition that the output device uses when printing or transmitting a document.

GUI Label
Form definition

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 8 characters long that contains the form-definition ID.

Default Value
Basic Infoprint administrator's GUI
     F100D
Advanced Infoprint administrator's GUI and command line
     F1A10111

Usage Guidelines

- The form definition controls positioning of the output image on the page.

- A form definition can specify overlays, a paper source for cut-sheet printers (input bin selection), duplex printing, and text suppression on a page.

halftones-supported

Identifies the values for the document attribute **halftone** that this actual destination supports.

GUI Label
Halftones allowed

DSS
PSF

Type
Resettable, multi-valued

Allowed Values
The value of a **halftone** attribute is a combination of screen-name and output-appearance in the format: *screen-name:output-appearance*.

For custom halftones, the value can also be a combination of screen-name, output-appearance, and saved-calibration in the format: *screen-name:output-appearance:saved-calibration*.

You can enter a customized value or one of these fixed values:
>   **ibm71lpi:standard**
>   **ibm71lpi:highlight-midtones**
>   **ibm71lpi:dark**
>   **ibm85lpi:standard**
>   **ibm85lpi:highlight-midtones**
>   **ibm85lpi:dark**
>   **ibm106lpi:standard**
>   **ibm106lpi:highlight-midtones**
>   **ibm106lpi:dark**
>   **ibm141lpi:standard**
>   **ibm141lpi:highlight-midtones**
>   **ibm141lpi:dark**

Note: With the Infoprint 21, you can select the following halftone values in addition to the fixed values listed above:
>   **ibm150lpi:standard**
>   **ibm150lpi:highlight-midtones**
>   **ibm150lpi:dark**
>   **ibm200lpi:standard**
>   **ibm200lpi:highlight-midtones**
>   **ibm200lpi:dark**

You can enter one of the following fixed values if you are using enhanced toner on the IP4000 or IP4000-708 printer:
>   **ibm71lpi:standard.enhtoner**
>   **ibm71lpi:highlight-midtones.enhtoner**
>   **ibm71lpi:dark.enhtoner**
>   **ibm85lpi:standard.enhtoner**
>   **ibm85lpi:highlight-midtones.enhtoner**
>   **ibm85lpi:dark.enhtoner**
>   **ibm106lpi:standard.enhtoner**
>   **ibm106lpi:highlight-midtones.enhtoner**
>   **ibm106lpi:dark.enhtoner**
>   **ibm141lpi:standard.enhtoner**
>   **ibm141lpi:highlight-midtones.enhtoner**
>   **ibm141lpi:dark.enhtoner**

Default Value
>   **ibm71lpi:standard**
>   **ibm71lpi:highlight-midtones**
>   **ibm71lpi:dark**
>   **ibm85lpi:standard**
>   **ibm85lpi:highlight-midtones**
>   **ibm85lpi:dark**

Actual Destination

> **ibm106lpi:standard**
> **ibm106lpi:highlight-midtones**
> **ibm106lpi:dark**
> **ibm141lpi:standard**
> **ibm141lpi:highlight-midtones**
> **ibm141lpi:dark**

For the IP4000 and IP4000-708 printers, the following are also defaults:
> **ibm71lpi:standard.enhtoner**
> **ibm71lpi:highlight-midtones.enhtoner**
> **ibm71lpi:dark.enhtoner**
> **ibm85lpi:standard.enhtoner**
> **ibm85lpi:highlight-midtones.enhtoner**
> **ibm85lpi:dark.enhtoner**
> **ibm106lpi:standard.enhtoner**
> **ibm106lpi:highlight-midtones.enhtoner**
> **ibm106lpi:dark.enhtoner**
> **ibm141lpi:standard.enhtoner**
> **ibm141lpi:highlight-midtones.enhtoner**
> **ibm141lpi:dark.enhtoner**

Usage Guidelines
- Infoprint compares the document attribute **halftone** to this attribute for validation and scheduling.
- You can use this attribute to restrict the use of this actual destination.

image-fit-supported

Specifies the methods of adjusting TIFF, GIF, and JPEG images to fit on the printed page that this actual destination supports.

GUI Label
Image fit allowed

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
> **position-and-trim**
> **scale-to-fit**

Default Value
No default value

Usage Guidelines
Infoprint compares the document attribute **image-fit** to this attribute for validation and scheduling.

image-length

Specifies the default length of a page of PostScript, PCL, TIFF, GIF, JPEG, or PDF data after it has been transformed for Infoprint printing or transmission.

GUI Label
Finished page length (inches) or (mm)

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
The value you specify is in the form *nnnn.nnnu*

nnnn.nnn
        is a number that can optionally contain a decimal point.

u   is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit, the
        default unit is pels. You cannot use a decimal point when the unit is pels.

For 240-pel resolution printers, valid values are:
16 - 8160	pels
0.065 - 34	inches
1.641 - 863.628	millimeters

For 300-pel resolution printers, valid values are:
16 - 10200	pels
0.052 - 34	inches
1.313 - 863.628	millimeters

For 480-pel resolution printers, valid values are:
16 - 16320	pels
0.065 - 34	inches
1.641 - 863.628	millimeters

For 600-pel resolution printers, valid values are:
16 - 20400	pels
0.052 - 34	inches
1.313 - 863.628	millimeters

Default Value
No default value

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PCL, PDF, PostScript, and TIFF documents.
- If a text margin is already built into the file, try **image-length=11i** to set the length to 11 inches.
- This attribute is used if you do not specify a value for the **image-length** document attribute or in the file specified by the **rip-ini-file** attribute.

image-out-formats-supported

Specifies the formats of image data, produced by the program that transforms line data to AFP data, that this actual destination supports.

GUI Label
Image out formats allowed

DSS
PSF, Infoprint 2000

Actual Destination

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
    ioca-uncompressed
    im1
    io1
    io1-g4
    io1-mmr
    asis

Default Values
ioca-uncompressed, **im1**, **io1**, **io1-g4**, **io1-mmr**, **asis**

Usage Guidelines
Infoprint compares the document attribute **image-out-format** to this attribute for validation and scheduling. You should use the document attribute when you print line-data documents.

image-width

Specifies the default width of a page of PostScript, PCL, TIFF, GIF, JPEG, or PDF data after it has been transformed for Infoprint printing or transmission.

GUI Label
Finished page width (inches) or (mm)

DSS
PSF, Fax, Email, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
The value you specify is in the form *nnnn.nnnu*

nnnn.nnn
    is a number that can optionally contain a decimal point.

u   is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit, the default unit is pels. You cannot use a decimal point when the unit is pels.

For 240-pel resolution printers, valid values are:

16 - 8160	pels
0.065 - 34	inches
1.641 - 863.628	millimeters

For 300-pel resolution printers, valid values are:

16 - 10200	pels
0.052 - 34	inches
1.313 - 863.628	millimeters

For 480-pel resolution printers, valid values are:

16 - 16320	pels
0.065 - 34	inches
1.641 - 863.628	millimeters

For 600-pel resolution printers, valid values are:

	16 - 20400	pels
	0.052 - 34	inches
	1.313 - 863.628	millimeters

Default Value
No default value

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PCL, PDF, PostScript, and TIFF documents.
- If a text margin is already built into the file, try **image-width=8.5i** to set the length to 8.5 inches.
- This attribute is used if you do not specify a value for the **image-width** document attribute or in the file specified by the **rip-ini-file** attribute.

input-data-user-exit

Specifies the name of a program that monitors input data to this actual destination. For example, if a certain document format is printed on special media, the input data exit program can issue a message requesting the operator to change the paper whenever a job in that format is submitted.

GUI Label
Input data exit

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 255 characters.

Default Value
No default value

Usage Guidelines
You can use the sample input data exit program supplied:
- With Infoprint:
  - For AIX, **/usr/lpp/psf/bin/ainuxind** (source **/usr/lpp/psf/exits/ainuxind.c**)
  - For Windows NT and Windows 2000, *install_path***bin\ainuxind** (source *install_path***exits\ainuxind.c**), where *install_path* indicates the path where you installed Infoprint Manager
- Write your own

For more information on user-exit programs for Infoprint Manager, visit the appropriate site from the IBM Printing Systems webb site: http://www.ibm.com/printers.

input-trays-medium

Identifies which input medium is in which printer tray.

GUI Label
Media ready

Actual Destination

DSS
AIX

Type
Resettable, multi-valued, complex

Syntax

tray-identification:medium-identifier

Separate each pair of values with a colon, for example:

`tray-1:A4-colored`

Components

tray-identification: Identifies the type of input tray.

GUI Label: Input tray

Type: Single-valued

Allowed Values: You can enter one of these fixed values:

auto-envelope-feed	**manual-envelope-feed**
automatic-tray	**middle**
auxiliary-envelope	**top**
auxiliary-paper	**tray-1**
bottom	**tray-2**
continuous-form-feed	**tray-3**
current-selected-tray	**tray-4**
envelope	**tray-5**
large-capacity	**capacity-2000-sheet**
manual	

Default Value: If Simple Network Management Protocol (SNMP) communication is active, Infoprint queries the printer device and sets the value according to the response; otherwise **tray-1**. However, if you specify a value for **input-tray**, you deactivate the SNMP default.

medium-name: Identifies the medium in the input tray.

GUI Label: Media ready

Type: Single-valued

Allowed Values: You can enter a text string up to 255 characters long that contains the name of the medium or one of the fixed values of the **medium-identifier** attributes of the default media. See the medium attribute **medium-identifier** for a list of these values.

Default Value: If Simple Network Management Protocol (SNMP) communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise **letter**. However, if you specify a value for **medium-identifier**, you deactivate the SNMP default.

Usage Guidelines
- Infoprint automatically sets the values for the **input-trays-supported** and **media-ready** attributes from the values of this attribute.

- Infoprint verifies that the values of the *medium-name* component of this attribute are values of the **media-supported** attribute.

input-trays-supported

Identifies the types of input trays, such as top or envelope, supported on the printer device.

GUI Label

Input trays allowed

DSS

AIX, BSD, PSF, Fax, Email, 3170

Type

Non-settable (AIX and PSF) or resettable (BSD), multi-valued

Allowed Values

AIX Infoprint sets the values for this attribute based on the values of the **input-trays-medium** attribute.

BSD You can enter any names that describe input trays.

PSF Infoprint sets the values for this attribute based on the values of the **psf-tray-characteristics** attribute.

Default Values

AIX The value of the **input-trays-medium** attribute
BSD No default value
PSF The value of the **psf-tray-characteristics** attribute

Usage Guidelines

- Infoprint uses this attribute for job validation and scheduling:

  AIX Infoprint compares the document attribute **default-input-tray** to this attribute.

  BSD This attribute is for information only.

  PSF Infoprint compares the document attribute **default-input-tray** or **input-tray-select** to this attribute.

- You can use this attribute to restrict use of this actual destination.

intervention-timer

Specifies the maximum amount of time, in seconds, that Infoprint waits before it treats an intervention-required condition at the output device as a permanent error.

GUI Label

Intervention timer (sec)

DSS

PSF

Type

Resettable, single-valued

Allowed Values

You can enter a value of 1 through 9999. The unit is seconds.

Actual Destination

Default Value
9999

Usage Guidelines
A value of **9999** specifies that a permanent error condition can never occur.

job-attributes-supported

Identifies the job attributes that this actual destination supports.

DSS
All

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets a text string that contains a list of job attributes that this actual destination supports.

Note: This list includes only job attributes that directly affect the actual destination. Jobs with attributes that affect the server, for example, **job-retention-period**, can be printed even though those attributes are not on this list.

Default Values

AIX	**auxiliary-sheet-selection**, **job-batch**, **job-start-wait**
BSD	**job-batch**, **job-start-wait**
PSF	**auxiliary-sheet-selection**, **current-page-printing**, **delete-segment-list**, **formatted-job-ticket-content**, **job-batch**, **job-finishing**, **job-rip-action**, **job-start-wait**, **media-sheets-completed**, **optimize-for-multiple-copies**, **segment-list-file-name**
3170	**formatted-job-ticket-content**
Email	**delete-segment-list**, **formatted-job-ticket-content**, **job-batch**, **job-rip-action**, **job-ripped-by-server**, **job-start-wait**, **media-sheets-completed**, **segment-list-file-name**
Fax	**delete-segment-list**, **formatted-job-ticket-content**, **job-rip-action**, **job-start-wait**, **media-sheets-completed**, **segment-list-file-name**
Infoprint 2000	**auxiliary-sheet-selection**, **delete-segment-list**, **formatted-job-ticket-content**, **job-finishings**, **job-rip-action**, **job-ripped-by-server**, **media-sheets-completed**, **segment-list-file-name**
Passthrough	**auxiliary-sheet-selection**, **job-batch**, **job-start-wait**
IPP	**auxiliary-sheet-selection**, **job-batch**, **job-start-wait**

job-batches-ready

Specifies which job-batch values can currently print to this actual destination.

GUI Label
Job batches ready

DSS
All

Type
Resettable, multi-valued

Allowed Values
You can enter a text string up to 4095 characters long, for each value, that contains
the job-batch name.

Default Values
No default values

Usage Guidelines
Infoprint compares the value of the job attribute **job-batch** to this attribute during
job scheduling.

job-finishings-supported

Identifies the job finishing options that this actual destination supports.

GUI Label
Finishing options allowed

DSS
PSF, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values for PSF-supported printers:
edge-stitch
edge-stitch-2
edge-stitch-3
saddle-stitch
staple-bottom-left
staple-top-left

You can enter any of these fixed values for the Infoprint 2000:
edge-stitch-2
staple-bottom-left
staple-top-left
booklet-stitch-and-fold
booklet-stitch-fold-and-trim

Default Values
No default values

Usage Guidelines
• Infoprint compares the job attribute **job-finishing** to this attribute for validation
  and scheduling.
• You can use this attribute to restrict use of this actual destination.

job-retry-count-limit

Indicates the number of times that Infoprint should attempt to submit a job to this
actual destination after an initial failure.

GUI Label
Number of times to retry jobs

Actual Destination

DSS
AIX, BSD, PSF, Fax, Passthrough, IPP

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
0

Usage Guidelines
- Values greater than **0** are useful when poor network line quality causes temporary loss of communication between this actual destination and the backend program. A second or subsequent attempt to submit the job may succeed if communication can be reestablished.
- If the job cannot be submitted within the specified number of attempts, Infoprint disables the destination and places it in the **needs-key-operator** state.
- The **job-retry-interval** actual destination attribute indicates the number of seconds between attempts.
- If the value of this attribute is **0**, the **job-retry-interval** attribute is ignored.
- If the value of the **job-retry-interval** attribute is **0**, this attribute is ignored.

job-retry-interval

Indicates the number of seconds that Infoprint should wait between attempts to submit a job to this actual destination.

GUI Label
Interval to retry jobs (sec)

DSS
AIX, BSD, PSF, Passthrough, IPP

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
0

Usage Guidelines
- If the job cannot be submitted within the specified number of attempts, Infoprint disables the destination and places it in the **needs-key-operator** state.
- The **job-retry-count-limit** actual destination attribute indicates the number of attempts after an initial failure.
- If the value of this attribute is **0**, the **job-retry-count-limit** attribute is ignored.
- If the value of the **job-retry-count-limit** attribute is **0**, this attribute is ignored.

job-rip-actions-supported

Indicates whether this actual destination supports converting a PostScript job to raster image patterns and holding the job, printing the job, or neither.

GUI Label
RIP options allowed

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
    rip-and-hold
    rip-and-hold-ignore-ready
    rip-and-print
    rip-and-print-ignore-ready
    rip-only
    rip-only-ignore-ready

Default Value
rip-and-hold, **rip-and-hold-ignore-ready**, **rip-and-print**, **rip-and-print-ignore-ready**, **rip-only**, **rip-only-ignore-ready**

Usage Guidelines
Infoprint compares the job attribute **job-rip-action** to this attribute for validation and scheduling.

job-size-range-ready

Defines the range of job sizes in bytes (octets) that this actual destination can accept and print.

GUI Label
Size ready (Bytes)

DSS
All

Type
Resettable, single-valued, complex

Syntax

lower-limit:upper-limit

Separate the values with a colon, for example:
`1025:1000000`

You can omit either value, for example:
`1025:`
`:1000000`

Components

lower-limit: Identifies the lower limit value of the job size. The unit value is octets (bytes).

GUI Label: Lower limit

Type: Single-valued

Actual Destination

Allowed Values: You can enter an integer from 0 to 9223372036854775800. The lower limit must be less than or equal to the upper limit.

Default Value: **0**

upper-limit: Identifies the upper limit value of the job size. The unit value is octets (bytes).

GUI Label: Upper limit

Type: Single-valued

Allowed Values: You can enter an integer from 0 to 9223372036854775800. The upper limit must be greater than or equal to the lower limit.

Default Value: **9223372036854775800**

Usage Guidelines
- You can use this attribute to restrict jobs sent to this actual destination according to the capacity of the output device or your policy for output device use.
- You must set the range for this attribute within the range of the **job-size-range-supported** value.
- Infoprint compares the job attribute **total-job-octets** to this attribute for scheduling.

job-size-range-supported

Defines the range of job sizes in bytes (octets) that this actual destination can accept.

GUI Label
Size allowed (Bytes)

DSS
All

Type
Resettable, single-valued, complex

Syntax

lower-limit:upper-limit

Separate the values with a colon, for example:
```
1025:1000000
```

You can omit either value, for example:
```
1025:
:1000000
```

Components

lower-limit: Identifies the lower limit value of the job size. The unit value is octets (bytes).

GUI Label: Lower limit

Type: Single-valued

Allowed Values: You can enter an integer from 0 to 9223372036854775800. The lower limit must be less than or equal to the upper limit.

Default Value: **0**

upper-limit: Identifies the upper limit value of the job size. The unit value is octets (bytes).

GUI Label: Upper limit

Type: Single-valued

Allowed Values: You can enter an integer from 0 to 9223372036854775800. The upper limit must be greater than or equal to the lower limit.

Default Value: **9223372036854775800**

Usage Guidelines

- You can use this attribute to restrict jobs sent to this actual destination according to the capacity of the output device or your policy for output device use.
- You must set the range for this attribute equal to or greater than the range you specify for the **job-size-range-ready** attribute value.
- Infoprint compares the job attribute **total-job-octets** to this attribute for validation and scheduling.

job-start-wait-supported

Indicates whether job submitters are allowed to set the **job-start-wait** job attribute to pause the actual destination just before the job prints.

GUI Label
Wait to start job allowed

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
false

Usage Guidelines
Infoprint compares the job attribute **job-start-wait** to this attribute for validation and scheduling.

list-of-managers

Identifies the people responsible for the configuration of this actual destination and maintenance of the output device associated with this actual destination.

Actual Destination

> ### GUI Label
> Managers
>
> ### DSS
> All
>
> ### Type
> Resettable, multi-valued
>
> ### Input Synonym
> You can use the synonym **managers**.
>
> ### Allowed Values
> You can enter a text string up to 255 characters long, for each value, that contains such things as the name, user ID, office number, or telephone number of the person responsible for this actual destination and the output device associated with it.
>
> ### Default Values
> No default values
>
> ### Usage Guidelines
> This attribute is useful if a user needs to contact someone to report a problem or to request a change.

locations

> See **destination-locations**.

log-accounting-data

> Defines whether the accounting log is active for this actual destination. If you set the value to the default by using the == operator, the value of the server attribute **log-accounting-data** is used.
>
> ### GUI Label
> Log accounting data
>
> ### DSS
> All
>
> ### Type
> Resettable, single-valued
>
> ### Allowed Values
> You can enter one of these fixed values:
>
> | Fixed Value | Input Synonym |
> |---|---|
> | true | yes |
> | false | no |
>
> **Note:** The accounting logs are stored in an Infoprint Server directory called **accounting.logs**.
>
> ### Default Value
> No default value
>
> ### Usage Guidelines
> You can use this attribute to activate or deactivate the accounting log for this actual destination.

Note: The accounting log contains the following job attributes and values for each job processed for this actual destination:

actual destination name (up to 255 characters)
job owner (up to 255 characters)
global job-id without *ServerName*
submission-time (GMT format)
submission-time (date in server's displayable locale and time zone)
submission-time (time in server's displayable locale and time zone)
completion-time (GMT format)
completion-time (date in server's displayable locale and time zone)
completion-time (time in server's displayable locale and time zone)
pages-completed
octets-completed
data stream (first document only)
job name (up ot 255 characters)

logical-destinations-assigned

Indicates the logical destination through which submissions to this actual destination are forwarded.

GUI Label
Logical destination assigned

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 255 characters that contains the name of the logical destination.

Default Value
No default value

Usage Guidelines
The named logical destination must exist in the same Infoprint server as the actual destination.

When a job submission is received at an actual destination object with the **logical-destinations-assigned** set, the **actual-destinations-requested** attribute is set to the name of the actual destination that received the request, and then the job is submitted through the specified **logical-destinations-assigned**.

If **logical-destinations-assigned** is **not** set in the actual destination, the actual destination does not accept direct job submission requests, which are rejected with an unsupported error message.

managers

See **list-of-managers**.

maximum-concurrent-jobs

Defines an upper limit for the number of jobs that this actual destination can process at a time.

Actual Destination

GUI Label
Maximum concurrent jobs

DSS
All

Type
Resettable, single-valued

Allowed Values
AIX   You can enter an integer from 1 through 9.
BSD   You can enter an integer from 1 through 9.
Infoprint 2000
        You can enter an integer from 1 through 99.
PSF   You can enter an integer from 1 through 99.

> **Note:** When you are using a PSF other-driver attached actual destination, the maximum value is 2.

3170   You can enter an integer from 1 through 99.
Email You can enter an integer from 1 through 99.
Fax   You can enter an integer from 1 through 99.
Passthrough
        You can enter an integer from 1 through 9.
IPP   You can enter an integer from 1 through 9.

Default Value
AIX   2
BSD   1
Infoprint 2000
        12
PSF other-driver attached actual destinations
        2
PSF command-attached actual destinations
        1
Other PSF actual destinations
        4
3170   4
Email 12
Fax   12
Passthrough
        1
IPP   1

Usage Guidelines
You can use this attribute to tune your Infoprint system to efficiently use your destination resources.

maximum-copies-supported

Indicates the number of document copies, in a single job, that this actual destination allows.

GUI Label
Maximum copies allowed

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 2147483647.

Default Value
2147483647

Usage Guidelines
- You can use this attribute to restrict jobs sent to this actual destination according to the capacity of the output device or your policy for output device use.
- Infoprint compares the document attribute **copy-count** to this attribute for scheduling.

maximum-fonts-to-keep

Specifies the maximum number of fonts to keep in the memory of the printer device between jobs.

GUI Label
Maximum fonts to keep

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 999.

Default Value
10

Usage Guidelines
- Fonts are a single size and typeface in a particular type family, including letters, numerals, punctuation marks, special characters, and ligatures.
- If you specify that the printer device can store fonts in its memory between jobs, the printer will not have to download the same fonts for the next job. However, this requires additional printer memory.

maximum-overlays-to-keep

Specifies the maximum number of overlays to keep in the memory of the printer device between jobs.

GUI Label
Maximum overlays to keep

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 999.

Actual Destination

Default Value
0

Usage Guidelines
• Overlays are collections of predefined data such as lines, shading, test boxes, and logos that the printer device can merge with variable data on a page or a form.
• If you specify that the printer device can store overlays in its memory between jobs, the printer will not have to download the same overlays for the next job. However, this requires additional printer memory.

maximum-segments-to-keep

Specifies the maximum number of page segments to keep in the memory of the printer device between jobs.

GUI Label
Maximum segments to keep

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 999.

Default Value
0

Usage Guidelines
• Page segments contain text and images that the printer device can include at any addressable point on a page or an electronic overlay.
• If you specify that the printer device can store page segments in its memory between jobs, the printer will not have to download the same page segments for the next job. However, this requires additional printer memory.

media-ready

Identifies the media now loaded in the printer device.

GUI Label
Media ready

DSS
AIX, BSD, PSF, 3170, Infoprint 2000, IPP, Passthrough

Type
Non-settable (AIX and PSF) or resettable (BSD, 3170, IPP, and Passthrough), multi-valued

Allowed Values

AIX   Infoprint sets the values for this attribute based on the values of the **input-trays-medium** attribute.

BSD   You can enter any values of the **media-supported** attribute.

PSF, Infoprint 2000

> Infoprint sets the values for this attribute based on the values of the **psf-tray-characteristics** attribute.

3170 Infoprint sets the values for this attribute based on the values of the **media-supported** attribute.

IPP and Passthrough

> You can enter any values of the **media-supported** attribute.

Default Values

For AIX, BSD, PSF actual destinations, Passthrough, and IPP, if SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise:

AIX The default comes from the values of the **input-trays-medium** attribute.

BSD No default value

PSF, Infoprint 2000

> The default comes from the values of the **psf-tray-characteristics** attribute.

3170 The values of the **media-supported** attribute.

IPP The default value comes from IPP.

Passthrough

> There is no default.

Usage Guidelines

- Infoprint restricts the possible values for this attribute to the values currently specified for the **media-supported** attribute.
- Infoprint compares the document attribute **default-medium** to this attribute for job scheduling.
- If you specify a value for the **media-ready** attribute, you deactivate the default provided by SNMP.

media-supported

Identifies the types of media that the actual destination supports.

GUI Label

Media allowed

DSS

AIX, BSD, PSF, 3170, Infoprint 2000, IPP, Passthrough

Type

Resettable, multi-valued

Allowed Values

You can enter a text string up to 255 characters long that contains the names of the media. These can be:

- The medium identifiers of medium objects created by the **pdcrmed** utility. For these fixed values, see the medium **medium-identifier** attribute.
- The medium identifiers of medium objects you created yourself
- For PSF actual destinations, IPP printers, Passthrough printers, and BSD actual destinations, any names that describe the media, even if no medium objects with those names exist
- For Infoprint 2000 actual destinations, IPP printers, and Passthrough printers, medium objects must exist for all the names that you created for the Infoprint 2000 printers.

Actual Destination

Default Values

For AIX, BSD, PSF, IPP, and Passthrough actual destinations, if SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise:

AIX   **letter**

BSD   No default values

PSF, Infoprint 2000 (basic Infoprint administrator's GUI)
> All allowed fixed values

PSF, Infoprint 2000 (advanced Infoprint administrator's GUI and command line)

> **Command-attached actual destinations**
>> **letter**
>
> **other-driver attached actual destinations**
>> **letter**
>
> **Other actual destinations**
>> No default values

3170   The names of all default medium objects

IPP   With Internet Printing Protocol (IPP) printers, the default comes from IPP.

Passthrough
> There is no default.

Usage Guidelines

- Infoprint uses this attribute for job validation:

    AIX   Infoprint compares the document attribute **default-medium** to this attribute for job validation and scheduling.

    BSD   This attribute is for information only.

    PSF   Infoprint compares the document attribute **default-medium** or **page-media-select** to this attribute for job validation and scheduling.

    3170   Infoprint compares the document attribute **default-medium** to this attribute for job validation and scheduling.

- For AIX actual destinations, Infoprint verifies that the values of the *medium-identifier* component of the **input-trays-medium** attribute are values of this attribute.

- For PSF and Infoprint 2000 actual destinations, Infoprint verifies that the values of the *medium-loaded* component of the **psf-tray-characteristics** attribute are values of this attribute.

- The actual destination does not automatically update this attribute. When you create a medium object, you must add its medium identifier to each actual destination that supports it.

- You can use this attribute to restrict use of this actual destination.

- If you specify a value for the **media-suppported** attribute, you deactivate the default provided by SNMP.

message

Provides information associated with this actual destination.

GUI Label

Message

DSS

All

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that contains information
about this actual destination.

Default Value
No default value

Usage Guidelines
Use of this descriptive attribute is optional.

message-font-type

Identifies the font type that the printer device uses to print the message page.

GUI Label
Message page font type

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:
    normal
    condensed

Default Value
normal

message-form-definition

Identifies the AFP form definition that the printer device uses to process the
message page.

GUI Label
Message page form definition

DSS
PSF

Type
Resettable, single-valued

Allowed Values
A text string up to 255 characters long that contains the form definition ID.

Default Value
F1MG0110

model

See **destination-model**.

non-process-runout-timer

Designates the amount of time, in seconds, that a continuous-forms printer device waits for the next job before it runs the forms from the print transfer station to the stacker after the last page of a job prints.

GUI Label
Non-process runout timer (sec)

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 9999. The unit is seconds.

Default Value
60

Usage Guidelines
If you enter a value of **0**, Infoprint does not allow the timer to expire.

notification-profile

Designates which users Infoprint notifies of specified events related to this actual destination, and how Infoprint notifies them.

GUI Label
Notification profile

DSS
All

Type
Resettable, multi-valued, complex

Syntax

-x "notification-profile={event-identifiers=event ...
delivery-address=name@node **delivery-method=**value
event-comment='some text**' locale=**locale**}"**

You can omit any of these components, for example:

```
-x "notification-profile={event-identifiers=class-actual-destination-status
   class-warning delivery-address=jeff@ttank
   event-comment='Its still going' locale=En_US.IBM-850}"
```

Components

event-identifiers: Specifies the events for which the user receives messages.

GUI Label: Events

Type: Multi-valued

Allowed Values: You can enter any of the values listed for the server attribute **events-supported**.

Default Values: **object-deleted**, **object-cleaned**, **printer-needs-administrator**, **printer-needs-attention**, **printer-needs-operator**, **printer-timed-out**

delivery-address: Provides the address of the person who receives the event messages or the directory location and file name where Infoprint stores the message.

GUI Label: Address

Type: Single-valued

Allowed Values: You can enter a text string up to 255 characters long that contains the user name and node or the directory and file name.

Default Value: The login ID of the user who created this actual destination.

delivery-method: Specifies how the user or file receives event messages.

GUI Label: Method

Type: Single-valued

Allowed Values: You can enter one of these fixed values:

Fixed Value	**Input Synonym**
electronic-mail	**e-mail**, **email**
file	
file-add-to	
message	
none	

Default Value: **message**

Usage Guidelines: If you specify a value of **file** or **file-add-to**, you must specify a value for the **delivery-address** component.

event-comment: Supplies textual information that Infoprint appends to the event message.

GUI Label: Comment

Type: Single-valued

Allowed Values: You can enter a text string up to 4095 characters long that contains the comment.

Default Value: No default value

locale: Defines the language and code page of notification messages.

Type: Single-valued

Allowed Values: You can enter the name of any locale for which the Infoprint messages in the corresponding language are installed.

Default Value: The locale of the person who created this actual destination.

notify-operator

Identifies people who are to receive the messages specified by the job attributes **job-start-message** and **job-end-message**.

GUI Label
Operators to notify

DSS
All

Type
Resettable, multi-valued, complex

Input Synonym
You can use the synonym **operators**.

Syntax

delivery-method:delivery-address

Separate each pair of values with a colon, for example:
```
message:op2@phyptr1
```

Components

delivery-method: Specifies how the person receives the messages.

GUI Label: Method

Type: Single-valued

Allowed Values: You can enter one of these fixed values:
electronic-mail
message
none

Default Value: **message**

delivery-address: Provides the address of the person to receive the messages.

GUI Label: Address

Type: Single-valued

Allowed Values: Enter a login ID and node.

Default Value: The login ID of the person who created this actual destination.

number-up-supported

Specifies the number of pages that this actual destination can print on a single side of the paper.

GUI Label
Number up allowed

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	Input Synonym
imposition-simple-1-up	**1up**
imposition-simple-2-up	**2up**
imposition-simple-3-up	**3up**
imposition-simple-4-up	**4up**
generic-none	

Default Values
imposition-simple-1-up, **imposition-simple-2-up**, **imposition-simple-3-up**, **imposition-simple-4-up**, **generic-none**

Usage Guidelines
- The value **generic-none** applies only to the actual destination. You cannot request this value with the document attribute **number-up**.

  When the values for **number-up-supported** include **generic-none**, the actual destination accepts documents without a value for the **number-up** attribute. The actual destination also accepts documents without a value for the **number-up** attribute when there are no values for **number-up-supported**.

- Infoprint compares the document attribute **number-up** to this attribute for validation and scheduling.

- You can use this attribute to restrict use of this actual destination.

object-class

Identifies the object class to which this object belongs.

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **destination**.

Default Value
destination

offset-stacking-available

Indicates whether PSF command-attached or other-driver attached actual destinations support offsetting jobs in the output stack.

GUI Label
Allow offset stacking

DSS
PSF

Type
Resettable, single-valued

Actual Destination

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
false

Usage Guidelines
- This attribute applies only to PSF command-attached and other-driver attached actual destinations. Other actual destinations ignore this attribute.
- Offset stacking occurs only if the form definition for the job specifies offset stacking.
- PPDS and PCL4 data streams do not support the offset stacking option; therefore, this attribute has no effect on destinations using those data streams.
- This attribute is not used for job validation or scheduling.

operators

See **notify-operator**.

optimize-for-multiple-copies

Used with the **optimize-for-multiple-copies** job attribute to indicate whether the printer device should save pages in order to print multiple copies of the job faster.

GUI Label
Optimize for multiple copies

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value

true actual destinations representing Infoprint 4000 printer devices (**printer-model=Infoprint4000**) that are migrated from PSF for AIX or created using the Infoprint administrator's GUI

false All other actual destinations

Usage Guidelines
- This attribute is used in combination with the **optimize-for-multiple-copies** job attribute:

Job Attribute	*Destination Attribute*	*Results*
true	**true**	Pages are saved
true	**false**	Pages are not saved
false	**true**	Pages are not saved

Job Attribute	Destination Attribute	Results
false	**false**	Pages are not saved
No value	**true**	Pages are saved
No value	**false**	Pages are not saved

- If the printer device cannot save pages, the job is printed and this attribute is ignored.

orientations-supported

See **content-orientations-supported**.

other-options

See **destination-pass-through**.

output-appearances-supported

Identifies the values for the document attribute **output-appearance** that this actual destination supports.

DSS
PSF (AIX Only)

Type
Resettable, multi-valued

Allowed Values
You can enter a customized value or any of these fixed values:
> **standard**
> **highlight-midtones**
> **dark**

Default Values
standard, **highlight-midtones**, **dark**

Usage Guidelines
- Infoprint compares the document attribute **output-appearance** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

output-bin

Specifies the name of the output bin to which you want Infoprint to direct output.

GUI Label
Default output bin

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 255 characters long that contains the output bin name.

Actual Destination

Default Value

PSF   No default values

3170   **main**, **test**

Infoprint 2000
   stapler

Usage Guidelines

- The name you specify must match the name in one of the values for the following attribute:

  PSF   **output-bin-numbers**

  Infoprint 2000
     output-bins-supported

- Infoprint only uses the value you specify for the **output-bin** actual destination attribute if the user does not specify a value for the **output-bin** document attribute and if the form definition Infoprint uses for the job does not specify an output bin.

- With Infoprint 2000:
  - If a job requests stapling or some other finishing, the job goes to the appropriate finishing output bin regardless of what output bin is specified with the **output-bin** attribute.
  - If a job specifies a finishing output bin and no finishing is specified, the job is printed and sent to the top bin.

output-bin-numbers

Specifies a bin name followed by a bin number. Infoprint uses this attribute to map names of output bins, such as top, to bin numbers that the printer device understands.

GUI Label

Map output bin to number

DSS

PSF

Type

Resettable, multi-valued, complex

Syntax

bin-name:bin-number

Separate each pair of values with a colon, for example:

```
top:1
staple:2
```

Components

bin-name: The name of an output bin.

GUI Label: Bin name

Type: Single-valued

Allowed Values: You can enter a text string containing a bin name.

bin-number: The number that the printer device has assigned to the output bin.

GUI Label: Bin number

Type: Single-valued

Allowed Values: You can enter a numeric value.

Default Values
If SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise no default value.

Usage Guidelines
* Infoprint automatically updates the **output-bins-supported** actual destination attribute from the value or values that you set for this attribute.
* If you set the **output-bins-numbers** attribute, you deactivate the default provided by SNMP.

output-bins-supported
Identifies the supported output bins on the printer device.

GUI Label
Output bins allowed

DSS
PSF, 3170, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values

PSF   Infoprint sets this value from the values you supply for the **output-bin-numbers** actual destination attribute. If you add or delete a value from the **output-bin-numbers** attribute, Infoprint modifies this attribute to match your change.

3170   Infoprint sets this value to the names of the output bins on the InfoColor 70 printer device.

Infoprint 2000
        top, **stapler**, **stacker**, **bookletmaker**

Default Values

PSF   No default values

3170   **main**, **test**

Infoprint 2000
        top, **stapler**

Usage Guidelines
* Infoprint compares the value of the **output-bin** document attribute to this attribute during job validation and scheduling.
* You can use this attribute to restrict the use of this actual destination.

output-data-user-exit

Specifies the name of a program that monitors output data from this actual destination. For example, the output data exit program can print a report at the end of a job listing the start and end time and the number of fonts, page segments, and overlays in the job so that you can track output device performance.

GUI Label
Output data exit

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 255 characters.

Default Value
No default value

Usage Guidelines
You can use the sample output data exit program supplied:

- With Infoprint:
  - With AIX, **/usr/lpp/psf/bin/ainuxout** (source **/usr/lpp/psf/exits/ainuxout.c**)
  - With Windows NT or Windows 2000, *install_path***bin\ainuxout** (source *install_path***usr\lpp\psf\exits\ainuxout.c)**, where *install_path* indicates the path where you installed Infoprint Manager

  –

- Write your own

For more information on user-exit programs for Infoprint Manager, visit the appropriate site from the IBM Printing Systems webb site: http://www.ibm.com/printers.

output-format-supported

Used with the **number-up-supported** attribute to identify the ways of imposing pages on a sheet that this actual destination supports.

GUI Label
Output formats allowed

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can specify any of these fixed values:
> **side-by-side-copies**
> **simple-n-up**
> **booklet-print**
> **slit-and-merge**

> **Note:** You can only specify **simple-n-up** with the PSF DSS for Windows NT and Windows 2000.

Default Value
    side-by-side-copies
    simple-n-up
    booklet-print,
    slit-and-merge

> **Note:** **simple-n-up** is the only default with the PSF DSS for Windows NT and Windows 2000.

Usage Guidelines
- See the document attribute **output-format** for explanations of the attribute values.
- Infoprint compares the document attribute **output-format** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

overlay

Specifies an overlay that Infoprint uses for each sheet-side for all jobs printed on this actual destination.

GUI Label
Medium overlay

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to eight characters long that contains the name of the overlay.

Default Value
No default value

Usage Guidelines
- When you specify **overlay**, **overlay-front**, and **overlay-back** on the command line, Infoprint honors all of them as long as the **form-definition** document attribute is **not** specified.
- When you specify a value for the **form definition** document attribute, Infoprint ignores the overlay you specify with **overlay**.

page-select-supported

Specifies the type of page numbering that this actual destination supports.

GUI Label
Range of pages allowed

DSS
PSF, Email, Fax, Infoprint 2000

Actual Destination

Type
Resettable, multi-valued

Allowed Values
You can enter a fixed value of **numeric**.

Default Value
numeric

Usage Guidelines
Infoprint compares the document attribute **page-select** to this attribute for validation and scheduling.

pcl-server-address

Identifies the Internet Protocol address (IP Address parameter) of the host where the daemon that transforms PCL data imbedded in an AFP data file resides.

GUI Label
PCL server address

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that is either of these types of address:

Dotted decimal address
> A series of integers within the range of 0 to 255, each separated by a period, . (decimal address). For example:
>
> `9.99.12.85`

Hostname
> For example:
>
> `leo.boulder.ibm.com`

Default Value
127.0.0.1 (the local host)

Usage Guidelines
This attribute is not used in transforming PCL data that is not imbedded in AFP data files.

pcl-server-port

Identifies the Port Number parameter of the host where the daemon that transforms PCL data imbedded in an AFP data file resides.

GUI Label
PCL server port

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 2147483647, but you typically enter an integer from 5001 to 65535.

Default Value
8253

Usage Guidelines
This attribute is not used in transforming PCL data that is not imbedded in AFP data files.

physical-printer

See **destination-name**.

plex

Identifies the plexes that this printer prints. Plex indicates whether the page images of the output document are conditioned for eventual one-sided or two-sided printing, and the relative orientation of consecutive pages.

GUI Label
Plex to print

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:
>   **simplex**
>   **tumble**

Default Values
AIX   simplex
Infoprint 2000
>   simplex
PSF   simplex

Usage Guidelines
- The value of the **plex** attribute must be one of the values of the **plexes-supported** attribute.

- Infoprint uses plex specifications in this order:
    1. **plex** document attribute
    2. The plex specification in the form definition
    3. **plex** actual destination attribute

    Note: Because all IBM-supplied form definitions contain a plex specification, the **plex** actual destination attribute is used only with custom form definitions that do not contain a plex specification.

plexes-supported

Identifies the plexes that this actual destination supports. Plex indicates whether the page images of the output document are conditioned for eventual one-sided or two-sided printing, and the relative orientation of consecutive pages.

Actual Destination

GUI Label
Plexes allowed

DSS
AIX, BSD, PSF, 3170, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
simplex
tumble

Default Values

AIX   **simplex**

BSD   No default value

PSF (basic Infoprint administrator's GUI)
If SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise **simplex**, **tumble**.

PSF (advanced Infoprint administrator's GUI and command line)
If SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise **simplex**.

3170   **simplex**, **tumble**

Usage Guidelines
- Infoprint compares the document attribute **plex** to this attribute for scheduling.
- If you specify a value for the **plexes-supported** attribute, you deactivate the default provided by SNMP.

postscript-server-address

Identifies the Internet Protocol address (IP Address parameter) of the host where the daemon that transforms PostScript data imbedded in an AFP data file resides.

GUI Label
PostScript server address

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that is either of these types of address:

Dotted decimal address
A series of integers within the range of 0 to 255, each separated by a period, . (decimal address). For example:

`9.99.12.85`

Hostname
For example:

`leo.boulder.ibm.com`

Default Value
127.0.0.1 (the local host)

Usage Guidelines
This attribute is not used in transforming PostScript data that is not imbedded in
AFP data files.

postscript-server-port

Identifies the Port Number parameter of the host where the daemon that transforms
PostScript data imbedded in an AFP data file resides.

GUI Label
PostScript server port

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 2147483647, but you typically enter an
integer from 5001 to 65535.

Default Value
8251

Usage Guidelines
This attribute is not used in transforming PostScript data that is not imbedded in
AFP data files.

presentation-fidelity-problem-reported

Identifies the types of errors that cause this actual destination to stop printing when
Infoprint detects them.

GUI Label
Presentation fidelity problem reported

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value
    Explanation

barcode
Infoprint stops printing the file when it detects an error in bar code data in
the Bar Code Object Content Architecture (BCOCA) data stream, or if the
printer device does not support BCOCA.

image Infoprint stops printing the file when it detects an error in image or graphics
data in the Image Object Content Architecture (IOCA) or Graphics Object
Content Architecture (GOCA) data streams, or if the printer device does not
support IOCA or GOCA.

all   Infoprint stops printing the file if it detects either barcode or image data problems.

none   Infoprint prints the file without reporting barcode or image errors.

Default Value
none

print-edge-marks

Specifies whether this actual destination prints edge marks on the output.

GUI Label
Print edge marks

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
false

print-qualities-supported

Identifies the levels of print quality available on this actual destination.

GUI Label
Print qualities allowed

DSS
AIX, BSD

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **qualities-supported**.

Allowed Values
You can enter any of these fixed values:
    draft
    high
    normal

Default Values
AIX   normal
BSD   No default value

Usage Guidelines
- Infoprint compares the document attribute **print-quality** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

print-queue

See **print-queue-name**.

print-queue-name

Specifies which AIX print queue is the default value for the **destination-command** attribute.

GUI Label

AIX print queue (AIX DSS)
Windows print queue (Passthrough DSS)

DSS
PSF

Type
Initially settable, single-valued

Input Synonym
You can use the synonym **print-queue**.

Allowed Values
You can enter a text string up to 255 characters long that contains the name of the AIX print queue.

Default Value
No default value

Usage Guidelines
- Do not confuse this attribute with the **associated-queue** attribute, which specifies the Infoprint queue that sends jobs to this actual destination.
- If the attachment-type is **aix**, Infoprint uses this attribute to determine the default value following the **-P** flag in the **destination-command** attribute.
- If the attachment type is not **aix**, Infoprint does not use the **print-queue-name** attribute.

printer

See **destination-name**.

printer-command

See **destination-command**.

printer-data-stream

See **destination-data-stream**.

printer-end-sheet

Identifies the style of end sheet that the printer device uses.

GUI Label
End sheet

DSS
AIX, PSF

Actual Destination

Type
Resettable, single-valued

Allowed Values
You can enter one of the following fixed values. For PSF only, you can enter an identifier of an auxiliary-sheet object.

Fixed Value	*DSS*	*Explanation*
accounting-log	PSF	This value is technically valid, but should not be used for end sheets.
blank	PSF	The end sheet is blank.
brief	AIX, PSF	The end sheet style is brief.
full	AIX, PSF	The end sheet style is full.
job-ticket	PSF	The job ticket is printed on the end sheet.
none	AIX, PSF	No end sheet prints.

Default Value
AIX	**full**
PSF	**none**

Usage Guidelines
- PSF actual destinations can use auxiliary-sheet objects if they have valid **psf-exit-***xxx* values. AIX actual destinations print auxiliary sheets, but they do not use auxiliary-sheet objects.
- Infoprint verifies that the value of this attribute is a value of the **end-sheets-supported** attribute.

printer-escape-codes

Specifies the printer escape codes that this actual destination uses to print line-data jobs.

GUI Label
Escape codes

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter a string up to 255 characters long containing the printer escape codes.

Syntax
Escape codes must be in lowercase format and cannot include spaces. You must enter unprintable characters, and may enter printable characters, in this format:

\x*nn*

where *nn* is a two-character (one-byte) hexadecimal code. For example:

```
\x1b
```

represents ESC

Default Value
No default value

Usage Guidelines

Use printer escape codes to control fonts, line spacing, and the size of the output page, enabling more than 80 characters to print on a line.

For example, this hex string:

```
\x1b\x5b\x53\x0c\x00\x01\x20\x01\x20\x00\x00\x4b\x60\x38\x40\x4e\xc0
```

translates to the following values:

1b	ESC
5b	Left square bracket
53	S
0c00	Length of command
0120	Top margin (0.2 inches)
0120	Bottom margin (0.2 inches)
0000	Left margin (0 inches)
4b60	Right margin (13.4 inches)
3840	Page length (10 inches)
4ec0	Page width (14 inches)

The first four values (ESC, [, S, command length) are always the same in a string of escape codes specifying page dimensions. The values representing the margins and page length and width are hex values in 1440ths of an inch and can be changed to meet your specifications. All dimensions are measured as if the page were printed in portrait.

printer-memory

Defines the amount of printer memory (in kilobytes) for this PSF command-attached or other-driver attached printer.

GUI Label
Memory (KBytes)

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 512 to 65535. The unit is kilobytes.

Default Value
Other-driver attached actual destinations
> 1024

Command-attached actual destinations
> 1024

Other-driver attached types
> No default value

Usage Guidelines
- Infoprint uses this attribute with PSFcommand-attached actual destinations and other-driver attached actual destinations and ignores it for other attachment types.
- If the printer device reports an out-of-memory condition, you can add more memory to the printer device or decrease the value for this attribute.

Actual Destination

printer-locations

See **destination-location**.

printer-model

See **destination-model**.

printer-name

See **destination-name**.

printer-needs-attention-time

See **destination-needs-attention-time**.

printer-needs-key-operator-attention-time

See **destination-needs-key-operator-attention-time**.

printer-pass-through

See **destination-pass-through**.

printer-realization

See **destination-realization**.

printer-register-threshold

See **destination-register-threshold**.

printer-release-timer

See **destination-release-timer**.

printer-resolutions-ready

Specifies which of the values specified for the **printer-resolutions-supported** attribute this actual destination is ready to use.

GUI Label
Resolutions ready

DSS
PSF, 3170

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	DSS
240	PSF
300	PSF
480	PSF
600	PSF, 3170

The unit is pels.

Default Values
No default values

Usage Guidelines
- This attribute applies only for printing image data. It has no effect on font resolutions.
- Refer to the printer device documentation for information on the resolution you should specify.
- If you specify a resolution that the printer device does not support, jobs will still print under most conditions. However, you may see poor printed results.
- The values of the **printer-resolutions-ready** attribute must be a subset of the values of the **printer-resolutions-supported** attribute.
- Infoprint compares the document attribute **default-printer-resolution** to this attribute for scheduling.

printer-resolutions-supported

Specifies the resolution, in pels, at which the printer device can print PostScript and PCL jobs.

GUI Label
Resolutions allowed

DSS
PSF, 3170, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	*DSS*
240	PSF
300	PSF
480	PSF
600	PSF, 3170, Infoprint 2000

The unit is pels.

Default Values
PSF (basic Infoprint administrator's GUI)
> **240**, **300**, **480**, **600**
PSF (advanced Infoprint administrator's GUI and command line)
> **240**
3170, Infoprint 2000
> **600**

Usage Guidelines
- This attribute applies only for printing image data. It has no effect on font resolutions.
- Refer to the printer device documentation for information on the resolution you should specify.
- If you specify a resolution that the printer device does not support, jobs will still print under most conditions. However, you may see poor printed results.
- Infoprint compares the document attribute **default-printer-resolution** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

printer-separator-sheet

Identifies the style of separator sheet that the printer device uses.

GUI Label
Slip/Separator sheet

DSS
AIX, PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of the following fixed values. For PSF only, you can enter an identifier of an auxiliary-sheet object.

Fixed Value	DSS	Explanation
accounting-log	PSF	This value is technically valid, but should not be used for separator sheets.
blank	PSF	The separator sheet is blank.
brief	PSF	The separator sheet style is brief.
full	PSF	The separator sheet style is full.
job-ticket	PSF	The job ticket is printed on the separator sheet.
none	AIX, PSF	No separator sheet prints.

Default Value
AIX	**none**
PSF	**none**

Usage Guidelines
- PSF actual destinations can use auxiliary-sheet objects if they have valid **psf-exit-**xxx values. AIX actual destinations print start and end sheets, but they do not use auxiliary-sheet objects.
- Because AIX actual destinations do not print separator sheets, the only valid value for them is **none**.
- Infoprint verifies that the value of this attribute is a value of the **separator-sheets-supported** attribute.

printer-start-sheet

Identifies the type of start sheet that this printer device uses.

GUI Label
Start sheet

DSS
AIX, PSF, 3170, IPP, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter one of the following fixed values. For PSF only, you can enter an identifier of an auxiliary-sheet object.

Fixed Value	*DSS*	*Explanation*
accounting-log	PSF	This value is technically valid, but should not be used for start sheets.
blank	PSF	The start sheet is blank.
brief	AIX, PSF, IPP, Passthrough	The start sheet style is brief.
full	AIX, PSF, 3170, IPP, Passthrough	The start sheet style is full.
job-ticket	PSF	The job ticket is printed on the start sheet.
none	AIX, PSF, 3170, IPP, Passthrough	No start sheet prints.
filename	IPP, Passthrough	The location of a customized auxiliary sheet template.

Default Value
AIX, 3170, IPP, Passthrough
> full

PSF (basic Infoprint administrator's GUI)
> job-ticket

PSF (advanced Infoprint administrator's GUI and command line)
> brief

Usage Guidelines

- PSF actual destinations can use auxiliary-sheet objects if they have valid **psf-exit-**xxx values. AIX actual destinations print start and end sheets, and 3170 actual destinations print start sheets; but they do not use auxiliary-sheet objects.

- Infoprint verifies that the value of this attribute is a value of the **start-sheets-supported** attribute.

- For IPP and Passthrough printers, the auxiliary sheets specified with *filename* can be customized by copying and modifying one of the following template files shipped with Infoprint Manager for Windows NT and Windows 2000:

\install-path**bin\brief.ps**
> Template for ″brief″ format, Postscript output format

\install-path**bin\full.ps**
> Template for ″full″ format, Postscript output format

\install-path**bin\brief.txt**
> Template for ″brief″ format, PCL/ASCII output format

\install-path**bin\full.txt**
> Template for ″full″ format, PCL/ASCII output format

The template files contain special *insert formatting* characters that are used to indicate where the Passthrough DSS inserts certain information about the print job:

%B Large *banner style* job-owner/job-original/user-name (whichever is found first)

%t, %T
> job-name heading, job-name contents

%p, %P
> time printed heading, time printed contents

%q, %Q
> job-submission-time heading, job-submission-time contents

Actual Destination

%h, %H
actual-destination and server heading, actual-destination and server contents

%s, %S
job-owner/job-original/user-name heading, job-owner/job-originator/user-name contents

%d, %D
results-profile delivery-address, %s heading, results-profile delivery-address, or %S contents

%c, %C
job-comment heading, job-comment contents

printer-state

See **destination-state**.

printer-s370-channel-device-address

Identifies the control unit address parameter for channel-attached actual destinations. This is the device address of the control unit for the printer device.

GUI Label
S/370 channel address

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter a hexadecimal address expressed as a series of characters in the range: integer (0..9), alpha (a..f, A..F); legal values are 00–FF.

Default Value
No default value

Usage Guidelines
You must enter a value for PSF channel-attached actual destinations. Infoprint ignores this attribute for other attachment types.

printer-s370-channel-slot-number

Identifies the slot number parameter for channel-attached actual destinations. This is the slot number in which the S/390 Parallel Channel Emulator is installed.

GUI Label
S/370 slot number

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 8.

Default Value
No default value

Usage Guidelines
- You must enter a value for PSF channel-attached actual destinations. Infoprint ignores this attribute for other attachment types.
- If a single IBM 4159 Model 001 Channel Card is installed in the computer, specify 1 for the slot address. If multiple channel cards are installed in the computer, see the 4159 procedures in the *Infoprint Manager for Windows NT and Windows 2000: Getting Started*.

printer-tcpip-internet-address

See **destination-tcpip-internet-address**.

printer-tcpip-port-number

See **destination-tcpip-port-number**.

printer-timeout-period

See **destination-timeout-period**.

problem-message

Provides information on the cause of a problem with a actual destination.

GUI Label
Problem message

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to a text string that contains the message information.

Default Value
No default value

Usage Guidelines
- This attribute may contain problem information whenever the actual destination state is not **idle**, **connecting-to-printer**, or **printing**.
- If the actual destination state is **needs-key-operator**, Infoprint disables the actual destination. If the actual destination uses SNMP, Infoprint automatically re-enables it when the problem is corrected. To prevent automatic re-enabling, manually disable the actual destination.

protected-attributes

Specifies one or more actual destination attributes that DCE prevents Infoprint operators from setting or changing.

GUI Label
Protected attributes

DSS
All

Actual Destination

Type
Resettable, multi-valued

Allowed Values
You can enter one or more actual destination attributes.

Default Values
This attribute always specifies itself, **protected-attributes**, as a value.

Usage Guidelines

With DCE security

Normally, anyone with DCE **write** permission for actual destinations can set values for actual destination attributes. By default, the **pd_admin** and **pd_operator** DCE groups both have **write** permission. Once you define an actual destination attribute as a protected attribute, you must have DCE **delete** permission to modify the attribute. Members of the **pd_operator** DCE group do not have **delete** permission unless the DCE administrator modifies the default permissions for that group.

With Non-DCE security

Normally, anyone with **write** permission for actual destinations can set values for actual destination attributes. By default, the **admin** and **oper** groups both have **write** permission. Once you define an actual destination attribute as a protected attribute, you must have **actual-destination delete** permission to modify the attribute. Members of the **oper** group do not have **actual-destination delete** permission unless the administrator modifies the default permissions for that group.

psf-tray-characteristics

Defines the current characteristics of the input trays on this output device.

GUI Label
Media ready

DSS
PSF, Infoprint 2000

Type
Resettable, multi-valued, complex

Syntax

input-tray:medium-loaded:job-bin-number:tray-number:duplex-supported

Separate values with colons, for example:
```
top:letter:1:1:false
```

Components

input-tray: Specifies which input tray this value defines.

GUI Label: Input tray

Type: Single-valued

Allowed Values: You can enter any name you want, for example:
alternate
bottom

> **envelope**
> **insert**
>
> **Note:** The **insert** input tray is on the finisher, not the printer device itself. This means that you cannot print inserts with the rest of the job. If you want printed inserts, preprint them and load the printed sheets into the **insert** input tray.
>
> **large-capacity**
> **main**
> **manual**
> **side**
> **top**

Default Value: The default value for PSF command-attached and other-driver attached actual destinations is **top**. For other actual destinations, there is no default value.

media-loaded: Specifies the medium that is now in the input tray. Infoprint adds the value you specify for this component automatically to the **media-ready** actual destination attribute.

GUI Label: Media ready

Type: Single-valued

Allowed Values: The value you specify does not have to match one of the values specified by the **medium-identifier** medium attributes. However, it must be one of the values specified by the **media-supported** attribute for this actual destination.

Default Value: The default value for PSF command-attached and other-driver attached actual destinations is **letter**. For other actual destinations, there is no default value.

Usage Guidelines: If you want to change the value of this component, make sure you add the value to the **media-supported** attribute first.

job-bin-number: Specifies a bin number that the data stream can specify to select this input tray.

GUI Label: Bin number

Type: Single-valued

Allowed Values: You can enter an integer from 1 to 255.

Default Value: If SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise:

- The default value for PSF command-attached and other-driver attached actual destinations is **1**. For other actual destinations, there is no default value.
- If you specify any of the values for the **input-tray** name shown in Table 12 on page 420, and no values for this component and the **tray-number** component, the values for both of these components default to the values shown in the explanation of this component. You can specify values for all three components if those values are not appropriate for a particular printer device.

Usage Guidelines: Each AFP printer device model has its own configuration of paper input trays, known as bins, each with a specific number. This component

maps the value specified for the input tray and loaded media to a bin number that Infoprint understands and uses. Some values have special meanings:

Table 12. Input Tray Names, Job Bin Numbers, and Tray Numbers on AFP Printer Devices

Input Tray Name	Job Bin Number	Tray Number
alternate	1	5
bottom	2	4
envelope	65	6
manual	100	2
top	1	1

tray-number: Identifies the tray number of the input tray, depending on the printer model, associated with the job bin number.

GUI Label: Tray number

Type: Single-valued

Allowed Values: You can enter an integer value of 1 or 2.

Default Value: The default value for PSF command-attached and other-driver attached actual destinations is **1**. This component does not apply to other attachment types.

For command-attached actual destinations and other-driver attached actual destinations, if you specify any of the values for the **input-tray** name shown in the table under **job-bin-number** and no value for this component, the value for this component defaults to the value shown in the explanation of the **job-bin-number** component.

Usage Guidelines: See the documentation for the printer device for further information on which types of input trays this printer supports.

duplex-supported: Specifies whether two-sided printing is possible from this input tray.

GUI Label: Duplex

Type: Single-valued

Allowed Values: You can enter one of these fixed values:

Fixed Value	Input Synonym
true	yes
false	no

Default Value: The default value for PSF command-attached and other-driver attached actual destinations is **false**. This component does not apply to other attachment types.

Default Values

If SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise, the default values are as described for each component.

Usage Guidelines

- With PSF command-attached or PSF other-driver attached printers, you can specify a maximum of 15 values, one for each input tray of the printer device.
- With PSF TCP/IP attached printers, there is no limit on the number of values you can specify for **psf-tray-characteristics**.
- Infoprint automatically sets the **media-ready** and **input-trays-supported** actual destination attributes from the value you set here.
- Infoprint verifies that the values of the **media-loaded** component of this attribute are values of the **media-supported** attribute.

qualities-supported

See **print-qualities-supported**.

register-threshold

See **destination-register-threshold**.

registered-with-spooler

Indicates whether this actual destination and the server containing the actual destination's queue have established communication.

GUI Label
Registered with spooler

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets one of these fixed values:
   true
   false

Default Value
false

remote-queue

Indicates whether the backend program sends data to a remote print queue rather than controlling this AIX actual destination directly.

GUI Label
Use remote print queue

DSS
AIX, PSF (AIX only with other-driver attachment type)

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Actual Destination

Default Value
false

Usage Guidelines
- If the printer backend program is a variation of, or front end to, **rembak**, specify **true**. Examples of **rembak**–based backend programs include **piorflb** and **piocolor**.
- When you are working with AIX DSS actual destinations, see "Creating and Managing Actual Destinations" in the *Infoprint Manager for AIX: Administrator's Guide* for information on correcting the configuration of **remote-queue** printers that have **device-name** set to /dev/null.

resource-context

Defines the default directory paths that Infoprint searches for AFP resources, including fonts, form definitions, overlays, page definitions, page segments, and color mapping table.

GUI Label
Location of resources

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter the name of a resource-context object or a text string up to 255 characters long that defines the directory path to fonts. You can specify one or more paths for one resource context. You can specify paths for file systems mounted to AIX, such as MVS data sets and VM minidisks.

Syntax

path:path for AIX
path;path for Windows NT or Window 2000

Separate multiple paths with a colon on AIX or a semicolon on Windows NT or Window 2000, for example:
- In AIX,

  `/fonts:/dept123/fonts`
- In Windows NT or Windows 2000,

  `\fontlib;\dept123\fonts`

Default Value
With AIX, no default values, but Infoprint always searches:

1. **/usr/lpp/psf/reslib**
2. **/usr/lpp/afpfonts**
3. **/usr/lpp/psf/fontlib**

With Windows NT or Windows 2000, no default values, but Infoprint always searches:

1. *install_path***reslib**
2. *install_path***afpfonts**

| 3. *install_path***fontlib**

| **Usage Guidelines**
- You can use this attribute to locate default resources or color mapping tables.
- Infoprint searches resource paths in this order:
    1. **resource-context-user** document attribute
    2. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** document attribute, as appropriate for the type of resource.
    3. **resource-context** document attribute
    4. **PSFPATH** environment variable
    5. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** actual destination attribute, as appropriate for the type of resource
    6. **resouce-context** actual destination attribute
    7. With AIX:
        a. **/usr/lpp/psf/reslib**
        b. **/usr/lpp/afpfonts**
        c. **/usr/lpp/psf/fontlib**
    8. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
        a. *install_path***reslib**
        b. *install_path***afpfonts**
        c. *install_path***fontlib**

| If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-font

| Defines the directory paths that Infoprint searches for fonts for the job.

| **GUI Label**
| Location of fonts

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter the name of a resource-context object or a text string up to 255 characters long that defines the directory path to the AFP resources. You can specify one or more paths for one resource context.

Syntax

path:path for AIX
path;path for Windows NT or Window 2000

Separate multiple paths with a colon on AIX or a semicolon on Windows NT or Window 2000.

Actual Destination

Default Value

With AIX, no default values, but Infoprint always searches **/usr/lpp/psf/reslib**.

With Windows NT or Windows 2000, no default values, but Infoprint always searches *install_path***reslib**.

Usage Guidelines

You can use this attribute to locate default resources or color mapping tables.

Infoprint searches resource paths in this order:
1. **resource-context-user** document attribute
2. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** document attribute, as appropriate for the type of resource
3. **resource-context** document attribute
4. **PSFPATH** environment variable
5. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** actual destination attribute, as appropriate for the type of resource
6. **resource-context** actual destination attribute
7. With AIX:
   a. **/usr/lpp/psf/reslib**
   b. **/usr/lpp/afpfonts** for fonts
   c. **/usr/lpp/psf/fontlib** for fonts
8. With Windows NT or Windows 2000:
   a. *install_path***reslib**
   b. *install_path***afpfonts** for fonts
   c. *install_path***fontlib** for fonts

If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-form-definition

Defines the directory paths that Infoprint searches for the form definition for the job.

GUI Label

Location of form definitions

DSS

PSF, Email, Fax, Infoprint 2000

Type

Resettable, single-valued

Allowed Values

You can enter the name of a resource-context object or a text string up to 255 characters long that defines the directory path to form definitions. You can specify one or more paths for one resource context. In AIX, you can specify paths for file systems mounted to AIX, such as MVS data sets and VM minidisks.

Syntax

path:path for AIX
path;path for Windows NT or Window 2000

Separate path names with colons on AIX and semicolons on Windows NT or
Window 2000, for example:
- For AIX:

  /formdef:/dept123/form
- For Windows NT or Window 2000:

  \reslib\formdef;\dept123\form

Default Value
With AIX, no default values, but Infoprint always searches **/usr/lpp/psf/reslib**.

With Windows NT or Window 2000, no default values, but Infoprint always searches
*install_path***\reslib**.

Usage Guidelines
- You can use either the document or the actual destination **form-definition**
  attribute to specify the form definition.
- Infoprint searches paths in this order:
    1. **resource-context-user** document attribute
    2. **resource-context-form-definition** document attribute
    3. **resource-context** document attribute
    4. **PSFPATH** environment variable
    5. **resource-context-form-definition** actual destination attribute
    6. With AIX, **/usr/lpp/psf/reslib**
    7. With Windows NT or Window 2000, *install_path***\reslib**
- If Infoprint cannot find the resource because none of the paths contain the
  resource, it still processes the job and prints error messages at the end of the
  job. Infoprint reports the job as completed.

resource-context-overlay

Defines the directory paths that Infoprint searches for an overlay for the job.

GUI Label
Location of overlays

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter the name of a resource-context object or a text string up to 255
characters long that defines the directory path to overlays. You can specify one or
more paths for one resource context. You can specify paths for file systems
mounted to AIX, such as MVS data sets and VM minidisks.

Syntax

path:path for AIX
path;path for Windows NT or Window 2000

Actual Destination

Separate path names with colons on AIX, for example:

```
/overlay:/dept123/overlay
```

Separate path names with semicolons on Windows NT or Window 2000, for example:

```
\overlay;\dept123\overlay
```

Default Value

With AIX, no default values, but Infoprint always searches **/usr/lpp/psf/reslib**.

With Windows NT or Window 2000, no default values, but Infoprint always searches *install_path***reslib**.

Usage Guidelines

- You use a form definition for the job to specify the overlay.
- Infoprint searches paths in this order:
  1. **resource-context-user** document attribute
  2. **resource-context-overlay** document attribute
  3. **resource-context** document attribute
  4. **PSFPATH** environment variable
  5. **resource-context-overlay** actual destination attribute
  6. With AIX, **/usr/lpp/psf/reslib**
  7. With Windows NT or Window 2000, *install_path***reslib**
- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints an error messages at the end of the job. Infoprint reports the job as completed.

resource-context-page-definition

Defines the directory paths that Infoprint searches for a page definition for the job.

GUI Label

Location of page definitions

DSS

PSF, Email, Fax, Infoprint 2000

Type

Resettable, single-valued

Allowed Values

You can enter the name of a resource-context object or a text string up to 255 characters long that defines the directory path to page definitions. You can specify one or more paths for one resource context. You can specify paths for file systems mounted to AIX, such as MVS data sets and VM minidisks.

Syntax

path:path for AIX
path;path Windows NT or Window 2000

Separate path names with colons on AIX, for example:

```
/pagedef:/dept123/page-definition
```

Separate path names with semicolons on Windows NT or Window 2000, for example:

```
\pagedef;\dept123\page-definition
```

Default Value
With AIX, no default values, but Infoprint always searches **/usr/lpp/psf/reslib**.

With Windows NT or Windows 2000, no default values, but Infoprint always searches *install_path***reslib**.

Usage Guidelines
- You use the **page-definition** document attribute to specify the page definition for the job.
- Infoprint searches paths in this order:
  1. **resource-context-user** document attribute
  2. **resource-context-page-definition** document attribute
  3. **resource-context** document attribute
  4. **PSFPATH** environment variable
  5. **resource-context-page-definition** actual destination attribute
  6. With AIX, **/usr/lpp/psf/reslib**
  7. With Windows NT or Window 2000, *install_path***reslib**
- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-page-segment

Defines the directory paths that Infoprint searches for page segments for the job.

GUI Label
Location of page segments

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter the name of a resource-context object or a text string up to 255 characters long that defines the directory path to page segments. You can specify one or more paths for one resource context. You can specify paths for file systems mounted to AIX, such as MVS data sets and VM minidisks.

Syntax

path:path for AIX
path;path for Windows NT or Window 2000

Separate path names with colons on AIX, for example:

```
/pageseg:/dept123/page-segment
```

Separate path names with semicolons on Windows NT or Window 2000, for example:

```
/pageseg;/dept123/page-segment
```

Default Value
With AIX, no default values, but Infoprint always searches **/usr/lpp/psf/reslib**.

With Windows NT or Window 2000, no default values, but Infoprint always searches *install_path***reslib**.

Actual Destination

Usage Guidelines

- You specify the page segments within the job.

- Infoprint searches paths in this order:
    1. **resource-context-user** document attribute
    2. **resource-context-page-segment** document attribute
    3. **resource-context** document attribute
    4. **PSFPATH** environment variable
    5. **resource-context-page-segment** actual destination attribute
    6. For AIX, **/usr/lpp/psf/reslib**
    7. For Windows NT or Window 2000, *install_path***reslib**

- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

reverse-output

Indicates whether this actual destination should print jobs in reverse (last page first).

GUI Label
Print last page first

DSS
3170

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
false

Usage Guidelines
If you specify **true**, you may also wish to specify **true** for the document attribute **output-face-up** so that pages will be collated in the right order.

rip-ini-file

Identifies the default **.ini** file for this actual destination. This file contains default page setup values used to RIP files.

GUI Label
RIP ini file

DSS
3170

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 255 characters long that contains the full path name of the file.

Default Value
/usr/lpp/pd/bin/default.ini

rip-server

See **color-rip-servers**.

scanner-corrections-supported

Identifies the scanner calibration methods for which this actual destination supports correction.

GUI Label
Scanner corrections allowed

DSS
PSF (AIX Only)

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
   Ricoh420
   XeroxDocuimage620S
   none

Default Values
Ricoh420, **XeroxDocuimage620S**, **none**

Usage Guidelines
Infoprint compares the document attribute **scanner-correction** to this attribute for validation and scheduling.

scheduler-sort-primary-order

Identifies which of the schedulers specified by the **schedulers-supported** attribute Infoprint uses to determine how to schedule jobs.

GUI Label
Primary scheduler

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value
      Explanation
deadline
      Infoprint schedules jobs with the earliest deadline first.
fifo   Infoprint schedules jobs in the order they are submitted.
job-priority
      Infoprint schedules jobs in order of priority.
longest-job-first
      Infoprint schedules jobs in order of size, longest first.

Actual Destination

> **shortest-job-first**
>> Infoprint schedules jobs in order of size, shortest first.

> **Default Value**
> **job-priority**

scheduler-sort-secondary-order

> Identifies which of the schedulers specified by the **schedulers-supported** attribute Infoprint uses to determine how to break ties produced by the scheduler specified by the **scheduler-sort-primary-order** attribute. For example, if you normally schedule jobs by priority, you can specify that when two jobs have the same priority, Infoprint should schedule the shorter one first.

> **GUI Label**
> Secondary scheduler

> **DSS**
> All

> **Type**
> Resettable, single-valued

> **Allowed Values**
> You can enter one of these fixed values:

> *Fixed Value*
>> *Definition*
> **deadline**
>> Infoprint schedules jobs with the earliest deadline first.
> **fifo**   Infoprint schedules jobs in the order they are submitted.
> **job-priority**
>> Infoprint schedules jobs in order of priority.
> **longest-job-first**
>> Infoprint schedules jobs in order of size, longest first.
> **shortest-job-first**
>> Infoprint schedules jobs in order of size, shortest first.

> **Default Value**
> **fifo**

schedulers-supported

> Identifies the scheduling algorithms that this actual destination supports.

> **GUI Label**
> Schedulers allowed

> **DSS**
> All

> **Type**
> Non-settable, multi-valued

> **Allowed Values**
> Infoprint sets this value to these fixed values:

> *Fixed Value*
>> *Definition*

deadline
>   Infoprint schedules jobs with the earliest deadline first.

fifo   Infoprint schedules jobs in the order they are submitted.

job-priority
>   Infoprint schedules jobs in order of priority.

longest-job-first
>   Infoprint schedules jobs in order of size, longest first.

shortest-job-first
>   Infoprint schedules jobs in order of size, shortest first.

Default Values
deadline, **fifo**, **job-priority**, **longest-job-first**, **shortest-job-first**

screen-frequencies-supported

Identifies the screen frequencies used for printing halftones that this actual destination supports.

DSS
PSF (AIX Only)

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

>   **71**
>   **85**
>   **106**
>   **141**

Default Values
71, **85**, **106**, **141**

Usage Guidelines
Infoprint compares the document attribute **screen-frequency** to this attribute for validation and scheduling.

Note: The **halftones-supported** attribute provides more values for halftones than the **screen-frequency supported** attribute.

>   See "halftones-supported" on page 372 for more information..

separator-sheets-supported

Identifies the separator sheets that this actual destination supports.

GUI Label
Slip/Separator sheets allowed

DSS
AIX, PSF

Type
Resettable, multi-valued

Allowed Values
You can enter any of the following fixed values. For PSF only, you can enter a string up to 255 characters long that contains identifiers of auxiliary-sheet objects.

Actual Destination

Fixed Value	DSS	Explanation
accounting-log	PSF	This value is technically valid, but should not be used for separator sheets.
blank	PSF	The separator sheet is blank.
brief	PSF	The separator sheet style is brief.
full	PSF	The separator sheet style is full.
job-ticket	PSF	The job ticket is printed on the separator sheet.
none	AIX, PSF	No separator sheet prints.

Default Values

AIX   **none**

PSF   **accounting-log**, **blank**, **brief**, **full**, **job-ticket**, **none**, and the names of other defined auxiliary sheets which have legal PSF auxiliary sheet attributes.

Usage Guidelines

- PSF actual destinations can use auxiliary-sheet objects if they have valid **psf-exit-**_xxx_ values. AIX actual destinations print start and end sheets, but they do not use auxiliary-sheet objects.
- Because AIX actual destinations do not print separator sheets, the only valid value for them is **none**.
- Infoprint verifies that the value of the **printer-separator-sheet** attribute is a value of this attribute.
- You cannot delete a value from this attribute if the value you want to delete is the value of the **printer-separator-sheet** attribute.
- For PSF actual destinations, Infoprint sets this value dynamically to the names of all defined auxiliary sheets with legal attributes. You should never have to reset this value.

shared-printer-name

Specifies the names of the Infoprint gateway shared printer, if any, that forwards jobs to this destination.

GUI Label
Shared gateway printer

DSS
All with NT/2000 servers

Type
Resettable, single-valued

Allowed Values
Text name of a gateway shared printer.

Default Values
Derived from the actual destination name if the server's **auto-create-shared-printers** attribute is **true**; otherwise, no default.

Usage Guidelines
The **shared-printer-name** is automatically set by IBM when the gateway printers are automatically created.

sides

Indicates whether the printer device prints on one or two sides of the media.

GUI Label
Sides to print

DSS
PSF, Infoprint 2000, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter an integer value of **1** or **2**.

Default Values
If SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise:

PSF   **1**

Infoprint 2000
      2

Passthrough
      1

Usage Guidelines

- The value of the **sides** attribute must be one of the values of the **sides-supported** attribute.
- Infoprint uses sides specifications in this order:
  1. **sides** document attribute
  2. The sides specification in the form definition
  3. **sides** actual destination attribute

  Note: Because all IBM-supplied form definitions contain a sides specification, the **sides** actual destination attribute is used only with custom form definitions that do not contain a sides specification.

sides-supported

Indicates whether this actual destination supports printing on one or two sides of the media.

GUI Label
Sides allowed

DSS
AIX, BSD, PSF, 3170, Infoprint 2000, Passthrough

Type
Resettable, multi-valued

Allowed Values
You can enter an integer of 1 or 2.

Default Values
With AIX, PSF, and BSD, if SNMP communication is active, Infoprint queries the printer device and sets the values according to the response; otherwise, the default follows:

AIX   **1**

Actual Destination

> **BSD**   No default value
> **PSF (basic Infoprint administrator's GUI)**
>   **1**, **2**
> **PSF (advanced Infoprint administrator's GUI and command line)**
>   **1**
> **3170**   **1**, **2**
> **Passthrough**
>   **1**

Usage Guidelines

- You can use this attribute to restrict jobs sent to this actual destination according to the capacity of the output device or your policy for output device use.
- Infoprint compares the document attribute **sides** to this attribute for scheduling.
- If you specify a value for the **sides-supported** attribute, you deactivate the default that SMNP provides.

snmp-active

Indicates whether Infoprint has established Simple Network Management Protocol (SNMP) communications with the output device that this actual destination represents.

GUI Label
SNMP is acive

DSS
AIX, BSD, PSF, IPP, Passthrough

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:
   true
   false

Default Value
If you have defined a value for the **destination-tcpip-internet-address** attribute and Infoprint has established SNMP communication with the printer device, **true**; otherwise **false**.

snmp-community-name

Specifies the name of the SNMP community to which the printer device that this actual destination represents belongs.

GUI Label
Community name

DSS
AIX, BSD, PSF, IPP, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 255 characters long that contains the SNMP community name.

Default Value
public

Usage Guidelines
If the value of the **use-snmp** attribute is **false**, this attribute is ignored.

snmp-retry-count

Specifies the number of times, after an initial failure, that Infoprint should attempt to establish SNMP communication with the printer device that this actual destination represents.

GUI Label
Number of times to retry

DSS
AIX, BSD, PSF, IPP, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
2

Usage Guidelines
- If the value of the **use-snmp** attribute is **true**, and if you have defined a value for the **destination-tcpip-internet-address** attribute, Infoprint attempts to establish SNMP communication with the printer device when:
  - The actual destination is created.
  - Any of the SNMP attributes of the actual destination are changed,
  - The actual destination is enabled and the value of the **snmp-active** attribute is **false**.
  - The server is started.
- If the value of the **use-snmp** attribute is **false**, this attribute is ignored.

snmp-timeout

Specifies the number of seconds that Infoprint should wait for SNMP operations on the printer device that this actual destination represents to complete.

GUI Label
Timeout (sec)

DSS
AIX, BSD, PSF, IPP, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
5

Actual Destination

Usage Guidelines
- Set a value of **0** to use the SNMP default timeout period.
- If the value of the **use-snmp** attribute is **false**, this attribute is ignored.

start-message-supported

Indicates whether the actual destination supports the job attribute **job-start-message**.

GUI Label
Send job start message

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
- When you set this attribute value to **true**, operators can receive messages that users specify with the **job-start-message** job attribute when they submit the job. Infoprint sends the message to the operators specified by the **notify-operator** attribute for this actual destination when the job starts printing. Sending a start message does not stop the job from printing; normally the job prints without operator intervention.
- Infoprint compares the job attribute **job-start-message** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

start-sheets-supported

Identifies the start sheets that this actual destination supports.

GUI Label
Start sheets allowed

DSS
AIX, PSF, 3170, IPP, Passthrough

Type
Resettable, multi-valued

Allowed Values
You can enter any of the following fixed values. For PSF only, you can enter a string up to 255 characters long that contains identifiers of auxiliary-sheet objects.

Fixed Value	DSS	Explanation
accounting-log	PSF	This value is technically valid, but should not be used for start sheets.

Fixed Value	DSS	Explanation
blank	PSF	The start sheet is blank.
brief	AIX, PSF, IPP, Passthrough	The start sheet style is brief.
full	AIX, PSF, 3170, IPP, Passthrough	The start sheet style is full.
job-ticket	PSF	The job ticket is printed on the start sheet.
none	AIX, PSF, 3170, IPP, Passthrough	No start sheet prints.

Default Values

AIX, IPP, Passthrough
> **brief**, **full**, **none**

PSF **accounting-log**, **blank**, **brief**, **full**, **job-ticket**, **none**, and the names of other defined auxiliary sheets which have legal PSF auxiliary sheet attributes.

3170 **full**, **none**

Usage Guidelines

- PSF actual destinations can use auxiliary-sheet objects if they have valid **psf-exit-***xxx* values. AIX actual destinations print start and end sheets, and 3170 actual destinations print start sheets; but they do not use auxiliary-sheet objects.

- Infoprint verifies that the value of the **printer-start-sheet** attribute is a value of this attribute.

- You cannot delete a value from this attribute if the value you want to delete is the value of the **printer-start-sheet** attribute.

- For PSF actual destinations, Infoprint sets this value dynamically to the names of all defined auxiliary sheets with legal attributes. You should never have to reset this value.

table-reference-characters-supported

Indicates whether this actual destination supports table reference characters. Some line-data applications produce table reference characters to specify font changes.

GUI Label
Table reference characters allowed

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
true

Actual Destination

Usage Guidelines

- Infoprint compares the document attribute **table-reference-characters** to this attribute for scheduling.
- You can use this attribute to restrict use of this actual destination.

timeout-period

See **printer-timeout-period**.

transform-sequence

Specifies a list of names of transform objects that make up the transform sequence for this actual destination. The order of the values in this attribute determines the order that the transforms are run.

GUI Label
Transforms to use

DSS
All with NT/2000 servers

Type
Resettable, multi-valued

Allowed Values
Names of the transform objects.

Default Values
None.

use-snmp

Indicates whether Infoprint should attempt SNMP communication with the output device that this actual destination represents.

GUI Label
Use SNMP

DSS
AIX, BSD, PSF, IPP, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
If Infoprint fails to establish SNMP contact with an output device, it uses the **ping** command to test whether it is possible to communicate with the device in other ways. If the **ping** command succeeds, Infoprint concludes that the device is not an SNMP device and resets this attribute to **false**.

wait-for-job-completion

Indicates whether Infoprint Manager waits for the job to print completely before reporting the job as completed or reports the job as completed as soon as all the data has been sent to the printer.

DSS
AIX

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true when the printer and backend support PJL USTATUS; or **false** when the printer or the backend do not support PJL USTATUS.

Usage Guidelines
- This attribute can be used to activate or deactivate reporting of job completion.

  Note: There is a new backend program called pioinfo for use with printers that can be used in place of the piojetd backend program. For example, **destination-command=/usr/lpd/pio/etc/pioinfo** *ip_address*, where *ip_address* is the ip address of the printer.
- There is a performance trade-off when you use this attribute: if you choose **true**, your printer performance may be reduced slightly; and when you choose **false**, the job completion messages are not accurate.

warning-message

Provides information about printer device conditions that require attention but allow printing to continue, such as low paper or low toner.

GUI Label
Warning message

DSS
AIX, BSD, PSF, IPP, Passthrough

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to a text string that contains the message information.

Default Value
No default value

Usage Guidelines
Infoprint uses this attribute only when SNMP communication is active with the printer device.

Actual Destination

windows-nt-driver-names

Identifies the 32-bit Windows print drivers that can submit a data stream to this actual destination.

GUI Label
Windows drivers

DSS
IPP, Passthrough

Type
Resettable, multi-valued

Input Synonyms
You can use the synonym **windows-nt-drivers** or **nt-drivers**.

Allowed Values
You can enter a text string that contains the string form of the Windows print driver for each permitted Windows print driver. Begin and end the string with single quotation marks.

Default Values
No default values

Usage Guidelines
Perform the following procedure to determine the valid Windows driver names:

1. Select **My Computer** from the desktop.
2. Select and open the **Control Panel** icon.
3. Select and open the **Printers** icon,
4. Select and open the **Add Printer** icon.
5. The values listed in the **Printers:** list box in the **Add Printer Wizard** are the names of the Windows destination drivers that you can install on the workstation; for example, **IBM 4039 LaserPrinter PS**.

Notes:

1. Other destination drivers are available and may not display in the list for a particular workstation.
2. If you will be submitting jobs from the Windows client to a PSF actual destination, you should select a generic destination driver, such as a PostScript driver, instead of one for a specific type of destination. Otherwise, the driver may generate device-specific data streams that Infoprint cannot transform correctly.

x-image-shift-range-supported

Specifies, in millimeters, the lower and upper numeric boundaries for the X offset of a page. The X offset, along with the Y offset, sets the origin of the logical page on the physical page.

GUI Label
Move image right (inches) or (mm)

DSS
PSF, 3170, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, complex

Syntax

lower-limit:upper-limit

Separate values with colons, for example,
`1:10`

Components

lower-limit: Defines the minimum amount of image shift that you can specify with the document or default document attribute **x-image-shift** or **x-image-shift-back**.

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm. The unit of measure is millimeters.

Default Value: **0**

upper-limit: Defines the maximum amount of image shift that you can specify with the document or default document attribute **x-image-shift** or **x-image-shift-back**.

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm. The unit of measure is millimeters.

Default Value: **577.97 mm**

Usage Guidelines
- Infoprint compares the document attributes **x-image-shift** and **x-image-shift-back** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

y-image-shift-range-supported

Specifies, in millimeters, the lower and upper numeric boundaries for the Y offset of a page. The Y offset, along with the X offset, sets the origin of the logical page on the physical page.

GUI Label
Move image down (inches) or (mm)

DSS
PSF, 3170, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, complex

Syntax

lower-limit:upper-limit

Separate values with colons, for example,
`1:20`

Components

lower-limit: Defines the minimum amount of image shift that you can specify with the document or default document attribute **y-image-shift** or **y-image-shift-back**.

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm. The unit of measure is millimeters.

Default Value: **0**

upper-limit:

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm. The unit of measure is millimeters.

Default Value: **577.97 mm**

Usage Guidelines
- Infoprint compares the document attributes **y-image-shift** and **y-image-shift-back** to this attribute for validation and scheduling.
- You can use this attribute to restrict use of this actual destination.

Attributes for Auxiliary-Sheet Objects

An auxiliary-sheet object represents:

- An auxiliary sheet that prints with a job sent to a PSF actual destination
- An exit program that generates information about the job for printing on an auxiliary sheet or writing to an accounting log or an audit log

An auxiliary sheet is a sheet of paper that prints at the beginning or end of output, or separating different parts of the output. The auxiliary sheet may have information printed on it identifying the output or may be blank.

The PSF DSS uses the names of auxiliary-sheet objects as values for actual destination attributes, such as **accounting-exit**, **audit-exit**, **start-sheets-supported**, and **printer-start-sheet**. The fax and email DSSs use the names of auxiliary-sheet objects as values for the **accounting-exit** and **audit-exit** actual destination attributes. AIX actual destinations print start and end sheets, and 3170 actual destinations print start sheets; but they do not use auxiliary-sheet objects.

Initially Settable Attribute Listing

There are no initially settable attributes for auxiliary-sheet objects.

Resettable Attribute Listing

You can set these attributes with the **pdcreate** command when you create an auxiliary-sheet object or you can modify them with the **pdset** command after you create the object.

> **descriptor**
> **psf-exit-form-definition**
> **psf-exit-page-mark**
> **psf-exit-program-name**

associated-server

Indicates the name of the server where this auxiliary sheet resides.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value when you create an auxiliary sheet for a given server. Infoprint assigns the *ServerName* portion of the argument from the **pdcreate** command used to create this auxiliary sheet object.

Default Value
No default value

auxiliary-sheet-identifier

Identifies the auxiliary sheet ID.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value when you create an auxiliary sheet for a given server. Infoprint sets this value to the *AuxiliarySheet* portion of the argument used with the **pdcreate** command when this auxiliary sheet object was created. The value of this attribute must be unique within the server.

Default Value
No default value

descriptor

Provides a description of this auxiliary sheet.

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that describes this auxiliary sheet.

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description of this auxiliary sheet might be useful to other users or to someone who needs to modify its contents.

object-class

Identifies the object class to which this object belongs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **auxiliary-sheet**.

Default Value
auxiliary-sheet

psf-exit-form-definition

Sets the form definition to use when printing this auxiliary sheet.

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 255 characters that contains the name of the form definition. See "Appendix D. Form Definitions and Page Definitions Supplied with Infoprint" on page 699 for a list of available form definitions.

Default Value
No default value

Usage Guidelines
A form definition defines the placement of the data on the auxiliary sheet and other formatting information, such as a printer device bin number. You can use the form definition to select a bin for the auxiliary sheet that is different from the bin used for jobs. For example, you can print auxiliary sheets on a different colored paper than used for the jobs.

psf-exit-page-mark

Specifies whether you want page marks (black marks at the extreme edge of the page used for sorting) to print on this auxiliary sheet.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
false	**no**
true	**yes**

Default Value
No default value

Usage Guidelines
Page marks are useful for printer devices that cannot perform offset stacking, such as continuous form printers. The marks allow printer operators to see the boundaries of jobs.

psf-exit-program-name

Sets the name of the exit program used to generate this auxiliary sheet.

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that contains a name of a user exit program, an empty string, or no value.

Names of some user exit programs that you can use with AIX:

Accounting:
/usr/psf/bin/ainuxacc2
        Full style
/usr/psf/bin/ainuxacc
        Brief style
/usr/ps/bin/ainuxaccp
        Job ticket
/usr/lpp/psf/bin/ainacclog
        Log

Auditing:
/usr/lpp/psf/bin/ainuxaud2
        Full style
/usr/lpp/psf/bin/ainuxaud
        Brief style
/usr/lpp/psf/bin/ainuxaudp
        Job ticket
/usr/lpp/psf/bin/ainaudlog
        Log

Start Sheets:
/usr/lpp/psf/bin/ainuxhdr2
        Full style
/usr/lpp/psf/bin/ainuxhdr
        Brief style
/usr/lpp/psf/bin/ainuxhdrp
        Job ticket

/usr/lpp/psf/bin/ainuxhdrx
Start sheet without vertical lines for IBM 64*xx* printers
/usr/lpp/psf/bin/pduxblkh
Blank

Separator Sheets:
/usr/lpp/psf/bin/ainuxsep2
Full style
/usr/lpp/psf/bin/ainuxsep
Brief style
/usr/lpp/psf/bin/ainuxsepp
Job ticket
/usr/lpp/psf/bin/ainuxsepx
Separator sheet without vertical lines for IBM 64*xx* printers
/usr/lpp/psf/bin/pduxblks
Blank

End Sheets:
/usr/lpp/psf/bin/ainuxtlr2
Full style
/usr/lpp/psf/bin/ainuxtlr
Brief style
/usr/lpp/psf/bin/ainuxtlrp
Job ticket
/usr/lpp/psf/bin/ainuxtlrx
End sheet without vertical lines for IBM 64*xx* printers
/usr/lpp/psf/bin/pduxblkt
Blank

Input Data:
/usr/lpp/psf/bin/ainuxind
This example does not perform any tasks. Use it as a model for writing your own user exit program.

Output Data:
/usr/lpp/psf/bin/ainuxout
This example does not perform any tasks. Use it as a model for writing your own user exit program.

Names of some user exit programs that you can use with Windows NT or Window 2000: In these names, *install_path* indicates the path where you installed Infoprint Manager:

Accounting:
*install_path***bin\ainuxacc2**
Full style
*install_path***bin\ainuxacc**
Brief style
*install_path***bin\ainuxaccp**
Job ticket
*install_path***bin\ainacclog**
Log

Auditing:
*install_path***bin\ainuxaud2**
Full style

*install_path***bin\ainuxaud**
    Brief style
*install_path***bin\ainuxaudp**
    Job ticket
*install_path***bin\ainaudlog**
    Log

Start Sheets:
*install_path***bin\ainuxhdr2**
    Full style
*install_path***bin\ainuxhdr**
    Brief style
*install_path***bin\ainuxhdrp**
    Job ticket
*install_path***bin\ainuxhdrx**
    Start sheet without vertical lines
*install_path***bin\pduxblkh**
    Blank

Separator Sheets:
*install_path***bin\ainuxsep2**
    Full style
*install_path***bin\ainuxsep**
    Brief style
*install_path***bin\ainuxsepp**
    Job ticket
*install_path***bin\ainuxsepx**
    Separator sheet without vertical lines
*install_path***bin\pduxblks**
    Blank

End Sheets:
*install_path***bin\ainuxtlr2**
    Full style
*install_path***bin\ainuxtlr**
    Brief style
*install_path***bin\ainuxtlrp**
    Job ticket
*install_path***bin\ainuxtlrx**
    End sheet without vertical lines
*install_path***bin\pduxblkt**
    Blank

Input Data:
*install_path***bin\ainuxind**
    This example does not perform any tasks. Use it as a model for writing your
    own user exit program.

Output Data:
*install_ path***bin\ainuxout**
    This example does not perform any tasks. Use it as a model for writing your
    own user exit program.

Default Value
No default value

Usage Guidelines

- If the attribute has:

    No value

    The auxiliary sheet does not print.

    An empty string ('')

    Infoprint uses the default user exit program:

Accounting	For AIX, **/usr/lpp/psf/bin/ainacclog**; for Windows NT or Window 2000, *install_path***bin\ainacclog**
Audit	No default program
Start sheet	For Aix, **/usr/lpp/psf/bin/ainuxhdr**; for Windows NT or Window 2000, *install_path***bin\ainuxhdr**
Separator sheet	
	No default program
End sheet	No default program
Input data	No default program
Output data	No default program

    Any other value

    Infoprint uses the specified user exit program to generate auxiliary sheets.

- While you can specify only one user exit program as a value for this attribute, the default auxiliary-sheet objects can invoke any of a set of user exit programs. For example with AIX, the **brief** default auxiliary-sheet object invokes **/usr/lpp/psf/bin/ainuxacc** for accounting exits, **/usr/lpp/psf/bin/ainuxaud** for audit exits, **/usr/lpp/psf/bin/ainuxhdr** for start sheets, **/usr/lpp/psf/bin/ainuxsep** for separator sheets, and **/usr/lpp/psf/bin/ainuxtlr** for end sheets. For example with Windows NT or Window 2000, the **brief** default auxiliary-sheet object invokes *install_path***bin\ainuxacc** for accounting exits, *install_path***bin\ainuxaud** for audit exits, **\bin\ainuxhdr** for start sheets, *install_path***bin\ainuxsep** for separator sheets, and *install_path***bin\ainuxtlr** for end sheets.

Attributes for Documents and Default Documents

This section contains the attributes for both documents and default documents.

Document

An Infoprint document represents a grouping of data within a job. A job can contain one or more documents. The documents in a job can differ from each other in some ways. For example, they can contain different data. A document within a job can contain printable data or a resource that is not printable by itself.

Default Document

Use default documents to set default values for document attributes.

Default documents contain two types of attributes:
- Attributes that describe the default document itself
- Attributes that you can set as default values for document attributes

Attributes Not Displayed in the Infoprint Administrator's GUI

While all document and default document attributes and attribute values are supported for both basic and advanced Infoprint installations, neither Infoprint administrator's GUI displays a complete set.

- The basic Infoprint administrator's GUI displays only the attributes of greatest interest to Print on Demand (Commercial Printing) Infoprint administrators.
- The advanced Infoprint administrator's GUI displays most attributes and attribute values of greatest interest to Data Center (Production Printing) Infoprint administrators, but omits a few that are used primarily in basic Infoprint installations.

You can list the values of attributes not displayed in the Infoprint administrator's GUI using the **pdls** command or the **pdq** command. You can set the values of initially settable and resettable attributes using the **pdcreate** command or the **pdpr** command. You can change the values of resettable attributes using the **pdmod** command or the **pdset** command.

Initially Settable Attribute Listing

You can set these attributes with the **pdpr** command when you create a document.
> **document-file-name**
> **document-type**
> **initial-value-document**
> **transfer-method**

There are no initially settable attributes for default documents.

Resettable Attribute Listing

You can set these attributes with the **pdpr** command when you create a document or with the **pdcreate** command when you create a default document. You can modify them with the **pdset** command after you create the document or the default document. You can also modify them for the document using the **pdmod** command.
> **account-text**
> **address1-text**
> **address2-text**
> **address3-text**
> **address4-text**

Document/Default Document

base-printer
bits-per-spot
black-overprint
building-text
callback-number
carriage-control-type
chars
cms-proclink
cms-product
compressed-output
content-orientation
control-strip
convert-to-ebcdic
copy-count
data-fidelity-problem-reported
default-character-mapping
default-input-tray
default-medium
default-printer-resolution
department-text
descriptor (default document only)
destination-company-text
destination-pass-through
document-comment
document-finishing
document-format
dot-shape
email-from-address
email-to-address
enable-settrap
fax-number
fax-to-name
font-fidelity-action
font-processing-messages
font-resolution
form-definition
halftone
image-center-x
image-center-y
image-fit
image-length
image-out-format
image-scale
image-width
input-exit
input-tray-select
jog-between-job-copies
list-of-managers (default document only)
maximum-messages-printed
maximum-transform-pages-ahead
message (default document only)
mvs-class
mvs-destination
mvs-forms
mvs-segment-id
name-text

new-line-option
node-id-text
number-up (document only)
originating-company-text
other-transform-options
output-appearance
output-bin
output-face-up
output-format
overlay
overlay-front
overlay-back
overprint
page-clip
page-count (document only)
page-definition
page-media-select
page-select (document only)
plex
print-quality
programmer-text
resource-context
resource-context-font
resource-context-form-definition
resource-context-overlay
resource-context-page-definition
resource-context-page-segment
resource-context-user
resource-exit
room-text
scanner-correction
screen-frequency
segment-file-size
shared-formdef
shift-out-shift-in
sides
start-on-new-sheet
subject-text
table-reference-characters
title-text
transform-message-file-name
transform-output-file-name
user-id-text
x-image-shift
x-image-shift-back
y-image-shift
y-image-shift-back

Per-Document Attribute Listing

These attributes can have a different value for each document in a job. For initially
settable and resettable per-document attributes, you can specify a different value
for each document in a job using the **pdpr** command. Specify **-x**
"*AttributeName*=*value*" before the name of each file.

Document/Default Document

For example, to print a job consisting of two documents, one with an estimated size of 10 pages and the other with an estimated size of 15 pages, enter:

```
pdpr -x "page-count=10" -f File1 -x "page-count=15" File2
```

Note: All documents in a job must have the same value for all initially settable and resettable attributes if
  • The job is submitted from tape
  • The documents are in ASCII format

Initially Settable	*Resettable*	*Non-Settable*
document-type	black-overprint	document-content
	carriage-control-type	document-content-list
	chars	document-sequence-number
	cms-proclink	initial-value-document
	cms-product	octet-count
	compressed-output	
	content-orientation	
	convert-to-ebcdic	
	copy-count	
	default-input-tray	
	default-medium	
	document-finishing	
	document-format	
	dot-shape	
	enable-settrap	
	image-center-x	
	image-center-y	
	image-fit	
	image-length	
	image-out-format	
	image-scale	
	image-width	
	input-exit	
	medium-map-name	
	new-line-option	
	other-transform-options	
	output-appearance	
	output-bin	
	output-face-up	
	overprint	
	page-clip	
	page-count	
	page-definition	
	page-select	
	plex	
	print-quality	
	resource-context-page-definition	
	resource-context-user	
	resource-exit	
	sides	
	scanner-correction	
	screen-frequency	
	shift-out-shift-in	
	start-on-new-sheet	
	table-reference-characters	
	transform-message-file-name	
	transform-output-file-name	
	x-image-shift	
	x-image-shift-back	
	y-image-shift	
	y-image-shift-back	

All other document attributes are per-job attributes. They must have the same value
for each document in the job.

account-text

Specifies account information that Infoprint prints in the **ACCOUNT:** field of an
auxiliary sheet if the job uses the **full** auxiliary-sheet object.

Document/Default Document

GUI Label
Account

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the account information.

Default Value
No default value

Usage Guidelines
• While you can specify more characters, you should limit the text string you supply to 20 characters or less to ensure that there is enough room available on the printed page for all of the account information.
• If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

address1-text

Specifies address information that Infoprint prints on the first line of the **ADDRESS:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

For Fax, this attribute maps to a user-defined customizable field.

GUI Label
Address line 1

DSS
PSF, Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the address information.

Default Value
No default value

Usage Guidelines
• While you can specify more characters, you should limit the value you supply to 57 characters or less to ensure that there is enough room available on the printed page for all address information.
• If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

address2-text

Specifies address information that Infoprint prints on the second line of the **ADDRESS:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

For Fax, this attribute maps to a user-defined customizable field.

GUI Label
Address line 2

DSS
PSF, Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the address information.

Default Value
No default value

Usage Guidelines
- While you can specify more characters, you should limit the value you supply to 57 characters or less to ensure that there is enough room available on the printed page for all address information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

address3-text

Specifies address information that Infoprint prints on the third line of the **ADDRESS:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

For Fax, this attribute maps to a user-defined customizable field.

GUI Label
Address line 3

DSS
PSF, Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the address information.

Default Value
No default value

Usage Guidelines
- While you can specify more characters, you should limit the value you supply to 57 characters or less to ensure that there is enough room available on the printed page for all address information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

address4-text

Specifies address information that Infoprint prints on the fourth line of the **ADDRESS:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

For Fax, this attribute maps to a user-defined customizable field.

Document/Default Document

GUI Label
Address line 4

DSS
PSF, Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the address information.

Default Value
No default value

Usage Guidelines
- While you can specify more characters, you should limit the value you supply to 57 characters or less to ensure that there is enough room available on the printed page for all address information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

associated-server (Default Document Only)

Indicates the name of the server in which this default document resides.

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *ServerName:* portion of the argument used with the **pdcreate** command when this default document is created.

Default Value
No default value

base-printer

Indicates the printer model you want to RIP the document for.

GUI Label
RIP for

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:
>   **InfoprintColor100AFP**
>   **Infoprint20**
>   Infoprint32
>   **Infoprint40**
>   **Infoprint60**

| Infoprint2000
| Infoprint3000
| Infoprint4000

Default Value

The value of the **printer-model** attribute for the actual destination where the document prints.

Usage Guidelines

You can RIP a document for a different printer than you actually print it on. This is useful for printing proof documents.

bits-per-spot

| Specifies the number of bits used to describe the gray value for each pixel.

| **GUI Label**
| Bits per spot

DSS
| 3170

| **Type**
| Non-settable, single-valued, per-job

Allowed Values

You can enter an integer value of **2** or **4**.

Default Value

No default value

Usage Guidelines

- A value of **2** means that each pixel can have one of four levels of gray from 0 to maximum density. A value of **4** means that each pixel can have one of sixteen levels of gray from 0 to maximum density.
- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

black-overprint

| Indicates whether to print black over colors.

| **GUI Label**
| Black overprint

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values

You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value

No default value

Usage Guidelines

- Specify **true** to print a colored background with black over it. Specify **false** to omit colors from areas where black will be printed.
- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

building-text

Specifies building information that Infoprint prints in the **BUILDING:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label

Building

DSS

PSF

Type

Resettable, single-valued, per-job

Allowed Values

You can enter a text string of up to 4095 characters that contains the building information.

Default Value

No default value

Usage Guidelines

- While you can specify more characters, you should limit the value you supply to 24 characters or less to ensure that there is enough room available on the printed page for all building information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

callback-number

Specifies the callback telephone number that appears on the cover sheet of a fax job.

DSS

Fax

Type

Resettable, single-valued, per-job

Allowed Values

You can enter a text string up to 4096 characters long that contains the telephone number.

Default Value

No default value

carriage-control-type

Identifies the type of carriage control characters that the printer device uses when interpreting and printing this document.

GUI Label

Type of carriage control characters

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:
> **ansi-ascii**
> **ansi-ebcdic**
> **machine**
> **none**

Default Value
none

Usage Guidelines
* Infoprint validates and schedules jobs using this attribute against the destination attribute **carriage-control-types-supported**.
* This attribute is valid only for line-data documents.

chars

Identifies from zero to four coded fonts used to print a line-data document.

Coded fonts are character set and code page pairs. Coded font names begin with a two-character prefix (X0 or XZ), followed by up to four alphanumeric characters. `X042B2` is an example of a coded font name.

GUI Label
Fonts

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, multi-valued, per-document

Allowed Values
You can enter a text string that contains the name or global ID of the fonts. The name of each font can be one to four characters long. Omit the two-character prefix from the coded font name or the alternate coded font name.

For the names of coded fonts, refer to *IBM AFP Fonts: Font Summary*.

If you specify more than one coded font on the command line, separate the font names by spaces and surround the attribute and value with double quotation marks, for example:

```
"chars=GT10 GT12"
```

If you specify more than one coded font in the Infoprint administrator's GUI, separate the font names by commas, for example:

```
GT10,GT12
```

Default Value
No default value

Usage Guidelines

- This attribute is valid only for line-data documents.

- If the page definition does not identify fonts, you must specify fonts with this attribute if you want to print in more than one font.

- If you specify more than one coded font with the **chars** attribute, the file must contain table reference characters and you must specify the **table-reference-characters** attribute value as **true**.

- Infoprint uses this attribute only if the page definition specifies no coded fonts. If you specify fonts with this attribute and the page definition also specifies fonts, Infoprint uses the fonts named in the page definition.

cms-proclink

Identifies the translation table used by the Xeikon color correction program.

GUI Label
Translation table

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

matchp_ndtg2xkn_2
> Match print, normal dot gain, 2 bits per spot

matchp_ndtg2xkn_4
> Match print, normal dot gain, 4 bits per spot

swop_crom2xkn_2
> SWOP Cromalin, 2 bits per spot

swop_crom2xkn_4
> SWOP Cromalin, 4 bits per spot

Default Value
No default value

Usage Guidelines

- To enable Xeikon color correction, specify a value of **xeikon** for the **cms-product** attribute or in the file specified by the **rip-ini-file** actual destination attribute.

- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

cms-product

Identifies the color correction program.

GUI Label
Color correction

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:
   xeikon

Default Value
No default value

Usage Guidelines
- When Xeikon color correction is enabled, you must specify a translation table using the **cms-proclink** attribute or in the file specified by the **rip-ini-file** actual destination attribute.
- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

color-mapping-table

Identifies the color mapping table (CMT) to be used when printing this document.

GUI Label
Color mapping table

DSS
PSF

Type
Resettable, single-valued, per-job attribute.

Allowed Values
You can enter a text string of up to 8 characters that contains the identification for this resource.

Default Value
There is no default value. If you omit this attribute or it contains no value, Infoprint uses the color mapping table defined by the actual destination **color-mapping-table** attribute, if any.

compressed-output

Indicates whether to compress the RIPped file.

GUI Label
Compress output

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
No default value

Usage Guidelines

If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

content-orientation

Identifies the page presentation (the placement of data on a page) for the document.

GUI Label

Orientation

DSS

AIX, 3170

Type

Resettable, single-valued, per-document

Input Synonym

You can use the synonym **orientation**.

Allowed Values

You can enter one of these fixed values:

   landscape
   portrait
   reverse-portrait
   reverse-landscape

Default Value

AIX   The first value of the destination attribute **content-orientations-supported**
3170   No default value

Usage Guidelines

• Infoprint validates and schedules jobs using this attribute against the destination attribute **content-orientations-supported**.

• For the 3170 DSS, if you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

control-strip

Specifies the control strip to print with this document.

GUI Label

Control strip

DSS

3170

Type

Resettable, single-valued, per-job

Allowed Values

You can enter a text string of up to 255 characters that contains the name of the control strip.

Default Value

No default value

Usage Guidelines

• The control strip must be pre-RIPped and must reside in the collator.

• If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

convert-to-ebcdic

Indicates whether to convert this file from ASCII to EBCDIC before the document prints.

GUI Label
Convert to EBCDIC

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value

Usage Guidelines

• Infoprint validates and schedules jobs using this attribute against the destination attribute **convert-to-ebcdic-supported**.

• This attribute is valid only for line-data documents.

copies

See **copy-count**.

copy-count

Specifies the number of document copies printed per job copy.

GUI Label
Copy count

DSS
All

Type
Resettable, single-valued, per-document

Input Synonym
You can use the synonym **copies**.

Allowed Values
You can enter an integer from 1 through 2147483647.

Default Value
1

Usage Guidelines

- Infoprint validates and schedules jobs using this attribute against the destination attribute **maximum-copies-supported**.
- This attribute is not valid for AFP documents with inline resources. To print multiple copies of these documents, use the *job-copies* component of the **results-profile** job attribute.
- For BSD (by default), this document attribute maps to the **qprt -N** option.

data-fidelity-problem-reported

Indicates the type of data fidelity problems, print-positioning or invalid-character errors, that the destination reports while printing this document.

GUI Label
Data fidelity problem reported

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:

Fixed Value	Report
all	Both print-positioning and invalid-character errors
character	Only invalid-character errors
none	No errors
position	Only print-positioning errors

Default Value
none

Usage Guidelines
Infoprint validates and schedules jobs using this attribute against the destination attribute **data-fidelity-problem-reported-supported**.

default-character-mapping

Defines the character-mapping (codepage) used while printing an ASCII or double-byte character set (DBCS) ASCII document.

GUI Label
Default character mapping

DSS
AIX, PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:
> **ibm-437**
> **ibm-850**
> **ibm-860**
> **ibm-863**
> **ibm-865**

ibm-932

| **ibm-938** for Infoprint Manager for AIX only

ibm-euccn

ibm-eucjp

ibm-euckr

ibm-euctw

Default Value
No default value

Usage Guidelines
Infoprint validates and schedules jobs using this attribute against the destination attribute **character-mappings-supported**.

default-input-tray

Identifies an input-tray on the printer device that contains the medium that Infoprint | uses for normal document pages.

| ### GUI Label
| Input tray requested

DSS
AIX, PSF, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
| For AIX actual destinations, use one of these values:

| **auto-envelope-feed** | **manual-envelope-feed**
| **automatic-tray** | **middle**
| **auxiliary-envelope** | **top**
| **auxiliary-paper** | **tray-1**
| **bottom** | **tray-2**
| **continuous-form-feed** | **tray-3**
| **current-selected-tray** | **tray-4**
| **envelope** | **tray-5**
| **large-capacity** | **capacity-2000-sheet**
| **manual**

| For PSF and Infoprint 2000 actual destinations, you can enter one of these values or any other value that maps to one of the actual destination **psf-tray-characteristics** attribute values.

Default Value
No default value

Usage Guidelines
- Infoprint validates and schedules jobs using this attribute against the destination attribute **input-trays-supported**.
- For AIX actual destinations, any input tray selection in the data stream or form definition overrides the value you specify for this attribute.
- For PSF actual destinations, the value you specify for this attribute overrides any input tray selection in the data stream or form definition, with one exception. If you specify different values for this attribute for each document in a job, and also

Document/Default Document

specify a value for the document **form-definition** attribute, Infoprint ignores the different values and uses the input tray selection in the form definition.

- If this attribute and the **default-medium** attribute have conflicting values, Infoprint uses the value of the **default-medium** attribute.

default-medium

Identifies the medium for document pages on which this document prints.

GUI Label
Medium requested

DSS
AIX, PSF, 3170, Infoprint 2000, Passthrough, IPP

Type
Resettable, single-valued, per-document

Allowed Values

AIX   You can enter a text string of up to 255 characters that contains one of the values listed for the **medium-identifier** attribute for the medium object or a name of a medium you have created. Refer to the medium object **medium-identifier** attribute.

2000   You can specify any text string that is listed as a supported medium.

PSF   You can specify any text string that is listed as a supported medium.

Passthrough

The Passthrough DSS uses this attribute for job validation and scheduling only. It does not affect print output.

Default Value
No default value

Usage Guidelines

- Infoprint validates the document against the logical destination attribute **media-supported** and the actual destination attribute **media-supported**.
- Infoprint schedules the document against the actual destination attributes **media-supported** and **media-ready**.
- For AIX actual destinations, any medium selection in the data stream or form definition overrides the value you specify for this attribute.
- For PSF actual destinations, the value you specify for this attribute overrides any medium selection in the data stream or form definition, with one exception. If you specify different values for this attribute for each document in a job, and also specify a value for the document **form-definition** attribute, Infoprint ignores the different values and uses the medium selection in the form definition.
- If this attribute and the **default-input-tray** attribute have conflicting values, Infoprint uses the value of this attribute.
- ForInfoprint 2000 actual destinations, the value specified must map to an existing medium object.
- For the 3170 DSS, if you do not specify a value for this attribute, Infoprint uses the smallest medium that the image will fit on.

default-printer-resolution

Specifies the resolution, in pels, at which the printer device should print this document.

GUI Label
Printer resolution requested

DSS
PSF, 3170, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:

Fixed Value	*DSS*
240	PSF
300	PSF
480	PSF
600	PSF, 3170, Infoprint 2000

Default Value
PSF	**240**
3170	**600**
Infoprint 2000	
	600

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PCL, PDF, PostScript, and TIFF documents.
- This attribute applies only to image data. It has no effect on font resolutions.
- Infoprint validates jobs using this attribute against the destination attribute **printer-resolutions-supported**.
- Infoprint schedules jobs using this attribute against the destination attribute **printer-resolutions-ready**.

department-text

Specifies department information that Infoprint prints in the **DEPARTMENT:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label
Department

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the department information.

Default Value
No default value

Document/Default Document

Usage Guidelines
- While you can specify more characters, you should limit the value you supply to 24 characters or less to ensure that there is enough room available on the printed page for all department information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

descriptor (Default Document Only)

Provides a description of this default document.

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that describes this default document.

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description helps job submitters to determine if this is the default document they want to use.

destination-company-text

Specifies the name of the destination company that appears on the fax cover sheet.

DSS
Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string up to 4095 characters long that contains the name of the destination company.

Default Value
No default value

destination-initial-value-document (Document Only)

Identifies the default document associated with the logical destination to which you submitted the document and that Infoprint used to create the document.

GUI Label
Default document used

DSS
All

Type
Non-settable, single-valued, per-job

Input Synonym
You can use the synonym **printer-initial-value-document**.

Allowed Values
Infoprint sets this value to the name of the default document used.

Default Value
No default value

destination-pass-through

Allows you to submit specific DSS (print driver) information along with the document. Infoprint does not process the information, but passes it directly to the DSS.

GUI Label
Other options

DSS
AIX, BSD, PSF, Infoprint 2000

Type
Resettable, single-valued, per-job

Input Synonyms
You can use the synonym **printer-pass-through** or **other-options**.

Allowed Values
You can enter a text string of up to 4095 characters that contains the DSS information.

Default Value
No default value

Usage Guidelines
For BSD, Infoprint appends the contents of this attribute to the contents of the actual destination attribute **destination-command** after the mapped options.

document-comment

Provides information that Infoprint associates with this document.

DSS
AIX, BSD, PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains information about this document, such as the fonts it requires.

Default Value
No default value

document-content (Document Only)

Contains the document file identifier.

DSS
All

Document/Default Document

Type
Non-settable, single-valued, per-document

Allowed Values
Infoprint sets this value to an internal value that is not displayed on queries.

Default Value
No default value

document-content-list (Document Only)

Lists the files in a file-reference document.

DSS
All

Type
Non-settable, multi-valued, per-document

Allowed Values
Infoprint sets this value to a list of file identifiers.

Default Value
No default value

Usage Guidelines
A file-reference document is a list of similar printable documents. All the printable documents must have the same format, because Infoprint processes them all the same way.

document-file-name (Document Only)

Provides the name you want to assign to the file (document).

GUI Label
File names

DSS
All

Type
Non-settable, single-valued, per-document

Input Synonym
You can use the synonym **file-name**.

Allowed Values
You can enter a text string of up to 4095 characters that contains the file name or source specified with the **pdpr** command.

Default Value
The file name of the first document in the job.

document-finishing

Identifies the finishing options for this document.

GUI Label
Finishing options

DSS
PSF

Type
Resettable, multi-valued, per-document

Allowed Values
You can enter any of these fixed values:

z-fold

Default Values
No default values

Usage Guidelines
• When you specify a value for **document-finishing**, Infoprint creates a form
definition. Do not use the **form-definition** attribute to specify another form
definition.

• Infoprint validates and schedules jobs using this attribute against the destination
attribute **document-finishings-supported**.

document-format

Identifies the format (data type) of this document.

GUI Label
Format

DSS
All

Type
Resettable, single-valued, per-document

Input Synonym
You can use the synonym **format**.

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym	DSS
ascii		AIX, BSD, PSF (except upload printers), Passthrough, IPP
dbcs-ascii		AIX, BSD, PSF, Infoprint 2000
ditroff		BSD, PSF DSS for AIX, email, fax, Infoprint 2000
d630		AIX, BSD
gif		BSD, PSF DSS for AIX, email, fax, Infoprint 2000
hpgl	**hp-gl**	AIX, BSD
iso-6429		AIX, BSD, Passthrough, IPP
jpeg		BSD, PSF DSS for AIX, email, fax, Infoprint 2000
kgl		BSD, Infoprint 2000
lcds		BSD
line-data		BSD, PSF, email, fax, Infoprint 2000
metacode		BSD
modca-p	**afpds**	BSD, PSF, email, fax, Infoprint 2000
passthru		AIX, BSD
pcl	**hppcl, hp-pcl**	AIX, BSD, PSF, email, fax, Infoprint 2000, Passthrough, IPP
pdf		BSD, PSF, email, fax, Infoprint 2000
postscript	**ps**	All

Document/Default Document

Fixed Value	Input Synonym	DSS
ppds		BSD
sap		BSD, PSF DSS for AIX, email, fax, Infoprint 2000, Passthrough
sap-abap		BSD, PSF DSS for AIX, email, fax, Infoprint 2000, Passthrough
simple-text	text	BSD, Passthrough, IPP
tiff		BSD, PSF DSS for AIX, email, fax, Infoprint 2000

Note: By default, BSD actual destinations support only a subset of the formats that the BSD DSS can print. You can update the destination attribute **document-format-supported** to include any or all of these values.

Default Value
The server identifies the document format. If the format cannot be determined, **ascii**

Usage Guidelines
- If you or a default document you specify do not provide a value for this attribute with the **pdpr** command, the server attempts to determine the file format. If it is unable to determine the format, Infoprint uses the default.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **document-formats-supported**.
- You cannot print ASCII documents and documents with other formats in the same job.

document-number (Document Only)
See **document-sequence-number**.

document-sequence-number (Document Only)
Identifies this document in relation to the other documents of a multi-document job.

DSS
All

Type
Non-settable, single-valued, per-document

Input Synonyms
You can use the synonym **sequence-number** or **document-number**.

Allowed Values
An integer from 1 through 2147483647.

Default Value
No default value

Usage Guidelines
Use this number as part of the local ID or global ID to identify a given document within a job.

document-type (Document Only)
Indicates that the document is either a printable document, a group of printable documents, a font, or some other resource.

GUI Label
Types

DSS
All

Type
Initially settable, single-valued, per-document

Input Synonym
You can use the synonym **type**.

Allowed Values
You can enter one of these fixed values:

Fixed Value	DSS
book-ticket-file	3170
color-mapping-table	PSF
cover-sheet	Fax
document-definition	PSF DSS for AIX, 3170, email, fax, Infoprint 2000
email-body	Email
email-signature	Email
file-reference	All
font	PSF, email, fax, Infoprint 2000
form-definition	PSF, email, fax, Infoprint 2000
formatted-job-ticket	PSF, 3170, email, fax, Infoprint 2000
insert-sheet	PSF, email, fax, Infoprint 2000
job-ticket	PSF, 3170, email, fax, Infoprint 2000
overlay	PSF, email, fax, Infoprint 2000
overlay-back	PSF, email, fax, Infoprint 2000
overlay-front	PSF, email, fax, Infoprint 2000
page-definition	PSF, email, fax, Infoprint 2000
page-segment	PSF, email, fax, Infoprint 2000
page-shift-file	PSF, email, fax, Infoprint 2000
printable	All
resource	PSF DSS for AIX, 3170, email, fax, Infoprint 2000
rip-ini-file	3170
variable-data	PSF DSS for AIX, 3170, email, fax, Infoprint 2000

Default Value
printable

Usage Guidelines
- A file-reference document is a list of similar printable documents. All the printable documents must have the same format, because Infoprint processes them all the same way.
- Insert documents normally require media sheets from the **insert** input tray, which is on the finisher. This means that you cannot print an insert with the rest of the job. If you want printed inserts, preprint them and load the printed sheets into the **insert** tray.

  This does not mean that the insert document should not have any printable content. The insert document should be a MO:DCA-P, PostScript, or TIFF (not ASCII) file containing text like this:

  ```
  This is an insert sheet.
  ```

Document/Default Document

A MO:DCA-P insert document is supplied with Infoprint Submit. If you submit jobs in other ways, create your own insert document.

If the **insert** input tray is not available (for example, if you are proofing a job on a printer without a finisher), Infoprint prints the insert document on a sheet from the default input bin, so that you can easily see where sheets from the insert tray will be inserted in the final job.

- To print a booklet with a cover, specify **insert** as the document format of the first document in the job.

- A fax job must not include more than one **cover-sheet** document.

- An email job must not include more than one **email-body** document or more than one **email-signature** document.

- Infoprint validates and schedules jobs using this attribute against the destination attribute **document-types-supported**.

- As Infoprint processes your job, it creates a book-ticket file. To override this file, specify the **book-ticket-file** allowed value and include your own book-ticket file with the job. By specifying your own book-ticket file, you can specify the files that you want Infoprint to process, and then provide other files that you **do not** want Infoprint to process for the actual destination. The other files are printed at the actual destination. Remember to ensure that the other files are available at the actual destination, because Infoprint does no checking for files that you do not include with the book-ticket file.

- As Infoprint processes your job, it also creates a temporary rip-ini file. Infoprint uses this temporary rip-ini file to contain the defaults associated with each actual destination and the job attributes supplied with the job.

  To override this temporary rip-ini file, specify the **rip-ini-file** allowed value and include your own rip-ini file with the job. By specifying your own rip-ini file, you can specify the job attributes that you want Infoprint to use when ripping the job. The rip-ini file you supply takes effect on the document, and any subsequent documents, until another rip-ini file is provided.

  When you supply a rip-ini file, Infoprint reads in the defaults associated with the actual destination, merges in the attributes from the supplied rip-ini file, and then applies the attributes from the document that affect the rip. This combined rip-ini file is used to process the document.

dot-shape

Indicates the shape of pixels.

GUI Label
Dot shape

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a customized value or one of these fixed values:

Fixed Value	Equivalent
classic	/c=r,170,15/m=r,170,75/y=r,170,90/k=r,170,45
combined	/c=c,170,15/m=c,170,75/y=c,170,90/k=c,170,45
sofocles	/c=l,158,15/m=l,158,75/y=l,158,90/k=l,158,45
sofocles-not-calibrated	/c=ln,158,15/m=ln,158,75/y=ln,158,90/k=ln,158,45

Default Value
No default value

Usage Guidelines
• Customized values have the following format:

`/color,=shape,lpi,angle...`

for example:

`/c=r,170,15/m=r,170,75/y=r,170,90/k=r,170,45`

where:

color   Indicates the dot color:
    c   Cyan
    m   Magenta
    y   Yellow
    b   Black

shape   Indicates the dot shape:
    r   Round
    c   Combined
    l   Line
    ln   Line not calibrated

lpi   Is the screen frequency in lines per inch. Specify **600** for no screening.

angle   Is the screen angle.

• If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

email-from-address

Specifies the electronic mailing address of the sender of this document.

DSS
Email

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string up to 4096 characters long that contains the electronic mailing address.

Default Value
No default value

email-to-address

Specifies the electronic mailing address of the recipient of this document.

DSS
Email

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string up to 4096 characters long that contains the electronic mailing address.

Document/Default Document

Default Value
No default value

Usage Guidelines
This value is required for documents submitted to email destinations.

enable-settrap

Indicates whether to turn on trapping for Quark XPress jobs.

GUI Label
Enable Quark SetTrap

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	yes
false	no

Default Value
No default value

Usage Guidelines
- The InfoColor 70 receives composite PostScript jobs. Because Quark XPress cannot change the dimensions of PostScript elements to create chokes and spreads with composite PostScript, it sends PostScript codes to indicate what changes are needed. These changes are called the *settrap operators*.
- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

fax-number

Specifies the fax number of the recipient of this document.

DSS
Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string up to 4096 characters long that contains the fax number.

Default Value
No default value

Usage Guidelines
This value is required for documents submitted to fax destinations.

fax-to-name

Specifies the name of the person to whom this fax document is addressed.

DSS
Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string up to 4096 characters long that contains the person's name.

Default Value
No default value

file-name (Document Only)

See **document-file-name**.

font-fidelity-action

Indicates what Infoprint should do if a font required to print the document is not available in the resolution specified by the data stream, the **font-resolution** attribute, or the actual destination **default-font-resolution** attribute.

GUI Label
Font fidelity action

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Explanation*
stop	Stop printing the job.
continue	Attempt to substitute a similar font at a different resolution.

Default Value
No default value. If you do not specify a value for this attribute, Infoprint uses the value in the data stream, then the value of the actual destination attribute **default-font-fidelity-action**.

font-processing-messages

Indicates whether Infoprint should issue messages when it substitutes a font with a different resolution for a font with the resolution specified by the data stream, the **font-resolution** attribute, or the actual destination **default-font-resolution** attribute.

GUI Label
Issue font processing messages

DSS
PSF

Type
Resettable, single-valued, per-job

Document/Default Document

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
false

font-resolution

Identifies the resolution of the fonts used to create this document.

GUI Label
Font reolution

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:
> **240**
> **300**
> **outline**

Default Value
No default value. If there is no font resolution specified in the data stream and you do not specify a value for this attribute, Infoprint uses the value of the actual destination attribute **default-font-resolution**.

Usage Guidelines
- The font resolution specified in the data stream overrides this attribute.
- Usually the font resolution and the printer resolution match, but there are two cases when they do not:
  - Some printer devices, for example, the Infoprint 60 and Infoprint 4000, can print fonts of any resolution, although the print head is always 600 pels.
  - It is possible to print a document created with fonts of one resolution on a printer with a different resolution by substituting fonts. Depending on the document, the output may or may not be acceptable.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **font-resolutions-supported**.

form-definition

Identifies the form definition used when printing this document.

GUI Label
Form definition

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values

You can enter a text string of up to 8 characters that contains the identification for this resource.

Default Value

No default value. If you omit this attribute or if it contains no value, and if Infoprint does not create a form definition using the values of other document and job attributes, Infoprint uses the form definition defined by the actual destination attribute **form-definition**.

Usage Guidelines

- For PSF, if you specify a value for the **document-finishing** or **job-finishing** attribute, Infoprint creates its own form definition. Do not specify a value for this attribute.

- Infoprint does not support inline form definitions in multi-document jobs. If you want to print more than one PostScript document in a single job, configure the **/usr/lpp/psf/ps2afp/ps2afpd.cfg** file to include this line:

```
device_controls = any
```

and use this attribute to specify a form definition when you submit the job to print.

- For Infoprint 2000, you can specify job-finishing with or without a form definition. Infoprint does not create a form definition for finishing on the Infoprint 2000.

format

See **document-format**.

halftone

Identifies the desired combination of screen name, output appearance, and calibration to use for printing halftones.

GUI Label

Halftone

DSS

PSF, Infoprint 2000

Type

Resettable, single-valued, complex, per-document

Syntax

screen-name:output-appearance:saved-calibration

Separate the values with colons, for example:

```
ibm106lpi:dark
```

The *saved-calibration* value is used only for custom halftones.

Allowed Values

The value of a **halftone** attribute is a combination of screen name and output appearance in the format: *screen-name:output-appearance*. For custom halftones, the value can also be a combination of screen name, output appearance, and saved calibration in the format: *screen-name:output-appearance:saved-calibration*.

You can enter a customized value or one of these fixed values:

Document/Default Document

> **ibm71lpi:standard**
> **ibm71lpi:highlight-midtones**
> **ibm71lpi:dark**
> **ibm85lpi:standard**
> **ibm85lpi:highlight-midtones**
> **ibm85lpi:dark**
> **ibm106lpi:standard**
> **ibm106lpi:highlight-midtones**
> **ibm106lpi:dark**
> **ibm141lpi:standard**
> **ibm141lpi:highlight-midtones**
> **ibm141lpi:dark**

You can enter one of the following fixed values if you are using enhanced toner on the IP4000 or IP4000-708 printer:

> **ibm71lpi:standard.enhtoner**
> **ibm71lpi:highlight-midtones.enhtoner**
> **ibm71lpi:dark.enhtoner**
> **ibm85lpi:standard.enhtoner**
> **ibm85lpi:highlight-midtones.enhtoner**
> **ibm85lpi:dark.enhtoner**
> **ibm106lpi:standard.enhtoner**
> **ibm106lpi:highlight-midtones.enhtoner**
> **ibm106lpi:dark.enhtoner**
> **ibm141lpi:standard.enhtoner**
> **ibm141lpi:highlight-midtones.enhtoner**
> **ibm141lpi:dark.enhtoner**

Default Value
No default value

Usage Guidelines
- This document is used only for GIF, JPEG, PDF, PostScript, and TIFF documents.
- Infoprint validates and schedules jobs using this attribute against the actual destination attribute **halftones-supported**.

image-center-x

Indicates whether to center the image horizontally.

GUI Label
Center image horizontally

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	yes
false	no

Default Value
No default value

Usage Guidelines

- This attribute overrides the **x-image-shift** attribute.

- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

image-center-y

Indicates whether to center the image vertically.

GUI Label
Center image vertically

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
No default value

Usage Guidelines

- This attribute overrides the **y-image-shift** attribute.

- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

image-fit

Specifies how Infoprint adjusts a TIFF, GIF, or JPEG image to fit on the printed page.

GUI Label
Image fit

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can specify one of these fixed values:
    position-and-trim
    scale-to-fit

Default Value
No default value

Usage Guidelines

- When the value of **image-fit** is **position-and-trim**, images larger than the page size are trimmed to fit on any sides that extend beyond the page boundary. For

example, if the top left corner of the image is aligned with the top left corner of the logical page, the right side and bottom of the image are trimmed off.

Use the **x-image-shift**, **x-image-shift-back**, **y-image-shift**, and **y-image-shift-back** attributes to adjust the positioning of the image on the page.

Images smaller than the page size are not changed.

- Images larger than the page size are reduced proportionately in both dimensions to fit. The whole image is preserved, but it is smaller than the original.

Images smaller than the page size are not changed.

- Infoprint validates and schedules jobs using this attribute against the destination attribute **image-fits-supported**.

image-length

Specifies the length of a page of PostScript, PCL, TIFF, GIF, JPEG, or PDF data after it has been transformed for Infoprint printing.

GUI Label
Finished page length (inches) or (mm)

DSS
PSF, 3170, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
The value you specify is in the form *nnnn.nnnu*

nnnn.nnn
        is a number that can optionally contain a decimal point.

u   is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit, the default unit is pels. You cannot use a decimal point when the unit is pels.

For 240-pel resolution printers, valid values are:

16 - 5280	pels
0.067 - 22.000	inches
1.701 - 588.852	millimeters

For 300-pel resolution printers, valid values are:

16 - 6600	pels
0.053 - 22.000	inches
1.346 - 558.852	millimeters

For 480-pel resolution printers, valid values are:

16 - 10560	pels
0.067 - 22.000	inches
0.838 - 558.852	millimeters

For 600-pel resolution printers, valid values are:

16 - 20400	pels
0.267 - 34.000	inches
1.346 - 863.6	millimeters

Default Value
No default value

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PCL, PDF, PostScript, and TIFF documents.
- If a text margin is already built into the file, try **image-length=11i** to set the length to 11 inches.
- For the 3170 DSS, if you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

image-out-format

Indicates which type of image data Infoprint produces.

GUI Label
Image out format

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
For PSF, you can enter one of these fixed values:

Fixed Value	*Explanation*
ioca-uncompressed	Infoprint produces all image data in the Image Object Content Architecture (IOCA) uncompressed format.
im1	Infoprint produces all image data in IBM's IM uncompressed format. This image format prints on all Infoprint printers.
io1	Infoprint produces all image data in the Image Object Content Architecture uncompressed format.
io1-g4	Infoprint produces all image data in the Image Object Content Architecture compressed G4 Modified Modified Read (MMR) format.
io1-mmr	Infoprint produces all image data in the Image Object Content Architecture compressed Modified Modified Read (MMR) format.
asis	Infoprint produces all image data in the same format as it is in the input file.

For Infoprint 2000, you can only enter this fixed value:
   io1-g4

Default Value
No default value

Usage Guidelines
- This attribute is valid only for GIF, JPEG, line-data, PCL, PDF, PostScript, and TIFF documents.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **image-out-formats-supported**.

image-scale

Specifies the scaling factor for the image.

Document/Default Document

GUI Label

Scale (%)

DSS

3170

Type

Resettable, single-valued, per-document

Allowed Values

You can enter a numeric value from 0 to 2147483647.

The value you specify is in the form *nnnn.nnn*, which is a number that can optionally contain a decimal point. For example, to scale 120%, enter:

1.2

Default Value

No default value

Usage Guidelines

If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

image-width

Specifies the width of a page of PostScript, PCL, TIFF, GIF, JPEG, or PDF data after it has been transformed for Infoprint printing.

GUI Label

Finished page width (inches) or (mm)

DSS

PSF, 3170, Email, Fax, Infoprint 2000

Type

Resettable, single-valued, per-document

Allowed Values

The value you specify is in the form *nnnn.nnnu*

nnnn.nnn
>   is a number that can optionally contain a decimal point.

u   is the units in inches (**i**) or millimeters (**m**). If you do not specify a unit, the default unit is pels. You cannot use a decimal point when the unit is pels.

For 240-pel resolution printers, valid values are:

16 - 5280	pels
0.067 - 17.000	inches
1.701 - 431.852	millimeters

For 300-pel resolution printers, valid values are:

16 - 6600	pels
0.053 - 17.000	inches
1.346 - 558.852	millimeters

For 480-pel resolution printers, valid values are:

16 - 10560	pels
0.033 - 17.000	inches
0.838 - 558.852	millimeters

For 600-pel resolution printers, valid values are:	
16 - 20400	pels
0.267 - 34.000	inches
1.346 - 863.6	millimeters

Default Value
No default value

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PCL, PDF, PostScript, and TIFF documents.
- If a text margin is already built into the file, try **image-width=8.5i** to set the length to 8.5 inches.
- For the 3170 DSS, if you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

initial-value-document (Document Only)

Identifies a default document (within a given server) that Infoprint uses to create this document.

DSS
All

Type
Initially settable, single-valued, per-document

Allowed Values
You can enter a text string of up to 255 characters that contains the name of the desired default document.

Default Value
No default value

Usage Guidelines
If you specify this attribute, Infoprint uses the attribute values from the default document to set the document attribute values, unless you override the default document attribute values by supplying attribute values at the command line.

initial-value-document-identifier (Default Document Only)

Identifies this default document.

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *DefaultDocumentName* portion of the argument used with the **pdcreate** command when this default document is created.

Default Value
No default value

Usage Guidelines
The value for this attribute must be unique within the server.

input-exit

Specifies the name or the full path name of the input record exit program that Infoprint uses to process this line-data document. With Infoprint Manager for AIX, if you specify the file name without a path, Infoprint searches for the exit program in the paths specified by the **PATH** environment variable. With Infoprint Manager for Windows NT and Windows 2000, you must specify a fully-qualified path name for the exit program. If you do not specify this option, the Infoprint does not use an input record exit program.

GUI Label
Input exit program

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter any valid input record exit program name. The exit program name is case-sensitive.

Default Value
No default value

Usage Guidelines
- This attribute is valid only for line-data documents.
- If the input file is unformatted ASCII, but the fonts you are using contain EBCDIC, not ASCII, code points (you specify **convert-to-ebcdic=yes**), you can specify:
  - For Infoprint Manager for AIX:

    /usr/lpp/psf/bin/apka2e
    Converts ASCII stream data to EBCDIC stream data.

    /usr/lpp/psf/bin/asciinpe
    Converts unformatted ASCII data into a record format and then converts the ASCII stream data to EBCDIC stream data.
  - For Infoprint Manager for Windows NT and Windows 2000

    *install_path***bin\apka2e**
    Converts ASCII stream data to EBCDIC stream data.

    *install_path***bin\asciinpe**
    Converts unformatted ASCII data into a record format and then converts the ASCII stream data to EBCDIC stream data.
- If your input file uses fonts that have ASCII code points (you specify **convert-to-ebcdic=no**), you should *not* use the **apka2e** or **asciinpe** exit programs. However, if your unformatted ASCII file contains carriage returns and form feeds, you may want to specify the following exit program supplied with Infoprint:
  - For Infoprint Manager for AIX:

    /usr/lpp/psf/bin/asciinp
    Converts unformatted ASCII data that contains carriage returns and form feeds into a record format that contains an American National Standards Institute (ANSI) carriage control character. This exit encodes the ANSI carriage control character in byte 0 of every record.
  - For Infoprint Manager for Windows NT and Windows 2000:

*install_path***bin\asciinp**

Converts unformatted ASCII data that contains carriage returns and form feeds into a record format that contains an American National Standards Institute (ANSI) carriage control character. This exit encodes the ANSI carriage control character in byte 0 of every record.

input-tray-select

Use the **default-input-tray** attribute or default to the input tray specified in the data stream or form definition.

DSS
PSF

jog-between-job-copies

Indicates whether to jog stacked output between job copies.

GUI Label
Jog between copies

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value. If you omit this attribute or it contains no value, output is jogged between job copies on printers that support jog.

Usage Guidelines
This attribute controls whether stacked ouput is jogged (offset) between job copies. When used on printers that do not support jogging output, the value of this attribute is ignored. When used on printers that do support jogging output, if the value of this attribute is **true** or **yes**, the stacked output is jogged. If the value is **false** or **no**, the output is not jogged.

list-of-managers (Default Document Only)

Lists the people responsible for this default document.

DSS
All

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **managers**.

Allowed Values
You can enter a text string up to 255 characters long, per value, that contains the name or user ID of the person responsible for this default document.

Default Values

No default values

Usage Guidelines

This attribute is useful if a user needs to contact someone to report a problem or to request a change.

logical-destinations-ready (Default Document Only)

Lists the enabled logical destinations that reference this default document.

DSS

All

Type

Non-settable, multi-valued

Input Synonym

You can use the synonym **logical-printers-ready**.

Allowed Values

Infoprint sets and updates this value with the destination names of the enabled logical destinations that reference this object.

Default Values

No default values

Usage Guidelines

- Infoprint sets this attribute when the destination attribute **destination-initial-value-document** of an enabled logical destination references this default document.
- Infoprint removes the destination identification from the list if the destination is disabled.
- You cannot delete this default document while any of the logical destinations identified in this list are enabled.

logical-printers-ready (Default Document Only)

See **logical-destinations-ready**.

managers (Default Document Only)

See **list-of-managers**.

maximum-messages-printed

Specifies the maximum number of error messages Infoprint prints with the job.

GUI Label

Maximum messages printed

DSS

PSF, Infoprint 2000

Type

Resettable, single-valued, per-job

Allowed Values

You can enter an integer from 0 through 9999.

Default Value
9999

Usage Guidelines
- This attribute Identifies how many error messages Infoprint prints, not how many messages Infoprint generates.

- If the value is:
  0   No messages print
  9999 All messages print

maximum-transform-pages-ahead

Specifies the maximum number of pages by which the Infoprint transform programs can get ahead of the printing process.

GUI Label
Maximum pages to transform ahead

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter an integer from 500 through 2147483647.

Default Value
No default value

Usage Guidelines
Pages that have been transformed but not printed are stored in a print buffer. Set a value for this attribute to keep the print buffer from overflowing.

message (Default Document Only)

Provides a message associated with this default document.

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that contains information about this default document.

Default Value
No default value

mvs-class

For jobs originating on MVS systems and directed to Infoprint through the MVS Download program, this attribute contains the value specified for the MVS **class** parameter. Infoprint can print the class information on an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label
Class

Document/Default Document

DSS

PSF

Type

Resettable, single-valued, per-job

Allowed Values

You can enter a single alphanumeric character.

Default Value

If you do not specify a class value when you submit the job from the MVS system, MVS defaults the value of the **class** parameter to **A**.

Usage Guidelines

- See the *Print Services Facility/MVS: MVS Download Guide* for further information, including restrictions, on the MVS **class** parameter.
- You can use this attribute within a shell script used with MVS Download.

mvs-destination

For jobs originating on MVS systems and directed to Infoprint through the MVS Download program, this attribute contains the value specified for the MVS **dest** parameter. Infoprint can print the destination information on an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label

Destination

DSS

PSF

Type

Resettable, single-valued, per-job

Allowed Values

You can enter a one-to-eight character destination name.

Default Value

No default value

Usage Guidelines

- See the *Print Services Facility/MVS: MVS Download Guide* for further information, including restrictions, on the MVS **dest** parameter.
- You can use this attribute within a shell script used with MVS Download.

mvs-forms

For jobs originating on MVS systems and directed to Infoprint through the MVS Download program, this attribute contains the value specified for the MVS **forms** parameter. Infoprint can print the forms information on an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label

Forms

DSS

PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a one-to-eight character form name.

Default Value
If you do not specify a forms value when you submit the job from the MVS system, MVS defaults the value of the **forms** parameter to an installation-defined default.

Usage Guidelines
* See the *Print Services Facility/MVS: MVS Download Guide* for further information on the MVS **forms** parameter.
* You can use this attribute within a shell script used with MVS Download.

mvs-segment-id

For line-mode data jobs originating on MVS systems and directed to Infoprint through the MVS Download program, this attribute contains the value specified for the MVS **segment** parameter. The **segment** parameter specifies that output data is segmented into separate data sets consisting of the number of pages specified by the parameter value. The MVS Download program transmits each data set separately.

GUI Label
Segment ID

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a one-to-ten character segment identifier representing the page count.

Default Value
No default value

Usage Guidelines
* See the *Print Services Facility/MVS: MVS Download Guide* for further information, including restrictions, on the MVS **segment** parameter.
* You can use this attribute within a shell script used with MVS Download.

name-text

Specifies name information that Infoprint prints in the **NAME:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label
Name

DSS
PSF

Type
Resettable, single-valued, per-job

Document/Default Document

Allowed Values
You can enter a text string of up to 4095 characters that contains the name information.

Default Value
No default value

Usage Guidelines
- While you can specify more characters, you should limit the value you supply to 24 characters or less to ensure that there is enough room available on the printed page for all name information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

new-line-option

Identifies how the document input data delimits lines.

GUI Label
New line option

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	*FILEFORMAT*
two bytes	**RECORD** (S/370 format record)
lf	**STREAM**
record,*n*	**RECORD,***n* (S/370 format record data where each line is *n* bytes long)
	n is an integer from 1 to 32767

Default Value
lf

Usage Guidelines
- This attribute is valid only for line-data documents.
- This attribute corresponds to the **fileformat** print submission parameter information for the **line2afp** transform.

node-id-text

Specifies node-identification information that Infoprint prints in the **NODEID:** field of an auxiliary sheet.

GUI Label
Node ID

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the node-identification information.

Default Value
No default value

Usage Guidelines
- While you can specify more characters, you should limit the value you supply to 10 characters or less to ensure that there is enough room available on the printed page for all node-identification information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

number-up

Specifies the number of pages to print on a single side of the paper when the value of the **output-format** attribute is **side-by-side-copies** or **simple-n-up**.

GUI Label
Number up

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
imposition-simple-1-up	**1up**
imposition-simple-2-up	**2up**
imposition-simple-3-up	**3up**
imposition-simple-4-up	**4up**

Default Value
No default value

Usage Guidelines
- In two-sided jobs, the number of pages printed on each sheet is twice the **number-up** value.
- This attribute is not valid for ASCII documents.
- If you specify a value for the document **form-definition** attribute, Infoprint ignores the **number-up** attribute and uses the number-up value in the form definition.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **number-up-supported**.

object-class

Identifies the object class to which this object belongs.

DSS
All

Document/Default Document

Type
Non-settable, single-valued, per-job

Allowed Values
Infoprint sets this value to **document** for a document or to **initial-value-document** for a default document.

Default Value
Document	**document**
Default document	**initial-value-document**

octet-count (Document Only)

Specifies the document size in octets (bytes).

GUI Label
Size (KBytes)

DSS
All

Type
Non-settable, single-valued, per-document

Allowed Values
Infoprint computes this value when the it creates the document. The value can be an integer from 0 to 9223372036854775800.

Default Value
The size of the document in bytes (octets).

Usage Guidelines
- Infoprint uses this attribute to compute total octet count for a job and to provide information about this document.
- For jobs consisting of two or more documents, you can query for the octet count of each document in the job by specifying **-r octet-count** with the **pdls** command.

offset-stacking-between-job-copies

See **jog-between-job-copies**.

orientation

See **content-orientation**.

originating-company-text

Specifies the name of the sending company that appears on the fax cover sheet.

DSS
Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string up to 4095 characters long that contains the name of the sending company.

Default Value
No default value

other-options

See **destination-pass-through**.

other-transform-options

Allows you to submit options for the transform that converts this document to the
AFP data stream.

GUI Label
Transform options

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a text string of up to 4095 characters that contains the transform
options.

Default Value
No default value

Usage Guidelines
See "Chapter 6. Infoprint Transform Commands" on page 201 for information about
transform options.

output-appearance

Identifies the desired style of the printed document.

DSS
PSF (AIX Only)

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a customized value or one of these fixed values:
    standard
    highlight-midtones
    dark

Default Value
No default value

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PDF, PostScript, and TIFF documents.
- Infoprint validates and schedules jobs using this attribute against the destination
  attribute **output-appearances-supported**.

output-bin

Specifies the name of the output bin to which you want Infoprint to direct the output
from your job.

Document/Default Document

GUI Label
Output bin requested

DSS
PSF, 3170, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter an output bin name of up to 255 characters that contains the name of an output bin, such as `top` or `staple`.

Default Value
No default value

Usage Guidelines
- The value you specify for the **output-bin** attribute overrides any output bin specified in the form definition Infoprint uses to process the job.
- For PSF, Infoprint validates and schedules jobs using this attribute against the **output-bins-supported** actual destination attribute, which Infoprint sets according to the values supplied for the **output-bin-numbers** PSF actual destination attribute.
- For PSF, Infoprints maps the value to an actual bin number using the actual destination attribute **output-bin-numbers**.
- For 3170, if you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.
- For Infoprint 2000,
  - If you don't specify this attribute or the **job finishings**=**booklet-stitch-and-fold** or the **booklet-stitch-fold-and-trim** attribute, Infoprint uses the output bin specified in the destination attribute.
  - If a job requests stapling or some other finishing, the job goes to the appropriate finishing output bin regardless of what output bin is specified with the **output-bin** attribute.
  - If a job specifies a finishing output bin and no finishing is specified, the job is printed and sent to the top bin.

output-face-up

Indicates whether to start the document on the side of the sheet that faces up in the output bin.

GUI Label
Start face down

DSS
3170

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
No default value

Usage Guidelines
- A value of **true** for this attribute corresponds to a value of **0** for the **outputfaceup** keyword in the **.ini** file and results in face-up output. A value of **false** for this attribute corresponds to a value of **1** for the **outputfaceup** keyword in the **.ini** file and results in face-down output.
- You may want to specify **true** for this attribute when the value of the actual destination attribute **reverse-output** is **true** so that pages will be collated in the right order.
- When printing multiple-document duplex jobs, use this attribute to control whether a document starts on a new sheet. For example, if you specify **output-face-up=false** for the first document in the job, which is 3 pages long, specify **output-face-up=false** for the second document to make it start on a new sheet. Specify **output-face-up=true** for the second document to make it start on the reverse of the last page of the first document. If you specify the same value for all the documents in the job, they will all start on new sheets whether the preceding document has an odd or even number of pages.
- If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

output-format

Used with the **number-up** attribute to specify how pages should be imposed on a sheet of paper.

GUI Label
Layout format

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can specify one of these fixed values:
> **side-by-side-copies**
> **simple-n-up**
> **booklet-print**
> **booklet-print-with-integrated-cover**
> **slit-and-merge**

Note: You can only specify **simple-n-up** with the PSF DSS for Windows NT and Windows 2000.

Default Value
No default value

Usage Guidelines
- **side-by-side-copies** and **simple-n-up** both print as many pages on one sheet as the **number-up** value allows.
  - **side-by-side-copies** prints multiple copies of one page on the sheet.
  - **simple-n-up** prints multiple pages on the sheet in numerical order.

- **booklet-print** and **booklet-print-with-integrated-cover** arrange pages like this:

Page 2 backed by Page 1	Page n-1 backed by Page n

so that when the sheet is folded in half and collated with the rest of the booklet, the pages appear in sequence.

To print a booklet with a cover, specify **insert** as the document format of the first document in the job.

Note: When the Infoprint server adds blank pages to the job to make it a multiple of four with**booklet-print-with-integrated-cover**, Infoprint adds the blank pages inside of the back cover.

For PSF, to saddle-stitch the booklet, specify a value of **saddle-stitch** for the **job-finishing** job attribute.

For Infoprint 2000, specify **job-finishing=booklet-stitch-and-fold** or **booklet-stitch-fold-and-trim** to send the booklet to the bookletmaker finishing device.

booklet-print does not require a value for **number-up**.

- **slit-and-merge** arranges pages like this:

Page 1 backed by Page 2	Page 3 backed by Page 4

so that when the sheet is cut in half and the left half is stacked on top of the right half, the pages appear in sequence.

slit-and-merge does not require a value for **number-up**.

- You can specify one-sided or two-sided printing and simplex or tumble with any of these formats except **booklet-print**.
- This attribute is not valid for ASCII or KGL documents, or any combination of these documents.
- If you specify a value for the document **form-definition** attribute, Infoprint ignores the **output-format** attribute and uses the value in the form definition.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **output-format-supported**.

overlay

Specifies the name of an overlay that Infoprint uses for each sheet-side in the document. An overlay contains predefined data, such as lines, shading, text, boxes, or logos that can merge with variable data on a page.

GUI Label
Medium overlay

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter an overlay name up to eight characters in length.

Default Value
No default value

Usage Guidelines
This overlay prints in addition to any overlay specified by the form definition for the job, and in addition to the overlays specified in the **overlay-front** and **overlay-back** attributes.

overlay-back

Specifies the name of an overlay that Infoprint uses for the back of each sheet in the document. An overlay contains predefined data, such as lines, shading, text, boxes, or logos that can merge with variable data on a page.

GUI Label
Medium overlay for back side

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter an overlay name up to eight characters in length.

Default Value
No default value

Usage Guidelines
This overlay prints in addition to any overlay specified by the form definition for the job, and in addition to any overlays specified in the **overlay** and **overlay-front** attributes.

overlay-front

Specifies the name of an overlay that Infoprint uses for the front of each sheet in the document. An overlay contains predefined data, such as lines, shading, text, boxes, or logos that can merge with variable data on a page.

GUI Label
Medium overlay for front side

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter an overlay name up to eight characters in length.

Default Value
No default value

Usage Guidelines

This overlay prints in addition to any overlay specified by the form definition for the job, and in addition to any overlays specified in the **overlay** and **overlay-back** attributes.

overprint

Indicates how to handle overprinting.

GUI Label

Overprint

DSS

3170

Type

Resettable, single-valued, per-document

Allowed Values

You can enter one of these fixed values:

overprint-on	Render objects as if they would truly overprint each other
overprint-off	Ignore overprinting
overprint-from-postscript	Handle overprinting according to PostScript specifications, knocking out in separations where the object applies ink

Default Value

No default value

Usage Guidelines

If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

page-clip

Indicates how to clip images that are too wide for the page.

GUI Label

Clipping

DSS

3170

Type

Resettable, single-valued, per-document

Allowed Values

You can enter one of these fixed values:

center-clip	Center the image horizontally and clip both sides
right-clip	Clip the right side of the image
error	Issue an error message and end the job

Default Value

No default value

Usage Guidelines

If you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.

page-count (Document Only)

Specifies the estimated length of the document in pages.

GUI Label
Page count

DSS
All

Type
Resettable, single-valued, per-document

Allowed Values
You can enter an integer from 1 through 2147483647.

Default Value
When Infoprint can determine a page count from the PostScript or PCL input, Infoprint sets the page count in this attribute.

Usage Guidelines
- Infoprint determines the size of a job based on the total number of octets (bytes) in the job. For operator job-management purposes, you may find that job size based on pages is easier.

  Note: When Infoprint can not estimate document or job size in pages or use the page-count value you specify, the value for the **page-count** attribute should closely represent the actual number of pages in one copy of the document if the operator is to make valid decisions based on page count.
- Infoprint uses the value specified with the **page-count** attribute and the value specified with the **copy-count** document attribute (and the **job-copies** component in the **results-profile**) to calculate the value for the **job-page-count** attribute.

page-definition

Identifies the page definition used when printing an ASCII or line-data document.

GUI Label
Page definition

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a text string of up to 8 characters that contains the name of the desired page-definition resource.

Default Value
No default value

Usage Guidelines
You must supply a value for this attribute for line-data documents. This attribute is optional for ASCII documents. It is not valid for any other document format.

page-media-select

Use the **default-medium** attribute or default to the medium specified in the data stream or form definition.

DSS
PSF

page-select (Document Only)

Specifies the first and last page of a document that Infoprint prints.

GUI Label
Pages to process

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, complex, per-document

Syntax

first-page:last-page

Separate the values with a colon, for example:
```
25:48
```

You can omit the first-page value or the last-page value, for example:
```
:6
10:
```

See "Usage Guidelines".

Components

first-page: Specifies the number of the page where printing starts.

GUI Label: Lower limit

Type: Single-valued

Allowed Values: You can enter a value of 1 through 2147483647.

Default Value: No default value

last-page: Specifies the number of the page where printing ends.

GUI Label: Upper limit

Type: Single-valued

Allowed Values: You can enter a value of 1 through 2147483647.

Default Value: No default value

Usage Guidelines
- Page numbering always starts at one, (**1**) even if the job you print uses an alternate numbering system, such as roman numerals or folio-by-chapter (1-1, 1-2, and so on) numbering. You cannot request a range of pages using page numbers from an alternate numbering system.
- This attribute is not valid for ASCII, KGL, metacode, or lcds documents.
- If you omit the first-page value, for example **:6**, Infoprint prints from the first page of the job through page 6.
- If you omit the last-page value, for example **6:**, Infoprint prints from page 6 through the last page of the job.
- Entering a combination of first-page last-page values where the first-page value is greater than the last-page value is an error.
- If Infoprint cannot find the first-page value in the document, no pages print and Infoprint issues an error.
- If Infoprint cannot find the last-page value in the document, it prints pages from first-page value to the end of the document. Infoprint does not issue an error.

plex

Indicates whether Infoprint conditions the page images of this document for one-sided or two-sided printing and the relative orientation of consecutive pages.

GUI Label
Plex to print

DSS
AIX, BSD, PSF, 3170, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:
> **simplex**
> **tumble**

Default Value
AIX	The first value listed in the destination attribute **plexes-supported**
BSD	No default value
2000	**simplex**
PSF	**simplex**
3170	No default value

Usage Guidelines
- Infoprint validates and schedules jobs using this attribute against the destination attribute **plexes-supported**.
- Infoprint uses this attribute in combination with the **sides** attribute. The results are:

plex *Value*	sides *Value*	*Output*
simplex	**1**	Simplex
simplex	**2**	Duplex
tumble	**1**	Not valid
tumble	**2**	Tumble duplex

- Infoprint uses plex specifications in this order:

Document/Default Document

1. **plex** document attribute unless you specify different values for this attribute for each document in a job, and also specify a value for the document **form-definition** attribute. In that case. Infoprint ignores the document **plex** attribute.
2. For the 3170 DSS, the value in the file specified by the **rip-ini-file** actual destination attribute.
3. The plex specification in the form definition
4. **plex** actual destination attribute

print-quality

Specifies the desired output quality of the printed document.

GUI Label
Print quality

DSS
AIX, BSD

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:
  draft
  high
  normal

Default Value
normal

Usage Guidelines
Infoprint validates and schedules jobs using this attribute against the destination attribute **print-qualities-supported**.

printer-initial-value-document (Document Only)

See **destination-initial-value-document**.

printer-pass-through

See **destination-pass-through**.

programmer-text

Specifies programmer information that Infoprint prints in the **PROGRAMMER:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label
Programmer

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the programmer information.

Default Value
No default value

Usage Guidelines
- While you can specify more characters, you should limit the value you specify to 24 characters or less to ensure that there is enough room available on the printed page for all programmer information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

resource-context

Defines the directory path location for all document-specific resources: fonts, form definitions, overlays, page definitions, and page segments.

GUI Label
Location of resources

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter the name of a resource-context object or a text string of up to 255 characters that contains a specific directory path name for resources.

Syntax

path:path on AIX
path;path on Windows NT or Window 2000

Separate multiple paths with a colon on AIX or a semicolon on Windows NT or Window 2000, for example with AIX:

`/res:/dept123/res`

Default Value
No default value

Usage Guidelines
- Because Infoprint searches the path specified by this attribute *after* the individual paths for different types of resources, you can use this attribute to locate default resources.
- You can use this attribute instead of specifying individual values for:
  - **color-mapping-table**
  - **resource-context-font**
  - **resource-context-form-definition**
  - **resource-context-overlay**
  - **resource-context-page-definition**
  - **resource-context-page-segment**
- Infoprint searches paths in this order:
  1. **color-mapping-table** document attribute
  2. **resource-context-user** document attribute

> 3. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** document attribute, as appropriate for the type of resource
> 4. **resource-context** document attribute
> 5. **PSFPATH** environment variable
> 6. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** actual destination attribute, as appropriate for the type of resource
> 7. With AIX:
>   a. **/usr/lpp/psf/reslib**
>   b. **/usr/lpp/afpfonts**
>   c. **/usr/lpp/psf/fontlib**
> 8. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
>   a. *install_path***reslib**
>   b. *install_path***afpfonts**
>   c. *install_path***fontlib**

- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-font

Defines the directory path location of the document-specific fonts.

GUI Label
Location of fonts

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter the name of a resource-context object or a text string of up to 255 characters that contains a specific directory path name for fonts.

Syntax

path:path on AIX
path;path on Windows NT or Window 2000

Separate multiple paths with a colon on AIX or a semicolon on Windows NT or Window 2000, for example with AIX:

```
/fonts:/dept123/fonts
```

Default Value
For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**.

For Infoprint Manager for Windows NT and Windows 2000, *install_path***reslib**.

Usage Guidelines

- You can specify fonts either within the job or in a page definition for the job.
- Infoprint searches paths in this order:
  1. **resource-context-user** document attribute
  2. **resource-context-font** document attribute
  3. **resource-context** document attribute
  4. **PSFPATH** environment variable
  5. **resource-context-font** actual destination attribute
  6. With AIX:
      a. **/usr/lpp/psf/reslib**
      b. **/usr/lpp/afpfonts**
      c. **/usr/lpp/psf/fontlib**
  7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
      a. *install_path***reslib**
      b. *install_path***afpfonts**
      c. *install_path***fontlib**
- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-form-definition

Defines the directory path location of the document-specific form definitions.

GUI Label
Location of form definitions

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter the name of a resource-context object or a text string of up to 255 characters that contains a specific directory path name for form definitions.

Syntax

path:path on AIX
path;path on Windows NT or Window 2000

Separate multiple paths with a colon on AIX and a semicolon on Windows NT or Window 2000, for example with AIX:

`/form_definition:/dept123/form_definition`

Default Value
For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**.

For Infoprint Manager for Windows NT and Windows 2000, *install_path***reslib**.

Usage Guidelines
- You can use either the document or the actual destination **form-definition** attribute to specify the form definition.

Document/Default Document

- Infoprint searches paths in this order:
    1. **resource-context-user** document attribute
    2. **resource-context-form-definition** document attribute
    3. **resource-context** document attribute
    4. **PSFPATH** environment variable
    5. **resource-context-form-definition** actual destination attribute
    6. For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**; for Infoprint Manager for Windows NT and Windows 2000, *install_path***\reslib**.

- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-overlay

Defines the directory path location of the document-specific overlays.

GUI Label
Location of overlays

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter the name of a resource-context object or a text string of up to 255 characters that contains a specific directory path name for overlays.

Syntax

path:path on AIX
path;path on Windows NT or Window 2000

Separate multiple paths with a colon on AIX and a semicolon on Windows NT or Window 2000, for example with AIX:

```
/overlay:/dept123/overlay
```

Default Value
For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**.

For Infoprint Manager for Windows NT and Windows 2000, *install_path***\reslib**.

Usage Guidelines
- You use a form definition for the job to specify the overlay.
- Infoprint searches paths in this order:
    1. **resource-context-user** document attribute
    2. **resource-context-overlay** document attribute
    3. **resource-context** document attribute
    4. **PSFPATH** environment variable
    5. **resource-context-overlay** actual destination attribute
    6. For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**; for Infoprint Manager for Windows NT and Windows 2000, *install_path***\reslib**.

- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-page-definition

Defines the directory path location of the document-specific page definitions.

GUI Label
Location of page definitions

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter the name of a resource-context object or a text string of up to 255 characters that contains a specific directory path name for page definitions.

Syntax

path:path on AIX
path;path on Windows NT or Window 2000

Separate multiple paths with a colon on AIX and a semicolon on Windows NT or Window 2000, for example with AIX:

`/page_definition:/dept123/page_definition`

Default Value
For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**.

For Infoprint Manager for Windows NT and Windows 2000, *install_path***reslib**.

Usage Guidelines
- This attribute is valid only for line-data documents.
- You use the **page-definition** document attribute to specify the page definition for the job.
- Infoprint searches paths in this order:
    1. **resource-context-user** document attribute
    2. **resource-context-page-definition** document attribute
    3. **resource-context** document attribute
    4. **PSFPATH** environment variable
    5. **resource-context-page-definition** actual destination attribute
    6. For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**; for Infoprint Manager for Windows NT and Windows 2000, *install_path***reslib**.
- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-page-segment

Defines the directory path location of the document-specific page segments.

GUI Label
Location of page segments

DSS
PSF, Email, Fax, Infoprint 2000

Document/Default Document

Type
Resettable, single-valued, per-job

Allowed Values
You can enter the name of a resource-context object or a text string of up to 255 characters that contains a specific directory path name for page segments.

Syntax

path:path for AIX
path;path for Windows NT or Window 2000

Separate multiple paths with a colon on AIX and a semicolon on Windows NT or Window 2000, for example with AIX:

`/page_segment:/dept123/page_segment`

Default Value
For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**.

For Infoprint Manager for Windows NT and Windows 2000, *install_path***reslib**.

Usage Guidelines
- You specify the page segments within the job.
- Infoprint searches paths in this order:
  1. **resource-context-user** document attribute
  2. **resource-context-page-segment** document attribute
  3. **resource-context** document attribute
  4. **PSFPATH** environment variable
  5. **resource-context-page-segment** actual destination attribute
  6. For Infoprint Manager for AIX, **/usr/lpp/psf/reslib**; for Infoprint Manager for Windows NT and Windows 2000, *install_path***reslib**.
- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-context-user
Defines the directory path location for all document-specific resources: fonts, form definitions, overlays, page definitions, and page segments.

GUI Label
Location of document resources

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter the name of a resource-context object or a text string of up to 255 characters that contains a specific directory path name for resources.

Syntax

path:path for AIX
path;path for Windows NT or Window 2000

Separate multiple paths with a colon on AIX and a semicolon on Windows NT or Window 2000, for example with AIX:

```
/res:/dept123/res
```

Default Value
No default value

Usage Guidelines
- This attribute is valid only for line-data documents.
- You should use this attribute only to migrate the PSF for AIX job script keyword **userlib**.
- Infoprint searches paths in this order:
  1. **resource-context-user** document attribute
  2. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** document attribute, as appropriate for the type of resource
  3. **resource-context** document attribute
  4. **PSFPATH** environment variable
  5. **resource-context-font**, **resource-context-form-definition**, **resource-context-overlay**, **resource-context-page-definition**, or **resource-context-page-segment** actual destination attribute, as appropriate for the type of resource
  6. With AIX:
     a. **/usr/lpp/psf/reslib**
     b. **/usr/lpp/afpfonts**
     c. **/usr/lpp/psf/fontlib**
  7. With Windows NT or Window 2000, where *install_path* indicates the path where you installed Infoprint Manager:
     a. *install_path***reslib**
     b. *install_path***afpfonts**
     c. *install_path***fontlib**
- If Infoprint cannot find the resource because none of the paths contain the resource, it still processes the job and prints error messages at the end of the job. Infoprint reports the job as completed.

resource-exit

Specifies the name or the full path name of the resource exit program that Infoprint uses to retrieve resources for this line-data document. If you specify the file name without a path, Infoprint searches for the exit program in the paths specified by the **PATH** environment variable. If you do not specify this option, the Infoprint does not use a resource exit program.

GUI Label
Resource exit program

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued, per-document

Document/Default Document

Allowed Values
You can enter any valid input record exit program name. The exit program name is case-sensitive.

Default Value
No default value

Usage Guidelines
This attribute is valid only for line-data documents.

room-text

Specifies room information that Infoprint prints in the **ROOM:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label
Room

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the room information.

Default Value
No default value

Usage Guidelines
• While you can specify more characters, you should limit the value you supply to 24 characters or less to ensure that there is enough room available on the printed page for all room information.
• If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

scanner-correction

Indicates how you calibrated the scanner used to scan input images so that Infoprint can make the appropriate modifications to halftones.

GUI Label
Scanner correction

DSS
PSF (AIX Only)

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:
    Ricoh420
    XeroxDocuimage620S
    none

Default Value
No default value

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PDF, PostScript, and TIFF documents.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **scanner-corrections-supported**.

screen-frequency

Indicates the screen frequency, in lines per inch, to use for printing halftones.

DSS
PSF (AIX Only)

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:
> **71**
> **85**
> **106**
> **141**

Default Value
85

Usage Guidelines
- This attribute is valid only for GIF, JPEG, PDF, PostScript, and TIFF documents.
- Change the screen frequency if you see moire or two-dimensional repeating patterns in halftone images.
- Set the screen frequency to **106** if you see dark and light bands in printed output, with halftone images possibly showing a herringbone pattern under magnification.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **screen-frequencies-supported**.

segment-file-size

Specifies the minimum size in kilobytes of the segment files into which Infoprint breaks jobs for processing.

GUI Label
Size of segment file (KBytes)

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter an integer from 1 to 102400.

Default Value
100

Usage Guidelines
Small values can adversely affect performance; large numbers can detract from Infoprint's ability to send the beginning of a job to a destination while still processing the remainder of the job.

sequence-number (Document Only)

See **document-sequence-number**.

shared-formdef

For MO:DCA-P documents originating on MVS systems and directed to Infoprint through the MVS Download program, this attribute Indicates whether the form definition used to print or transmit this document should be processed the same way as PSF/MVS would process it.

GUI Label
Process form definitions same as MVS

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	yes
false	no

Default Value
Default job	No default value
Job	false

Usage Guidelines
- A value of **true** ensures consistent page placement when multiple pages are printed or transmitted on a single side of the sheet.
- If the document was created with a form definition defined specifically for the PSF DSS or for PSF for AIX, specify **false**.

shift-out-shift-in

Specifies the printer scanning modes used when processing EBCDIC line-data that prints with either a single-byte or a double-byte font.

GUI Label
Shift-out shift-in processing

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter an 8-character alphanumeric string, which is passed to all ACIF user exits, or one of these fixed values:

Fixed Value	Explanation
one	The **line2afp** transform uses a value of **SOSI1** for the **prmode=** parameter. It converts each shift-out, shift-in code to a blank and a Set Coded Font Local text control.

two The **line2afp** transform uses a value of **SOSI2** for the **prmode=** parameter. It converts each shift-out, shift-in code to a Set Coded Font Local text control.

See "line2afp Command: Transforms S/370 Line Data and ASCII Data to AFP" on page 236 for more information about the **prmode=** parameter of the **line2afp** transform. Refer to *AFP Conversion and Indexing Facility: User's Guide* for information about ACIF user exits.

Default Value
No default value

Usage Guidelines
• This attribute is valid only for line-data documents.

• For the shift-in, shift-out process to work correctly, two coded fonts must be specified by the **chars** attribute or the page definition. The first must be a single-byte font and the second must be a double-byte font.

sides

Specifies the number of media sides on which this document prints.

GUI Label
Sides to print

DSS
AIX, BSD, PSF, 3170, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter an integer value of **1** or **2**.

Default Value
AIX 1
BSD No value; the printer device defaults the value
PSF The value in the form definition
3170 No default value

Usage Guidelines
• Infoprint validates and schedules jobs using this attribute against the destination attribute **sides-supported**.

• Infoprint uses this attribute in combination with the **plex** attribute. The results are:

sides *Value*	plex *Value*	*Output*
1	simplex	Simplex
2	simplex	Duplex
1	tumble	Not valid
2	tumble	Tumble duplex

• Infoprint uses sides specifications in this order:

  1. **sides** document attribute, unless you specify different values for this attribute for each document in a job, and also specify a value for the document **form-definition** attribute. In that case. Infoprint ignores the document **sides** attribute.

2. For the 3170 DSS, the value in the file specified by the **rip-ini-file** actual destination attribute.
3. The sides specification in the form definition
4. **sides** actual destination attribute

start-on-new-sheet

Indicates whether to start printing this document on a new sheet of paper.

GUI Label
Start on new sheet

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
- When you print multiple-document jobs and do not want blank pages between the end of one document and the beginning of the next, set this attribute to **false**.
- If you specify a form definition, it takes priority over the **start-on-new-sheet** attribute, and any value you specify with **start-on-new-sheet** is ignored. Infoprint ignores the **start-on-new-sheet** attribute and uses the value in the form definition.

subject-text

Specifies the subject text that appears on the cover sheet of fax jobs or the subject line of electronic mail jobs.

DSS
Email, Fax

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string up to 4095 characters long that contains the subject.

Default Value
No default value

table-reference-characters

Specifies whether the first character of each line in the document (or second character, if carriage control characters are used) is a table reference character. A table reference character selects a font character set named by the **chars** attribute or in the page definition used to print the job.

GUI Label
Table reference characters

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value

Usage Guidelines
- This attribute is valid only for line-data documents.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **table-reference-characters-supported**.
- If the value of this attribute is **true** and the page definition does not identify fonts, you must specify fonts with the **chars** attribute.
- If the line data contains TRCs and you do not specify this attribute, your printed output will not be correct. Infoprint interprets the TRCs as text characters instead of font identifiers.

title-text

Specifies title information that Infoprint prints in the **TITLE:** field of an auxiliary sheet if the job uses the **full** auxiliary-sheet object.

GUI Label
Title

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the title information.

Default Value
No default value

Usage Guidelines
- While you can specify more characters, you should limit the value you supply to 55 characters or less to ensure that there is enough room available on the printed page for all title information.
- If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

transfer-method (Document Only)

Identifies the method by which Infoprint transfers the document to the print server.

GUI Label
Transferred to server

DSS
All

Type
Initially settable, single-valued, per-job

Allowed Values
You can enter one of these fixed values:
> **pipe-pull**
> **with-request**

Default Value
pipe-pull

Usage Guidelines
Infoprint validates jobs using this attribute against the server attribute
transfer-methods-supported.

transform-message-file-name

Specifies the file name where the transform that Infoprint uses to process this
document writes messages.

GUI Label
Transform message file

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a text string of up to 4095 characters that contains the file name.

Default Value
No default value. If you do not specify this attribute or if it has no value, the
transform writes messages to **$PDBASE/**_servername_**/error.log** for Infoprint
Manager for AIX and _workspace path__servername_**\\error.log** for Infoprint Manager
for Windows NT and Windows 2000.

Usage Guidelines
This attribute is valid only for line-data documents.

transform-output-file-name

Specifies the file name of the output file produced by the Infoprint transform that
converts this document to the AFP data stream.

GUI Label
Transform output file name

DSS
PSF, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a text string of up to 4095 characters that contains the file name.

Default Value
No default value unless the output format is **side-by-side-copies** or **booklet-print**. In that case, Infoprint saves the transformed file in the directory specified by the **PDBASE** environment variable or in one of its subdirectories.

Usage Guidelines
*   Use this attribute to save transformed files.
*   Transform programs write output to a temporary file in the directory specified by the **PDBASE** environment variable or in one of its subdirectories. No single user can create a file larger than the amount of free space in the file system containing this directory. If many users are submitting print jobs that invoke transform programs, the directory may fill up and prevent all users from successfully running the transform programs.

type (Document Only)

See **document-type**.

user-id-text

Specifies user-identification information that Infoprint prints at the top of the page and in the **USERID:** field of an auxiliary sheet.

GUI Label
User ID

DSS
PSF

Type
Resettable, single-valued, per-job

Allowed Values
You can enter a text string of up to 4095 characters that contains the user-identification information.

Default Value
No default value

Usage Guidelines
*   While you can specify more characters, you should limit the value you supply to 10 characters or less to ensure that there is enough room available on the printed page for all user-identification information.
*   If the text string you specify contains blank spaces, enclose the text string in single quotation marks.

x-image-shift

Specifies the X offset, in millimeters, of the logical page origin to the right of the physical page origin.

GUI Label
Move image right (inches) or (mm)

DSS
PSF, 3170, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a numeric value from -577.99 mm to 577.97 mm.

The value you specify is in the form *nnnn.nnn*, which is a number that can optionally contain a decimal point. Millimeters is the unit of measure for the value you specify.

Default Value
No default value

Usage Guidelines
- This attribute overrides any X-offset value in the form definition Infoprint uses for the job, with one exception. If you specify different values for this attribute for each document in a job, and also specify a value for the document **form-definition** attribute, Infoprint ignores the **x-image-shift** attribute and uses the X-offset value in the form definition.
- For the 3170 DSS, the **image-center-x** attribute overrides this attribute.
- For the 3170 DSS, if you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.
- Infoprint validates and schedules jobs using this attribute against the **x-image-shift-range-supported** actual destination attribute.

x-image-shift-back
Specifies the X offset, in millimeters, of the logical page origin to the right of the physical page origin on the back side of a double-sided sheet.

GUI Label
Move image right on back side (inches) or (mm)

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a numeric value from -577.99 mm to 577.97 mm.

The value you specify is in the form *nnnn.nnn*, which is a number that can optionally contain a decimal point. Millimeters is the unit of measure for the value you specify.

Default Value
No default value

Usage Guidelines
- This attribute is not valid for ASCII documents.
- If you specify a value for the document **form-definition** attribute, Infoprint ignores the **x-image-shift-back** attribute and uses the X-offset value in the form definition. This attribute overrides the X-offset value in any other form definition.

- Infoprint validates and schedules jobs using this attribute against the **x-image-shift-range-supported** actual destination attribute.

y-image-shift

Specifies the Y offset, in millimeters, of the logical page origin below the physical page origin.

GUI Label
Move image down (inches) or (mm)

DSS
PSF, 3170, Email, Fax, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a numeric value from -577.99 mm to 577.97 mm.

The value you specify is in the form *nnnn.nnn*, which is a number that can optionally contain a decimal point. Millimeters is the unit of measure for the value you specify.

Default Value
No default value

Usage Guidelines
- This attribute overrides any Y-offset value in the form definition Infoprint uses for the job, with one exception. If you specify different values for this attribute for each document in a job, and also specify a value for the document **form-definition** attribute, Infoprint ignores the **y-image-shift** attribute and uses the Y-offset value in the form definition.
- For the 3170 DSS, the **image-center-y** attribute overrides this attribute.
- For the 3170 DSS, if you do not specify a value for this attribute, Infoprint uses the value in the file specified by the **rip-ini-file** actual destination attribute.
- Infoprint validates and schedules jobs using this attribute against the **y-image-shift-range-supported** actual destination attribute.

y-image-shift-back

Specifies the Y offset, in millimeters, of the logical page origin below the physical page origin on the back side of a double-sided sheet.

GUI Label
Move image down on back side (inches) or (mm)

DSS
PSF, Infoprint 2000

Type
Resettable, single-valued, per-document

Allowed Values
You can enter a numeric value from -577.99 mm to 577.97 mm.

Document/Default Document

The value you specify is in the form *nnnn.nnn*, which is a number that can optionally contain a decimal point. Millimeters is the unit of measure for the value you specify.

Default Value
No default value

Usage Guidelines
- This attribute is not valid for ASCII documents.

- If you specify a value for the document **form-definition** attribute, Infoprint ignores the **y-image-shift-back** attribute and uses the Y-offset value in the form definition. This attribute overrides the Y-offset value in any other form definition.

- Infoprint validates and schedules jobs using this attribute against the **y-image-shift-range-supported** actual destination attribute.

Attributes for Jobs and Default Jobs

This section contains the attributes for default jobs and jobs.

Default Job

Use default jobs to set default values for job attributes.

Default jobs contain two types of attributes:
* Attributes that describe the default job itself
* Attributes that you can set as default values for job attributes

Job

A job is an Infoprint object that represents a request to print or transmit one or more documents in a single session.

Attributes Not Displayed in the Infoprint Administrator's GUI

While all job and default job attributes and attribute values are supported for both basic and advanced Infoprint installations, neither Infoprint administrator's GUI displays a complete set.

* The basic Infoprint administrator's GUI displays only the attributes of greatest interest to Infoprint administrators.
* The advanced Infoprint administrator's GUI displays most attributes and attribute values, but omits a few that are used primarily in basic Infoprint installations.

You can list the values of attributes not displayed in the Infoprint administrator's GUI using the **pdls** command or the **pdq** command. You can set the values of initially settable and resettable attributes using the **pdcreate** command or the **pdpr** command. You can change the values of resettable attributes using the **pdmod** command or the **pdset** command.

Initially Settable Attribute Listing

You can set these attributes with the **pdpr** command when you submit the job.
> **destination-name-requested**
> **initial-value-job**
> **job-originator**
> **job-owner**
> **tape-exit**
> **tape-format**
> **tape-labeled**
> **tape-max-block-size**
> **tape-rewind-before**
> **tape-rewind-unload**

Note: There are no initially settable attributes for a default job.

Resettable Attribute Listing

You can set these attributes with the **pdpr** command when you submit a job or with the **pdcreate** command when you create a default job. You can modify them with the **pdset** command after Infoprint has accepted the job or after you create the default job. You can also use the **pdmod** command to modify a job after Infoprint accepts it.
> **actual-destinations-requested**
> **auxiliary-sheet-selection**

delete-segment-list
descriptor (default job only)
destination-locations-requested
destination-models-requested
dss-requested
estimated-processing-time (job only)
job-batch
job-comment
job-deadline-time (job only)
job-discard-time (job only)
job-end-message
job-finishing
job-hold
job-media-sheet-count (job only)
job-message-from-administrator (job only)
job-message-to-operator
job-name
job-page-count (job only)
job-print-after (job only)
job-priority
job-retain-until (job only)
job-retention-period
job-rip-action
job-start-message
job-start-wait
list-of-managers (default job only)
message (default job only)
notification-profile
optimize-for-multiple-copies
results-profile

actual-destinations-requested

Identifies a list of actual destinations, any one of which Infoprint may use to process the job.

GUI Label
Actual destinations requested

DSS
All

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **physical-printers-requested**.

Allowed Values
You can enter a text string of up to 255 characters, per value, that contains the name of an actual destination.

Default Values
No default values

Usage Guidelines
• Infoprint validates and schedules jobs using this attribute against the destination attribute **destination-name**.

• If you request more than one actual destination, the job will process on the first one that becomes available that can support the job.

associated-server (Default Job Only)

Indicates the name of the server in which this default job resides.

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *ServerName:* portion of the argument used with the **pdcreate** command when this default job is created.

Default Value
No default value

auxiliary-sheet-selection

Identifies the combination of start, separator, and end sheets requested for this job. Whether Infoprint prints the requested sheets depends on the actual destination.

GUI Label
Auxiliary/Separator sheets

DSS
AIX, PSF, Passthrough

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Start	Separator	End
end	No	No	Yes
none	No	No	No
sep	No	Yes	No
sep-end	No	Yes	Yes
start	Yes	No	No
start-end	Yes	No	Yes
start-sep	Yes	Yes	No
start-sep-end	Yes	Yes	Yes

Default Value
Default job	No default value
Job	**start-sep-end**

Usage Guidelines
Infoprint validates and schedules jobs using this attribute against the destination attribute **auxiliary-sheet-selections-supported**.

comment

See **job-comment**.

completion-time (Job Only)

Identifies the time when the job completed printing or transmitting.

GUI Label
Completed

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets the value for this attribute in the local time format; USA is *"HH:MM:SS mm/dd/yy"*.

Default Value
No default value

Usage Guidelines
Provides status information.

current-job-state (Job Only)

Identifies the current state of the job.

GUI Label
State

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **job-state**.

Allowed Values
Infoprint sets and updates this value as the job processes. The value set at a given time is one of these fixed values:

Fixed Value	*Reason*
cancelled	The job submitter or an operator cancelled the job. The **job-state-reasons** job attribute provides the reason.
held	The job is in a queue and Infoprint cannot schedule it. Either the **job-hold** job attribute is set to **true** or the job is held for some other reason, such as resources not ready. The **job-state-reasons** job attribute provides the reason.
imposing	Infoprint is arranging the job's pages so that they will print on the press sheets in the right order for final cutting, folding, and binding.
paused	The job was paused with the **pdpause** command.
pending	The job is in a queue and is waiting for Infoprint to schedule and send it to an actual destination.

pre-processing	Infoprint is creating the job.
printing	The job is printing on a PSF or 3170 actual destination. The **printing** state is not supported by the AIX, BSD, fax, email, or Infoprint 2000 DSS. Jobs printing on AIX or BSD actual destinations, or transmitting on fax or email destinations, are in the **processing** state.
processing	Infoprint has sent the job to an actual destination. The job is processing and printing on an AIX, BSD, or Infoprint 2000 actual destination, processing and transmitting on a fax or email destination, or processing on a PSF or 3170 actual destination. Depending on the output device, this can indicate that Infoprint has sent at least one document in the job to the output device.
retained	Infoprint has retained the job in the server after it finished printing or transmitting or after it was cancelled. Either the value of the **job-retention-period** job attribute for the job is greater than zero, or the value of the **job-retain-until** job attribute for the job is a future time.
ripping	Infoprint is converting the job to raster image patterns for printing. The **ripping** state is supported only by the PSF, 3170, fax, email, and Infoprint 2000 DSS.
terminating	The job is terminating, either because it has finished processing or because it was aborted. The **job-state-reasons** job attribute provides the reason.
unknown	The server does not know the state of the job because it lost communication with the actual destination to which Infoprint sent the job.

Default Value
No default value

Usage Guidelines
Jobs are in the job state **cancelled**, **pre-processing**, and **terminating** for only a very short time. You may never see them as values for this attribute; however, you may see them as values for the **previous-job-state** job attribute.

current-page-printing (Job Only)
Reports the page number of the currently printing or transmitting page.

GUI Label
Page currently printing

DSS
PSF

Type
Non-settable, single-valued

Allowed Values
Infoprint sets and updates this value to an integer from 0 through 2147483647.

Default Value
No default value

Usage Guidelines
The differences between this attribute and **pages-completed** are:

- **current-page-printing** is the number of the page being printed or transmitted, while **pages-completed** is the number of pages placed in the stacker. For example, when page 12 of the first copy of a double-sided job is printing, the value of **current-page-printing** is 12 and the value of **pages-completed** is 10.

- **current-page-printing** is reset with every job copy, while **pages-completed** is cumulative within a job. For example, when page 6 of the second copy of a 10-page job is printing, the value of **current-page-printing** is 6. When the same page is stacked, the value of **pages-completed** is 16.

d-s-s-requested

See **dss-requested**.

deadline-in-jeopardy (Job Only)

Indicates whether the job is in danger of not completing before the time specified by the **job-deadline-time** attribute.

GUI Label
Deadline in jeopardy

DSS
PSF, Email, Fax, Infoprint 2000

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:
> **true**
> **false**

Default Value
No default value

Usage Guidelines
Infoprint sets **deadline-in-jeopardy** to **true** under these conditions:

- If the queue attribute **assign-to-destination=true**, when the value of the **estimated-completion-time** attribute is later than the value of the **job-deadline-time** attribute.

- If the queue attribute **assign-to-destination=false**, when the current time is later than the value of the **job-deadline-time** attribute. Infoprint cannot calculate a value for the **estimated-completion-time** attribute if **assign-to-destination=false**.

delete-segment-list

Indicates whether to delete the segment list file, where Infoprint lists the segment files into which it breaks the job for processing, after the job is complete.

GUI Label
Delete segment list

DSS
PSF, Email, Fax, and Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value

Default job	No default value
Job	**false**

descriptor (Default Job Only)

Provides a description of this default job.

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that describes this default job.

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description helps job submitters to determine if this default job is the one they want to use.

destination-initial-value-job (Job Only)

Identifies the default job associated with the logical destination to which you submitted the job and used to create the job.

GUI Label
Default job used

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **printer-initial-value-job**.

Allowed Values
Infoprint sets this value to the name of the default job used.

Default Value
No default value

destination-locations-requested

Identifies a list of destination locations. Infoprint may use a destination at any of these locations to process the job.

GUI Label
Actual destination locations requested

DSS
All

Type
Resettable, multi-valued

Input Synonyms
You can use the synonym **printer-locations-requested** or **locations-requested**.

Allowed Values
You can enter a text string of up to 4095 characters, per value, that contains the actual location of each destination requested. Infoprint will process the job on a destination at one of the locations if the validation is successful.

Default Values
No default values

Usage Guidelines
- Infoprint validates jobs using this attribute against the logical and actual destination attribute **destination-locations**.
- Infoprint schedules the job against the actual destination attribute **destination-locations**.
- Any individual value specified for this attribute can select more than one actual destination. For example, the output devices could all be in the same location, such as a printer room.
- The values for both the job and destination attributes are text strings that can include blanks. They must match exactly for validation to occur.

destination-models-requested

Identifies a list of destination make and model IDs. Infoprint may use any one of these destinations to process the job.

GUI Label
Actual destination models requested

DSS
All

Type
Resettable, multi-valued

Input Synonyms
You can use the synonym **printer-models-requested** or **models-requested**.

Allowed Values
You can enter a text string of up to 4095 characters, per value, that identifies the destination model.

Default Values
No default values

Usage Guidelines
- Infoprint validates jobs using this attribute against the logical and actual destination attribute **destination-model**. Only one value must match for Infoprint to validate the job.
- Infoprint schedules the job against the actual destination attribute **destination-model**. Only one value must match for Infoprint to schedule the job.
- This attribute is multi-valued whereas the destination attributes are single-valued.
- Any individual value specified for this attribute can select more than one actual destination.
- The value for this attribute and the values for the destination attributes for the BSD, PSF, 3170, email, and fax actual destinations are text strings that can include blanks. (The values for the AIX actual destination attribute never contain blanks.)
- The value for this attribute and the value for the destination attribute must match exactly for validation to occur.

destination-name-requested (Job Only)

Identifies the logical destination to which you submitted this job.

GUI Label
Submitted to

DSS
All

Type
Initially settable, single-valued

Input Synonyms
You can use the synonym **printer-name-requested**, **printer-requested**, or **logical-printer-requested**.

Allowed Values
You can enter a text string of up to 255 characters that contains the name of the logical destination.

Default Value
No default value

Usage Guidelines
- If you do not specify a value for this attribute, Infoprint uses the **-p** or **-d** value on the **pdpr** command, or the **PDPRINTER** environment variable of the job submitter.

  To move the job to a different logical destination, use the **pdresubmit** command.

destinations-assigned (Job Only)

Identifies the actual destination to which Infoprint assigned the job for processing.

GUI Label
Destination

> ### DSS
> All
>
> ### Type
> Non-settable, single-valued
>
> ### Input Synonym
> You can use the synonym **printers-assigned**.
>
> ### Allowed Values
> Infoprint sets this value to the name of the actual destination where it sent the job.
>
> ### Default Values
> No default value
>
> ### Usage Guidelines
> If the value for this attribute is blank, the job is still waiting for Infoprint to assign it to an actual destination.

destinations-used (Job Only)

Identifies the actual destination that printed or transmitted this job.

> ### GUI Label
> Destinations used
>
> ### DSS
> All
>
> ### Type
> Non-settable, multi-valued
>
> ### Input Synonym
> You can use the synonym **printers-used**.
>
> ### Allowed Values
> Infoprint sets this value to the names of the actual destinations where it sent the job.
>
> ### Default Values
> No default value
>
> ### Usage Guidelines
> Normally this value only contains one actual destination name. However, if Infoprint restarted the job on another actual destination because the first actual destination failed for some reason, this value could contain more than one actual destination name.

device-support-system-requested

See **dss-requested**.

discard-time (Job Only)

See **job-discard-time**.

dss-requested

Identifies the destination support system (DSS) requested for the job.

GUI Label
Actual destination type requested

DSS
All

Type
Resettable, single-valued

Input Synonyms
You can use the synonyms **device-support-system-requested** or
d-s-s-requested.

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
aix	**piobe**
bsd	
psf	
3170	
email	
fax	
IP2000	

Default Value
No default value

Usage Guidelines
- Infoprint validates jobs using this attribute against the logical and actual
  destination attribute **device-support-system**.
- Infoprint schedules the job against the actual destination attribute
  device-support-system.

end-message

See **job-end-message**.

estimated-completion-time (Job Only)

Indicates the time when Infoprint expects the job to finish printing or transmitting.

GUI Label
Estimated completion time

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets the value for this attribute in the local time format; USA is *"HH:MM:SS
mm/dd/yy"*.

Default Value
No default value

Usage Guidelines
- Infoprint uses the values it calculated for the **estimated-processing-time** attribute of this job and the jobs ahead of it in the queue to estimate the job's completion time.
- Infoprint can calculate a value for this attribute only when the queue attribute **assign-to-destination** is set to **true**.

estimated-processing-time (Job Only)

Indicates how long the job should take to process.

GUI Label
Estimated processing time

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a value using *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
No default value

Usage Guidelines
- Infoprint uses the values of the **total-job-octets** and **job-complexity** attributes to estimate the job's processing time. You can change this value.
- Infoprint can calculate a value for this attribute only when the queue attribute **assign-to-destination** is set to **true**.

formatted-job-ticket-content (Job Only)

Contains the job ticket document for the job in human-readable format.

DSS
PSF, Email, Fax, 3170, Infoprint 2000

Type
Non-settable, single-valued

Input Synonyms
You can use the synonym **job-ticket-content** or **ticket-content**.

Allowed Values
Infoprint sets the value of this attribute to the contents of the formatted job ticket document.

Default Value
No default value

global-id (Job Only)

See **job-identifier**.

hold

See **job-hold**.

initial-value-job (Job Only)

Identifies the default job (within a given server) that Infoprint uses to create this job.

DSS
All

Type
Initially settable, single-valued

Allowed Values
You can enter the name of an existing default job.

Default Value
No default value

Usage Guidelines
If you specify a value for this attribute, the job uses the attributes and values from the specified object unless you override those with attribute values supplied at the command line.

initial-value-job-identifier (Default Job Only)

Identifies this default job within the server.

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *DefaultJobName* value of the **pdcreate** command argument *ServerName:DefaultName* when this default job is created.

Default Value
No default value

Usage Guidelines
The value for this attribute must be unique within a server.

intervening-jobs (Job Only)

Indicates the number of jobs in the queue before this job.

GUI Label
Position in queue

DSS
All

Type
Non-settable, single-valued

Input Synonyms
You can use the synonym **position-in-queue** or **queue-position**.

Allowed Values
Infoprint sets and updates this value to an integer from 0 through 2147483647.

Default Value
No default value

Usage Guidelines
- This attribute provides status information.
- A value of zero (**0**) means that the job is currently printing or transmitting.

job-batch

Specifies that you have marked the job you are submitting as a specific type of job. Infoprint processes this job only on an actual destination that is ready to print or transmit that specified job-batch type.

GUI Label
Batch

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that contains the job-batch name.

Default Value
No default value

Usage Guidelines
Infoprint schedules jobs using this attribute against the **job-batches-ready** actual destination attribute.

job-client-id (Job Only)

Identifies the local job identifier number for the job.

GUI Label
ID

DSS
All

Type
Resettable, single-valued

Allowed Values
Infoprint sets this value from 1 through the number specified as the value for the **PDIDTABLE** environment variable.

Default Value
No default value

job-comment

Provides information associated with this job.

GUI Label
Description

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **comment**.

Allowed Values
You can enter a text string of up to 4095 characters that contains information associated with this job.

Default Value
No default value

job-complexity

Indicates the relative complexity of the job, based on the contents of the documents in the job. For example, a job with many graphics is more complex than a job that is mostly text.

GUI Label
Complexity (1–10)

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter an integer from **1** to **9**.

Default Value
3

Usage Guidelines
- The default value, **3**, represents an average job. A job with complexity **1** is one-third as complex as the average job; a job with complexity **9** is three times as complex as average.
- Infoprint uses this value and the size of the job to estimate the job processing time.
- Infoprint uses this attribute only when the queue attribute **assign-to-destination** is set to **true**.

job-copies-completed (Job Only)

Indicates the total number of copies of the job that have finished printing or transmitting.

GUI Label
Copies completed

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets and updates this value to an integer from 0 through 2147483647 when:

AIX	Each job copy completes.
BSD	Each result-set completes.
Infoprint 2000	Each result-set completes.
PSF	Each job copy completes.
3170	Each result-set completes.
Email	Each result-set completes.
Fax	Each result-set completes.
Passthrough	Each result-set completes.
IPP	Each result-set completes.

Default Value
No default value

job-deadline-time (Job Only)

Specifies the time or time and calendar date by which you want to the job to complete.

GUI Label
Deadline time

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a value using the local time format. The USA format is *HH:MM:SS* or *"HH:MM:SS mm/dd/yy"*. You must delimit the string with quotation marks if you specify a date. If you specify a time but no date, the date defaults to today.

Default Value
No default value

job-discard-time (Job Only)

Specifies the time or time and calendar date at which Infoprint discards the job even if it is not complete.

GUI Label
Discard time

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **discard-time**.

Allowed Values
You can enter a value using the local time format. The USA format is *HH:MM:SS* or *"HH:MM:SS mm/dd/yy"*. You must delimit the string with quotation marks if you specify a date. If you specify a time but no date, the date defaults to today.

Default Value
No default value

job-end-message

Provides a message conveying information about output handling when the job is complete.

GUI Label
End message

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **end-message**.

Allowed Values
You can enter a text string of up to 4095 characters that contains instructions to an operator, such as special output delivery instructions.

Default Value
No default value

Usage Guidelines

- Infoprint validates and schedules jobs using this attribute against the destination attribute **end-message-supported**.
- Infoprint sends this message if the attribute **end-message-supported** value is **true** for the actual destination to which Infoprint submitted the job.
- The destination attribute **notify-operator** identifies the operators that are to receive the message.

job-finishing

Identifies the finishing options for this job.

GUI Label
Finishing options

DSS
PSF, Infoprint 2000

Type
Resettable, multi-valued

Allowed Values
For PSF, you can enter any of these fixed values:
    edge-stitch
    edge-stitch-2
    edge-stitch-3
    saddle-stitch
    staple-bottom-left
    staple-top-left

For Infoprint 2000, you can enter any of these fixed values:
    edge-stitch-2

> **saddle-stitch**
> **staple-bottom-left**
> **staple-top-left**
> **booklet-stitch-and-fold**
> **booklet-stitch-fold-and-trim**

Default Values
No default values

Usage Guidelines
- **edge-stitch-2**, **edge-stitch-3**, and **edge-stitch** all staple one edge of the job. The difference is the number of staples: 2, 3, or the finisher default.
- The placement of staples in relation to the data depends on the image orientation and the way the paper is loaded in the printer. Letter and A4 paper are normally loaded long edge first, but are loaded short edge first when rotated. Long media sheets, like legal paper, are always loaded short edge first.

Table 13. Staple Position for PSF DSS

	Long Edge First		Short Edge First	
Value	*Portrait*	*Landscape*	*Portrait*	*Landscape*
edge-stitch **edge-stitch-2** **edge-stitch-3**	Left edge	Top edge	Top edge	Right edge
saddle-stitch	Not valid		Across center of sheet	
staple-bottom-left	Bottom left	Top left	Top left	Top right
staple-top-left	Top left	Top right	Top right	Bottom right

- For PSF DSS, **saddle-stitch** is valid only for the following medium sizes, all loaded short edge first:
  > **A3**
  > **A4** (rotated)
  > **ledger**
  > **legal**
  > **letter** (rotated)
- For PSF DSS, when you specify a value for **job-finishing**, Infoprint creates a form definition. Do not use the document attribute **form-definition** to specify another form definition.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **job-finishings-supported**.

job-hold

Indicates whether Infoprint can schedule the job for printing or transmission.

GUI Label
Hold

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **hold**.

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value

Default job	No default value
Job	**false**

Usage Guidelines
- If **job-hold** is **true**, the **job-state** changes to **held** and Infoprint sets the **job-state-reasons** to **job-hold-set**.
- A held job remains in the queue until:
  - **job-hold** is set to **false** and the job is printed or transmitted.
  - The time set in the **job-discard-time** attribute is reached and the job is discarded.
- When a job with **job-rip-action=rip-and-print-ignore-ready** is placed in the **held** state after RIPping because a required resource is not ready, the value of **job-hold** remains **false**. The job is automatically released when all required resources become ready.

job-identifier (Job Only)

Identifies the global job identifier. The global job ID uniquely identifies the job within the server.

GUI Label
Global ID

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **global-id**.

Allowed Values
Infoprint sets this value.

Default Value
No default value

job-log (Job Only)

Contains messages that Infoprint issues as this job is processed.

DSS
All

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets the value of this attribute to the messages issued as the job is processed.

Default Values
No default value

Usage Guidelines
Infoprint creates this attribute when the value of the **delivery-method** component of the **notification-profile** attribute is **job-log**.

job-media-sheet-count (Job Only)
Identifies the estimated total number of sheets used to print the job.

GUI Label
Number of media sheets

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **media-sheet-count**.

Allowed Values
You can enter an integer from 1 through 2147483647.

Default Value
No default value

job-message-from-administrator (Job Only)
Describes the reasons that you are changing or have changed the job.

GUI Label
Message from administrator

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **message-from-administrator**.

Allowed Values
The administrator can enter a text string up to 4095 characters long that provides information concerning why a given action was taken. The administrator uses the **-m** flag or the command attribute **message** of certain Infoprint commands. See "Usage Guidelines" for how you can set the value.

Default Value
No default value

Usage Guidelines
Set this attribute by specifying a value with the **-m** flag or the **message** command attribute of these commands:

pdmod
pdpause
pdpromote
pdresume
pdrm
pdset

job-message-to-operator

Provides a message that Infoprint can send to an operator when it adds the job to
the queue.

GUI Label
Message to operator

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **message-to-operator**.

Allowed Values
You can enter a text string of up to 4095 characters that contains information about
job processing requirements, such as some type of special handling.

Default Value
No default value

Usage Guidelines
The queue attribute **notify-operator** identifies the operator who receives the
message.

job-name

Provides a human-readable job identification.

GUI Label
Name

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **name**.

Allowed Values
You can enter a text string of up to 255 characters that contains the identification.
The string can include any of the following characters:
    Uppercase alphabetic characters (A-Z)
    Lowercase alphabetic characters (a-z)
    Numeric characters (0-9)
    Underscore (_)
    Hyphen (-)
    Period (.)

Job/Default Job

Default Value

Default job	No default value
Job	The file name of the first document in the job

Usage Guidelines
For PSF, this identification may print on the start sheet in the **JOB NAME** field.

job-originator (Job Only)

Identifies the person who submitted the job or the program that initiated the job.

DSS
All

Type
Initially settable, single-valued

Input Synonym
You can use the synonym **originator**.

Allowed Values
You can enter a text string up to 255 characters long that contains the name, login ID, or login ID and node of the person submitting the job, or the name of the program initiating the job.

Default Value
username@node of the person submitting the job.

Usage Guidelines
You can use this attribute to identify yourself by name or to identify the program that initiated the job.

job-owner (Job Only)

Identifies the person responsible for the job by name or login ID.

GUI Label
Sent by

DSS
All

Type
Initially settable, single-valued

Input Synonym
You can use the synonym **owner**.

Allowed Values
You can enter a text string of up to 255 characters. Normally the string contains the *username@node* of the person that is responsible for this job.

Default Value
The value of the job attribute **job-originator**.

Usage Guidelines
- You can use this attribute to specify a person other than yourself who is responsible for the job.
- For BSD, Infoprint maps this attribute value to the **qprt -D** option.
- For PSF, this identification may print on the start sheet in the **USERID** field.

job-page-count (Job Only)

Identifies the estimated total number of pages in the job.

GUI Label
Number of pages

DSS
All

Type
Resettable, single-valued

Allowed Values
An integer from 1 through 2147483647.

Default Value
The total of the values of the **page-count** attribute for all documents multiplied times the value in the **copy-count** attribute (and the **job-copies** component in the **results-profile**) for all the documents in the job.

Usage Guidelines
* Infoprint calculates the value for **job-page-count** as follows:
  1. Multiplying the value for the total number of printable pages specified with the **page-count** document attribute for all printable documents in the job times the value for the **copy-count** document attribute for all printable documents in the job.
  2. Infoprint then multiplies the value from step 1 times the **job-copies** component of the **results-profile** job attribute and inserts the result of this multiplication in the **job-page-count** attribute.
* If you choose to specify a value for the **job-page-count** attribute, the value should closely represent the total number of pages expected for the complete job.
* Infoprint determines the size of a job based on the total number of octets (bytes) in the job. For operator job-management purposes, you may find that job size based on pages is easier.

  Note: This attribute overrides the page count that Infoprint calculates.

job-print-after (Job Only)

Specifies the time or time and calendar date after which Infoprint can schedule the job for printing or transmission.

GUI Label
Print after

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **print-after**.

Allowed Values

You can enter a value using the local time format. The USA format is *HH:MM:SS* or *"HH:MM:SS mm/dd/yy"*. You must delimit the string with quotation marks if you specify a date. If you specify a time but no date, the date defaults to today.

Default Value

No default value

Usage Guidelines

- If you submit the job before the specified time, Infoprint sets the **job-state** to **held** and the **job-state-reasons** attribute value for the job is **job-print-after-specified**.
- If you submit the job after the specified time, the job is printed or transmitted as soon as possible.

job-priority

Specifies a number representing the scheduling priority for the job. Queues that employ a priority-based scheduler use this attribute. A larger value specifies a higher priority.

GUI Label

Priority (1–100)

DSS

All

Type

Resettable, single-valued

Allowed Values

You can enter an integer from 1 to 100.

Default Value

Default job	No default value
Job	**50**

Usage Guidelines

If you use DCE:

- A job submitter cannot set this value higher than 50 unless the job submitter is an administrator. If the job submitter specifies a value greater than 50, Infoprint sets the value to 50.
- An administrator can set the value to any valid value.

job-retain-until (Job Only)

Specifies the time or time and calendar date until which Infoprint retains the completed job before the server discards it.

GUI Label

Retain until

DSS

All

Type

Resettable, single-valued

Allowed Values

You can enter a value using the local time format. The USA format is *HH:MM:SS* or *"HH:MM:SS mm/dd/yy"*. You must delimit the string with quotation marks if you specify a date. If you specify a time but no date, the date defaults to today.

Default Value

No default value

Usage Guidelines

You can specify a value for either **job-retain-until** or **job-retention-period**, but not both.

job-retention-period

Specifies the period of time that Infoprint retains the job before the server discards it, whether it has completed or not.

GUI Label

Retain for

DSS

All

Type

Resettable, single-valued

Input Synonym

You can use the synonym **retention-period**.

Allowed Values

You can enter a value using *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value

No default value

Usage Guidelines

• You can specify a value for either **job-retain-until** or **job-retention-period**, but not both.

• The retention period starts when the job enters the **retained** state.

job-rip-action

Indicates that Infoprint should convert the job to raster image patterns and whether to hold the RIPped job, print or transmit it, or neither.

GUI Label

Rip option

DSS

PSF, Email, Fax, 3170, Infoprint 2000

Type

Resettable, single-valued

Allowed Values

You can enter one of these fixed values:

Fixed Value
        Explanation

rip-and-hold, rip-and-hold-ignore-ready
Infoprint RIPs the job and returns it to the scheduler in the **held** state. The value of the **job-state-reasons** attribute is **rip-and-hold-completed**.

rip-and-print
If all required resources are ready on an actual destination, Infoprint RIPs and prints the job. Otherwise, Infoprint returns the job to the scheduler in the **held** state, without RIPping it. The value of the **job-state-reasons** attribute is **required-resource-not-ready**.

rip-and-print-ignore-ready
If all required resources are ready, Infoprint RIPs and prints the job. Otherwise, Infoprint RIPs the job and returns it to the scheduler in the **held** state. The value of the **job-state-reasons** attribute is **rip-completed**. When the required resources become ready, Infoprint automatically releases the job to print.

rip-only, rip-only-ignore-ready
Infoprint RIPs the job and discards or retains it according to the values of the **job-retain-until** and **job-retention-period** attributes. For a retained job, the value of the **job-state-reasons** attribute is **completed**, **completed successfully**, or **completed with errors**.

Default Value
No default value

Usage Guidelines
- Use the **rip-only** and **rip-only-ignore-ready** values to test for RIPping errors.
- The **rip-and-hold** and **rip-and-hold-ignore-ready** values override a value of **false** for the server **save-rip-files** attribute.
- Infoprint validates and schedules jobs using this attribute against the destination attribute **job-rip-actions-supported**.

job-ripped-by-server

Indicates whether Infoprint should convert the job to MOD:CA-P and transmit it as email or to be printed on the Infoprint Infoprint 2000. If this attribute is **true**, the server converts the job into MOD:CA-P. If this attribute is **false**, the server determines if the job can be printed directly by the Infoprint Infoprint 2000 printer or sent directly as email without converting to MOD:CA-P. When a job cannot be handled directly without conversion, the job is requeued on the spooler.

GUI Label
Override RIP at destination

DSS
Email, Infoprint 2000

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true

Usage Guidelines

- When a job requires special processing of its input files, the server transforms the job into MOD:CA-P regardless of the **job-ripped-by-server** job attribute or the document formats listed in the **document-formats-ripped-at-destination** actual destination attribute.

- The following document formats cannot be converted to MOD:CA-P:
  - ASCII
  - KGL
  - LCDS
  - METACODE

  Infoprint sends these document formats in passthru mode. For documents to print successfully in passthru mode, the **job-finishing** job attribute and the following document attributes must not be specified:
  - **account-text**
  - **base-printer**
  - **carriage-control-type**
  - **chars**
  - **convert-to-ebcdic**
  - **default-character-mapping**
  - **default-medium**
  - **default-font-fidelity-action**
  - **form-defintion**
  - **halftone**
  - **image-fit**
  - **image-length**
  - **image-width**
  - **input-exit**
  - **new-line-option**
  - **number-up**
  - **other-transform-options**
  - **output-bin**
  - **output-format**
  - **overlay**
  - **page-defintion**
  - **page-select**
  - **plex**
  - **printer-pass-through**
  - **resource-context**
  - **resource-context-font**
  - **resource-context-form-definition**
  - **resource-context-page-definition**
  - **resource-context-page-segment**
  - **resource-context-overlay**
  - **resource-context-user**
  - **shift-out-shift-in**
  - **sides**
  - **start-on-new-sheet**
  - **subject-text**
  - **table-reference-characters**
  - **transform-message-file-name**
  - **transform-output-file-name**
  - **x-image-shift**

| **x-image-shift-back**
| **y-image-shift**
| **y-image-shift-back**

| **Note:** If any of these attributes are specified, Infoprint converts the job to
| MOD:CA-P.
| • When the **job-finishing** job attribute and the following document attributes are
| specified for an email with color, Infoprint converts the job into MOD:CA-P and
| presents the email in black and white:
| **account-text**
| **address1-text**
| **address2-text**
| **address3-text**
| **address4-text**
| **carriage-control-type**
| **chars**
| **convert-to-ebcdic**
| **default-character-mapping**
| **font-fidelity-action**
| **font-resolution**
| **form-defintion**
| **image-fit**
| **image-length**
| **image-width**
| **input-exit**
| **new-line-option**
| **number-up**
| **other-transform-options**
| **output-bin**
| **output-format**
| **overlay**
| **page-defintion**
| **page-select**
| **plex**
| **resource-context**
| **resource-context-font**
| **resource-context-form-definition**
| **resource-context-page-definition**
| **resource-context-page-segment**
| **resource-context-overlay**
| **resource-context-user**
| **shared-formdef**
| **shift-out-shift-in**
| **sides**
| **table-reference-characters**
| **transform-message-file-name**
| **transform-output-file-name**
| **x-image-shift**
| **y-image-shift**

| **Note:** If any of these attributes are specified, Infoprint converts the job to
| MOD:CA-P.

| In addition to the listed attributes, any of the following job characteristics also
| require that Infoprint converts the job into MOD:CA-P:
| – Job contains more than one printable document.

- Job contains an insert sheet.
- Job contains a file-reference document.
- Job contains a document whose document-format is MOD:CA-P.
- Job requests **job-rip-action**=**rip-and-hold**, **rip-only**, **rip-only-ignore-ready**, or **rip-and-hold-ignore-ready**.
- Job requests more than one copy with the **copy-count** attribute.
- Job contains a variable data document.
- Job contains a resource document.
- Job contains a dcoument-definition-document.

job-size (Job Only)

See **total-job-octets**.

job-start-message

Provides a message that Infoprint can send to an operator when the job starts printing or transmitting. This message can alert the operator to something special about the job, for example, that the job contains confidential information.

GUI Label
Start message

DSS
All

Type
Resettable, single-valued

Input Synonym
You can use the synonym **start-message**.

Allowed Values
You can enter a text string of up to 4095 characters that contains information about the job such as:

```
"This job is very important; call me if there is a problem."
```

Default Value
No default value

Usage Guidelines
- Infoprint validates and schedules jobs using this attribute against the destination attribute **start-message-supported**.
- Infoprint sends a message if the actual destination attribute **start-message-supported** value is **true** for the actual destination to which Infoprint submitted the job.
- The destination attribute **notify-operator** contains the identity of the operators that are to receive the message.
- Sending the start message does not stop the job; normally the job is printed or transmitted without operator intervention.
- Sending a start message is particularly useful for AIX printer devices that have manual forms feed capabilities. The user can send a message alerting the operator to load a special type of paper before starting the job.
- Use this attribute with the **job-start-wait** attribute for jobs that require operator intervention, for example, loading special forms in the printer device. If the values of the **job-start-message** and **job-start-wait** are true, when the job is about to be printed or transmitted, Infoprint pauses the actual destination and the person

specified by the actual destination **notify-operator** attribute receives the message specified by the **job-start-message** attribute. When the operator resumes the actual destination, the job is printed or transmitted.

job-start-wait

Pauses the actual destination just before the job is printed or transmitted.

GUI Label
Wait to start job

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value

Default job	No default value
Job	**false**

Usage Guidelines

- Use this attribute with the **job-start-message** attribute for jobs that require operator intervention, for example, loading special forms in the printer device. If the values of the **job-start-wait** and **job-start-message** are true, when the job is about to be printed or transmitted, Infoprint pauses the actual destination and the person specified by the actual destination **notify-operator** attribute receives the message specified by the **job-start-message** attribute. When the operator resumes the actual destination, the job is printed or transmitted.

- Infoprint validates and schedules jobs using this attribute against the destination attribute **job-start-wait-supported**.

job-state (Job Only)

See **current-job-state**.

job-state-reasons (Job Only)

Identifies the reasons that a job is in the **held**, **terminating**, or **retained** state. If this attribute value is blank, the job is not in one of these states.

GUI Label
Reasons

DSS
All

Type
Non-settable, multi-valued

Input Synonyms
You can use the synonym **state-reasons** or **reasons**.

Allowed Values

Infoprint sets this value to any of these fixed values:

Fixed Value   Explanation

aborted-by-system

> The server aborted the job.

cancelled-by-operator

> An operator or system administrator cancelled the job.

cancelled-by-user

> The person who submitted the job cancelled the job.

completed   The job completed without any errors or warnings that Infoprint could detect. This does not guarantee that there were no errors of any kind.

completed-successfully

> The job completed without any errors or warnings.

completed-with-errors

> The job completed with errors. Based on the **dss-job-message-disposition** actual destination attribute, the messages associated with the errors either print at the end of the job or in a message log. See "dss-job-message-disposition" on page 367.

deadline-in-jeopardy

> The value of the **estimated-completion-time** attribute for the job is later than the time specified by the **job-deadline-time** attribute; or the time specified by the **job-deadline-time** attribute is past.

imposition-failed

> Infoprint could not arrange the pages in the job on the press sheet.

> **Note:** You will see this reason only if the job is retained or if the value of the **requeue-failed-jobs** queue attribute is **true**. When neither of these conditions is true, jobs that fail to impose are discarded.

job-hold-set   The job is in a queue and the **job-hold** job attribute of the job has a **true** value.

job-print-after-specified

> The job is in a queue and the time specified by the **job-print-after** job attribute has not yet occurred.

required-resource-not-ready

> The job is in a queue but Infoprint cannot schedule it because one or more of the resources required by the job (such as media, fonts, and so on) are not ready on any of the actual destinations that can accept the job. The job's **required-resource-not-ready** attribute identifies the resources that need to be made ready.

required-resource-not-supported

> The job is in a queue but Infoprint cannot schedule it because none of the actual destinations that can accept the job support one or more of the resources required by the job (such as media, fonts, and so on). The job's **required-resource-not-supported** attribute identifies the resources that are not supported.

rip-and-hold-completed

> The RIP has successfully converted the job. The job has not been

scheduled because the value of the **job-rip-action** attribute is **rip-and-hold** or is **rip-and-hold-ignore-ready**.

rip-completed A job with **job-rip-action=rip-and-print-ignore-ready** has been RIPped, but Infoprint cannot schedule it because one or more of the resources required by the job are not ready on any of the actual destinations that can accept the job. Jobs held for this reason are released automatically when the required resources become ready.

rip-failed The RIP failed to convert the job.

> **Note:** You will see this reason only if the job is retained or if the value of the **requeue-failed-jobs** queue attribute is **true**. When neither of these conditions is true, jobs that fail to rip are discarded.

Default Values
No default values

job-submission-complete (Job Only)

Indicates whether the server has received all documents of the job.

GUI Label
Submission complete

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:
  true
  false

Default Value
No default value

job-ticket-content

See **formatted-job-ticket-content**.

last-accessor (Job Only)

See **name-of-last-accessor**.

last-modifier (Job Only)

See **name-of-last-accessor**.

list-of-managers (Default Job Only)

Identifies the persons responsible for the maintenance of this default job.

DSS
All

Type
Resettable, multi-valued

Input Synonym

You can use the synonym **managers**.

Allowed Values

You can enter a text string up to 255 characters long, per value, that contains the name or user ID of the person responsible for this default job.

Default Values

No default values

Usage Guidelines

This attribute is useful if a user needs to contact someone to report a problem or to request a change.

locations-requested

See **destination-locations-requested**.

logical-destinations-ready (Default Job Only)

Lists the enabled logical destinations that reference this default job.

DSS

All

Type

Non-settable, multi-valued

Allowed Values

Infoprint sets or deletes a text string containing the global ID of any logical destination that references this default job when the logical destination is enabled or disabled.

Input Synonym

You can use the synonym **logical-printers-ready**.

Default Values

No default values

Usage Guidelines

- Infoprint adds a value when a logical destination that references this default job through its **destination-initial-value-job** attribute is enabled.
- Infoprint removes a value when a logical destination that references this default job is disabled.
- You cannot delete this default job until Infoprint has removed all logical destinations from this list.

logical-printer-requested

See **destination-name-requested**.

logical-printers-ready (Default Job Only)

See **logical-destinations-ready**.

managers (Default Job Only)

See **list-of-managers**.

media-sheet-count (Job Only)

See **job-media-sheet-count**.

media-sheets-completed (Job Only)

Reports the number of sheets that have been used to print this job.

GUI Label
Media sheets completed

DSS
PSF, Email, Fax, Infoprint 2000, Passthrough

Type
Non-settable, single-valued

Allowed Values
Infoprint sets and updates this value to an integer from 0 through 2147483647 at the completion of each result-set.

Default Value
No default value

Usage Guidelines
How this value relates to the value of **pages-completed** depends on the values of the **output-format**, **number-up**, and **sides** document attributes.

- For a single-sided, 1-up job, **pages-completed** is equal to **media-sheets-completed**.
- For a single-sided, slit-and-merge (2-up) job, **pages-completed** is twice as large as **media-sheets-completed**.
- For a double-sided, 3-up job, **pages-completed** is six times as large as **media-sheets-completed**.

message (Default Job Only)

Provides a message associated with the default job.

DSS
All

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that provides information about this object.

Default Value
No default value

message-from-administrator (Job Only)

See **job-message-from-administrator**.

message-to-operator

See **job-message-to-operator**.

models-requested

See **destination-models-requested**.

modification-time (Job Only)

Identifies the time when the last modification to this job occurred.

> **GUI Label**
> Last modified

> **DSS**
> All

> **Type**
> Non-settable, single-valued

> **Allowed Values**
> Infoprint sets this value in the local time format; for example, *"HH:MM:SS mm/dd/yy"* in the USA.

> **Default Value**
> No default value

name

See **job-name**.

name-of-last-accessor (Job Only)

Identifies the person or program that submitted the job, or most recently modified the job.

> **GUI Label**
> Last modified by

> **DSS**
> All

> **Type**
> Non-settable, single-valued

> **Input Synonyms**
> You can use the synonym **last-accessor** or **last-modifier**.

> **Allowed Values**
> Infoprint sets this value to the login ID of the person or the name of the program that submitted or most recently modified the job.

> **Default Value**
> The login ID of the person or the name of the program that submitted or most recently modified the job.

new-job-identifier (Job Only)

Identifies the global job identifier for a job resubmitted to a logical destination on a different server than where you first submitted the job.

> **GUI Label**
> New ID

Job/Default Job

DSS

All

Type

Non-settable, single-valued

Allowed Values

Infoprint sets this value to the correct values for *ServerName:JobIdentifier*

Default Value

No default value

Usage Guidelines

If you resubmit the job to a logical destination on the same server, the job identifier remains the same.

notification-profile

Designates the people that Infoprint notifies when specified events relating to this job occur and how Infoprint notifies the people.

GUI Label

Notification profile

DSS

All

Type

Resettable, multi-valued, complex

Syntax

-x "notification-profile={event-identifiers=*event* ...
delivery-address=*name@node* **delivery-method=***value*
event-comment='*some text*' **locale=***locale*}"

For example,

```
-x "notification-profile={event-identifiers=class-state-changed
   job-completed delivery-address=joe@newhope delivery-method=message
   locale=En_US.IBM-850}"
```

You can omit any of these components.

Components

event-identifiers: Specifies the events for which the addressee receives notification that something has taken place.

GUI Label: Events

Type: Multi-valued

Allowed Values: The values can be any of the job events or classes of job events listed for the server. See the **events-supported** attribute for the server for more information.

Default Values:

- For default jobs, this component has no default values.

- For jobs, the default values are **document-aborted-by-destination**,
  document-aborted-by-server, **document-cancelled-at-destination**,
  job-aborted-by-server, **job-cancelled-by-operator**, **job-cannot-be-scheduled**,
  job-completed, **past-discard-time**, **destination-needs-attention**,
  destination-needs-operator, **destinations-not-ready-for-job**

delivery-address: Specifies the address of the person that receives the event
messages or the directory and file name where Infoprint sends the message.

GUI Label: Address

Type: Single-valued

Allowed Values: You can enter a text string that contains the name and node of
the person that receives the information or the path to the file.

Default Value:
- For default jobs, this component has no default value.
- For jobs, the default value is the login ID of the person who submitted the job.

delivery-method: Specifies how the user or file receives event messages.

GUI Label: Method

Type: Single-valued

Allowed Values: You can enter one of these fixed values:

Fixed Value	**Input Synonym**
electronic-mail	**e-mail**, **email**
file	
file-add-to	
job-log	
message	
sapcb	
none	

Default Value: **message**

Usage Guidelines:
- If you specify a value of **file** or **file-add-to**, you must specify a value for the
  delivery-address component.
- If you specify a value of **job-log**, you cannot specify a value for the
  delivery-address component.
- The **sapcb** notification method causes the SAP callback daemon to return
  messages about job events to the SAP database. The SAP print command sets
  this value; you should never have to specify it.

event-comment: Provides information that Infoprint appends to the event
message.

GUI Label: Comment

Type: Single-valued

Job/Default Job

Allowed Values: You can enter a text string of up to 4095 characters that supplies additional information.

Default Value: No default value

locale:

Type: Single-valued

Allowed Values: You can enter the name of any locale for which the Infoprint messages in the corresponding language are installed.

Default Value:
- For default jobs, this component has no default value.
- For jobs, the default value is the locale of the user who submitted the job.

Usage Guidelines
A default job can have a notification profile that only has one or two components set. When you request this default job for a job, Infoprint fills the remaining components with default values for that job.

number-of-documents (Job Only)

Identifies the number of documents in the job, including resource documents such as fonts.

GUI Label
Number of documents in job

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to an integer from 1 through 2147483647.

Default Value
No default value

object-class

Identifies the object class to which this object belongs.

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **job** for a job or to **initial-value-job** for a default job.

Default Value

Job	**job**
Default job	**initial-value-job**

octets-completed (Job Only)

Reports the number of octets (bytes) in this job that have been printed or transmitted.

GUI Label
KBytes completed

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets and updates this value to an integer from 0 to 9223372036854775800 when:

AIX You query the job or after each document copy completes.
BSD Each result-set completes.
PSF Each result-set completes.
3170 Each result-set completes.
Email Each result-set completes.
Fax Each result-set completes.
Passthrough
    Each result-set completes.
IPP Each result-set completes.

Default Value
No default value

optimize-for-multiple-copies

Used with the **optimize-for-multiple-copies** actual destination attribute to indicate whether the destination should save pages in order to print multiple copies of the job faster.

GUI Label
Optimize copies

DSS
PSF

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value

Usage Guidelines
• This attribute is used in combination with the **optimize-for-multiple-copies** actual destination attribute:

Job/Default Job

Job Attribute	Destination Attribute	Results
true	**true**	Pages are saved
true	**false**	Pages are not saved
false	**true**	Pages are not saved
false	**false**	Pages are not saved
No value	**true**	Pages are saved
No value	**false**	Pages are not saved

• If the actual destination cannot save pages, the job is printed and this attribute is ignored.

originator (Job Only)

See **job-originator**.

owner (Job Only)

See **job-owner**.

pages-completed (Job Only)

Reports the number of pages in this job that have been printed, and if you are using the PSF DSS, stacked.

GUI Label
Pages completed

DSS
AIX, PSF, Infoprint 2000, Email, Fax

Type
Non-settable, single-valued

Allowed Values
Infoprint sets and updates this value to an integer from 0 through 2147483647 when:

AIX   You query the job or after each document copy completes.

PSF   The number of pages specified by the actual destination attribute **ack-interval** have printed and at the completion of each result-set.

Default Value
No default value

Usage Guidelines
PSF DSS

The differences between this attribute and **current-page-printing** are:

• **current-page-printing** is the number of the page being printed or transmitted, while **pages-completed** is the number of pages placed in the stacker. For example, when page 12 of the first copy of a double-sided job is printing, the value of **current-page-printing** is 12 and the value of **pages-completed** is 10.

• **current-page-printing** is reset with every job copy, while **pages-completed** is cumulative within a job. For example, when page 6 of the second copy of a 10-page job is printing, the value of **current-page-printing** is 6. When the same page is stacked, the value of **pages-completed** is 16.

Note: Stacking is applicable only with the PSF DSS.

AIX DSS

The AIX DSS determines **pages-completed** in the following order:

1. If the page count presented by the backend is not zero, Infoprint uses that page count.
2. If the user specified a page count with the **page-count** document attribute, Infoprint uses that page count.
3. When Infoprint can determine a page count form the PostScript or PCL input, Infoprint uses that page count.

Email and Fax DSSs

Infoprint uses the number of pages completed when the email or fax is successful.

Note: Infoprint does not count unsuccessful emails or faxes.

Infoprint 2000

Infoprint uses the number of pages in the job when it has been spooled to the Infoprint 2000 printer.

physical-printers-requested

See **actual-destinations-requested**.

position-in-queue (Job Only)

See **intervening-jobs**.

previous-job-state (Job Only)

Identifies the state of the job before the last job-state change.

GUI Label
Previous state

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **previous-state**.

Allowed Values
Infoprint sets and updates this value to one of these fixed values:
    cancelled
    held
    imposing
    paused
    pending
    pre-processing
    printing
    processing
    retained
    ripping
    terminating
    unknown

Job/Default Job

See the **current-job-state** attribute for a description of these values.

Default Value
No default value

previous-state (Job Only)

See **previous-job-state**.

print-after (Job Only)

See **job-print-after**.

printer-initial-value-job (Job Only)

See **destination-initial-value-job**.

printer-locations-requested

See **destination-locations-requested**.

printer-models-requested

See **destination-models-requested**.

printer-name-requested

See **destination-name-requested**.

printer-requested

See **destination-name-requested**.

printers-assigned (Job Only)

See **destinations-assigned**.

printers-used (Job Only)

See **destinations-used**.

processing-time (Job Only)

Reports the amount of time that the job has been printing or transmitting on the output device. If processing has completed, this value is the total amount of time needed to process the job.

GUI Label
Processing time

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets and updates this value using *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
No default value

Usage Guidelines
Infoprint updates this attribute when a user queries the job with the **pdls** command. Infoprint calculates the value by comparing the value of the **started-printing-time** job-attribute value with the current time.

queue-assigned (Job Only)

Identifies the queue to which Infoprint assigned the job.

GUI Label
Queue

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the name of the queue assigned.

Default Value
No default value

Usage Guidelines
If this attribute is blank, the job does not currently reside in a queue (it may be in the **retained** state).

queue-position (Job Only)

See **intervening-jobs**.

reasons (Job Only)

See **job-state-reasons**.

required-resources-not-ready (Job Only)

Lists attribute values that this job requires, but that are not ready on the actual destination to which this job is assigned, or if the job is not assigned, on the most suitable actual destination.

GUI Label
Resources not ready

DSS
All

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets this attribute to the names of the resources that are not ready.

Default Value
No default value

Usage Guidelines
• When the value of the actual destination attribute **force-destination-setup** is **true**, Infoprint can assign a job to an actual destination even if the required resources are not ready. When the job is about to be printed or transmitted,

Job/Default Job

Infoprint disables the actual destination and sends a message to the operator to make the destination ready. When the operator enables the destination, the job is processed.

- When the value of the actual destination attribute **force-destination-setup** is **false** for all suitable actual destinations, Infoprint holds jobs that require resources that are not ready and sets **required-resources-not-ready** to a list of those resources.

required-resources-not-supported (Job Only)

Lists attribute values that this job requires, but that are not supported by the actual destination to which this job is assigned, or if the job is not assigned, by the most suitable actual destination.

GUI Label
Resources not supported

DSS
All

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets this attribute to the names of the unsupported resources.

Default Value
No default value

Usage Guidelines
- Jobs that require unsupported attribute values can be found in the queue under either of these conditions:
  - The value of the server attribute **accept-unsupported-jobs** is **true**.
  - Job, document, or actual destination attributes change after the job has been accepted.
- When the value of the actual destination attribute **force-destination-setup** is **true**, Infoprint can assign a job to an actual destination even if the required resources are not supported. When the job is about to be printed or transmitted, Infoprint disables the actual destination and sends a message to the operator to make the destination ready. When the operator enables the destination, the job is printed or transmitted.
- When the value of the actual destination attribute **force-destination-setup** is **false** for all suitable destinations, Infoprint holds jobs that require resources that are not supported and sets **required-resources-not-ready** to a list of those resources.

results-profile

Specifies the delivery method for the hardcopy output, and designates who receives output and the number of copies for the recipient.

DSS
All

Type

AIX, BSD, PSF, IPP, Passthrough

Resettable, multi-valued, complex

Infoprint 2000   Resettable, single-valued, complex

Syntax

-x "results-profile=_name@node:method:number:'some text':bin_**"**

For example:

```
-x "results-profile=nr6445@bld25:pickup:2:'Please read'"
```

Components

delivery-address: Specifies the address of the person who receives the job output.

Type: Single-valued

Allowed Values: You can enter a text string that contains the address.
AIX   Prints the first 42 characters of the address.
PSF   Prints the first 8 characters of the address.

Default Value: The address of the person who submitted the job.

delivery-method:

Type: Single-valued

Allowed Values: You can only enter the fixed value of **pickup**.

Default Value: **pickup**

job-copies:

Type: Single-valued

Allowed Values: You can enter an integer identifying the number of copies. A value of **0** is an error.

Default Value: **1**

results-set-comment: Supplies a text string that describes the results-set value. This information may print on start sheets.

Type: Single-valued

Allowed Values: You can enter a text string of up to 4095 characters that provides information such as `"Please staple this document"` for the operator, or information such as `"Please read before meeting tomorrow"` for the person who receives the document.

Default Value: No default value

output-bin: The server does not support this component.

Usage Guidelines
The only component that the BSD DSS uses from this complex attribute is the _job-copies_ component.

retained-time (Job Only)

Identifies the time that the job entered the retained state.

GUI Label
Became retained

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets the value for this attribute in the local time format; USA is *"HH:MM:SS mm/dd/yy"*.

Default Value
No default value

Usage Guidelines
Provides status information.

retention-period

See **job-retention-period**.

start-message

See **job-start-message**.

started-printing-time (Job Only)

Identifies the time when Infoprint sent the job to the output device.

GUI Label
Started printing

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value using the local time format. The USA format is *"HH:MM:SS mm/dd/yy"*.

Default Value
No default value

state-reasons (Job Only)

See **job-state-reasons**.

submission-time (Job Only)

Identifies the time that Infoprint added the job to the queue.

GUI Label
Submit time

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value using the local time format. The USA format is *"HH:MM:SS mm/dd/yy"*.

Default Value
No default value

Usage Guidelines
The AIX DSS prints this information on the start sheet.

tape-exit (Job Only)

Identifies the user exit program used for reading this job from tape.

DSS
PSF (AIX Only), Email, Fax, Infoprint 2000

Type
Initially settable, single-valued

Allowed Values
You can enter any valid program name.

Default Value
No default value

Usage Guidelines
- You must use this attribute if the tape is not in a standard format, or if you do not specify the format for an unlabeled tape.
- The **pdls** command does not display the value of this attribute.

tape-format (Job Only)

Identifies the format of the tape from which Infoprint reads this job.

DSS
PSF (AIX Only), Email, Fax, Infoprint 2000

Type
Initially settable, single-valued

Allowed Values
You can enter one of these fixed values:
- **f**   IBM fixed-block format
- **v**   IBM variable-block format
- **j**   JES2 spool offload format
- **a**   Auto-detect. For IBM standard labeled tapes, Infoprint determines the tape format.
- **p**   Passthrough format. Data is passed from the tape to the tape exit program for formatting.

Default Value
IBM standard labeled tapes
     a

Job/Default Job

> **Nonstandard and unlabeled tapes**
>> p
>
> **Usage Guidelines**
> The **pdls** command does not display the value of this attribute.

tape-labeled (Job Only)

> Indicates whether the tape from which Infoprint reads this job is an IBM standard labeled tape.
>
> **DSS**
> PSF (AIX Only), Email, Fax, Infoprint 2000
>
> **Type**
> Initially settable, single-valued
>
> **Allowed Values**
> You can enter one of these fixed values:
>
> | *Fixed Value* | *Input Synonym* |
> |---|---|
> | **true** | **yes** |
> | **false** | **no** |
>
> **Default Value**
> **true**
>
> **Usage Guidelines**
> The **pdls** command does not display the value of this attribute.

tape-max-block-size (Job Only)

> Identifies the maximum block size of the tape from which Infoprint reads this job.
>
> **DSS**
> PSF (AIX Only), Email, Fax, Infoprint 2000
>
> **Type**
> Initially settable, single-valued
>
> **Allowed Values**
> You can enter an integer from 1 to 10485760.
>
> **Default Value**
> **32768**
>
> **Usage Guidelines**
> - The default value is acceptable for all IBM standard labeled tapes from MVS host systems. Use the **tdump** utility to determine the maximum block size for other tapes. See "tdump Utility: Outputs Tape Contents in Human-Readable Format in Infoprint Manager for AIX" on page 181.
> - The **pdls** command does not display the value of this attribute.

tape-rewind-before (Job Only)

> Indicates whether to rewind the tape before reading this job.
>
> **DSS**
> PSF (AIX Only), Email, Fax, Infoprint 2000

Type
Initially settable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
false

Usage Guidelines
The **pdls** command does not display the value of this attribute.

tape-rewind-unload (Job Only)

Indicates whether to rewind and unload the tape after reading this job.

DSS
PSF (AIX Only), Email, Fax, Infoprint 2000

Type
Initially settable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
The **pdls** command does not display the value of this attribute.

ticket-content (Job Only)

See **formatted-job-ticket-content**.

total-job-octets (Job Only)

Identifies the size of the job, which is the sum of all printable octets (bytes) in the job.

GUI Label
Size (KBytes)

DSS
All

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **job-size**.

Allowed Values
Infoprint sets this value to an integer from 0 to 9223372036854775800.

Default Value
No default value

Usage Guidelines
- The server computes this value by totaling the size of all printable documents, using this algorithm:
    1. For each printable document in the job, multiply the value of **octet-count** by the value of **copy-count**.
    2. Total the values from Step 1.
    3. Multiply the total by the value of **job-copies** component of the **results-profile** job attribute.
- Infoprint validates jobs using this attribute against the actual destination attribute **job-size-range-supported**.
- Infoprint schedules the job against the **job-size-range-ready** actual destination attribute and the **job-size-range-supported** actual destination attribute.

user-locale (Job Only)

Identifies the language of the information that appears on the start, separator, and end sheets printed with the job and the messages for the job.

GUI Label
Submitter locale

DSS
All

Type
Non-settable, single-valued

Allowed Values
The locale of the job submitter.

Default Value
Infoprint sets this value to the locale of the job submitter.

user-name (Job Only)

Identifies the login ID of the job submitter.

GUI Label
Submitter ID

DSS
All

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the login ID of the job submitter: *username@node*.

Default Value
No default value

Attributes for Logs

Infoprint automatically creates logs when a server initializes. These logs contain and keep track of such things as error messages and trace messages for the server and objects contained in the server. You cannot create or delete these logs, but you can enable or disable them. Infoprint uses a configuration file to set the initial values of attributes for error and trace logs when servers start.

The following restrictions apply to log attributes:

- The **log-severity** attribute applies only to error logs.
- The **log-trace-groups** attribute applies only to trace logs.
- You cannot set the values for the following attributes with the **pdset** command for trace logs. You can specify values using configuration files that Infoprint uses during server initialization.
    log-address
    log-size
    log-wrap

Initially Settable Attribute Listing

You set this attribute based on the object type.
    log-type

Resettable Attribute Listing

You can set these attributes with the **pdset** command after Infoprint creates the log.
    descriptor
    log-address
    log-severity
    log-size (error logs only; non-settable for trace logs)
    log-trace-groups
    log-wrap

associated-server

Indicates the name of the server in which this log resides.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the name of the server when it creates the log.

Default Value
No default value

descriptor

Provides a description of this log.

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that describes this log.

Default Value
If you do not enter a value, Infoprint sets the value to:

log

Log Type	Value
Error	**'This is the standard error log.'**
Trace	**'This is the standard trace log.'**

Usage Guidelines
The use of this attribute is optional. However, a detailed description of the way you set up this log is useful to someone who wants to obtain information from the log.

enabled

Indicates if the log is enabled. An enabled log writes messages to a log file.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:
> **true**
> **false**

Infoprint implicitly sets this value through the **pdenable** and **pddisable** commands.

Default Value
The default values are:

Log Type	Value
Error	**true**
Trace	**false**

log-address

Specifies the pathname where the log resides.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the pathname.

Default Value
The path defined by the **PDBASE** environment variable plus the ServerName (**$PDBASE/**ServerName).

log-identifier

Uniquely identifies this log.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the name of the log.

Default Value

Log Type	Value
Error	**default_error**
Trace	**default_trace**

log-messages

Contains error messages that Infoprint can return to you on a query.

Type
Non-settable, multi-valued

Allowed Values
Infoprint stores error log information as the value of this attribute.

Default Values
No default values

Usage Guidelines
Use this attribute in conjunction with the **pdls** command and its **message-count** attribute to query for error log information.

log-severity

Identifies the severity level of the messages that Infoprint logs in this error log.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Explanation*
error	This setting produces a minimum of logging. Infoprint only logs error messages. The letter **E** precedes each message. An error referencing a job signals a condition that may prevent the job from completing successfully, depending on the setting of other parameters.
warning	Infoprint logs both error and warning messages. The letter **W** precedes each warning message. A warning referencing a job signals a condition that will not prevent completion of the job, but may require some action on the part of the user or operator.
audit	This is the default log severity setting. Infoprint logs error, warning, and audit messages. The letter **A** precedes each audit message.
debug	This setting logs error, warning, audit, and debug messages. Servers generate debug messages when they begin processing each command and when they communicate with other servers. Debug messages are useful for helping to track what command a server was processing when an error occurred. The letter **D** precedes each debug messages.
info	This setting logs error, warning, audit, debug, and informational messages. Servers generate informational messages when potentially abnormal situations occur, such as when a server is unable to deliver a notification message to a user because the user is logged off. The letter **I** precedes each informational message.

Default Value
debug

Usage Guidelines
This attribute is only for error logs.

log-size

Specifies how large, in kilobytes, a log file can get before the file wraps, or Infoprint stops logging events. The attribute **log-wrap** determines whether a log file wraps or stops logging.

Type
Non-settable (trace logs) or resettable (error logs), single-valued

Allowed Values
For an error log, you can enter an integer from 1 through 2147483647 (value represents kilobytes)

Default Value

Log Type	Value
Error	1024
Trace	8192

Usage Guidelines
- The value specified in the configuration file, if one is specified, overrides the default value when Infoprint creates the server.
- If you change the value for this attribute, Infoprint renames the current log file from *errorlogname* to *errorlogname*.**BAK**, and creates a new log file.

log-trace-groups

Specifies the active trace groups for the selective tracing of Infoprint component groups.

Type
Resettable, multi-valued

Allowed Values
You can enter a text string of up to 4095 characters that contains trace group IDs that Infoprint traces. You should enter a value only at the request of an IBM Service Representative.

Default Value
???? -1 (All trace groups)

Usage Guidelines
This attribute is only for trace logs. You should use it only at the request of an IBM Service Representative.

log-type

Identifies the type of log.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:
   errorlog
   tracelog

Default Value
No default value

log-wrap

Specifies whether the log file should wrap when it reaches the specified value in the **log-size** attribute.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
true

Usage Guidelines
The value specified in the configuration file overrides the default value when Infoprint creates the server.

object-class

Identifies the object class to which this object belongs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **log**.

Default Value
log

Attributes for Logical Destinations

Infoprint uses logical destinations for job routing, defaulting, and job validation. Some logical destination attributes specify the values that the logical destination supports for the corresponding job and document attributes. Before accepting a job, Infoprint verifies that the logical destination supports the values of these job and document attributes.

Notes:

1. If a logical destination attribute has no value, the logical destination supports all valid values for the corresponding job or document attribute.

2. If the value of the server attribute **accept-unsupported-jobs** is **false**, Infoprint also verifies that at least one actual destination supports the job and document attribute values before accepting the job.

3. See "Appendix C. Job Validation and Scheduling" on page 695 for tables showing the attributes used for job validation.

Attributes Not Displayed in the Infoprint Administrator's GUI

While all logical destination attributes and attribute values are supported for both basic and advanced Infoprint installations, neither Infoprint administrator's GUI displays a complete set.

- The basic Infoprint administrator's GUI displays only the attributes of greatest interest to Infoprint administrators.

- The advanced Infoprint administrator's GUI displays most attributes and attribute values, but omits a few that are used primarily in basic Infoprint installations.

You can list the values of attributes not displayed in the Infoprint administrator's GUI using the **pdls** command. You can set the values of initially settable and resettable attributes using the **pdcreate** command. You can change the values of resettable attributes using the **pdset** command.

Initially Settable Attribute Listing

You can set this attribute with the **pdcreate** command when you create a logical destination.

> **destination-realization**

Resettable Attribute Listing

You can set these attributes with the **pdcreate** command when you create a logical destination or modify them with the **pdset** command after you create the logical destination.

> **associated-queue**
> **authorize-jobs**
> **auxiliary-sheet-selections-supported**
> **carriage-control-types-supported**
> **character-mappings-supported**
> **content-orientations-supported**
> **convert-to-ebcdic-supported**
> **data-fidelity-problem-reported-supported**
> **descriptor**
> **destination-initial-value-document**
> **destination-initial-value-job**
> **destination-locations**
> **destination-model**
> **destination-support-system**

       document-formats-supported
       document-types-supported
       end-message-supported
       image-out-formats-supported
       input-trays-supported
       job-size-range-supported
       list-of-managers
       maximum-copies-supported
       media-supported
       message
       notification-profile
       os2-driver-names
       page-select-supported
       plexes-supported
       print-qualities-supported
       protected-attributes
       sides-supported
       start-message-supported
       table-reference-characters-supported
       windows-driver-names
       windows-nt-driver-names
       x-image-shift-range-supported
       y-image-shift-range-supported

associated-queue

Identifies the queue associated with this destination. Whenever Infoprint accepts a job submitted to this logical destination, it sends the job to the queue specified by this attribute.

GUI Label
Queue fed

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 255 characters that contains the name of the queue.

Default Value
No default value

associated-server

Indicates the name of the server in which this logical destination resides.

GUI Label
Server

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *DestinationName* portion of the argument when this logical destination was created.

Default Value
No default value

Logical Destination

authorize-jobs

Indicates whether the person submitting the job requires DCE authorization to submit a job to this logical destination.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	yes
false	no

Default Value
false

Usage Guidelines
When the server security level is **medium**, the following rules apply when the value for this attribute is:

true	Infoprint uses the login ID of the job submitter to check if the person has **read** authority for this destination. If the person does have **read** authority, Infoprint authorizes the job.
false	Infoprint automatically authorizes the job.

auxiliary-sheet-selections-supported

Identifies the combination of start, separator, and end sheets that this logical logical destination supports for jobs.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
> **end**
> **none**
> **sep**
> **sep-end**
> **start**
> **start-end**
> **start-sep**
> **start-sep-end**

Default Values
No default values (all valid values supported).

Usage Guidelines
- If you do not specify a value, the corresponding actual destination attribute controls which auxiliary sheets a user can request. The default values for the actual destination attribute are all of the supported values.
- Infoprint compares the job attribute **auxiliary-sheet-selection** to this attribute for validation.
- You can use this attribute to restrict use of this logical destination.

carriage-control-types-supported

Identifies the types of carriage controls that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
ansi-ascii
ansi-ebcdic
machine
none

Default Values
No default values (all valid values supported).

Usage Guidelines
* Infoprint compares the document attribute **carriage-control-type** to this attribute for job validation.
* You can use this attribute to restrict use of this logical destination.

character-mappings-supported

Identifies the character mappings (code pages) that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
ibm-437
ibm-850
ibm-860
ibm-863
ibm-865
ibm-932
ibm-938
ibm-euccn
ibm-eucjp
ibm-euckr
IBM-euctw

Default Values
No default values (all valid values supported).

Usage Guidelines
* Infoprint compares the document attribute **default-character-mappings** to this attribute for job validation.
* You can use this attribute to restrict use of this logical destination.

content-orientations-supported

Identifies the page presentations that this logical destination supports.

Type
Resettable, multi-valued

Logical Destination

Input Synonym
You can use the synonym **orientations-supported**.

Allowed Values
You can enter any of these fixed values:
> **landscape**
> **portrait**
> **reverse-portrait**
> **reverse-landscape**

Default Values
No default values (all valid values supported).

Usage Guidelines
- Infoprint compares the document attribute **content-orientation** to this attribute for job validation.
- If you do not specify a value for this attribute, the corresponding actual destination attribute controls orientations. The default for the actual destination attribute is **portrait**.
- Infoprint supplies attribute files that specify the values that a particular destination model supports.
- You can use this attribute to restrict use of this logical destination.

convert-to-ebcdic-supported
Indicates whether this logical destination supports converting document data from ASCII to EBCDIC.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value (all valid values supported).

Usage Guidelines
- Use this attribute to request conversion for line-data jobs sent to a PSF actual destination.
- If you do not specify a value for this attribute, the corresponding actual destination attribute controls conversion. The default value for the actual destination attribute is **true**.

  Note: The corresponding document attribute, **convert-to-ebcdic**, defaults to no value. Users specify **true** only if they want to convert the content of the document from ASCII to EBCDIC. Validation only fails if the user sets **convert-to-ebcdic** to **true** and either this logical destination value or the actual destination attribute value is **false**.

- Infoprint compares the document attribute **convert-to-ebcdic** to this attribute for job validation.
- You can use this attribute to restrict use of this logical destination.

data-fidelity-problem-reported-supported

Indicates which type of data fidelity errors this logical destination can report.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

all
character
none
position

Default Values
No default values (all valid values supported).

Usage Guidelines
- Use this attribute to specify whether Infoprint issues error messages for print-positioning and invalid-character errors that occur for channel-attached and TCP/IP-attached printer devices.

  Print positioning errors occur when the print position for the data is beyond the valid printable areas as defined by the intersection of the physical and logical pages. (A logical page identifies the printing boundaries of a physical page.)

  Invalid-character errors occur when the code point does not map to a character in a font.

- Infoprint compares the document attribute **data-fidelity-problem-reported** to this attribute for validation.

- You can use this attribute to restrict use of this logical destination.

descriptor

Provides a textual description of this logical destination.

GUI Label
Description

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that contains a description of this logical destination. You may want to include such information as:

- The name of the department or the account number of the users who use this logical destination.
- Usage information, such as whether the logical destination provides default values for jobs or restricts use of actual destination capabilities.

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description is useful if you have several logical destinations or have set up restriction for this logical destination.

destination-associated-destinations

Identifies the actual destinations that receive jobs from the queue associated with this logical destination.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **printer-associated-printers**.

Allowed Values
Infoprint sets this value, and the queue attribute **actual-destinations-assigned** of the queue associated with this logical destination, when the actual destination registers.

Default Values
No default value

destination-initial-value-document

Associates a default document with this logical destination.

GUI Label
Default document

Type
Resettable, single-valued

Input Synonym
You can use the synonym **printer-initial-value-document**.

Allowed Values
You can enter a text string of up to 255 characters that contains the name of the default document.

Default Value
No default value

Usage Guidelines
The default document supplies values for attributes for documents submitted to this logical destination. These values override server defaults but are overridden by document attribute values specified on the command line.

destination-initial-value-job

Associates a default job with this logical destination.

GUI Label
Default job

Type
Resettable, single-valued

Input Synonym
You can use the synonym **printer-initial-value-job**.

Allowed Values
You can enter a text string of up to 255 characters that contains the name of the default job.

Default Value
No default value

Usage Guidelines
The associated default job supplies values for attributes of jobs submitted to this logical destination. These values override server defaults but are overridden by job attribute values specified on the command line.

destination-locations

Identifies the locations of output devices, or the areas they service, that this logical destination allows for jobs.

GUI Label
Actual destination locations

Type
Resettable, multi-valued

Input Synonyms
You can use the synonym **printer-locations** or **locations**.

Allowed Values
You can enter a text string of up to 4095 characters, per value, that contains the locations of the output devices associated with this logical destination.

Default Values
No default values (all valid values supported).

Usage Guidelines
- Infoprint compares the job attribute **destination-locations-requested** to this attribute for validation.
- You can use this attribute to restrict use of this logical destination.
- You can query this attribute to find where destinations are located.

destination-model

Identifies the make and model ID of an output device that can accept jobs submitted through this logical destination.

Type
Resettable, single-valued

Input Synonyms
You can use the synonym **printer-model** or **model**.

Allowed Values
You can enter a text string of up to 4095 characters, per value, that contains the make and model of an output device.

Default Value
No default value (all valid values supported).

destination-name

Identifies this logical destination.

Type
Non-settable, single-valued

Logical Destination

Input Synonyms
You can use the synonym **printer-name**, **printer**, or **logical-printer**.

Allowed Values
Infoprint sets this value to the *DestinationName* portion of the argument specified by the **pdcreate** command used to create this logical destination.

Default Value
No default value

Usage Guidelines
- The logical destination name must be unique within the namespace.
- Infoprint compares the job attribute **actual-destination-requested** to this attribute for validation.

destination-realization

Indicates whether the destination is an actual destination or a logical destination.

Type
Initially settable, single-valued

Input Synonym
You can use the synonym **printer-realization**.

Allowed Values
You can enter one of these values:
> **actual**
> **logical**

Default Value
logical

destination-support-system

Identifies the DSS (type of device driver) allowed for jobs submitted to this logical destination.

Type
Resettable, single-valued

Input Synonym
You can use the synonym **device-support-system**.

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
aix	**piobe**
bsd	
psf	
3170	
email	
fax	
Passthrough	
IPP	

Default Value
No default value (all valid values supported).

Usage Guidelines
Infoprint compares the job attribute **dss-requested** to this attribute for validation.

destinations-ready

Identifies the actual destinations associated with this logical destination that are ready to process a job.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **printers-ready**.

Allowed Values
Infoprint sets this value with the name of an actual destination when a registered actual destination is ready.

A ready actual destination is one that is enabled and whose state is **idle**, **connecting-to-printer**, or **printing**.

Default Values
No default value

device-support-system

See **destination-support-system**.

document-formats-supported

Identifies the document formats that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	Input Synonym
ascii	
dbcs-ascii	
ditroff	
d630	
gif	
hpgl	**hp-gl**
iso-6429	
jpeg	
line-data	
modca-p	**afpds**
passthru	
pcl	**hppcl, hp-pcl**
pdf	
postscript	**ps**
ppds	
sap	
sap-abap	
simple-text	**text**
tiff	

Logical Destination

Default Values
No default values (all valid values supported).

Usage Guidelines
- Infoprint compares the document attribute **document-format** to this attribute for job validation.
- All documents in a job must have the same format.
- You can use this attribute to restrict use of this logical destination.

document-types-supported

Identifies the types of documents that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
- **cover-sheet**
- **document-definition**
- **email-body**
- **email-signature**
- **file-reference**
- **font**
- **form-definition**
- **formatted-job-ticket**
- **insert**
- **job-ticket**
- **overlay**
- **page-definition**
- **page-segment**
- **page-shift-file**
- **printable**
- **resource**
- **variable-data**

Default Values
No default values (all valid values supported).

Usage Guidelines
- Infoprint compares the document attribute **document-type** to this attribute for job validation.
- You can use this attribute to restrict use of this logical destination.

enabled

Indicates whether this logical destination is enabled and can accept jobs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets and resets this value to one of these fixed values:
- **true**
- **false**

Infoprint sets and resets this value based on the **pdenable** and **pddisable** commands.

Default Value
false

end-message-supported

Indicates whether this logical destination supports the job attribute
job-end-message.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
No default value (all valid values supported).

Usage Guidelines
*   When you set this attribute value to **true**, operators can receive messages that
    users specify with the **job-end-message** job attribute when they submit the job.
    Infoprint sends the message to the operators specified by the **notify-operator**
    attribute for this actual destination when the job finishes printing.
*   Infoprint compares the job attribute **job-end-message** to this attribute for
    validation.
*   You can use this attribute to restrict use of this logical destination.

image-out-formats-supported

Specifies the formats of the image data, produced by the program that converts line
data to AFP data, that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
>   **ioca-uncompressed**
>   **im1**
>   **io1**
>   **io1-g4**
>   **io1-mmr**
>   **asis**

Default Values
No default values (all valid values supported).

Usage Guidelines
*   Infoprint compares the document attribute **image-out-format** to this attribute for
    job validation. You should use the document attribute when you print line-data
    documents.
*   The value **io1-g4** applies only to the destination. You cannot request this value
    with the document attribute **image-out-format**. If the document format is
    postscript and the value **io1-g4** for this attribute is:

Logical Destination

Present	The PostScript transform produces IO1-G4 images.
Not present	The PostScript transform produces IM1 images instead of IO1-G4 images, which the printer device associated with an actual destination that receives jobs from the queue associated with this logical destination cannot print.

input-trays-supported

Specifies the types of input trays that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

auto-envelope-feed	**manual-envelope-feed**
automatic-tray	**middle**
auxiliary-envelope	**top**
auxiliary-paper	**tray-1**
bottom	**tray-2**
continuous-form-feed	**tray-3**
current-selected-tray	**tray-4**
envelope	**tray-5**
large-capacity	**2000-sheet**
manual	

or any input tray name, for example:
> **alternate**
> **auto-envelope-feed**
> **bottom**
> **continuous-form-feed**
> **envelope**
> **insert**
> **large-capacity**
> **manual**
> **manual-envelope-feed**
> **middle**
> **top**

Default Values
No default values (all valid values supported).

Usage Guidelines
- You can use this attribute to restrict the use of this logical destination.
- If you do not specify a value for this attribute, the corresponding actual destination attribute determines which input trays the actual destination supports and users can request.
- Infoprint compares the document attribute **default-input-trays** or **input-tray-select** to this attribute for job validation.

job-size-range-supported

Defines the range of job sizes in bytes (octets) that this logical destination will accept.

Type
Resettable, single-value, complex

Syntax

lower-limit:upper-limit

Separate the limits by a colon (**:**), for example:
```
0:1000000000
```

You can omit either value, for example:
```
0:
:1000000000
```

Note: If you enter a single value without a colon (*integer:*), it is considered the lower limit.

Components

lower-limit: Provides the lower limit of the job size range.

Type: Single-valued

Allowed Values: You can enter an integer from 0 to 9223372036854775800. The lower limit must be less than or equal to the upper limit. The unit value is bytes (octets).

Default Value: No default value

upper-limit: Provides the upper limit of the job size range.

Type: Single-valued

Allowed Values: You can enter an integer from 0 to 9223372036854775800. The upper limit must be greater than or equal to the lower limit. The unit value is bytes (octets).

Default Value: 9223372036854775800

Usage Guidelines
• Infoprint compares the job attribute **total-job-octets** to this attribute for validation.
• You can use this attribute to restrict the use of this logical destination.

list-of-managers

Lists the people responsible for the configuration and operation of this logical destination.

GUI Label
Managers

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **managers**.

Logical Destination

Allowed Values
You can enter a text string up to 255 characters long, per value, that contains the name or user ID of the person responsible for this logical destination.

Default Values
No default values

Usage Guidelines
This attribute is useful if a user needs to contact someone to report a problem or to request a change.

locations

See **destination-locations**.

logical-printer

See **destination-name**.

managers

See **list-of-managers**.

maximum-copies-supported

Indicates the number of document copies, in a single job, that this logical destination allows.

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 2147483647.

Default Value
No default value (all valid values supported).

Usage Guidelines
- You can use this attribute to restrict the use of this logical destination by limiting the number of document copies that a user can request for jobs submitted to this logical destination.
- If you do not specify a value for this attribute, the corresponding actual destination attribute controls the number of copies allowed.
- Infoprint compares the document attribute **copy-count** to this attribute for job validation.

media-supported

Identifies the types of media that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter a text string up to 255 characters long that contains the names of the media. These can be:
- The medium identifiers of medium objects created by the **pdcrmed** utility. For these fixed values, see the medium **medium-identifier** attribute.
- The medium identifiers of medium objects you created yourself.

- Any names that describe the media, even if no medium objects with those names exist.

Default Values

No default values (all valid values supported).

Usage Guidelines

- You can restrict the use of this logical destination by limiting the type of media that a user can request for jobs submitted to actual destinations.
- If you do not specify a value for this attribute, the corresponding actual destination attribute determines which media the actual destination supports and users can request.
- Infoprint compares the document attribute **default-medium** or **page-media-select** to this attribute for job validation.

message

Provides information associated with this logical destination.

Type

Resettable, single-valued

Allowed Values

You can enter a text string of up to 4095 characters that contains information about this logical destination.

Default Value

No default value

model

See **destination-model**.

notification-profile

Designates which persons Infoprint notifies of specific events related to this logical destination, and how Infoprint notifies them.

Type

Resettable, multi-valued, complex

Syntax

-x "notification-profile={event-identifiers=_event_ ...
    delivery-address=_name@node_ **delivery-method=**_value_
    event-comment='_some text_**' locale=**_locale_**}"**

For example:

```
 -x "notification-profile={event-identifiers=class-logical-destination-status
    delivery-address=jim@staff delivery-method=e-mail
    event-comment='everything ok' locale=En_US.IBM-850}"
```

You can omit any of these components.

Components

**event-identifiers:** Specifies the events for which Infoprint issues notification messages.

Logical Destination

Type: Multi-valued

Allowed Values: You can enter any of the values listed for the server **events-supported** attribute.

Default Values: **object-deleted**, **object-cleaned**

delivery-address: Identifies the address of the person who receives event messages or the directory and file name where Infoprint stores messages.

Type: Single-valued

Allowed Values: You can enter a name and node or a path and file name.

Default Value: The login ID of the user who created this logical destination.

delivery-method: Specifies how event messages are received.

Type: Single-valued

Allowed Values: You can enter one of these fixed values:

Fixed Value	*Input Synonym*
electronic-mail	**e-mail**, **email**
file	
file-add-to	
message	
none	

Default Value: **message**

Usage Guidelines: If you specify a value of **file** or **file-add-to** for this component, you must specify a value for the **delivery-address** component.

event-comment: Provides a comment that Infoprint appends to the event message.

Type: Single-valued

Allowed Values: You can enter a text string of up to 4095 characters that contains the comment.

Default Value: No default value

locale: Defines the language and code page of notification messages.

Type: Single-valued

Allowed Values: You can enter any locale for which the Infoprint messages in the corresponding language are installed.

Default Value: The locale of the person who created this logical destination.

nt-drivers

See **windows-nt-driver-names**.

object-class

Identifies the object class to which this object belongs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **destination**.

Default Value
destination

orientations-supported

See **content-orientations-supported**.

os2-driver-names

Identifies the OS/2 print drivers that can submit a data stream to this logical destination.

GUI Label
OS/2 drivers

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **os2-drivers**.

Allowed Values
You can enter a text string that contains the name of the OS/2 print driver in this format:

```
'filename.descriptive name'
```

Begin and end the string with single quotation marks.

Default Values
No default values

Usage Guidelines
- Perform the following procedure on the OS/2 workstation to determine the valid OS/2 driver names:
  1. Open the OS/2 **Templates** folder.
  2. Drag the **Printer** icon to your Desktop. The OS/2 **Create a Printer** window displays.
  3. Select the **Install new destination driver...** push button. The **Install New Printer Driver** window displays listing the names of destination drivers shipped with OS/2.

     If OS/2 does not provide the destination driver that you want to use, select the **Other OS/2 destination driver** radio button and load the diskette containing the driver. OS/2 refreshes the list with the drivers contained on the diskette.
  4. Locate the destination driver or drivers you want to use for jobs submitted through the OS/2 client and record the names you will assign to the **os2-driver-names** logical destination attribute. The format of the name you will assign as a value for the logical destination attribute differs from the

format in the OS/2 list. First, record the file name of the driver followed by a period, such as **LASERJET.** (all driver files listed have the **DRV** file extension). Next, record the descriptive name of the driver, such as **IBM 4019 LaserPrinter E**. For each driver listed by OS/2, the descriptive name appears twice on the same line, separated by a colon. Finally, surround the driver name and descriptive name with single quotation marks.

See the following examples of how to construct values for the **os2-driver-names** logical destination attribute:

– To use the destination driver listed as **IBM 4019 LaserPrinter E: IBM 4019 LaserPrinter E (IBM4019.DRV)**, record the name **'IBM4019.IBM 4019 LaserPrinter E'**

– To use the destination driver listed as **IBM 4019 v52_1 (17 Fonts): IBM 4019 v52_1 (17 Fonts) (PSCRIPT.DRV)**, record the name **'PSCRIPT.IBM 4019 v52_1 (17 Fonts)'**

– To use the destination driver listed as **IBM 4029 (39 Fonts 600 Dpi): IBM 4029 (39 Fonts 600 Dpi) (PSCRIPT.DRV)**, record the name **'PSCRIPT.IBM 4029 (39 Fonts 600 Dpi)'**

5. You must have any driver that you specify as a value for the **os2-driver-names** logical destination attribute installed on the OS/2 workstation. To determine if the driver is installed, select the **Install** push button.

– If the driver is installed, OS/2 displays a message indicating this.

– If the driver is not installed, OS/2 displays a window requesting that you load the media containing the driver. You must install the destination driver if you want to use it. Select the **Help** button in the window to access the OS/2 help information for installing destination drivers.

In most cases, you select the driver based on the data stream required by the output device. However, if you will be submitting jobs from the OS/2 client to a PSF actual destination, you should select a generic destination driver, such as **PSCRIPT.DRV**, instead of one for a specific device. Otherwise, the driver may generate device-specific data streams that Infoprint cannot transform correctly.

6. After you have recorded the OS/2 driver names and ensured that the drivers you want to use are installed, close all OS/2 windows that you opened during this procedure.

• You can use this attribute to restrict use of this logical destination.

os2-drivers

See **os2-driver-names**.

page-select-supported

Specifies the type of page number that this logical destination supports.

Type
Resettable, multi-valued

Allowed Values
You can enter a fixed value of **numeric**. This means that the value for the document attribute **page-select** can only be numeric.

Default Value
numeric

Usage Guidelines
Infoprint compares the document attribute **page-select** against this attribute for job validation and scheduling.

plexes-supported

Identifies the plexes that this destination supports. Plex indicates whether the page images of the output document are conditioned for eventual one-sided or two-sided printing, and the relative orientation of consecutive pages.

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:
> **simplex**
> **tumble**

Default Values
No default values (all valid values supported).

Usage Guidelines
Infoprint compares the document attribute **plex** to this attribute for job validation.

print-qualities-supported

Identifies the levels of print quality that this logical destination supports.

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **qualities-supported**.

Allowed Values
You can enter any of these fixed values:
> **draft**
> **high**
> **normal**

Default Values
No default values (all valid values supported).

Usage Guidelines
- Infoprint compares the document attribute **print-quality** to this attribute for job validation.
- You can use this attribute to restrict use of this logical destination.

printer

See **destination-name**.

printer-associated-printers

See **destination-associated-destinations**.

printer-initial-value-document

See **destination-initial-value-document**.

printer-initial-value-job

See **destination-initial-value-job**.

printer-locations

See **destination-locations**.

printer-model

See **destination-model**.

printer-name

See **destination-name**.

printer-realization

See **destination-realization**.

printers-ready

See **destinations-ready**.

protected-attributes

Specifies one or more logical destination attributes that DCE prevents Infoprint operators from setting or changing.

Type
Resettable, multi-valued

Allowed Values
You can enter one or more logical destination attribute names.

Default Values
This attribute always specifies itself, **protected-attributes**, as a value.

Usage Guidelines
Normally, anyone with DCE **write** permission for logical destinations can set values for logical destination attributes. By default, the **pd_admin** and **pd_operator** DCE groups both have **write** permission. Once you define a logical destination attribute as a protected attribute, you must have DCE **delete** permission to modify the attribute. Members of the **pd_operator** DCE group do not have **delete** permission unless the DCE administrator has modified the default permissions for that group.

qualities-supported

See **print-qualities-supported**.

sides-supported

Identifies whether this logical destination supports printing on one or both sides of the media.

Type
Resettable, multi-valued

Allowed Values
You can enter an value of **1**, **2**, or both.

Default Values

No default values (all valid values supported).

Usage Guidelines

- You can use this attribute to restrict use of this logical destination.
- If you do not specify a value for this attribute, the corresponding actual destination attribute controls the printable sides that users can request.
- Infoprint compares the document attribute **sides** to this attribute for job validation.

start-message-supported

Indicates whether this logical destination supports the job attribute **job-start-message**.

Type

Resettable, single-valued

Allowed Values

You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value

No default value (all valid values supported).

Usage Guidelines

- When you set this attribute value to **true**, operators can receive messages that users specify with the **job-start-message** job attribute when they submit the job. Infoprint sends the message to the operators specified by the **notify-operator** attribute for this actual destination when the job starts printing. Sending a start message does not stop the job from printing; normally the job prints without operator intervention.
- Infoprint compares the job attribute **job-start-message** to this attribute for validation.
- You can use this attribute to restrict use of this logical destination.

table-reference-characters-supported

Identifies whether this logical destination supports table-reference characters. Some line-data applications produce table-reference characters to specify font changes.

Type

Resettable, single-valued

Allowed Values

You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value

No default value (all valid values supported).

Logical Destination

Usage Guidelines

- If you do not specify a value for this attribute, the corresponding actual destination attribute determines whether the actual destination can process table reference characters.

  The corresponding document attribute, **table-reference-characters**, defaults to no value. The user specifies **true** only if the line data contains table reference characters that should be processed. Validation fails only if the user sets **table-reference-characters** to **true** and either this logical destination value or the actual destination attribute value is **false**.

- Infoprint compares the document attribute **table-reference-characters-supported** to this attribute for job validation.

- You can use this attribute to restrict use of this logical destination.

windows-driver-names

Identifies the Windows 3.1.1 or WIN-OS/2 print drivers that can submit a data stream to this logical destination.

GUI Label
Windows 3.1 drivers

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **windows-drivers**.

Allowed Values
You can enter a text string that contains the string form of the Windows print driver for each permitted Windows print driver. Begin and end the string with single quotation marks.

Default Values
No default values

Usage Guidelines

- Perform the following procedure to determine the valid Windows driver names.

  1. For WIN-OS/2, start a WIN-OS/2 full-screen session to access the Windows **Program Manager**.
  2. Select and open the **Control Panel** icon from the main window.
  3. Select and open the **Printers** icon.
  4. Select the **Add >>** push button from the **Printers** dialog box.
  5. The values listed in the **List of Printers:** list box are the names of the Windows destination drivers that you can install on the workstation; for example, **IBM 4039 LaserPrinter PS**.

  Notes:

  1. Other destination drivers are available and may not display in the list for a particular workstation.
  2. If you will be submitting jobs from the Windows client to a PSF actual destination, you should select a generic device driver, such as a PostScript driver, instead of one for a specific device. Otherwise, the driver may generate device-specific data streams that Infoprint cannot transform correctly.

- You can use this attribute to restrict use of this logical destination.

windows-drivers

See **windows-driver-names**.

windows-nt-driver-names

Identifies the 32-bit Windows print drivers that can submit a data stream to this logical destination.

GUI Label
Windows drivers

Type
Resettable, multi-valued

Input Synonyms
You can use the synonym **windows-nt-drivers** or **nt-drivers**.

Allowed Values
You can enter a text string that contains the string form of the Windows print driver for each permitted Windows print driver. Begin and end the string with single quotation marks.

Default Values
No default values

Usage Guidelines
• Perform the following procedure to determine the valid Windows driver names:
  1. Select **My Computer** from the desktop.
  2. Select and open the **Control Panel** icon.
  3. Select and open the **Printers** icon,
  4. Select and open the **Add Printer** icon.
  5. The values listed in the **Printers:** list box in the **Add Printer Wizard** are the names of the Windows destination drivers that you can install on the workstation; for example, **IBM 4039 LaserPrinter PS**.

  Notes:
  1. Other destination drivers are available and may not display in the list for a particular workstation.
  2. If you will be submitting jobs from the Windows client to a PSF actual destination, you should select a generic destination driver, such as a PostScript driver, instead of one for a specific type of destination. Otherwise, the driver may generate device-specific data streams that Infoprint cannot transform correctly.

• You can use this attribute to restrict use of this logical destination.

windows-nt-drivers

See **windows-nt-driver-names**.

x-image-shift-range-supported

Specifies, in millimeters, the lower and upper numeric boundaries for the X offset of a page. The X offset, along with the Y offset, sets the origin of the logical page on the physical page.

Type
Resettable, single-valued, complex

Syntax

lower-limit:upper-limit

Each value uses a format of *nnnn.nnn* where *nnnn.nnn* is the decimal millimeter value. Separate the values with a colon, for example:

1:10

Components

lower-limit: Defines the minimum amount of image shift that the document or default document attribute **x-image-shift** or **x-image-shift-back** can specify.

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm.

Default Value: No default value

upper-limit: Defines the maximum amount of image shift that the document or default document attribute **x-image-shift** or **x-image-shift-back** can specify.

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm.

Default Value: No default value

Usage Guidelines
You can use this attribute to restrict use of this logical destination.

y-image-shift-range-supported

Specifies, in millimeters, the lower and upper numeric boundaries for the Y offset of a page. The Y offset, along with the X offset, sets the origin of the logical page on the physical page.

Type
Resettable, single-valued, complex

Syntax

lower-limit:upper-limit

Each value uses a format of *nnnn.nnn* where *nnnn.nnn* is the decimal millimeter value. Separate the values with a colon, for example:

1:20

Components

lower-limit: Defines the minimum amount of image shift that the document or default document attribute **y-image-shift** or **y-image-shift-back** can specify.

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm.

Default Value: No default value

upper-limit: Defines the maximum amount of image shift that the document or default document attribute **y-image-shift** or **y-image-shift-back** can specify.

Type: Single-valued

Allowed Values: You can enter a numeric value from -577.99 mm through 577.97 mm.

Default Value: No default value

Usage Guidelines
You can use this attribute to restrict use of this logical destination.

Attributes for Media

A medium represents the type of media, that is, paper, envelopes, transparencies, or multi-part forms, on which a printer device prints.

Infoprint uses the names of media as values for actual destination attributes, such as **media-supported**. Actual destination attributes that reference media can use any name as long as the name is within syntax limits. The AIX and 3170 DSSs validate any actual destination attribute that references a medium to ensure that the object exists. The BSD and PSF DSSs accept values that are not the names of existing media.

You must create at least the default medium objects. The **startsrv** utility normally creates the default medium objects. If it fails to do so, use the **pdcrdflt** utility to create the default medium and auxiliary sheet objects.

Attributes Not Displayed in the Infoprint Administrator's GUI

While all medium attributes are supported for both basic and advanced Infoprint installations, the basic Infoprint administrator's GUI displays only the medium attributes of greatest interest to Infoprint administrators. The advanced Infoprint administrator's GUI does not display media.

You can list the values of attributes not displayed in the Infoprint administrator's GUI using the the **pdls** command. You can set the values of initially settable and resettable attributes using the **pdcreate** command. You can change the values of resettable attributes using the **pdset** command.

Initially Settable Attribute Listing

There are no initially settable attributes for a medium.

Resettable Attribute Listing

You can set these attributes with the **pdcreate** command when you create a medium or modify them with the **pdset** command after you create the medium.
> **descriptor**
> **medium-color**
> **medium-dimensions**
> **medium-form-parts**
> **medium-holes-count**
> **medium-sides**
> **medium-size**
> **medium-type**
> **message**

associated-server

Indicates the name of the server in which this medium resides.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the value of the *ServerName* portion of the argument when you create the medium using the **pdcreate** command.

Default Value
No default value

descriptor

Provides a description of the medium.

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that describes this medium.

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description of this medium and its use is helpful to users who want to determine if this is the medium that they want to use.

medium-color

Indicates the color of this medium.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values or some other color:

Fixed Value	*Input Synonym*
blue	
buff	
goldenrod	
green	
pink	
transparent	**untinted**
white	
yellow	

Default Value
No default value

Usage Guidelines
Specifying the color can be useful if you have configured a large number of AIX actual destinations and have used the **media-supported** and **input-trays-medium** attributes to identify the different types of media that the actual destination supports and the media currently loaded in the input trays of each printer device. This allows a user to query and filter for the colors of various medium objects to determine the medium to use for a job.

medium-dimensions

Specifies the physical size (width and length), in millimeters, of the medium.

Type
Resettable, single-valued, complex

Syntax
You can enter two positive real numbers separated by a colon.

x-dimension:y-dimension

For example:

```
100.8:200.4
```

Components

x-dimension: Specifies the width of the medium, which is usually the shorter dimension in respect to how the medium is loaded into the printer device.

Type: Single-valued

Allowed Values: You can enter a positive real number, which may optionally contain a decimal point. The unit is millimeters.

Default Value: No default value

y-dimension: Specifies the height of the medium, which is usually the longer dimension in respect to how the medium is loaded into the printer device.

Type: Single-valued

Allowed Values: You can enter a positive real number, which may optionally contain a decimal point. The unit is millimeters.

Default Value: No default value

Usage Guidelines
- The medium must contain this value if AIX actual destinations use the medium.
- The **piobe** backend uses the value of this attribute to determine the printable area of the medium.
- How you specify the dimensions depends on the printer model and how the medium is loaded. If you get unexpected output from a printer device, try reversing the order in which you specify the dimensions for a medium that the actual destination references.

medium-form-parts

Indicates the number of form parts for this multi-part form medium.

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 2147483647.

Default Value
No default value

Usage Guidelines
This attribute only applies to media whose **medium-type** is **multi-part-forms**.

medium-holes-count

Indicates the number of holes (if any), pre-punched in the medium.

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
No default value

medium-identifier

Uniquely identifies a particular medium within a server.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *MediumName* portion of the argument when you create this medium. The value is either a text string up to **255** characters that you enter or one of these fixed values:

A0	B8	JPOSTD
A1	B9	hagaki
A2	B10	legal
A3	C4-envelope	letter
A3-colored	C5-envelope	letter-tab
A4	a	manual
A4-colored	b	monarch-envelope
A4-tab	c	na-legal-colored
A4-transparent	d	na-letter-colored
A5	designated-long-envelope	na-letter-transparent
A5-colored	e	na-number-9-envelope
A6	executive	na-number-10-envelope
A7	folio	na-6x9-envelope
A8	invoice	na-7x9-envelope
A9	jis-b0-white	na-9x11-envelope
A10	jis-b1-white	na-9x12-envelope
B0	jis-b2-white	na-10x13-envelope
B1	jis-b3-white	na-10x14-envelope
B2	jis-b4-colored	na-10x15-envelope
B3	jis-b4-white	quarto
B4	jis-b5-colored	statement
B4-colored	jis-b5-white	tabloid
B4-envelope	jis-b6-white	universal-paper
B5	jis-b7-white	universal-envelope
B5-colored	jis-b8-white	8x10.5
B5-envelope	jis-b9-white	
B6	jis-b10-white	
B7		

Default Value
No default value

medium-sides

Indicates the number of printable sides for the medium.

Type
Resettable, single-valued

Allowed Values
You can enter an integer of **1** or **2**.

Default Value
No default value

Medium

medium-size

Specifies the size of the medium by means of a predefined name for the size. Examples of values include **invoice**, which specifies a medium of 5.5 inches by 8.5 inches, and **ledger**, which specifies a size of 11 inches by 17 inches.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

iso-a0	**iso-b9**	**jis-b5**
iso-a1	**iso-b10**	**jis-b6**
iso-a2	**iso-c3**	**jis-b7**
iso-a3	**iso-c4**	**jis-b8**
iso-a4	**iso-c5**	**jis-b9**
iso-a5	**iso-c6**	**jis-b10**
iso-a6	**a**	**ledger**
iso-a7	**b**	**legal**
iso-a8	**c**	**letter**
iso-a9	**d**	**monarch-envelope**
iso-a10	**iso-designated-long**	**na-number-9-envelope**
iso-b0	**e**	**na-number-10-envelope**
iso-b1	**executive**	**na-6x9-envelope**
iso-b2	**folio**	**na-7x9-envelope**
iso-b3	**invoice**	**na-9x11-envelope**
iso-b4	**jis-b0**	**na-9x12-envelope**
iso-b5	**jis-b1**	**na-10x13-envelope**
iso-b6	**jis-b3**	**na-10x14-envelope**
iso-b7	**jis-b4**	**na-10x15-envelope**
iso-b8		**quarto**

Default Value
No default value

medium-type

Identifies the medium type.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Description*
continuous-long	Continuous-forms paper with the forms connecting along the long edge of the form.
continuous-short	Continuous-forms paper with the forms connecting along the short edge of the form.
envelope	Standard envelopes that may or may not have preprinted information and that do not have windows.
labels	Any type of label.
multi-part-form	Forms containing multiple layers that are not attached to one another.

	plain	Separately cut sheets of paper
	stationery	Separately cut sheets of paper
	tab-stock	Paper that has tabs.
	transparency	Separate sheets of a transparent material.

Default Value
No default value

medium-weight

Identifies the medium weight.

Type
Resettable, single-valued

Allowed Values
You can enter a positive real number.

Default Value
No default value

message

Provides a message associated with this medium object.

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that contains information about this medium object.

Default Value
No default value

object-class

Identifies the object class to which this object belongs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **medium**.

Default Value
medium

Attributes for Queues

A queue is an Infoprint object that manages a collection of jobs that are waiting to print. A queue receives jobs from one or more logical destinations and sends jobs to one or more actual destinations.

Initially Settable Attribute Listing

There are no initially settable attributes for queues.

Resettable Attribute Listing

You can set these attributes with the **pdcreate** command when you create the queue or modify them with the **pdset** command after you create the queue.

> **assign-to-destination**
> **backlog-lower-bound**
> **backlog-update-interval**
> **backlog-upper-bound**
> **descriptor**
> **list-of-managers**
> **message**
> **notification-profile**
> **notify-operator**
> **protected-attributes**
> **requeue-failed-jobs**

actual-destinations-assigned

Lists the actual destinations that receive jobs from this queue.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **physical-printers-assigned**.

Allowed Values
Infoprint adds the actual destination name to this value when each actual destination registers and its **associated-queue** attribute value is the name of this queue.

Default Values
No default values

actual-destinations-ready

Lists the ready actual destinations that can receive jobs from this queue.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **physical-printers-ready**.

Allowed Values
Infoprint adds an actual destination name to this value for each actual destination that can receive a job from this queue. An actual destination becomes ready when it is enabled and the state is either **idle**, **connecting-to-destination**, or **printing**.

Default Values
No default values

assign-to-destination

Indicates whether the queue assigns jobs to actual destinations as soon as they are accepted or waits until an actual destination is available.

Type
Resettable, single-valued

Input Synonym
You can use the synonym **assign-to-printer**.

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	yes
false	no

Default Value

Basic	true
Advanced	false

Usage Guidelines

* When the value of **assign-to-destination** is **true**, the queue assigns jobs to an actual destination as soon as the server accepts them (early binding), unless no actual destination supports a job's required attribute values. If something prevents the assigned actual destination from printing the job, or if another actual destination becomes available first, you must reassign the job using the Infoprint administrator's GUI.

  Early binding is the defining characteristic of a basic Infoprint installation.

* When the value of **assign-to-destination** is **false**, the queue waits until a job is next to be scheduled to print, then assigns it to the first suitable actual destination to become available (late binding).

  Late binding is the defining characteristic of an advanced Infoprint installation.

* A job must be assigned to an actual destination before Infoprint can calculate the estimated completion time for the job.

* The server accepts the job even when the **actual-destinations-requested** specifies a non-existent actual destination **only when accept-unsupported-jobs** is **true and** the print queue has **assign-to-printer** as **false**,

associated-server

Indicates the name of the server in which this queue resides.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *ServerName* portion of the argument you specify when you create this queue with the **pdcreate** command.

Default Value
No default value

backlog

See **queue-backlog**.

backlog-lower-bound

Identifies the limit (time to print jobs within the queue) below which you do not consider the queue backlogged. Infoprint resets a backlogged condition when the **queue-backlog** value is less than this value, if you enable backlog computing.

Type
Resettable, single-valued

Allowed Values
You can enter a value using *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Syntax

backlog-lower-bound=[HH:]MM

For example:

```
backlog-lower-bound=70
backlog-lower-bound=1:10
```

Default Value
No default value

Usage Guidelines
*   You must set the value for this attribute to less than or equal to the value you specify for the **backlog-upper-bound** attribute.
*   Infoprint sets the value for the attribute **backlogged** to **false** when the value for the **queue-backlog** attribute becomes less than this value if you enable backlog computing (**backlog-update-interval** value not equal to 0).

backlog-update-interval

Specifies how often Infoprint computes the queue backlog.

Type
Resettable, single-valued

Allowed Values
You can enter a value using *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Setting this value to 0 disables backlog computing.

Default Value
The greater value of the following:
   1 minute
   The value of the **backlog-upper-bound** attribute divided by 30.

Usage Guidelines
*   You must set the value for this attribute to be less than or equal to the value you specify for the **backlog-upper-bound** attribute.
*   Infoprint sets this default value when you create the queue. If you change the value for the **backlog-upper-bound** attribute later with the **pdset** command, Infoprint does not change the value for this attribute.

backlog-upper-bound

Identifies the limit (time to print the jobs in the queue) above which you consider the queue backlogged.

Type
Resettable, single-valued

Allowed Values
You can enter a value using *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
No default value

Usage Guidelines
*   You must set the value for this attribute to be greater than or equal to the value you specify for the **backlog-lower-bound** attribute.
*   Infoprint sets the value for the attribute **backlogged** to **true** when the value for the **queue-backlog** attribute exceeds this value if you enable backlog computing.

backlogged

Identifies whether the queue is backlogged.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:
> **true**
> **false**

Default Value
false

Usage Guidelines
*   Infoprint sets this attribute value to **true** when you enable backlog computing (**backlog-update-interval** not equal to 0) and the **queue-backlog** value exceeds the **backlog-upper-bound** value.
*   Infoprint sets this attribute value to **false** when the **queue-backlog value** falls below the **backlog-lower-bound** value.

current-backlog

See **queue-backlog**.

descriptor

Provides a description of this queue.

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that describes this queue. You may want to specify such things as:

*   The name of the department or the account number for the users of this queue.
*   Any other information that is unique to your company or organization.

Queue

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description of this queue is helpful to users who want to determine where to submit a given job or administrators who want to determine which queue to associate with a logical destination.

list-of-managers

Lists the people responsible for the configuration and operation of this queue.

Type
Resettable, multi-valued

Input Synonym
You can use this synonym **managers**.

Allowed Values
You can enter a text string up to 255 characters long, per value, that contains the name or ID of the person responsible for this queue.

Default Values
No default values

Usage Guidelines
This attribute is useful if a user needs to contact someone to report a problem or to request a change.

logical-destinations-assigned

Lists the logical destinations associated with this queue.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **logical-printers-assigned**.

Allowed Values
Infoprint adds to this value the logical destination name of a newly created logical destination if the **associated-queue** attribute value for that logical destination identifies this queue.

Default Values
No default values

logical-destinations-ready

Lists the enabled logical destinations that can send jobs to this queue.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **logical-printers-ready**.

Allowed Values
Infoprint adds a logical destination name to this value for each logical destination that is assigned to the queue and that is enabled.

Default Values
No default values

Usage Guidelines
Infoprint changes this value as you enable or disable logical destinations.

logical-printers-assigned

See **logical-destinations-assigned**.

logical-printers-ready

See **logical-destinations-ready**.

managers

See **list-of-managers**.

message

Provides a message associated with this queue.

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that contains information about this queue.

Default Value
No default value

notification-profile

Designates which persons Infoprint notifies of specific events related to this queue, and how Infoprint notifies them.

Type
Resettable, multi-valued, complex

Syntax

-x "notification-profile={event-identifiers=_event_ ...
 delivery-address=_name@node_ **delivery-method=**_value_
 event-comment='_some text_**' locale=**_locale_**}"**

For example:

```
-x "notification-profile={event-identifiers=queue-state-changed
   object-cleaned delivery-address=Kathy@test delivery-method=message
   event-comment='Better check' locale=En_US.IBM-850}"
```

You can omit any of these components.

Components

**event-identifiers:** Specifies the events for which the person receives messages.

Type: Multi-valued

Allowed Values: You can enter queue events listed for the server **events-supported** attribute.

Queue

> *Default Values:* **object-cleaned**, **object-deleted**, **queue-backlogged**

> ***delivery-address:*** Specifies the address of the person who receives the event messages or the directory location and file name where Infoprint stores the message.

> *Type:* Single-valued

> *Allowed Values:* You can enter the login ID and node of the person who is to receive the messages or the path of the directory and a file name.

> *Default Value:* The login ID of the person who created this queue.

> ***delivery-method:*** Specifies how the user receives the event messages.

> *Type:* Single-valued

> *Allowed Values:* You can enter one of these fixed values:

> | *Fixed Value* | *Input Synonym* |
> |---|---|
> | **electronic-mail** | **e-mail**, **email** |
> | **file** | |
> | **file-add-to** | |
> | **message** | |
> | **none** | |

> *Default Value:* **message**

> *Usage Guidelines:* If you specify a value of **file** or **file-add-to** for this component, you must specify a value for the **delivery-address** component.

> ***event-comment:*** Provides textual information that Infoprint appends to the event message.

> *Type:* Single-valued

> *Allowed Values:* You can enter a text string of up to 4095 characters that contains the information about the event.

> *Default Value:* No default value

> ***locale:*** Defines the language and code page of notification messages.

> *Type:* Single-valued

> *Allowed Values:* You can enter any locale for which the Infoprint messages in the corresponding language are installed.

> *Default Value:* The locale of the person who created this queue.

notify-operator

Identifies people who are to receive the message defined by the job attribute **job-message-to-operator**.

Type
Resettable, multi-valued, complex

Input Synonym
You can use the synonym **operators**.

Syntax

delivery-method:delivery-address

Separate the components with a colon, for example:

```
message:op3@fastpr
```

Components

delivery-method: Specifies how the person is to receive the messages.

Type: Single-valued

Allowed Values: You can enter one of these fixed values:
electronic-mail
message
none

Default Value: **message**

delivery-address: Specifies the address of the person who receives the message.

Type: Single-valued

Allowed Values: You can enter a text string that contains the login ID and node of the person who receives the message.

Default Value: The login ID of the person who created this queue.

object-class

Identifies the object class to which this object belongs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **queue**.

Default Value
queue

operators

See **notify-operator**.

physical-printers-assigned

See **actual-destinations-assigned**.

physical-printers-ready

See **actual-destinations-ready**.

protected-attributes

Specifies one or more queue attributes that DCE prevents Infoprint operators from setting or changing.

Type
Resettable, multi-valued

Allowed Values
You can enter one or more queue attribute names.

Default Values
This attribute always specifies itself, **protected-attributes**, as a value.

Usage Guidelines
Normally, anyone with DCE **write** permission for queues can set values for queue attributes. By default, the **pd_admin** and **pd_operator** DCE groups both have **write** permission. Once you define a queue attribute as a protected attribute, you must have DCE **delete** permission to modify the attribute. Members of the **pd_operator** DCE group do not have **delete** permission unless the DCE administrator has modified the default permissions for that group.

queue-backlog

Specifies the amount of time that this queue might be backlogged. This is a computed estimate of time it takes to print all of the jobs currently in the queue.

Type
Non-settable, single-valued

Input Synonyms
You can use the synonyms **backlog** or **current-backlog**.

Allowed Values
Infoprint sets this value to *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
No default value

queue-name

Uniquely identifies this queue object.

Type
Non-settable, single-valued

Allowed Values
Infoprint set this value to the *QueueName* portion of the argument from the **pdcreate** command when this queue is created.

Default Value
No default value

Usage Guidelines
This queue name must be unique within the namespace.

queue-state

Identifies the current state of the queue.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:

Fixed Value	Explanation
paused	Infoprint will not schedule jobs in the queue to the actual destinations associated with this queue. The queue will still receive jobs from its associated logical destinations if they are enabled.
ready	Infoprint can schedule jobs in the queue to the actual destinations associated with this queue.

Default Value
No default value

requeue-failed-jobs

Indicates whether jobs that fail to RIP, impose, or print should be replaced in the queue.

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value

Basic	**true**
Advanced	**false**

Usage Guidelines
- When the value of **requeue-failed-jobs** is **true**, jobs that fail to print for any of these reasons:
  – The server cancels the job.
  – Infoprint fails to RIP the job.
  – Infoprint fails to impose the job.

  are replaced in the queue in the **held** state.
- When the value of **requeue-failed-jobs** is **false**, jobs that fail to print for these reasons are retained if there is a value for the **job-retain-until** or **job-retention-period** job attribute. Otherwise, these jobs are discarded.
- For any value of **requeue-failed-jobs**, jobs that fail to print because of actual destination problems are replaced in the queue in the **pending** state. If another actual destination is available, these jobs are rescheduled.

Attributes for Resource Contexts

Infoprint uses resource contexts to determine the location of PSF resources. Actual destination attributes, such as **resource-context**, **resource-context-font**, or **resource-context-overlay**, reference the names of resource contexts.

The different types of AFP resources are:

Fonts A font is a single size and typeface in a particular type family including letters, numerals, punctuation marks, special characters, and ligatures.

Form definitions
Form definitions provide instructions on how output devices position data on the page. Form definitions can specify overlays, a paper source for cut-sheet printer devices, duplexing, text suppression, data position, and the number and modifications of pages.

Overlays
Overlays are collections of predefined data such as lines, shading, text boxes, or logos, that an output device can merge with variable data on a page or a form.

Page definitions
Page definitions contain the formatting controls for line data. Page definitions can include controls for the number of lines per logical page, font selection, print direction, and the mapping of individual fields to positions on the logical page.

Page segments
Page segments contain text and images that an output device can include at any addressable point on a page or an electronic overlay.

The resource context attribute **context-address** identifies the path name of the directory that contains the corresponding PSF resource. Instead of entering the full path name as the value of an actual destination attribute, you can reference the resource context. You can also reference resource contexts during print submission using certain document attributes.

Only PSF, fax, and email actual destinations use resource contexts.

Initially Settable Attribute Listing

There are no initially settable attributes for a resource context.

Resettable Attribute Listing

You can set these attributes with the **pdcreate** command when you create a resource context or modify them with the **pdset** command after you create the resource context.
>   **context-address**
>   **descriptor**

associated-server

Indicates the server in which this resource context resides.

Type
Non-settable, single-valued

Allowed Values

Infoprint sets this value to the *ServerName* portion of the argument specified with the **pdcreate** command when this resource context is created.

Default Value

No default value

context-address

Defines the path for the location of this PSF resource.

Type

Resettable, single-valued

Allowed Values

You enter a text string up to 4095 characters long that contains the path name. Separate multiple path names with colons.

Syntax

path:path

For example:

```
/fonts:/dept123/fonts
```

Default Value

No default value

descriptor

Provides a description of this resource context.

Type

Resettable, single-valued

Allowed Values

You can enter a text string up to 4095 characters long that describes this resource context.

Default Value

No default value

Usage Guidelines

The use of this attribute is optional. However, a detailed description of the resource that this resource context references can be helpful to a users who need to determine which resource context to use.

object-class

Identifies the object class to which this object belongs.

Type

Non-settable, single-valued

Allowed Values

Infoprint sets this value to **resource-context**.

Default Value

resource-context

resource-context-identifier

Uniquely identifies this resource context within a server.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the *ResourceContextName* portion of the argument specified with the **pdcreate** command when this resource context is created.

Default Value
No default value

Attributes for Servers

An Infoprint server is an object that represents the server that manages the validation, routing, and scheduling of jobs.

Initially Settable Attribute Listing

There are no specifiable attributes for a server.

Resettable Attribute Listing

You can modify these attributes with the **pdset** command after you create a server.

accept-unsupported-jobs
auto-create-shared-printers
descriptor
job-submission-timer
list-of-managers
log-accounting-data
maximum-barco-rips
maximum-non-raster-rips
maximum-raster-rips
message
notification-profile
npm-server-ip-address
npm-server-port-number
protected-attributes
save-rip-files
security-level
smtp-server-host
smtp-server-port-number
snmp-discovery-during-startup
snmp-normal-poll-interval
snmp-problem-poll-interval

accept-unsupported-jobs

Indicates whether the server accepts jobs even when no actual destination supports the required attribute values.

GUI Label
Accept unsupported jobs

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
Basic	**true**
Advanced	**false**

Usage Guidelines

- When the value of the **accept-unsupported-jobs** is **true**, the server accepts jobs even when no actual destination supports the required attribute values. Infoprint holds these jobs and sets the **required-resources-not-supported** job attribute to a list of the unsupported values.

  The server accepts the job even when the **actual-destinations-requested** specifies a non-existent actual destination **only when accept-unsupported-jobs** is **true** and the print queue has **assign-to-printer** as **false**.

- When the value of **accept-unsupported-jobs** is **true**, the actual destination **accept-job** attribute is ignored.

- When the value of **accept-unsupported-jobs** is **false**:
  - The server rejects jobs that require unsupported attribute values.
  - The **accept-job** actual destination attribute is honored if the **assign-to-printer** queue attribute is **true**.

- If changes to job or actual destination attributes after the job has been accepted produce unsupported attribute values, Infoprint holds the job and sets the **required-resources-not-supported** job attribute to the list of unsupported values.

actual-destinations-ready

Identifies the supported actual destinations that are ready to receive jobs from queues in this server.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **physical-printers-ready**.

Allowed Values
Infoprint sets this value to the names of the actual destinations that are ready to accept jobs. A actual destination name is:

- Added when actual destinations associated with queues in this server are enabled and are in the **idle**, **connecting-to-printer**, or **printing** state.
- Removed when you disable or pause an actual destination and one of these destination states (**timed-out**, **needs-attention**, or **needs-key-operator**) exists.

Default Values
No default values

actual-destinations-supported

Identifies the actual destinations that this server supports.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **physical-printers-supported**.

Allowed Values
Infoprint sets this value to the names of the actual destinations associated with the queues contained in this server. Infoprint adds the destination name when an actual destination associated with queues in this server registers with this server.

Default Values
No default values

auto-create-shared-printers (Windows NT and Windows 2000 Only)

Indicates whether or not destinations created in this server that can be print submission targets should automatically create a corresponding Infoprint gateway shared printer.

GUI Label
Automatically create gateway printer

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	**yes**
false	**no**

Default Value
False

Usage Guidelines
- When the value of the **auto-create-shared-printers** is **true**, Infoprint automatically creates a corresponding Infoprint gateway printer with:
  - A windows print drvier with the first value in the server's **windows-nt-driver-names** attribute
  - A polling interval of 0

  Note: The server accepts the job even when the **actual-destinations-requested** specifies a non-existent actual destination **only when accept-unsupported-jobs** is **true and** the print queue has **assign-to-printer** as **false**.

cancel-individual-document-supported

Indicates whether the server is capable of cancelling individual documents within a multi-document job.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **false**.

Default Value
false

descriptor

Provides a description of this server.

Type
Resettable, single-valued

Server

Allowed Values
You can enter a text string up to 4095 characters long that contains a description of this server. You may want to specify things such as:

- The purpose of the server; which users, user groups, or departments will use the objects contained in this server.
- Any other information that is unique to your company or organization.

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description is useful if you have a large number of servers or if you have many people managing your network printing system.

destination-states-supported

Identifies the destination states that this server supports.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **printer-states-supported**.

Allowed Values
Infoprint sets this value to any of these fixed values:
    connecting-to-printer
    idle
    needs-attention
    needs-key-operator
    paused
    printing
    shutdown
    timed-out

Default Values
No default values

destination-support-systems-supported

Identifies the DSSs that this server supports.

Type
Non-settable, multi-valued

Allowed Values
For AIX:
    bsd
    email
    fax
    ip2000
    aix
    psf
    3170

For Windows NT or Window 2000:
    bsd

| **psf**
| **passthrough**
| **ipp**

| **Default Values**
No default values

document-attributes-supported

Identifies the document attributes that the server supports.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets these values to include all the document attributes supported by any actual destination registered with the server. These values are dynamic; Infoprint adds and removes values based on the values of registered actual destinations.

Default Values
No default values

events-supported

Lists the events that the server or the objects in the server support.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets these values to the following events:
checkpoint-taken
class-aborted
class-actual-destination-attention
class-actual-destination-configuration
class-actual-destination-default
class-actual-destination-status
class-error
class-job-attention
class-job-default
class-job-problem
class-job-status
class-logical-destination-attention
class-logical-destination-configuration
class-logical-destination-default
class-logical-destination-status
class-queue-attention
class-queue-configuration
class-queue-default
class-queue-status
class-report
class-server-attention
class-server-configuration
class-server-default
class-server-status
class-state-changed
class-warning
close-to-discard-time

Server

> **destination-disabled**
> **destination-enabled**
> **destination-function-unavailable**
> **destination-needs-administrator**
> **destination-needs-attention**
> **destination-needs-operator**
> **destination-registered**
> **destination-shutdown-job-requeued**
> **destination-state-changed**
> **destination-timed-out**
> **destination-unregistered**
> **destinations-not-ready-for-job**
> **detailed-messages**
> **document-aborted-by-destination**
> **document-aborted-by-server**
> **document-cancelled-at-destination**
> **document-content**
> **file-transferred**
> **internal-server-error**
> **job-aborted-by-server**
> **job-assigned-to-destination**
> **job-assigned-to-destination-at-end**
> **job-assigned-to-queue**
> **job-cancelled-by-operator**
> **job-cancelled-by-user**
> **job-cannot-be-scheduled**
> **job-discarded**
> **job-modified**
> **job-paused**
> **job-promoted**
> **job-reordered**
> **job-requeued**
> **job-resubmitted**
> **job-resumed**
> **job-retained**
> **job-state-changed**
> **job-submission-not-complete**
> **job-unassigned**
> **no-document**
> **no-resource**
> **object-cleaned**
> **object-created**
> **object-deleted**
> **object-modified**
> **object-paused**
> **object-resumed**
> **other-error**
> **other-warning**
> **past-discard-time**
> **processing-started**
> **queue-backlogged**
> **queue-no-longer-backlogged**
> **queue-state-changed**
> **resource-needs-attention**
> **resource-needs-operator**
> **server-shutdown-complete**

> **server-shutdown-started**
> **server-startup-complete**
> **server-state-changed**
> **unable-to-register**
> **unrecognized-resource**

Default Values
See "Allowed Values".

hostname

See **server-hostname**.

i-p-address

See **server-ip-address**.

ip-address

See **server-ip-address**.

job-attributes-supported

Identifies the job attributes that this server supports.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets these values to include all the job attributes supported by any actual destination registered with the server. These values are dynamic; Infoprint adds and removes values based on the values of registered actual destinations.

Default Values
No default values

job-state-reasons-supported

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets the value of this attribute to these fixed values:
> **aborted-by-system**
> **cancelled-by-operator**
> **cancelled-by-user**
> **completed**
> **completed-successfully**
> **completed-with-errors**
> **deadline-in-jeopardy**
> **imposition-failed**
> **job-hold-set**
> **job-print-after-specified**
> **required-resource-not-ready**
> **required-resource-not-supported**
> **rip-and-hold-complete**
> **rip-failed**

Server

Default Values
See "Allowed Values".

job-states-supported

Identifies the job states that this server supports.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets the value of this attribute to these fixed values:
    cancelled
    held
    imposing
    paused
    pending
    pre-processing
    printing
    processing
    retained
    ripping
    terminating
    unknown

Default Values
See "Allowed Values".

job-submission-timer

Specifies the maximum time that the server will try to assemble a job before it will time out if it has not assembled all the documents.

GUI Label
Job submission timeout

Type
Resettable, single-valued

Allowed Values
You can enter a value using *[HH:]MM*. The unit is minutes or hours and minutes, separated by a colon.

Default Value
30

Usage Guidelines
If the server has not completed the assembly of a job within the specified time, it identifies the job submission as complete and sends the job to the queue.

list-of-managers

Lists the people that are responsible for the configuration and operation of this server.

Type
Resettable, multi-valued

Input Synonym
You can use the synonym **managers**.

Allowed Values

You can enter a text string up 255 characters long, per value, that contains the name or user ID of the person responsible for this server. You may also want to include the telephone number and office location of the person.

Default Values

No default values

Usage Guidelines

This attribute is useful if a user needs to contact someone to report a problem or to request a change.

locale

Identifies the locale for this server.

GUI Label

Locale

Type

Non-settable, single-valued

Allowed Values

Infoprint sets this value based on the environment variables for this server at startup time. The priority sequence to obtain the language for the locale from the environment variables is:

1. **LC_ALL**
2. **LC_MESSAGES**
3. **LANG**

Default Value

No default value

log-accounting-data

Defines whether the accounting logs for all associated actual destinations are activated or deactivated by default. The actual destination attribute **log-accounting-data** setting if one overrides the setting of this value for that actual destination.

GUI Label

Log accounting data

Type

Resettable, single-valued

Allowed Values

You can enter one of these values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value

false

Usage Guidelines

If the value for any actual destination associated with this server is set to the default attribute value (no value), the value set for this server attribute sets the condition for that actual destination.

Server

The accounting log for each actual destination contains the following job attributes and values for each job submitted to that actual destination separated by commas:

actual destination name (up to 255 characters)
job owner (up to 255 characters)
global job-id without *ServerName*
submission-time (GMT format)
submission-time (date in server's displayable locale and time zone)
submission-time (time in server's displayable locale and time zone)
completion-time (GMT format)
completion-time (date in server's displayable locale and time zone)
completion-time (time in server's displayable locale and time zone)
pages-completed
octets-completed
data stream (first document only)
job name (up ot 255 characters)

logical-destinations-ready

Identifies which logical destinations within this server are ready to accept jobs.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **logical-printers-ready**.

Allowed Values
Infoprint sets and resets this value as administrators enable or disable logical destinations within this server.

Default Values
No default values

logical-destinations-supported

Identifies the logical destinations that this server supports.

Type
Non-settable, multi-valued

Input Synonym
You can use the synonym **logical-printers-supported**.

Allowed Values
Infoprint sets and resets this value as administrators create or delete logical destinations within this server.

Default Values
No default values

logical-printers-ready

See **logical-destinations-ready**.

logical-printers-supported

See **logical-destinations-supported**.

managers

See **list-of-managers**.

maximum-barco-rips

Indicates the maximum number of PostScript jobs that Infoprint can RIP at one time for printing on a 3170 actual destination.

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
4

Usage Guidelines
- For good performance, this value should be the same as the number of AIX systems specified as values of the **rip-server** actual destination attribute.
- Infoprint reads this value the first time that a job is RIPped after the server is started. Therefore, whenever you change this value, you must restart the server.

maximum-non-raster-rips

Indicates the maximum number of jobs other than TIFF, GIF, or JPEG jobs that Infoprint can RIP at one time for printing on a PSF actual destination.

GUI Label
Maximum nonraster RIPs

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
No default value

Usage Guidelines
- You can limit the number of concurrent RIPs to improve performance.
- Infoprint reads this value the first time that a job is RIPped after the server is started. Therefore, whenever you change this value, you must restart the server.

maximum-raster-rips

Indicates the maximum number of TIFF, GIF, and JPEG jobs that Infoprint can RIP at one time for printing on a PSF actual destination.

GUI Label
Maximum raster RIPs

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Server

Default Value
No default value

Usage Guidelines
- You can limit the number of concurrent RIPs to improve performance.
- Infoprint reads this value the first time that a job is RIPped after the server is started. Therefore, whenever you change this value, you must restart the server.

message

Provides information associated with this server.

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that contains information about this server.

Default Value
No default value

modify-individual-document-supported

Indicates whether this server is capable of modifying individual documents within a multiple document job.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **true**.

Default Value
true

multiple-documents-supported

Indicates whether this server supports multiple documents in a single job.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **true**.

Default Value
true

notification-delivery-methods-supported

Identifies the methods this server supports for sending messages to the person specified to receive the messages.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets this value to any of these fixed values:
    electronic-mail

> **message**
> **file**
> **file-add-to**
> **sapcb**
> **none**

Default Values
No default values

Usage Guidelines
The **sapcb** notification method causes the SAP callback daemon to return messages about job events to the SAP database. It is used only for jobs submitted by SAP users.

notification-profile

Designates which users Infoprint notifies of specific events related to this server, and how Infoprint notifies them.

GUI Label
Notification profile

Type
Resettable, multi-valued, complex

Syntax

-x "notification-profile={event-identifiers=_event_ ...
delivery-address=_name@node_ **delivery-method=**_value_
event-comment='_some text_**' locale=**_locale_**}"**

For example:

```
-x "notification-profile={events-identifiers=class-server-status
    delivery-address=Tom@master delivery-method=message
    event-comment='Too much data' locale=En_US.IBM-850}"
```

You can omit any of these values.

Components

event-identifiers: Specifies the events for which the person receives messages.

Type: Multi-valued

Allowed Values: You can enter any of the values listed for the **events-supported** attribute.

Default Values: **internal-server-error**, **object-cleaned**, **object-deleted**, **server-shutdown-complete**, **sapcbd-down**

delivery-address: Specifies the address of the person who receives event messages concerning this server or the directory location and file name where Infoprint stores messages.

Type: Single-valued

Allowed Values: You can enter a text string that contains the login ID and node or the path to the directory and file name.

Server

> *Default Value:* The login ID of the user who created this server.

> ***delivery-method:*** Specifies how the user receives the event messages.

> *Type:* Single-valued

> *Allowed Values:* You can enter one of these fixed values:

> | **Fixed Value** | **Input Synonym** |
> |---|---|
> | **electronic-mail** | **e-mail**, **email** |
> | **message** | |
> | **file** | |
> | **file-add-to** | |
> | **none** | |

> *Default Value:* **message**

> *Usage Guidelines:* If you specify a value of **file** or **file-add-to** for this component, you must specify a value for the **delivery-address** component.

> ***event-comment:*** Provides information that Infoprint appends to the event message.

> *Type:* Single-valued

> *Allowed Values:* You can enter a text string up to 4095 characters long that contains the comment.

> *Default Value:* No default value

> ***locale:*** Defines the language and code page of notification messages.

> *Type:* Single-valued

> *Allowed Values:* You can enter any locale for which the Infoprint messages in the corresponding language are installed.

> *Default Value:* The locale of the person who created this server.

npm-server-ip-address

Identifies the Internet Protocol address (IP Address parameter) of the system where the Network Print Manager (NPM) server is running.

GUI Label
NPM server IP address

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that is either of these types of address:

Dotted decimal address
> A series of integers within the range of 0 to 255, each separated by a period, . (decimal address). For example:
>
> 9.99.12.85

Hostname
> For example:

`leo.boulder.IBM.com`

Default Value
127.0.0.1

Usage Guidelines
You must enter a value in order to display the Simple Network Management
Protocol (SNMP) `Printer Status` dialog from the Infoprint Manager Operations GUI.

npm-server-port-number

Identifies the Port Number parameter on the system where the NPM server is
running.

GUI Label
NPM server port

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 2147483647, but you typically enter an
integer from 5001 to 65535.

Default Value
6795

Usage Guidelines
You must enter a value in order to display the SNMP `Printer Status` dialog from
the Infoprint Manager Operations GUI.

object-class

Identifies the object class to which this object belongs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **server**.

Default Value
server

object-classes-supported

Lists the object classes that this server supports.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets this value to these fixed values:
   auxiliary-sheet
   destination
   document
   initial-value-document
   initial-value-job
   job
   log
   medium

Server

> **queue**
> **resource-context**
> **server**
> **transform** for Windows NT or Window 2000 only

> **Default Values**
> See "Allowed Values".

physical-printers-ready

> See **actual-destinations-ready**.

physical-printers-supported

> See **actual-destinations-supported**.

printer-states-supported

> See **destination-states-supported**.

problem-child

> Indicates whether one of the objects that this server manages has a problem.

> **Type**
> Non-settable, single-valued

> **Allowed Values**
> Infoprint sets this value to one of these fixed values:
> > **true**
> > **false**

> **Default Value**
> No default value

> **Usage Guidelines**
> The Infoprint administrator's GUI uses this attribute value to determine the problem status of this server.

protected-attributes

> Specifies one or more server attributes that DCE prevents Infoprint operators from setting or changing.

> **GUI Label**
> Protected attributes

> **Type**
> Resettable, multi-valued

> **Allowed Values**
> You can enter one or more server attribute names.

> **Default Values**
> This attribute always specifies itself, **protected-attributes**, as a value.

> **Usage Guidelines**
> Normally, anyone with DCE **write** permission for server can set values for server attributes. By default, the **pd_admin** and **pd_operator** DCE groups both have **write** permission. Once you define a server attribute as a protected attribute, you must have DCE **delete** permission to modify the attribute. Members of the **pd_operator**

DCE group do not have **delete** permission unless the DCE administrator has modified the default permissions for that group.

queues-supported

Identifies the queues contained in this server.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets and resets this value when you create or delete queues.

Default Values
No default values

save-rip-files

Indicates whether this server saves the output files from jobs converted to raster image patterns.

GUI Label
Save ripped files

Type
Resettable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	*Input Synonym*
true	**yes**
false	**no**

Default Value
Basic	**true**
Advanced	**false**

Usage Guidelines
- If you move a RIPped job from a server with **save-rip-files=true** to one with **save-rip-files=false**, the new server keeps the RIP files only until the job is printed, then discards them.
- RIPped files are saved in the directory specified by the **PDBASE** environment variable or in one of its subdirectories. No single user can create a file larger than the amount of free space in the file system containing this directory. If many users are submitting RIPped jobs, the directory may fill up and prevent all users from successfully RIPping files.

security-level

Identifies the security level for this server.

GUI Label
Security level

Type
Resettable, single-valued

Allowed Values
You can enter the following value for DCE:

medium	DCE controls access to objects. Clients can execute all commands if the client and server are in the same namespace. If they are not in the same namespace, the client can execute only the **pdls**, **pdpr**, **pdq**, **pdmod**, and **pdrm** commands.

You can enter one of these fixed values for non-DCE:

none	No security checking is performed.
low	Uses standard non-DCE access control list and group security checking.

Default Value
With non-DCE	**low**
With DCE	**medium**

server-hostname

Identifies the host processor on which this server is running.

Type
Non-settable, single-valued

Input Synonym
You can use the synonym **hostname**.

Syntax

node.node.node

For example:

```
boxer.denver.gym.
```

Allowed Values
Infoprint sets this value to the host name of the processor where this server was created.

Default Value
The host name of the processor where this server was created.

server-ip-address

Identifies the Internet Address of the host processor on which this server is running.

Type
Non-settable, single-valued

Input Synonyms
You can use the synonym **ip-address** or **i-p-address**.

Allowed Values
Infoprint sets this value to the IP address of the host on which this server was created. The value is in the format of integers in series within the range of 0 to 255. A period, **.** , separates each integer from the others in the format

```
nn.nn.nn.nn
```

For example:

```
9.99.9.143
```

Default Value
The IP address of the host on which this server was created.

server-name

Uniquely identifies this server.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to the name you enter when you create this server.

Default Value
No default value

server-state

Identifies the current state of this server.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to one of these fixed values:
initializing
ready
terminating
unavailable

Default Value
No default value

smtp-server-host (Windows NT and Windows 2000 Only)

Identifies the Domain Name System (DNS) hostname or Internet Protocol address of the system where the Simple Mail Transfer Protocol (SMTP) server or gateway is running.

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that is either of these types of addresses:

Hostname
For example, `leo.boulder.IBM.com`.

Dotted decimal address
For example, `9.99.12.85`.

Default Values
localhost

Usage Guidelines
• You must enter a value in order to receive notifications through the **electronic-mail** notification delivery method.

Note: Select client notifications use the **electronic-mail** notification delivery method.

smtp-server-port-number (Windows NT and Windows 2000 Only)

Identifies the port number on which the Simple Mail Transfer Protocol (SMTP) server is listening.

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 1 through 2147483647, but you typically enter an integer from 5001 to 65535.

Default Values
25

Note: This is the Internet Assigned Numbers Authority (IANA) reserved port number for SMTP.

Usage Guidelines
• You must enter a value in order to receive notifications through the **electronic-mail** notification delivery method.

> **Note:** Select client notifications use the **electronic-mail** notification delivery method.

snmp-aix-printer-models

Identifies the SNMP descriptive printer model names that the AIX DSS recognizes.

GUI Label
AIX printer models

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets this value to a list of recognized SNMP printer models.

Default Values
A list of recognized SNMP printer models.

snmp-discovery-during-startup

Specifies that during startup, the server should issue an SNMP query for each SNMP printer to obtain the most up-to-date status.

GUI Label
Discover printers at startup

Type
Resettable, single-valued

Allowed Values

Fixed Value	*Input Synonym*
true	yes
false	no

Default Value
true

Usage Guidelines
- When **SNMP-discovery-during startup** is **true**, the SNMP queries can cause long startup times, especially when there are lots of SNMP printers and a significant number of them are powered off or disconnected.
- When **SNMP-discovery-during startup** is **false**, the server bypasses the initial SNMP queries, and the SNMP printers show whatever their status was when the server was shutdown the last time. When set to **false**, the printer status becomes up-to-date over time as the SNMP polling loop runs.

snmp-normal-poll-interval

Indicates the number of seconds that the server should wait between polling output devices that use SNMP and that are not known to have a problem.

GUI Label
Normal poll interval (sec)

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
300

Usage Guidelines
- When normal polling finds that an output device has a problem, Infoprint disables the actual destination if necessary and transfers the device to the list of devices to be polled at the problem interval.
- Output devices with which the server has not established, or has lost, SNMP communication, are polled at the normal interval, not the problem interval.
- Set a value of **0** to disable normal polling.

snmp-problem-poll-interval

Indicates the number of seconds that the server should wait between polling output devices that use SNMP and that are known to have a problem.

GUI Label
Problem poll interval (sec)

Type
Resettable, single-valued

Allowed Values
You can enter an integer from 0 through 2147483647.

Default Value
60

Usage Guidelines
- When problem polling finds that an output device no longer has a problem, Infoprint reenables the actual destination if necessary and transfers the device to the list of devices to be polled at the normal interval. To prevent Infoprint from reenabling the actual destination, manually disable it.
- Output devices with which the server has not established, or has lost, SNMP communication, are polled at the normal interval, not the problem interval.

Server

  • Set a value of **0** to disable problem polling.

transfer-methods-supported

Identifies the transfer methods that this server supports.

Type
Non-settable, multi-valued

Allowed Values
Infoprint sets this value to any of these fixed values:
  pipe-pull
  with-request

Default Values
pipe-pull, **with-request**

Usage Guidelines
Infoprint compares the document attribute **transfer-method** to this attribute for
validation.

windows-drivers

See **windows-nt-driver-names**.

windows-nt-driver-names

Identifies the 32-bit Windows print driver that can be used as the device driver for
automatically created gateway shared printers on this server.

GUI Label
Windows drivers

Type
Resettable, single-valued

Input Synonyms
You can use the synonym **windows-nt-drivers** or **nt-drivers**.

Allowed Values
You can enter a text string that contains the string form of the Windows print driver.

Default Values
No default values

Usage Guidelines
  • Perform the following procedure to determine the valid Windows driver names:
    1. Select **My Computer** from the desktop.
    2. Select and open the **Control Panel** icon.
    3. Select and open the **Printers** icon,
    4. Select and open the **Add Printer** icon.
    5. The values listed in the **Printers:** list box in the **Add Printer Wizard** are the
       names of the Windows destination drivers that you can install on the
       workstation; for example, **IBM 4039 LaserPrinter PS**.

  Note: Other destination drivers are available and may not display in the list for a
       particular workstation.

windows-nt-drivers

See **windows-nt-driver-names**.

Attributes for Transforms (Windows NT or Window 2000 only)

Infoprint uses transform objects to indicate how specific document formats sent to an associated actual destination are to be transformed before printing or storing.

Initially Settable Attribute Listing

output-document-format
transform-id

Resettable Attribute Listing

You can set these attributes with the **pdcreate** command when you create a transform or modify them with the **pdset** command after you create the transform. You can also erase a transform with the **pddelete** command or list selectable attribute values for a transform with the **pdls** command.
descriptor
document-formats-supported
other-transform-options

associated-server

Indicates the name of the server where this transform resides.

GUI Label
Server

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value when you create a transform for a given server. Infoprint assigns the *ServerName* portion of the argument from the **pdcreate** command used to create this transform object.

Default Value
No default value

descriptor

Provides a description of this transform.

GUI Label
Description

Type
Resettable, single-valued

Allowed Values
You can enter a text string up to 4095 characters long that describes this transform.

Default Value
No default value

Usage Guidelines
The use of this attribute is optional. However, a detailed description of the transform that this references can be helpful to a users who need to determine which transform to use.

document-formats-supported

Identifies the document formats that this transform supports.

GUI Label
Document formats allowed

Type
Resettable, multi-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	*Input Synonym*
ascii	
dbcs-ascii	
ditroff	
d630	
gif	
hpgl	**hp-gl**
iso-6429	
jpeg	
kgl	
lcds	
line-data	
metacode	
modca-p	**afpds**
passthru	
pcl	**hppcl, hp-pcl**
pdf	
postscript	**ps**
ppds	
sap	
sap-abap	
simple-text	**text**
tiff	

Default Values
ASCII, **MODCA–P (AFPDS)**, **PCL**, **PostScript**

Usage Guidelines
• When a document's format it not supported, the document bypasses the transform.

object-class

Identifies the object class to which this object belongs.

Type
Non-settable, single-valued

Allowed Values
Infoprint sets this value to **transform**.

Default Value
transform

other-transform-options

Specifies the command line that executes when this transform is run.

GUI Label
Transform options

Type
Resettable, single-valued

Allowed Values
You can enter a text string of up to 4095 characters that contains the command line for this transform.

Default Value
No default value

Usage Guidelines
For **transform-library=command-line-transform**, this attribute contains the command line that specifies the transform. The supported substitution control sequences that may be used in **other-transform-options** follow:

%i   The name of the input-file to transform.

%o   The name of the file in which to store the output transform.

> **Note:** If no data is stored in this file and this is a non-terminating transform, Infoprint Manager assumes that the transform did not want to modify the input data, so Infoprint Manager simply passes the input file on to the next transform in sequence.

%e   The name of the file in which to store any transform information or error messages. If anything is written to this file, it is logged in the Infoprint Manager server log.

%j   The name of the original print file name, minus the path (from **document-file-name** attribute).

> **Note:** This file may not be accessible. This should only be used to construct another name, for example, for a temporary file.

%n   The name of the original print file name, minus the path and minus the extension (from **document-file-name** attribute).

> **Note:** This file may not be accessible. This should only be used to construct another name, for example, for a temporary file.

%d   A string representing the document-format of the input file:

     ascii   ASCII

     afpds   AFPDS

     pcl   PCL

     postscript
         PS

%p   The value of the **destination-pass-through** attribute.

%q   The name of the actual destination that is doing this transform.

Transforms

%#   The job-identifier of the job.

Examples for other-transform-objects:

- To run the **ps2afp** transform and print the generated AFP data, you would specify a one-step transform sequence consisting of a transform object as follows:

  other-transform-options="ps2afp -o %o %i"

- To run the **ps2afp** transform and also save a copy of the generated AFP data in "c:\afp*.afp", you could create a transform sequence consisting of two transform objects as follows:

  1.

     other-transform-options="ps2afp -o %o %i"

     This step does the PostScript to AFP transform and stores the output in the designated output file, which becomes the input file for step 2.

  2.

     other-transform-options="copy %i c:\afp\%n.afp"

     This step copies the AFP file from step 1. However, in this example, nothing is put in the %o file, so the %i file (the transformed AFP) is passed through to the DSS for printing.

- To run a customized program that removes PostScript controls that may create a problem at the printer, you would use a one-step transform sequence consisting of a transform object as follows:

  other-transform-options="d:\tools\my_ps_filter.exe %i %o"

output-document-format

Identifies the format of the output file generated by the transform. This is a required attribute.

GUI Label
Format of output file

Type
Non-settable, single-valued

Allowed Values
You can enter any of these fixed values:

Fixed Value	*Input Synonym*
ascii	
dbcs-ascii	
ditroff	
d630	
gif	
hpgl	**hp-gl**
iso-6429	
jpeg	
kgl	
lcds	
line-data	
metacode	
modca-p	**afpds**
passthru	
pcl	**hppcl, hp-pcl**

Fixed Value	Input Synonym
pdf	
postscript	ps
ppds	
sap	
sap-abap	
simple-text	text
tiff	

Default Value
No default value

terminating-transform

Indicates whether or not this is a terminating transform.

GUI Label
How to process jobs

Type
Settable, single-valued

Allowed Values
You can enter one of these fixed values:

Fixed Value	Input Synonym
true	yes
false	no

Default Value
false

Usage Guidelines
When you specify **true** for **terminating-transform**, Infoprint Manager ends the transform sequence and marks the job complete without printing through the DSS backend.

A terminating transform may be used to create an actual destination that only performs a transform and then stores/forwards the transformed data without ever printing it to an output device.

Since the DSS is never actually executed, a terminating transform can be associated with any type of DSS. You should associate a terminating transform with a BSD DSS destination to minimize unnecessary overhead, such as creating files, ports, and so on.

Examples for terminating-transform
- For example, a BSD DSS destination could be created and associated with a transform that runs **ps2afp** and stores the resulting AFP file in a library.
- As another example, you could also use a BSD DSS destination fed by one queue and associated with a transform that runs **ps2afp** and then **pdpr**'s the resulting AFP file to a logical destination that feeds a real printer. This example gives you a way to do *pre-spool* transforms.

transform-identifier

Uniquely identifies this transform.

Transforms

> **Type**
> Non-settable, single-valued
>
> **Allowed Values**
> Infoprint sets this value to the *SimpleName* portion of the argument specified with the **pdcreate** command when this transform is created.
>
> **Default Value**
> No default value

transform-library

> Identifies the name of the DLL/Shared library that implements this transform.
>
> **Type**
> Non-settable, single-valued
>
> **Allowed Values**
> command-line-transform
>
> **Default Value**
> command-line-transform

Chapter 8. Infoprint Environment Variables

Table 14, Table 15 on page 652, Table 16 on page 653, and Table 17 on page 654 describe the environment variables that affect how Infoprint processes commands and utilities.

Table 14. Infoprint Environment Variables Defaulted or Set for Infoprint Manager for AIX and Infoprint Manager for Windows NT and Windows 2000

Variable	Description
PATH	With Infoprint Manager for AIX, the directories that AIX searches for command files. Separate multiple directories by a colon, **:** . **Commands:** All **Default:** **$PATH:/usr/lpp/pd/bin:/usr/lpp/psf/bin**, where **$PATH** is the value when Infoprint is installed With Infoprint Manager for Windows NT and Windows 2000, the directories that AIX searches for command files. Separate multiple directories by a semi-colon, **;** . **Commands:** All **Default:** **%PATH%:***install_path***\pd\bin;***install_path***\psf\bin**, where **%PATH%** is the value when Infoprint is installed
PDIDTABLE	Defines the upper limit (boundary) of local job identifiers that Infoprint can assign for each user before wrapping to 1. The maximum valid integer is 32767. If you do not set a value, Infoprint uses 100 as the upper limit. Setting the value to a lower value decreases memory usage but increases the chances of duplicate local job identifiers.
PDPATH	A path of directories that Infoprint searches for the file name specified by the **-X** *attributes file name* flag. Separate multiple directories by a colon, **:** . If the **PDPATH** environment variable does not exist, Infoprint uses the current working directory of the person submitting the command. **Commands:** All
PDPRINTER	Used as the default logical destination when you do not specify the **-d** *DestinationName*, the **-p** *DestinationName* flag, or the **destination-name-requested** job attribute. **Commands:** **pdls**, **pdq**, **pdpr** Infoprint also uses this variable to identify the server for other commands.
PD_CONFIRM_DELETE	Specifies whether Infoprint issues a confirmation message before deleting an object. **Commands:** **pdclean**, **pddelete**, **pdrm** **Values:** **yes**, **no** **Default:** **yes**

Environment Variables

Variable	Description
PD_ENABLE_TIMEOUT	Specifies the number of seconds that a server waits for an actual destination to register when the actual destination is enabled. **Default:** 15
PD_LISTEN_COUNT	Specifies the number of simultaneous requests that a server can process. If this number is exceeded, the server issues an error message. **Default:** 10
PD_SOCKET	Identifies the port number used by the Infoprint communications daemon. Internet services reserve socket numbers up to 255. Other non-Infoprint services reserve socket numbers in the range 256 through 1023. To determine the socket numbers already reserved before assigning a socket number to an Infoprint communications daemon, look at the contents of the **/etc/services** file. **Default:** 6874
PSFDBLANG	The language and code page used by the **db2afp** transform program. **Values:** **j** (Japanese, code page 932), **c** (Traditional Chinese, code page 938), **je** (Japanese EUC), **ce** (Traditional Chinese EUC), **ke** (Korean EUC)
PSFPATH	A path of directories that Infoprint searches for print resources (fonts, form definitions, overlays, page definitions, and page segments). Separate multiple directories by a colon, **:** . **Commands:** **pdpr**

Table 15. Infoprint Environment Variables Defaulted or Set in the /etc/environment File in Infoprint Manager for AIX

Variable	Description
GIF2AFP_*option*	Specifies options for the **GIF2AFP** transform command. See "gif2afp Command: Transforms GIF Data to AFP in Infoprint Manager for AIX" on page 209.
IPR_PREDPROD	Used during migration to specify the product that preceded Infoprint. **Value:** **PSF** (PSF for AIX)
JPEG2AFP_*option*	Specifies options for the **JPEG2AFP** transform command. See "jpeg2afp Command: Transforms JPEG Data to AFP in Infoprint Manager for AIX" on page 223.
MANPATH	A path of directories that AIX searches for man pages. Separate multiple directories by a colon, **:** . **Commands:** **man**

Table 15. Infoprint Environment Variables Defaulted or Set in the /etc/environment File in Infoprint Manager for AIX (continued)

Variable	Description
PDBASE	Specifies the root directory where the Infoprint server stores all of its working files, such as log or trace files. Each server has its own subdirectory under this directory to avoid name conflicts when multiple servers are on the same AIX processor. **Utilities:** **start_server**, **startsrv** **Default:** **/var/pd**
PDNAMESP	Specifies the namespace. **Commands:** All **Default:** **/var/pddir/default_cell** (without DCE) **/.:/subsys/ipr** (with DCE)
PPO_DEFAULT_ENV	The fully qualified name of the Infoprint SMIT production print operations interface environment file, which contains a shell script that defines all other Infoprint SMIT production print operations interface environment variables. **Default:** **/usr/lpp/pd/bin/ppo.env**
TIFF2AFP_option_	Specifies options for the **TIFF2AFP** transform command. See "tiff2afp Command: Transforms TIFF Data to AFP in Infoprint Manager for AIX" on page 310.
TYPESETTER	Determines how **troff** files are processed for printing. **Values:** **afp**, **hplj**, **psc**
XBMLANGPATH	A path of directories that AIX searches for the icons used by graphical user interfaces. Separate multiple directories by a colon, **:** .

Table 16. Infoprint Environment Variables Set in the Infoprint SMIT Production Print Operations Interface Environment File for Infoprint Manager for AIX

Variable	Description
PPO_CANCEL_ALL_OPTION	Specifies whether operators have the option of cancelling all jobs. **Values:** **0** (no), **1** (yes) **Default:** **1** (yes)
PPO_FORM	The list of forms (media) that your printing operation can use. Separate form names by blanks.
PPO_JOB_BATCH	The list of job batches that your printing operation can use. Separate job batch names by blanks.
PPO_JOB_DETAILS_ATTRS	The job and document attributes that are displayed in the Infoprint SMIT production print operations interface job status window. Separate attribute names by commas.
PPO_LP	The name of the default logical destination to which the Infoprint SMIT production print operations interface resubmits print jobs.

Environment Variables

Table 16. Infoprint Environment Variables Set in the Infoprint SMIT Production Print Operations Interface Environment File for Infoprint Manager for AIX (continued)

Variable	Description
PPO_LPS	The names of logical destinations that are available for job submission. Separate logical destination names by blanks.
PPO_PP_ATTRS	The actual destination attributes that are displayed in the Infoprint SMIT production print operations interface destination status window. Separate attribute names by commas.
PPO_PPS	The names of the actual destinations that the Infoprint SMIT production print operations interface manages. Separate actual destination names by blanks.
PPO_QUEUE	The name of the queue that the Infoprint SMIT production print operations interface manages.
PPO_QUEUE_ATTRS	The queue attributes that are displayed in the Infoprint SMIT production print operations interface queue status window. Separate attribute names by commas.
PPO_QUEUE_INFO_FILE	In installations that use multiple queues, the name of the file that maps queues to their environment files.
PPO_SERVER	The name of the server that the Infoprint SMIT production print operations interface manages.
PPO_TRACE_FILE	The name of the file containing trace records for the Infoprint SMIT production print operations interface manages. Use this environment variable only under the direction of IBM service.

Table 17. AIX Environment Variables

Variable	Description
LANG	The name of the locale to use for locale categories when neither **LC_ALL** nor the corresponding environment variable beginning with **LC_** specifies a locale. Used to determine the language, territory, or character set of messages and other information that Infoprint sends to a person. **Commands:** All
LC_ALL	The name of the locale used to override any values for locale categories specified by the setting of **LANG** or any environment variables beginning with **LC_**. **Commands:** All
LC_CTYPE	The name of the locale for character classification. **Commands:** All
LC_MONETARY	The name of the locale containing monetary-related numeric editing information. **Commands:** All
LC_NUMERIC	The name of the locale containing numeric editing, such as radix and character information. **Commands:** All

Table 17. AIX Environment Variables (continued)

Variable	Description
LC_TIME	The name of the locale for date and time formatting information. **Commands:** All
LC_MESSAGES	The name of the locale for **STDERR** messaging. **Commands:** All
NLSPATH	A path of directories that AIX searches for locale-dependent files. Separate multiple directories by a colon, **:** .

Querying Environment Variables

You can use the **echo** command to query the value of an environment variable. For example, to determine the default logical destination, enter:

```
echo $PDPRINTER
```

To query all environment variables that have values set, enter:

```
env
```

Setting Environment Variables

You can use the **export** command to set environment variables:

* If you are an administrator, in an environment file.

  – You can set AIX environment variables and many Infoprint environment variables in the **/etc/environment** file.

  – You can set some Infoprint environment variables that affect the Infoprint SMIT production print operations interface in the Infoprint SMIT production print operations interface environment file. The **PPO_DEFAULT_ENV** environment variable defines the name of this file.

  Settings in the environment files apply to all sessions for all users, unless a user resets the environment variables in the **.profile** file or on the command line.

  Note: These settings do not apply to processes that are already running when you edit the file. For example, a server is a process. To make your changes effective, stop and restart the server.

* In the **.profile** file in your home directory. Settings in the **.profile** file override settings in the **/etc/environment** file and the Infoprint SMIT production print operations interface environment file. These settings apply only to you and are in effect for all your AIX sessions, unless you reset the environment variables on the command line.

* On the command line for a single AIX session. Command line settings override settings in the **/etc/environment** file, the Infoprint SMIT production print operations interface environment file, and your **.profile** file. These settings apply only to you and are in effect only until you exit the session.

Environment Variables

In a File

To set an environment variable in a file, you need to edit the file with an editor. If you do not know how to use an editor, or the editor you are using is not capable of saving in the plain text (ASCII) file format, do not start. Ask your administrator for assistance.

The following example shows how to set the **PDPRINTER** environment variable in your **.profile** file, using the **vi** editor.

1. Enter the following command to change to your home directory:

   ```
   cd
   ```

2. Make a backup copy of the file:

   ```
   cp -p .profile .profile.org
   ```

   The **-p** flag gives the copy the same file permissions and modification date and time as the original file.

3. Enter the following command:

   ```
   vi .profile
   ```

4. A typical **.profile** file contains lines similar to the following:

   ```
   PATH=.:$HOME/bin:/bin:/usr/bin:/etc:/usr/ucb:/usr/bin/X11:tools/
   usr/bin:/usr/lpp/cmvc/bin:/usr/OV/bin:/usr/local/tools/rs6/bin:/usr
   /local/tools/rs6:/usr/dt/bin
   ```

   ```
   export PATH
   export EDITOR=vi
   ```

5. Insert or modify the following line in the **.profile** file:

   ```
   export PDPRINTER=LogicalDestinationName
   ```

   where *LogicalDestinationName* is the name of the logical destination you want to set as your default.

6. Save the change in plain text format and exit from the editor.

7. Make the change effective by entering the following command:

   ```
   . .profile
   ```

8. Verify the change by entering the command:

   ```
   echo $PDPRINTER
   ```

   The logical destination name you entered displays.

On the Command Line

To set the value of the environment variable **PDPRINTER** to `Destination3` for a single AIX session, enter:

```
export PDPRINTER=Destination3
```

Chapter 9. Notification Events and Event Classes

Table 18 alphabetically lists the names of individual events that you can specify as values for the **event-identifiers** component of the **notification-profile** attribute. The information for each event includes a description, the event class or classes to which the event belongs, the Infoprint objects that support the notification of the event, and the text of the notification message that Infoprint generates for the event. Items in the message text shown in *italics* are variables for which Infoprint supplies values when it issues the message.

Table 18. Notification Events

Event	*Event Class*	*Objects Supported*
	Description	
	Message	
checkpoint-taken	**class-job-status** **class-report**	Job
	When this job was paused, the server saved checkpoint information for it. The server can restart the job at the checkpoint. **Note:** The server does not save checkpoint information for jobs terminated by errors.	
	`5010-218 The server saved checkpoint information for job `*`JobID`* (*`ServerName:GlobalID`*)`.	
close-to-discard-time	**class-job-attention** **class-warning**	Job Server
	The date and time specified by the **job-discard-time** or the **job-retention-period** attribute is approaching. Infoprint will delete the job at the discard time.	
	`5010-234 Job `*`JobID`*` (`*`ServerName:GlobalID`*`) is close to being discarded.`	
destination-disabled	**class-actual-destination-attention** **class-logical-destination-attention** **class-warning**	Actual destination Logical destination Queue Server
	Infoprint disabled a logical destination or actual destination and it will not accept new jobs.	
	`5010-240 Successfully disabled destination `*`ServerName:DestinationName`*`.`	
destination-enabled	**class-actual-destination-attention** **class-logical-destination-attention** **class-warning**	Actual destination Logical destination Queue Server
	Infoprint enabled a logical destination or actual destination and it now accepts jobs.	
	`5010-226 Successfully enabled destination `*`ServerName:DestinationName`*`.`	

Notification Events

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
destination-function-unavailable	**class-actual-destination-status** **class-job-attention** **class-warning**	Actual destination Server
	The actual destination requires an output device function, such as duplex or offset stacking, that is not available. The function is disabled, but processing continues.	
	`5010-307 The destination ServerName:DestinationName requires a` `function that is not available.`	
destination-needs-administrator	**class-actual-destination-attention** **class-actual-destination-default** **class-job-attention** **class-warning**	Actual destination Job Server
	The server or actual destination detected a condition requiring administrator intervention. The actual destination is disabled.	
	`5010-306 The destination ServerName:DestinnationName needs` `administrator attention.`	
destination-needs-attention	**class-actual-destination-attention** **class-actual-destination-default** **class-job-attention** **class-job-default** **class-warning**	Actual destination Job Server
	The actual destination needs attention from a person, not necessarily the operator. The actual destination cannot process jobs until it receives attention.	
	`5010-245 Actual destination ServerName:destinnationname needs` `attention.`	
destination-needs-operator	**class-actual-destination-attention** **class-actual-destination-default** **class-job-attention** **class-job-default** **class-warning**	Actual destination Job Server
	An actual destination needs operator attention. The actual destination cannot process jobs until it receives attention.	
	`5010-246 Actual destination ServerName:DestinationName needs` `operator attention.`	
destination-registered	**class-actual-destination-status** **class-report**	Actual destination Queue Server
	An actual destination has registered with this queue. The queue can now schedule jobs to this actual destination.	
	`5010-223 Actual destination ServerName:DestinationName registered` `with queue ServerName:QueueName.`	

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
destination-shutdown-job-requeued	**class-actual-destination-attention** **class-job-attention** **class-warning**	Actual destination Job Server
	The actual destination shut down after this job started processing. The job was requeued and will be scheduled again.	
	5010-237 Actual destination *ServerName:DestinationName* was shut down after job *JobID* (*ServerName:GlobalID*) started processing.	
destination-state-changed	**class-actual-destination-status** **class-state-changed**	Actual destination
	The actual destination state changed. Processing continues.	
	5010-228 The state of actual destination *ServerName:DestinationName* changed to *State*.	
destination-timed-out	**class-actual-destination-attention** **class-actual-destination-default** **class-warning**	Actual destination Server
	The actual destination did not connect or get a response from the output device in the time specified by the **destination-timeout-period** actual destination attribute. Another application is using the output device or job progress at the output device has stopped. The actual destination continues its attempts to connect or print to the output device. The actual destination cannot process jobs until it connects to the device. Check the server error log for additional information.	
	5010-247 Actual destination *ServerName:DestinationName* has timed out.	
destination-unregistered	**class-actual-destination-status** **class-warning**	Actual destination Queue Server
	This actual destination is no longer registered with this queue and the queue no longer sends jobs to this actual destination.	
	5010-243 Actual destination *ServerName:DestinationName* is no longer registered with *ServerName:QueueName*.	
destinations-not-ready-for-job	**class-job-attention** **class-job-default** **class-warning**	Job Queue Server
	There are no actual destinations currently available that can support the "ready" attributes for the job. Ready attributes include **job-batch**, **total-job-octets**, **default-medium**, and **page-media-select**.	
	5010-702 The job *JobID* (*ServerName:GlobalID*) cannot be scheduled to an actual destination because resources are not currently ready.	
detailed-messages	**class-job-attention** **class-report**	Actual destination Job Server
	The print backend has sent a message.	
	5010-302 *Message from the print backend program*	

Notification Events

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
document-aborted-by-destination	class-aborted class-job-attention class-job-default	Actual destination Job Server
	The actual destination deleted the document without printing or transmitting it. Errors occurred during processing.	
	5010-292 Document *DocNum FileName* in job *JobID* (*ServerName:GlobalID*) was aborted by the actual destination.	
document-aborted-by-server	class-aborted class-job-attention class-job-default	Actual destination Job (AIX DSS only) Server
	The server aborted this document and deleted it.	
	5010-206 Document *DocNum* (*FileName*) in print job *JobID* (*ServerName:GlobalID*) was aborted by the server.	
document-cancelled-at-destination	class-aborted class-job-attention class-job-default	Actual destination Job Server
	The document was cancelled at the actual destination.	
	5010-293 Document *DocNum* (*FileName*) in job *JobID* (*ServerName:GlobalID*) was cancelled at the actual destination.	
document-content	class-error class-job-problem	Actual destination Server
	The server detected an error in the content of this file during printing. An example of this type of error is a syntax error in the page description language for this file.	
	5010-208 An error was detected in document *DocNum* (*FileName*) of job *JobID* (*ServerName:GlobalID*) during printing.	
file-transferred	class-job-status class-report	Job
	A file transfer completed successfully. The file may now be modified without affecting the output.	
	5010-219 Server (*ServerName*) completed the transfer of document *DocNum* (*FileName*) in job *JobID* (*ServerName:GlobalID*).	
internal-server-error	class-error class-server-attention class-server-default	Server
	A server error occurred. The process failed.	
	5010-215 An internal error was detected in server *ServerName*.	
job-aborted-by-server	class-aborted class-job-attention class-job-default	Actual destination Job Queue Server
	The server aborted this job because job or output device errors occurred during printing or transmission.	
	5010-204 Job *JobID* (*ServerName:GlobalID*) stopped printing due to job or device errors.	

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
job-assigned-to-destination	**class-report**	Job
	This job was assigned to this actual destination.	
	5010-660 The job *JobID* (*ServerName:GlobalID*) is assigned to destination *ServerName:DestinationName*	
job-assigned-to-destination-at-end	**class-report**	Job
	This job is the last job assigned to this actual destination.	
	5010-659 The job *JobID* (*ServerName:GlobalID*) is the last job assigned to destination *ServerName:DestinationName*	
job-assigned-to-queue	**class-job-status** **class-report**	Job Queue Server
	This job was assigned to this queue in this state. Processing continues.	
	5010-301 The job *JobID* (*ServerName:GlobalID*) is assigned to queue *ServerName:QueueName* and is in the *State* state.	
job-cancelled-by-operator	**class-aborted** **class-job-attention** **class-job-default**	Actual destination Job Queue Server
	The operator or administrator deleted the job.	
	5010-196 Job *JobID* (*ServerName:GlobalID*) was cancelled by the operator or administrator.	
job-cancelled-by-user	**class-aborted** **class-job-attention**	Actual destination Job Queue Server
	The user deleted the job.	
	5010-197 Job *JobID* (*ServerName:GlobalID*) was cancelled by the user.	
job-cannot-be-scheduled	**class-job-attention** **class-job-default** **class-warning**	Job Queue Server
	There are no longer any actual destinations available that can support the attributes for the job. The actual destination that supported the attributes for the job at submission is no longer available. The job remains in the queue. Resubmit the job to a logical destination that supports the attributes for the job.	
	5010-103 The job *JobID* (*ServerName:GlobalID*) cannot be scheduled to an actual destination.	

Notification Events

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
job-completed	**class-job-default** **class-job-status** **class-report**	Actual destination Job Queue Server
	The job completed processing. If more than one actual destination processed this job, the last actual destination is identified in the message. It may or may not have completed successfully. Check the output.	
	`5010-055 Job name` *jobname* `with ID` *JobID* (*ServerName:GlobalID*) `completed on` *DestinationName*.	
job-discarded	**class-job-attention** **class-job-default** **class-report**	Job Queue Server
	The date and time specified by the **job-discard-time**, the **job-retain-until**, or the **job-retention-period** attribute passed. Infoprint deleted the job. The job may or may not have printed if it was discarded because of the **job-retain-until** or **job-retention-period** value.	
	`5010-220 Job` *JobID* (*ServerName:GlobalID*) `was discarded by the` `server after it printed or the retention period expired.`	
job-modified	**class-job-status** **class-warning**	Job
	The job was modified. Processing continues.	
	`5010-202 Job` *JobID* (*ServerName:GlobalID*) `was modified.`	
job-paused	**class-job-attention** **class-warning**	Job
	The job was paused. If the job state was **processing** or **printing**, it stopped. Infoprint cannot schedule the job until it is resumed.	
	`5010-203 Job` *JobID* (*ServerName:GlobalID*) `was paused.`	
job-promoted	**class-job-status** **class-report**	Job Queue Server
	The job was promoted to the highest position in the queue.	
	`5010-198 Job` *JobID* (*ServerName:GlobalID*) `was promoted.`	
job-reordered	**class-job-status** **class-report**	Job Queue Server
	The job was successfully moved to a different actual destination or to the unassigned jobs area.	
	`5010-846 Job` *JobID* (*ServerName:GlobalID*) `was moved from` *ServerName1:DestinationName1* `to` *ServerName2:DestinationName2*.	
job-requeued	**class-job-status** **class-warning**	Job
	Infoprint added to the job to the queue for rescheduling because the actual destination that accepted the job can no longer print the job.	
	`5010-322 Job` *JobID* (*ServerName:GlobalID*) `is added to the queue to` `be scheduled again.`	

Table 18. Notification Events (continued)

Event	*Event Class*	*Objects Supported*
	Description	
	Message	
job-resubmitted	**class-job-status** **class-report**	Job Queue Server
	The job was successfully resubmitted to a different logical destination. Processing continues.	
	5010-222 Job *JobID* (*ServerName:GlobalID*) was resubmitted to logical destination *ServerName:DestinationName* from queue *ServerName:QueueName*.	
job-resumed	**class-job-status** **class-report**	Job Queue Server
	The job was resumed. If the job state is pending, Infoprint can schedule the job to an actual destination.	
	5010-199 Job *JobID* (*ServerName:GlobalID*) was resumed.	
job-retained	**class-report**	Job
	The job is retained.	
	5010-199 The job *JobID* (*ServerName:GlobalID*) is retained.	
job-state-changed	**class-job-status** **class-state-changed**	Job
	The state of the job has changed. Processing continues.	
	5010-201 The state of job *JobID* (*ServerName:GlobalID*) changed to *State*.	
job-submission-not-complete	**class-error** **class-job-problem**	Job Server
	The server waited for the amount of time specified in its **job-submission-timer** attribute to receive an indication that all of the document objects in a job have been sent. It did not receive that indication. The server will process the documents it has received as a complete job.	
	5010-209 The final document indication for job *JobID* (*ServerName:GlobalID*) was not received by the server within the server's job-submission-timer interval. Job processing will continue.	
job-unassigned	**class-report**	Job
	This job has been placed in the server's unassigned jobs area.	
	5010-661 The job *JobID* (*ServerName:GlobalID*) is not assigned to any destination.	
no-document	**class-error** **class-job-problem**	Actual destination Job Server
	The server could not access the document. The document and possibly the entire job have been aborted. Check the error log for messages related to this failure.	
	5010-210 Document *DocNum* (*FileName*) in job *JobID* (*ServerName:GlobalID*) could not be accessed by the server.	

Notification Events

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
no-resource	**class-error** **class-job-problem**	Actual destination Server
	A resource needed by this job is unavailable. Infoprint aborted the job. Check the error log for messages related to this failure.	
	5010-211 The resource *Resource* needed by job *JobID* (*ServerName:GlobalID*) was not available.	
object-cleaned	**class-actual-destination-default** **class-actual-destination-status** **class-logical-destination-default** **class-logical-destination-status** **class-queue-default** **class-queue-status** **class-server-default** **class-server-status** **class-warning**	Actual destination Logical destination Queue Server
	Infoprint deleted jobs from this object. Processing continues.	
	5010-244 Successfully cleaned object *ObjectClass* *ServerName:ObjectName*.	
object-created	**class-actual-destination-configuration** **class-logical-destination-configuration** **class-queue-configuration** **class-report**	Actual destination Logical destination Queue Server
	The object was created.	
	5010-224 Successfully created object *ObjectClass* *ServerName:ObjectName*.	
object-deleted	**class-actual-destination-configuration** **class-actual-destination-default** **class-logical-destination-configuration** **class-logical-destination-default** **class-queue-configuration** **class-queue-default** **class-server-configuration** **class-server-default** **class-report**	Actual destination Job Logical destination Queue Server
	The object was deleted.	
	5010-225 Successfully deleted object *ObjectClass* *ServerName:ObjectName*.	
object-modified	**class-actual-destination-configuration** **class-logical-destination-configuration** **class-queue-configuration** **class-server-configuration** **class-server-default** **class-warning**	Actual destination Logical destination Queue Server
	The object was modified.	
	5010-241 Successfully modified object *ObjectClass* *ServerName:ObjectName*.	

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
object-paused	**class-actual-destination-attention** **class-queue-attention** **class-warning**	Actual destination Job Queue Server
	Infoprint paused an actual destination or queue and it cannot process jobs.	
	5010-242 Successfully paused object *ObjectClass* *ServerName:ObjectName*.	
object-resumed	**class-actual-destination-status** **class-queue-status** **class-report**	Actual destination Job Queue Server
	Infoprint resumed an actual destination or queue.	
	5010-227 Successfully resumed object *ObjectClass* *ServerName:ObjectName*.	
other-error	**class-error** **class-server-attention**	Actual destination Server
	An error occurred for this object that no other message describes. Check the error log for messages related to this failure.	
	5010-217 Server *ServerName* encountered an error.	
other-warning	**class-server-attention** **class-warning**	Actual destination Server
	The object encountered a warning condition that no other event describes. This warning condition may precede an error. Check the error log for messages related to this failure.	
	5010-236 Server *ServerName* has encountered a warning condition.	
past-discard-time	**class-error** **class-job-attention**	Job Queue Server
	The date and time specified by the **job-discard-time** job attribute passed before the job printed and Infoprint discarded the job.	
	5010-213 Job *JobID* (*ServerName:GlobalID*) was discarded before it printed.	
processing-started	**class-job-status** **class-report**	Actual destination Job Queue Server
	The server has begun to process the job. Infoprint has scheduled the job to print on an actual destination.	
	5010-200 Job *JobID* (*ServerName:GlobalID*) is processing.	

Notification Events

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
queue-backlogged	**class-queue-attention** **class-queue-default** **class-warning**	Job Queue Server
	Infoprint calculates that there are too many jobs in this queue for all jobs to print within the amount of time specified for the **object-class-backlog-upper-bound** attribute. The queue continues to accept jobs, but there is a delay before they print.	
	5010-304 The queue *ServerName:QueueName* is backlogged.	
queue-no-longer-backlogged	**class-queue-status** **class-report**	Job Queue Server
	The queue is no longer backlogged. Infoprint calculates that the jobs currently in the queue will print within the amount of time specified for the **object-class-backlog-lower-bound** attribute.	
	5010-299 The queue *ServerName:QueueName* is no longer backlogged.	
queue-state-changed	**class-queue-status** **class-state-changed**	Queue
	The queue state changed. Processing continues.	
	5010-230 The state of queue *ServerName:QueueName* changed to *State*.	
resource-needs-attention	**class-actual-destination-attention** **class-warning**	Actual destination Server
	This resource needs attention from a person, not necessarily the operator. Infoprint cannot process jobs requiring this resource until someone corrects the problem.	
	5010-238 Resource *Resource* on actual destination *ServerName:DestinationName* needs attention.	
resource-needs-operator	**class-actual-destination-attention** **class-warning**	Actual destination Server
	This resource needs attention from an operator. Infoprint cannot process jobs requiring this resource until an operator corrects the problem.	
	5010-239 Resource *Resource* on actual destination *ServerName:DestinationName* needs operator attention.	
server-shutdown-complete	**class-server-attention** **class-server-default** **class-report**	Server
	This server has shut down and is no longer available.	
	5010-295 Successfully shut down server *ServerName*.	
server-shutdown-started	**class-server-attention** **class-warning**	Server
	This server has begun to shut down. It does not accept jobs.	
	5010-305 The server *ServerName* is shutting down.	

Table 18. Notification Events (continued)

Event	Event Class	Objects Supported
	Description	
	Message	
server-startup-complete	**class-report** **class-server-configuration**	Server
	Infoprint started this server.	
	`5010-294 Successfully started server` *ServerName*`.`	
server-state-changed	**class-server-status** **class-state-changed**	Server
	The state of the server has changed.	
	`5010-299 The state of server` *ServerName* `changed to` *State*`.`	
unable-to-register	**class-warning**	Actual destination Server
	The actual destination could not register with the queue within the amount of time specified for the **destination-register-threshold** actual destination attribute. Infoprint cannot schedule jobs to the actual destination.	
	`5010-437 The actual destination` *ServerName:DestinationName* `cannot register with the queue` *QueueName*`.`	
unrecognized-resource	**class-error** **class-job-problem**	Actual destination Server
	A resource required for this job is not known to the server. The job was aborted. Check the server error log for messages related to this failure.	
	`5010-214 Resource` *Resource* `that is required for job` *JobID* `(`*ServerName:GlobalID*`) is not known to the server.`	

An event class is an easy way to include multiple events in a value. Event classes group events based on the functions for which they provide notification. For example, some classes are specific to configuration tasks while other classes provide information about the status of Infoprint objects. Each event class name begins with **class**.

Note: An event identifier can occur in more than one class. For example, **object-cleaned** occurs in **class-logical-destination-default**, **class-logical-destination-status**, **class-actual-destination-default**, **class-actual-destination-status**, **class-object-class-default**, **class-object-class-status**, **class-server-default**, **class-server-status**, and **class-warning**. If the notification profile values list any of these event classes and you clean a logical destination, actual destination, queue, or server, Infoprint sends a message to the person identified in that value.

Notification Events

Table 19. Notification Event Classes

Event Class	Description
	Events
class-aborted	An aborted event occurs whenever a server aborts a job or document object, or when the user or operator cancels a job.
	document-aborted-by-destination **document-aborted-by-server** **document-cancelled-at-destination** **job-aborted-by-server** **job-cancelled-by-operator** **job-cancelled-by-user**
class-actual-destination-attention	These events indicate that problems exist with the actual destination. Such problems usually require an operator or administrator to intervene.
	destination-disabled **destination-needs-administrator** **destination-needs-attention** **destination-needs-operator** **destination-shutdown-job-requeued** **destination-timed-out** **object-paused** **resource-needs-attention** **resource-needs-operator**
class-actual-destination-configuration	These events have to do with the creation or deletion of an actual destination, or with modification of the attributes of an actual destination.
	object-created **object-deleted** **object-modified**
class-actual-destination-default	This is the default event class for actual destinations.
	destination-needs-administrator **destination-needs-attention** **destination-needs-operator** **destination-timed-out** **object-cleaned** **object-deleted**
class-actual-destination-status	This event class includes events that give detailed status about the actual destination. These changes in status are often routine and do not require intervention.
	destination-enabled **destination-function-unavailable** **destination-registered** **destination-state-changed** **destination-unregistered** **object-cleaned** **object-resumed**

Table 19. Notification Event Classes (continued)

Event Class	*Description*
	Events
class-error	An error event occurs whenever an error occurs. Generally, an error event signals a condition that may prevent the job from completing successfully, depending on the settings of other parameters.
	document-content **internal-server-error** **job-submission-not-complete** **no-document** **no-resource** **other-error** **past-discard-time** **unrecognized-resource**
class-job-attention	These events indicate that problems exist with a job. They usually require an operator or administrator to intervene.
	close-to-discard-time **destination-function-unavailable** **destination-needs-administrator** **destination-needs-attention** **destination-needs-operator** **destination-shutdown-job-requeued** **destinations-not-ready-for-job** **detailed-messages** **document-aborted-by-destination** **document-aborted-by-server** **document-cancelled-at-destination** **job-aborted-by-server** **job-cancelled-by-operator** **job-cancelled-by-user** **job-cannot-be-scheduled** **job-discarded** **job-paused** **past-discard-time**
class-job-default	This is the default event class for jobs.
	document-aborted-by-destination **document-aborted-by-server** **document-cancelled-at-destination** **destination-needs-attention** **destination-needs-operator** **destinations-not-ready-for-job** **job-aborted-by-server** **job-cancelled-by-operator** **job-cannot-be-scheduled** **job-completed** **past-discard-time**
class-job-problem	These are events in which the job has encountered a problem but will attempt to proceed.
	document-content **job-submission-not-complete** **no-document** **no-resource** **unrecognized-resource**

Notification Events

Table 19. Notification Event Classes (continued)

Event Class	Description
	Events
class-job-status	This event class includes events that give detailed status about the job. These changes in status are often routine and do not require intervention.
	checkpoint-taken **file-transferred** **job-assigned-to-queue** **job-completed** **job-modified** **job-promoted** **job-reordered** **job-requeued** **job-resubmitted** **job-resumed** **job-state-changed** **processing-started**
class-logical-destination-attention	This event indicates that a problem exists with the logical destination. An operator or administrator usually has to intervene.
	destination-disabled
class-logical-destination-configuration	These events have to do with the creation or deletion of a logical destination, or with modification of the attributes of a logical destination.
	object-created **object-deleted** **object-modified**
class-logical-destination-default	This is the default event class for logical destinations.
	object-cleaned **object-deleted**
class-logical-destination-status	This event class includes events that give detailed status about the logical destination. These changes in status are often routine and do not require intervention.
	destination-enabled **object-cleaned**
class-queue-attention	These events indicate that problems exist with the queue. An operator or administrator usually has to intervene.
	object-paused **queue-backlogged**
class-queue-configuration	These events have to do with the creation or deletion of a queue, or with the modification of the attributes of a queue.
	object-created **object-deleted** **object-modified**
class-queue-default	This is the default event class for queues.
	object-cleaned **object-deleted** **queue-backlogged**

Table 19. Notification Event Classes (continued)

Event Class	*Description*
	Events
class-queue-status	This event class includes events that give detailed status about the queue. These changes in status are often routine and do not require intervention.
	object-cleaned **object-resumed** **queue-no-longer-backlogged** **queue-state-changed**
class-report	A report event occurs whenever a significant point in processing occurs.
	checkpoint-taken **destination-enabled** **destination-registered** **detailed-messages** **file-transferred** **job-assigned-to-destination** **job-assigned-to-destination-at-end** **job-assigned-to-queue** **job-completed** **job-discarded** **job-promoted** **job-reordered** **job-resubmitted** **job-resumed** **job-retained** **job-unassigned** **object-created** **object-deleted** **object-resumed** **processing-started** **queue-no-longer-backlogged** **server-shutdown-complete** **server-startup-complete**
class-server-attention	These events indicate that problems exist with the server. They usually require an administrator to intervene.
	internal-server-error **other-error** **other-warning** **server-shutdown-complete** **server-shutdown-started**
class-server-configuration	These events have to do with the creation or deletion of a server or with modification of the attributes for a server.
	object-deleted **object-modified** **server-startup-complete**
class-server-default	This is the default event class for servers.
	internal-server-error **object-cleaned** **object-deleted** **server-shutdown-complete**

Notification Events

Table 19. Notification Event Classes (continued)

Event Class	Description
	Events
class-server-status	This event class includes events that give detailed status about the server. These changes in status are often routine and do not require intervention.
	object-cleaned **server-state-changed**
class-state-changed	A state-change event occurs whenever the state of an actual destination, job, queue, or server changes.
	destination-state-changed **job-state-changed** **queue-state-changed** **server-state-changed**
class-warning	A warning event occurs whenever a condition arises which affects processing. Generally, a warning event signals a condition that does not prevent completion of the processing, but it may require some action by the operator or user.
	close-to-discard-time **destination-disabled** **destination-function-unavailable** **destination-needs-administrator** **destination-needs-attention** **destination-needs-operator** **destination-shutdown-job-requeued** **destination-timed-out** **destination-unregistered** **destinations-not-ready-for-job** **job-cannot-be-scheduled** **job-modified** **job-paused** **job-requeued** **object-cleaned** **object-modified** **object-paused** **other-warning** **queue-backlogged** **resource-needs-attention** **resource-needs-operator** **server-shutdown-started** **unable-to-register**

Appendix A. Attribute-to-Object Listing

Attribute	Objects	See Page
accept-jobs	Actual destination	332
accept-unsupported-jobs	Server	623
account-text	Default document Document	453 453
accounting-exit	Actual destination	332
ack-interval	Actual destination	333
actual-destinations-assigned	Queue	610
actual-destinations-ready	Queue Server	610 624
actual-destinations-requested	Default job Job	524 524
actual-destinations-supported	Server	624
add-carriage-returns	Actual destination	334
add-line-feeds	Actual destination	334
address1-text	Default document Document	454 454
address2-text	Default document Document	454 454
address3-text	Default document Document	455 455
address4-text	Default document Document	455 455
ascii-character-map	Actual destination	335
ascii-font-map	Actual destination	335
assign-to-destination	Queue	611
assign-to-printer	Queue	611
associated-queue	Actual destination Logical destination	336 579
associated-server	Actual destination Auxiliary sheet Default document Default job Log Logical destination Medium Queue Resource context Transform	337 443 456 525 573 579 604 611 620 645
attachment-type	Actual destination	337
attribute-map	Actual destination	338
audit-exit	Actual destination	339
authorize-jobs	Logical destination	580
auto-create-shared-printers	Server	580
automatic-postscript-mode-switch	Actual destination	625

673

Attribute	Objects	See Page
auxiliary-sheet-identifier	Auxiliary sheet	443
auxiliary-sheet-selection	Default job Job	525 525
auxiliary-sheet-selections-supported	Actual destination Logical destination	340 580
backlog	Queue	618
backlog-lower-bound	Queue	612
backlog-update-interval	Queue	612
backlog-upper-bound	Queue	613
backlogged	Queue	613
base-printer	Default Document Document	456 456
bits-per-spot	Default document Document	457 457
black-overprint	Default document Document	457 457
booklet-fold	Actual destination	341
building-text	Default document Document	458 458
cancel-individual-document-supported	Actual destination Server	341 625
callback-number	Default document Document	458 458
carriage-control-type	Default document Document	458 458
carriage-control-types-supported	Actual destination Logical destination	341 581
character-mappings-supported	Actual destination Logical destination	342 581
chars	Default document Document	459 459
checkpoint-at-stacker	Actual destination	343
checkpoint-formats-supported	Actual destination	343
cms-proclink	Default document Document	460 460
cms-product	Default document Document	460 460
color-mapping-table	Actual destination Default document Document	344 461 461
command	Actual destination	349
color-rip-servers	Actual destination	344
comment	Default job Job	536 536
completion-time	Job	526

Attribute	Objects	See Page
compressed-output	Default document Document	461 461
connection-timeout	Actual destination	345
content-orientation	Default document Document	462 462
content-orientations-supported	Actual destination Logical destination	345 581
context-address	Resource context	621
control-strip	Default document Document	462 462
convert-to-ebcdic	Default document Document	463 463
convert-to-ebcdic-supported	Actual destination Logical destination	346 582
copies	Default document Document	463 463
copy-count	Default document Document	463 463
current-backlog	Queue	618
current-job-state	Job	526
current-page-printing	Job	527
d-s-s-requested	Default job Job	532 532
data-fidelity-problem-reported	Default document Document	464 464
data-fidelity-problem-reported-supported	Actual destination Logical destination	346 583
deadline-in-jeopardy	Job	528
default-character-mapping	Default document Document	464 464
default-font-fidelity-action	Actual destination	347
default-font-resolution	Actual destination	347
default-input-tray	Actual destination Default document Document	348 465 465
default-medium	Default document Document	466 466
default-printer-resolution	Default document Document	467 467
delete-segment-list	Default job Job	528 528
department-text	Default document Document	467 467

Attribute	Objects	See Page
descriptor	Actual destination	348
	Auxiliary sheet	444
	Default document	468
	Default job	529
	Log	573
	Logical destination	583
	Medium	605
	Queue	613
	Resource context	621
	Server	625
	Transform	645
destination-associated-destinations	Logical destination	584
destination-command	Actual destination	349
destination-company-text	Default document	468
	Document	468
destination-data-stream	Actual destination	350
destination-initial-value-document	Document	468
	Logical destination	584
destination-initial-value-job	Job	529
	Logical destination	584
destination-locations	Actual destination	351
	Logical destination	585
destination-locations-requested	Default job	530
	Job	530
destination-model	Actual destination	351
	Logical destination	585
destination-models-requested	Default job	530
	Job	530
destination-name	Actual destination	352
	Logical destination	585
destination-name-requested	Job	531
destination-needs-attention-time	Actual destination	353
destination-needs-key-operator-attention-time	Actual destination	353
destination-pass-through	Actual destination	353
	Default document	469
	Document	469
destination-poll-interval	Actual destination	354
destination-realization	Actual destination	354
	Logical destination	586
destination-register-threshold	Actual destination	355
destination-release-timer	Actual destination	355
destination-state	Actual destination	356
destination-states-supported	Server	626
destination-support-system	Actual destination	357
	Logical destination	586
destination-support-systems-supported	Server	626
destination-tcpip-internet-address	Actual destination	358

Attribute	Objects	See Page
destination-tcpip-port-number	Actual destination	359
destination-timeout-period	Actual destination	359
destinations-assigned	Job	531
destinations-ready	Logical destination	587
destinations-used	Job	532
device-name	Actual destination	360
device-support-system	Actual destination Logical destination	357 586
device-support-system-requested	Default job Job	532 532
discard-time	Job	538
document-attributes-supported	Actual destination Server	361 627
document-comment	Default document Document	469 469
document-content	Document	469
document-content-list	Document	470
document-file-name	Document	470
document-finishing	Default document Document	470 470
document-finishings-supported	Actual destination	363
document-format	Default document Document	471 471
document-formats-ripped-at-destination	Actual destination Logical destination	364 587
document-formats-supported	Actual destination Logical destination Transform	364 587 646
document-number	Document	472
document-sequence-number	Document	472
document-type	Document	472
document-types-supported	Actual destination Logical destination	366 588
dot-shape	Default document Document	474 474
dss-job-message-disposition	Actual destination	367
dss-job-message-log-size	Actual destination	367
dss-job-message-log-wrap	Actual destination	368
dss-requested	Default job Job	532 532
ebcdic-character-mapping	Actual destination	368
email-from-address	Default document Document	475 475
email-to-address	Default document Document	475 475

Attribute	Objects	See Page
enable-settrap	Default document	476
	Document	476
enabled	Actual destination	369
	Log	574
	Logical destination	588
end-message	Default job	539
	Job	539
end-message-supported	Actual destination	369
	Logical destination	589
end-sheets-supported	Actual destination	370
estimated-completion-time	Job	533
estimated-processing-time	Job	534
events-supported	Server	627
fax-number	Default document	476
	Document	476
fax-to-name	Default document	476
	Document	476
file-name	Document	470
font-fidelity-action	Default document	477
	Document	477
font-processing-messages	Default document	477
	Document	477
font-resolution	Default document	478
	Document	478
font-resolutions-supported	Actual destination	370
force-destination-setup	Actual destination	371
force-printer-setup	Actual destination	371
form-definition	Actual destination	372
	Default document	478
	Document	478
format	Default document	471
	Document	471
formatted-job-ticket-content	Job	534
global-id	Job	541
halftone	Default document	479
	Document	479
halftones-supported	Actual destination	372
hold	Default job	540
	Job	540
hostname	Server	640
i-p-address	Server	640
ip-address	Server	640
image-center-x	Default document	480
	Document	480
image-center-y	Default document	481
	Document	481

Attribute	Objects	See Page
image-fit	Default document	481
	Document	481
image-fit-supported	Actual destination	374
image-length	Actual destination	374
	Default document	482
	Document	482
image-out-format	Default document	483
	Document	483
image-out-formats-supported	Actual destination	375
	Logical destination	589
image-scale	Default document	483
	Document	483
image-width	Actual destination	376
	Default document	484
	Document	484
initial-value-document	Document	485
initial-value-document-identifier	Default document	485
initial-value-job	Job	535
initial-value-job-identifier	Default job	535
input-data-user-exit	Actual destination	377
input-exit	Default document	486
	Document	486
input-tray-select	Default document	487
	Document	487
input-trays-medium	Actual destination	377
input-trays-supported	Actual destination	379
	Logical destination	590
intervening-jobs	Job	535
intervention-timer	Actual destination	379
ip-address	Server	640
job-attributes-supported	Actual destination	380
	Server	629
job-batch	Default job	536
	Job	536
job-batches-ready	Actual destination	380
job-client-id	Job	536
job-comment	Default job	536
	Job	536
job-complexity	Default job	537
	Job	537
job-copies-completed	Job	537
job-deadline-time	Job	538
job-discard-time	Job	538
job-end-message	Default job	539
	Job	539

Attribute	Objects	See Page
job-finishing	Default job Job	539 539
job-finishings-supported	Actual destination	381
job-hold	Default job Job	540 540
job-identifier	Job	541
job-log	Job	541
job-media-sheet-count	Job	542
job-message-from-administrator	Job	542
job-message-to-operator	Default job Job	543 543
job-name	Default job Job	543 543
job-originator	Job	544
job-owner	Job	544
job-page-count	Job	545
job-print-after	Job	545
job-priority	Default job Job	546 546
job-retain-until	Job	546
job-retention-period	Default job Job	547 547
job-retry-count-limit	Actual destination	381
job-retry-interval	Actual destination	382
job-rip-action	Default job Job	547 547
job-rip-actions-supported	Actual destination	382
job-ripped-by-server	Default job Job	548 548
job-size	Job	571
job-size-range-ready	Actual destination	383
job-size-range-supported	Actual destination Logical destination	384 590
job-start-message	Default job Job	551 551
job-start-wait	Default job Job	552 552
job-start-wait-supported	Actual destination	385
job-state	Job	526
job-state-reasons	Job	552
job-state-reasons-supported	Server	629
job-states-supported	Server	630
job-submission-complete	Job	554
job-submission-timer	Server	630

Attribute	Objects	See Page
job-ticket-content	Job	534
jog-between-job-copies	Default document Document	487 487
last-accessor	Job	557
last-modifier	Job	557
list-of-managers	Actual destination Default document Default job Logical destination Queue Server	385 487 554 591 614 630
locale	Server	631
locations	Actual destination Logical destination	351 585
locations-requested	Default job Job	530 530
log-accounting data	Actual destination Server	386 631
log-address	Log	574
log-identifier	Log	574
log-messages	Log	575
log-severity	Log	575
log-size	Log	576
log-trace-groups	Log	576
log-type	Log	576
log-wrap	Log	577
logical-destinations-assigned	Actual destination Queue	387 614
logical-destinations-ready	Default document Default job Queue Server	488 555 614 632
logical-destinations-supported	Server	632
logical-printer	Logical destination	585
logical-printer-requested	Job	531
logical-printers-assigned	Queue	614
logical-printers-ready	Default document Default job Queue Server	488 555 614 632
logical-printers-supported	Server	632
managers	Actual destination Default document Default job Logical destination Queue Server	385 487 554 591 614 630

Attribute	Objects	See Page
maximum-barco-rips	Server	633
maximum-concurrent-jobs	Actual destination	387
maximum-copies-supported	Actual destination Logical destination	388 592
maximum-fonts-to-keep	Actual destination	389
maximum-messages-printed	Default document Document	488 488
maximum-non-raster-rips	Server	633
maximum-overlays-to-keep	Actual destination	389
maximum-raster-rips	Server	633
maximum-segments-to-keep	Actual destination	390
maximum-transform-pages-ahead	Default document Document	489 489
media-ready	Actual destination	390
media-sheet-count	Job	542
media-sheets-completed	Job	556
media-supported	Actual destination Logical destination	391 592
medium-color	Medium	605
medium-dimensions	Medium	605
medium-form-parts	Medium	606
medium-holes-count	Medium	606
medium-identifier	Medium	607
medium-sides	Medium	607
medium-size	Medium	608
medium-type	Medium	608
medium-weight	Medium	609
message	Actual destination Default document Default job Logical destination Medium Queue Server	392 489 556 593 609 615 634
message-font-type	Actual destination	393
message-form-definition	Actual destination	393
message-from-administrator	Job	542
message-to-operator	Default job Job	543 543
model	Actual destination Logical destination	351 585
models-requested	Default job Job	530 530
modification-time	Job	557
modify-individual-document-supported	Server	634

Attribute	Objects	See Page
multiple-documents-supported	Server	634
mvs-class	Default document Document	489 489
mvs-destination	Default document Document	490 490
mvs-forms	Default document Document	490 490
mvs-segment-id	Default document Document	491 491
name	Default job Job	543 543
name-of-last-accessor	Job	557
name-text	Default document Document	491 491
new-job-identifier	Job	557
new-line-option	Default document Document	492 492
node-id-text	Default document Document	492 492
non-process-runout-timer	Actual destination	394
notification-delivery-methods-supported	Server	634
notification-profile	Actual destination Default job Job Logical destination Queue Server	394 558 558 593 615 635
notify-operator	Actual destination Queue	396 616
npm-server-ip-address	Server	636
npm-server-port-number	Server	637
nt-drivers	Logical destination	601
number-of-documents	Job	560
number-up	Default document Document	493 493
number-up-supported	Actual destination	396
object-class	Actual destination Auxiliary sheet Default document Document Default job Job Log Logical destination Medium Queue Resource context Server Server	397 444 493 493 560 560 577 595 609 617 621 637 646

Attribute	Objects	See Page
object-classes-supported	Server	637
octet-count	Document	494
octets-completed	Job	561
offset-stacking-available	Actual destination	397
offset-stacking-between-jobs	Default document Document	494 494
operators	Actual destination Queue	396 616
optimize-for-multiple-copies	Actual destination Default job Job	398 561 561
orientation	Default document Document	462 462
orientations-supported	Actual destination Logical destination	345 581
originating-company-text	Default document Document	494 494
originator	Job	544
os2-driver-names	Logical destination	595
os2-drivers	Logical destination	595
other-options	Actual destination Default document Document	353 469 469
other-transform-options	Default document Document Tranform	495 495 647
output-appearance	Default document Document	495 495
output-appearances-supported	Actual destination	399
output-bin	Actual destination Default document Document	399 495 495
output-bin-numbers	Actual destination	400
output-bins-supported	Actual destination	401
output-data-user-exit	Actual destination	402
output-document-format	Transform	648
output-face-up	Default document Document	496 496
output-format	Default document Document	497 497
output-format-supported	Actual destination	402
overlay	Actual destination Default document Document	403 498 498
overlay-back	Default document Document	499 499

Attribute	Objects	See Page
overlay-front	Default document	499
	Document	499
overprint	Default document	500
	Document	500
owner	Job	544
page-clip	Default document	500
	Document	500
page-count	Document	501
page-definition	Default document	501
	Document	501
page-media-select	Default document	502
	Document	502
page-select	Document	502
page-select-supported	Actual destination	403
	Logical destination	596
pages-completed	Job	562
pcl-server-address	Actual destination	404
pcl-server-port	Actual destination	404
physical-printer	Actual destination	352
physical-printers-assigned	Queue	610
physical-printers-ready	Queue	610
	Server	624
physical-printers-requested	Default job	524
	Job	524
physical-printers-supported	Server	624
plex	Actual destination	405
	Default document	503
	Document	503
plexes-supported	Actual destination	405
	Logical destination	597
position-in-queue	Job	535
postscript-server-address	Actual destination	406
postscript-server-port	Actual destination	407
presentation-fidelity-problem-reported	Actual destination	407
previous-job-state	Job	563
previous-state	Job	563
print-after	Job	545
print-edge-marks	Actual destination	408
print-qualities-supported	Actual destination	408
	Logical destination	597
print-quality	Default document	504
	Document	504
print-queue	Actual destination	409
print-queue-name	Actual destination	409

Attribute	Objects	See Page
printer	Actual destination	352
	Logical destination	585
printer-associated-printers	Logical destination	584
printer-command	Actual destination	349
printer-data-stream	Actual destination	350
printer-end-sheet	Actual destination	409
printer-escape-codes	Actual destination	410
printer-initial-value-document	Document	468
	Logical destination	584
printer-initial-value-job	Job	529
	Logical destination	584
printer-locations	Actual destination	351
	Logical destination	585
printer-locations-requested	Default job	530
	Job	530
printer-memory	Actual destination	411
printer-model	Actual destination	351
	Logical destination	585
printer-models-requested	Default job	530
	Job	530
printer-name	Actual destination	352
	Logical destination	585
printer-name-requested	Default job	531
	Job	531
printer-needs-attention-time	Actual destination	353
printer-needs-key-operator-attention-time	Actual destination	353
printer-pass-through	Actual destination	353
	Default document	469
	Document	469
printer-realization	Actual destination	354
	Logical destination	586
printer-register-threshold	Actual destination	355
printer-release-timer	Actual destination	355
printer-requested	Default job	531
	Job	531
printer-resolutions-ready	Actual destination	412
printer-resolutions-supported	Actual destination	413
printer-separator-sheet	Actual destination	414
printer-start-sheet	Actual destination	414
printer-state	Actual destination	356
printer-states-supported	Server	626
printer-s370-channel-device-address	Actual destination	416
printer-s370-channel-slot-number	Actual destination	416
printer-tcpip-internet-address	Actual destination	358
printer-tcpip-port-number	Actual destination	359

Attribute	Objects	See Page
printer-timeout-period	Actual destination	417
printers-assigned	Job	531
printers-ready	Logical destination	587
printers-used	Job	532
problem-child	Server	638
problem-message	Actual destination	417
processing-time	Job	564
programmer-text	Default document Document	504 504
protected-attributes	Actual destination Logical destination Queue Server	417 598 618 638
psf-exit-form-definition	Auxiliary sheet	444
psf-exit-page-mark	Auxiliary sheet	444
psf-exit-program-name	Auxiliary sheet	445
psf-tray-characteristics	Actual destination	418
qualities-supported	Actual destination Logical destination	408 597
queue-assigned	Job	565
queue-backlog	Queue	618
queue-name	Queue	618
queue-position	Job	535
queue-state	Queue	618
queues-supported	Server	639
reasons	Job	552
register-threshold	Actual destination	355
registered-with-spooler	Actual destination	421
remote-queue	Actual destination	421
requeue-failed-jobs	Queue	619
required-resources-not-ready	Job	565
required-resources-not-supported	Job	566
resource-context	Actual destination Default document Document	422 505 505
resource-context-font	Actual destination Default document Document	423 506 506
resource-context-form-definition	Actual destination Default document Document	424 507 507
resource-context-identifier	Resource context	622
resource-context-overlay	Actual destination Default document Document	425 508 508

Attribute	Objects	See Page
resource-context-page-definition	Actual destination Default document Document	426 509 509
resource-context-page-segment	Actual destination Default document Document	427 509 509
resource-context-user	Default document Document	510 510
resource-exit	Default document Document	511 511
results-profile	Default job Job	566 566
retained-time	Job	566
retention-period	Default job Job	547 547
reverse-output	Actual destination	428
rip-ini-file	Actual destination	428
rip-server	Actual destination	429
room-text	Default document Document	512
save-rip-files	Server	639
scanner-correction	Default document Document	512 512
scanner-corrections-supported	Actual destination	429
scheduler-sort-primary-order	Actual destination	429
scheduler-sort-secondary-order	Actual destination	430
schedulers-supported	Actual destination	430
screen-frequencies-supported	Actual destination	431
screen-frequency	Default document Document	513
security-level	Server	639
segment-file-size	Default document Document	513 513
separator-sheets-supported	Actual destination	431
sequence-number	Document	472
server-hostname	Server	640
server-ip-address	Server	640
server-name	Server	641
server-state	Server	641
shared-formdef	Default document Document	514 514
shared-printer-name	Actual destination	432
shift-out-shift-in	Default document Document	514 514

Attribute	Objects	See Page
sides	Actual destination	433
	Default document	515
	Document	515
sides-supported	Actual destination	433
	Logical destination	598
smtp-server-host	Server	641
smtp-server-port-number	Server	642
snmp-active	Actual destination	434
snmp-aix-printer-models	Server	642
snmp-community-name	Actual destination	434
snmp-discovery-during-stamp	Server	642
snmp-normal-poll-interval	Server	643
snmp-problem-poll-interval	Server	643
snmp-retry-count	Actual destination	435
snmp-timeout	Actual destination	435
start-message	Default job	551
	Job	551
start-message-supported	Actual destination	436
	Logical destination	599
start-on-new-sheet	Default document	516
	Document	516
start-sheets-supported	Actual destination	436
started-printing-time	Job	568
state-reasons	Job	552
subject-text	Default document	516
	Document	516
submission-time	Job	568
table-reference-characters	Default document	516
	Document	516
table-reference-characters-supported	Actual destination	437
	Logical destination	599
tape-exit	Job	569
tape-format	Job	569
tape-labeled	Job	570
tape-max-block-size	Job	570
tape-rewind-before	Job	570
tape-rewind-unload	Job	571
terminating-tranform	Transform	649
ticket-content	Job	534
timeout-period	Actual destination	417
title-text	Default document	517
	Document	517
total-job-octets	Job	571
transfer-method	Document	518

Attribute	*Objects*	*See Page*
transfer-methods-supported	Server	644
transform-identifier	Transform	649
transform-library	Transform	650
transform-message-file-name	Default document Document	518 518
transform-output-file-name	Default document Document	518 518
transform-sequence	Actual destination	438
type	Document	472
use-snmp	Actual destination	438
user-id-text	Default document Document	519 519
user-locale	Job	572
user-name	Job	572
wait-for-job-completion	Actual destination	439
warning-message	Actual destination	439
windows-driver-names	Logical destination	600
windows-drivers	Logical destination Server	600 644
windows-nt-driver-names	Actual destination Logical destination Server	440 601 644
windows-nt-drivers	Logical destination Server	601 644
x-image-shift	Default document Document	519 519
x-image-shift-back	Default document Document	520 520
x-image-shift-range-supported	Actual destination Logical destination	440 601
y-image-shift	Default document Document	521 521
y-image-shift-back	Default document Document	521 521
y-image-shift-range-supported	Actual destination Logical destination	441 602

Appendix B. Migrating PSF for AIX Job Script Keywords to Infoprint Equivalents

Table 20 and Table 21 on page 693 list the PSF for AIX job script keywords that the **jsmigr** utility (see "jsmigr Utility: Migrates PSF for AIX Job Scripts in Infoprint Manager for AIX" on page 148) migrates to Infoprint document and job attributes, or to flags and arguments of the **pdpr** command.

Notes:

1. See "jsmigr Utility: Migrates PSF for AIX Job Scripts in Infoprint Manager for AIX" on page 148 for notes on migration.
2. Keywords not listed in this table have no equivalent.

Table 20. PSF for AIX Keywords Used in Job Script Files and Infoprint Equivalents

PSF Keyword	Infoprint Attribute, Flag, or Argument
a_Cc **a_Cctype**	**carriage-control-type**
Note: **cc** and **cctype** are examined together to generate **carriage-control-type**. If **jsmigr** encounters **cctype** before **cc**, it assumes the default value of **yes** for **cc**.	
a_Chars	**chars**
a_Fileformat	**new-line-option**
a_Imageout	**image-out-format**
a_InpExit	**input-exit**
a_OtherOptions	**other-transform-options**
a_Pagedef	**page-definition**
a_Parmdd	Attributes file
a_Pdeflib	**resource-context-page-definition**
a_Prmode	**shift-out-shift-in**
a_Trc	**table-reference-characters**
db_euc **db_language**	**default-character-mapping**
Note: **db_euc** and **db_language** must be used together to generate **default-character-mapping**.	
e_ConsoleMsg	**job-start-message** **job-start-wait**
e_FileMsg	**job-start-message** **job-start-wait**
e_Notify	**notification-profile** (**delivery-method** component)
e_PrintQueue	**-p** flag of **pdpr** command
e_Priority	**job-priority**
i_Exit	**tape-exit**
i_Filenames	Job scripts invoked by this keyword (extension **.js**) are migrated to attributes files invoked with the **-X** flag of the **pdpr** command. Print files are migrated to arguments of the **pdpr** command in the **pdpr** script.
i_Fileformat	**new-line-option**
i_Format	No equivalent

Table 20. PSF for AIX Keywords Used in Job Script Files and Infoprint Equivalents (continued)

PSF Keyword	Infoprint Attribute, Flag, or Argument
i_InputDevice	**-f**, **-T**, or **-** flag of **pdpr** command
i_Labeled	**tape-labeled**
i_MaxBlockSize	**tape-max-block-size**
i_OutExit	No equivalent
i_PgsAhead	**maximum-transform-pages-ahead**
i_RewindBefore	**tape-rewind-before**
i_RewindUnload	**tape-rewind-unload**
JsFileType	**document-format**
oa_Formdef	**form-definition**
oa_SrchAFP	**resource-context**
oa_SrchFd	**resource-context-form-definition**
oa_SrchOvly	**resource-context-overlay**
oa_SrchPs	**resource-context-page-segment**
oa_SrchFO	**resource-context-font**
oa_SrchSf	No equivalent
o_Account	**account-text**
o_Address1	**address1-text**
o_Address2	**address2-text**
o_Address3	**address3-text**
o_Address3	**address3-text**
o_Bin	**destination-pass-through** to **ainbe**
o_Building	**building-text**
o_Codeset	**default-character-mapping**
o_Copies	**results-profile** (**job-copies** component)
o_DataCk	**data-fidelity-problem-reported**
o_Department	**department-text**
o_Distribution	**results-profile** (**delivery-address** component)
o_Duplex	**plex** **sides**
o_Header	**auxiliary-sheet-selection**
Note: o_Header, **o_Separator**, and **o_Trailer** are examined together to generate **auxiliary-sheet-selection**.	
o_JobName	**job-name**
o_MsgCount	**maximum-messages-printed**
o_Name	**name-text**
o_Nodeid	**node-id-text**
o_Outbin	**output-bin**
o_Overlay	**overlay**

Table 20. PSF for AIX Keywords Used in Job Script Files and Infoprint Equivalents (continued)

PSF Keyword	Infoprint Attribute, Flag, or Argument
o_PassThru	**mvs-class** **mvs-dest** **mvs-forms** **mvs-segment-id**
o_Programmer	**programmer-text**
o_Room	**room-text**
o_Separator	**auxiliary-sheet-selection**
Note: o_Header, **o_Separator**, and **o_Trailer** are examined together to generate **auxiliary-sheet-selection**.	
o_SetupFile	No equivalent
o_Title	**title-text**
o_Trailer	**auxiliary-sheet-selection**
Note: o_Header, **o_Separator**, and **o_Trailer** are examined together to generate **auxiliary-sheet-selection**.	
o_Userid	**user-id-text**
o_Xoffset	**x-image-shift**
o_Yoffset	**y-image-shift**
p_Config	Attributes file **other-transform-options**
p_Length	**image-length**
p_OtherOptions	**other-transform-options**
p_OutputType	**image-out-format**
Note: There is no equivalent for some values of **p_OutputType**.	
p_Resolution	**default-printer-resolution**
p_Width	**image-width**
s_SegSize	**segment-file-size**

Table 21. PSF for AIX Keywords Used in parmdd Files

PSF Keyword	Infoprint Attribute, Flag, or Argument
cc **cctype**	**carriage-control-type**
Note: cc and **cctype** are examined together to generate **carriage-control-type**. If **jsmigr** encounters **cctype** before **cc**, it assumes the default value of **yes** for **cc**.	
chars	**chars**
fdeflib	**resource-context-form-definition**
fileformat	**new-line-option**
fontlib	**resource-context-font**
formdef	**form-definition**
imageout	**image-out-format**
inpexit	**input-exit**
inputdd	No equivalent
msgdd	**transform-message-file-name**

Table 21. PSF for AIX Keywords Used in parmdd Files (continued)

PSF Keyword	Infoprint Attribute, Flag, or Argument
outexit	No equivalent
outputdd	transform-output-file-name
ovlylib	resource-context-overlay
pagedef	page-definition
parmdd	Attributes file
pdeflib	resource-context-page-definition
prmode	shift-out-shift-in
pseglib	resource-context-page-segment
resexit	resource-exit
reslib	resource-context
trc	table-reference-characters
userlib	resource-context-user

Appendix C. Job Validation and Scheduling

Table 22 on page 696 and Table 23 on page 697 list the document, job, and destination attributes used to validate and schedule each job.

1. Infoprint validates the value of the document or job attribute in the first column against the values of the logical destination attribute in the second column. If the logical destination does not support the document or job attribute value, Infoprint rejects the job.

   Note: If the logical destination attribute has no value, the logical destination supports all valid values of the document or job attribute.

2. If the value of the server attribute **accept-unsupported-jobs** is **false**, Infoprint validates the value of the document or job attribute in the first column against the values of the actual destination attribute in the second column. If no actual destination supports the document or job attribute value, Infoprint rejects the job.

3. If the value of the queue attribute **assign-to-destination** is **true**, Infoprint assigns the job to an actual destination that supports all the job's attribute values.

   Note: If the value of the **force-destination-setup** actual destination attribute is **true**, Infoprint assumes that the actual destination supports all valid attribute values.

4. Infoprint checks the attribute (or, for rescheduling, the checkpoint) in the first column against the attributes in the third column to determine if any actual destinations can process the job.
   - If the job has been assigned to an actual destination, Infoprint checks only that actual destination.
   - If the job has not been assigned to an actual destination, Infoprint checks all actual destinations that receive jobs from the queue.

   Note: If the value of the **force-destination-setup** actual destination attribute is **true**, Infoprint assumes that the actual destination can process any job with valid attribute values.

5. Infoprint acts according to the result of step 4:
   - If a required resource is not ready, Infoprint holds the job. The **required-resources-not-ready** job attribute indicates the resources that a job or document attribute specifies and that are not ready on the actual destination to which the job is assigned, or, if the job is not assigned, on the most suitable actual destination.
     - If the value of the job attribute **job-rip-action** is **rip-and-print-ignore-ready**, Infoprint RIPs the job before placing it in the **held** state and sets the value of the **job-state-reasons** job attribute to **rip-completed**. The job is automatically released and scheduled for printing or transmission when the resources become ready.
     - Otherwise, Infoprint sets the value of the **job-state-reasons** job attribute to **required-resource-not-ready**. You must release the job after making the resources ready. Infoprint will not release it automatically.
   - If a required resource is not supported, Infoprint holds the job and sets the value of the **job-state-reasons** job attribute to **required-resource-not-supported**. The **required-resources-not-supported** job attribute indicates the resources that a job or document attribute specifies and that are not

695

supported on the actual destination to which the job is assigned, or, if the job is not assigned, on the most suitable actual destination.

This situation can arise when the value of the server attribute **accept-unsupported-jobs** is **true** or when you change document, job, or actual destination attribute values after Infoprint accepts a job.

You can change job, document, or actual destination attribute values so that at least one actual destination supports the job. You must then release the job before it can be printed or transmitted. Infoprint will not release it automatically.

- If at least one actual destination can handle the job, Infoprint schedules the job for printing or transmission.

6. If the job has not already been assigned to an actual destination, Infoprint assigns it to the first suitable actual destination to become available after the job reaches the top of the queue.

7. If the job is assigned to an actual destination with a value of **true** for the **force-destination-setup** attribute, Infoprint checks the attributes in the third column when the job is about to be printed or transmitted. If any resources are not ready or not supported, Infoprint disables the actual destination and sends a message to the operator. The operator changes the destination setup and enables the actual destination.

8. The job is printed or transmitted.

Table 22. Document and Destination Attributes Used for Validation and Scheduling

Document Attribute	Validation Attribute	Scheduling Attribute
carriage-control-type	carriage-control-types-supported	carriage-control-types-supported
content-orientation	content-orientation-supported	content-orientation-supported
convert-to-ebcdic	convert-to-ebcdic-supported	convert-to-ebcdic-supported
copy-count	maximum-copies-supported	maximum-copies-supported
data-fidelity-problem-reported	data-fidelity-problem-reported-supported	data-fidelity-problem-reported-supported
default-character-mapping	character-mappings-supported	character-mappings-supported
default-input-tray	input-trays-supported	input-trays-supported
default-medium	media-supported	media-ready media-supported
default-printer-resolution	printer-resolutions-supported	printer-resolutions-ready printer-resolutions-supported
document-finishing	document-finishings-supported[1]	document-finishings-supported
document-format	document-formats-supported	document-formats-supported
document-type	document-types-supported	document-types-supported
font-resolution	font-resolutions-supported[1]	font-resolutions-supported
image-fit	image-fit-supported[1]	image-fit-supported
image-out-format	image-out-formats-supported	image-out-formats-supported
input-tray-select	input-trays-supported	input-trays-supported
number-up	number-up-supported[1]	number-up-supported
output-appearance	output-appearances-supported[1]	output-appearances-supported
output-bin	output-bins-supported[1]	output-bins-supported
output-format	output-formats-supported[1]	output-formats-supported
page-media-select	media-supported	media-ready media-supported

Table 22. Document and Destination Attributes Used for Validation and Scheduling (continued)

Document Attribute	Validation Attribute	Scheduling Attribute
page-select	**page-select-supported**	**page-select-supported**
plex	**plexes-supported**	**plexes-supported**
print-quality	**print-qualities-supported**	**print-qualities-supported**
scanner-correction	**scanner-corrections-supported**[1]	**scanner-corrections-supported**
screen-frequency	**screen-frequencies-supported**[1]	**screen-frequencies-supported**
sides	**sides-supported**	**sides-supported**
table-reference-characters	**table-reference-characters-supported**	**table-reference-characters-supported**
x-image-shift	**x-image-shift-range-supported**	**x-image-shift-range-supported**
x-image-shift-back	**x-image-shift-range-supported**	**x-image-shift-range-supported**
y-image-shift	**y-image-shift-range-supported**	**y-image-shift-range-supported**
y-image-shift-back	**y-image-shift-range-supported**	**y-image-shift-range-supported**
All document attributes affecting the actual destination	**document-attributes-supported**[1]	**document-attributes-supported**
1. This attribute applies only to actual destinations, not logical destinations.		

Table 23. Job and Destination Attributes Used for Validation and Scheduling

Job Attribute	Validation Attribute	Scheduling Attribute
actual-destinations-requested	**destination-name**[2]	**destination-name**
auxiliary-sheet-selection	**auxiliary-sheet-selections-supported**	**auxiliary-sheet-selections-supported**
destination-locations-requested	**destination-locations**	**destination-locations**
destination-models-requested	**destination-model**	**destination-model**
dss-requested	**destination-support-system**	**destination-support-system**
job-batch		**job-batches-ready**
job-end-message	**end-message-supported**	**end-message-supported**
job-finishing	**job-finishings-supported**[1]	**job-finishings-supported**
job-rip-action	**job-rip-actions-supported**[1]	**job-rip-actions-supported**
job-start-message	**start-message-supported**	**start-message-supported**
job-start-wait	**job-start-wait-supported**[1]	**job-start-wait-supported**
total-job-octets	**job-size-range-supported**[1]	**job-size-range-ready** **job-size-range-supported**
All job attributes affecting the actual destination	**job-attributes-supported**[1]	**job-attributes-supported**
Checkpoint where the job was paused		**checkpoint-formats-supported**[3]
1. This attribute applies only to actual destinations, not logical destinations.		
2. This attribute applies to both logical destinations and actual destinations, but only the actual destination attribute is used for validation. If validation fails, Infoprint rejects the job even if the value of **accept-unsupported-jobs** is **true**.		
3. This attribute is used to reschedule paused jobs.		

Appendix D. Form Definitions and Page Definitions Supplied with Infoprint

This section describes the form definitions and page definitions that are supplied with Infoprint. Form definitions provide instructions on how printers position data on the page and are located in directory **/usr/lpp/psf/reslib**. Page definitions contain formatting controls for jobs and are also located in directory **/usr/lpp/psf/reslib**.

Default Form Definitions

Default form definitions are determined by the output data stream format accepted by the printer that Infoprint assigns to print the job:

Data Stream	*Default Form Definition*
Intelligent Printer Data Stream (IPDS)	**F1ACIF**
Personal Printer Data Stream (PPDS)	**F1PP0110**
Printer Control Language 4 (PCL4)	**F1HP0111**
PCL5 and PCL5C	**F1H50111**

Table 24 describes the characteristics controlled by these form definitions.

Table 24. Default Form Definition Characteristics

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the top-left corner of the page)
F1ACIF	1	2	Portrait	Across	0.165, 0.165
F1PP0110	1	1	Portrait	Across	0.25, 0.165
F1HP0111	1	2	Portrait	Across	0.165, 0.2
F1H50111	1	2	Portrait	Across	0.165, 0.165

General-Purpose Form Definitions

You can specify different form definitions with jobs if the default form definitions do not satisfy your requirements. Table 25 lists the general-purpose form definitions that you can select.

Table 25. General-Purpose Form Definitions

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the top-left corner of the page)
F1A10110 [1]	1	1	Portrait	Across	0.165, 0.165
F1A10111 [1]	1	2	Portrait	Across	0.165, 0.165
F1A10112 [1]	1	Tumble	Portrait	Across	0.165, 0.165
F1A10120 [1]	2	1	Portrait	Across	0.165, 0.165
F1A10121 [1]	2	2	Portrait	Across	0.165, 0.165
F1A10122 [1]	2	Tumble	Portrait	Across	0.165, 0.165
F1A10130	3	1	Portrait	Across	0.165, 0.165
F1A10131	3	2	Portrait	Across	0.165, 0.165
F1A10132	3	Tumble	Portrait	Across	0.165, 0.165
F1A10140	4	1	Portrait	Across	0.165, 0.165

Table 25. General-Purpose Form Definitions (continued)

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the top-left corner of the page)
F1A10141	4	2	Portrait	Across	0.165, 0.165
F1A10142	4	Tumble	Portrait	Across	0.165, 0.165
F1A10150	5	1	Portrait	Across	0.165, 0.165
F1A10151	5	2	Portrait	Across	0.165, 0.165
F1A10152	5	Tumble	Portrait	Across	0.165, 0.165
F1ACIF [1]	1	2	Portrait	Across	0.165, 0.165
F1H50110 [2]	1	1	Portrait	Across	0.165, 0.165
F1H50111 [2]	1	2	Portrait	Across	0.165, 0.165
F1H50120 [2]	2	1	Portrait	Across	0.165, 0.165
F1H50121 [2]	2	2	Portrait	Across	0.165, 0.165
F1HP0110 [3]	1	1	Portrait	Across	0.165, 0.2
F1HP0111 [3]	1	2	Portrait	Across	0.165, 0.2
F1HP0120 [3]	2	1	Portrait	Across	0.165, 0.2
F1HP0121 [3]	2	2	Portrait	Across	0.165, 0.2
F1MG0110 [4]	1	1	Portrait	Across	0.33, 0.33
F1MG0111 [4]	1	2	Portrait	Across	0.33, 0.33
F1MG0120 [4]	2	1	Portrait	Across	0.33, 0.33
F1MG0121 [4]	2	2	Portrait	Across	0.33, 0.33
F1PP0110 [5]	1	1	Portrait	Across	0.25, 0.165
F1PP0111 [5]	1	2	Portrait	Across	0.25, 0.165
F1PP0120 [5]	2	1	Portrait	Across	0.25, 0.165
F1PP0121 [5]	2	2	Portrait	Across	0.25, 0.165

1. Designed for use with IBM 3820, 3827, and 3835 printers.
2. These form definitions are recommended for printer devices that support the PCL5 and PCL5C data streams. They position the page of data so that the data is not placed in the unprintable area.
3. These form definitions are recommended for printer devices that support the PCL4 and PCL5 data streams. They position the page of data so that the data is not placed in the unprintable area.
4. These form definitions are recommended for the message pages printed by Infoprint supported printers.
5. These form definitions are recommended for printer devices that support the PPDS data stream. They position the page of data so that the data is not placed in the unprintable area.

Form Definitions for Printing Envelopes

Use the form definitions in Table 26 to print envelopes and use the manual input bin on the IBM LaserPrinter 4028. You can use these form definitions with other printers that use bin 65 as the envelope bin and bin 100 as the manual feed bin.

Table 26. Form Definitions Supplied with Infoprint for Printing Envelopes

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the paper edge)
F1A000E0	Envelope	1	Landscape	Across	0, 0
F1A000M0	Manual	1	Landscape	Across	0, 0
F1A101E0	Envelope	1	Landscape	Across	0.165, 0.165
F1A101M0	Manual	1	Landscape	Across	0.165, 0.165

Form Definitions for 17 by 11 Inch Paper

Use the form definitions in Table 27 for jobs that require 17 by 11 inch paper.

Table 27. Form Definitions Supplied for 17 by 11 Paper

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the top-left corner of the page)
F100LS	1, 2, 3, 4, 5	1	Landscape	Across	0, 0
F100LD	1, 2, 3, 4, 5	2	Landscape	Across	0, 0
F100LT	1, 2, 3, 4, 5	Tumble	Landscape	Across	0, 0
F100LAND [1]	1, 2, 3, 4, 5	2	Landscape	Across	0, 0
1. Used for N_UP of 1.					

Form Definitions Specifying a 0, 0 Offset

The form definitions in Table 28 specify a 0, 0 offset from the upper-left corner of the page. Use these form definitions if images or data in the job prints off-center or appears to be shifting on the page.

Table 28. Form Definitions Supplied with Infoprint Specifying a 0, 0 Offset

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the top-left corner of the page)
F100S	1, 2, 3, 4, 5	1	Portrait	Across	0, 0
F100D	1, 2, 3, 4, 5	2	Portrait	Across	0, 0
F100T	1, 2, 3, 4, 5	Tumble	Portrait	Across	0, 0
F1A00010	1	1	Portrait	Across	0, 0
F1A00011	1	2	Portrait	Across	0, 0
F1A00012	1	Tumble	Portrait	Across	0, 0
F1A00020	2	1	Portrait	Across	0, 0
F1A00021	2	2	Portrait	Across	0, 0
F1A00022	2	Tumble	Portrait	Across	0, 0
F1A00030	3	1	Portrait	Across	0, 0
F1A00031	3	2	Portrait	Across	0, 0
F1A00032	3	Tumble	Portrait	Across	0, 0
F1A00040	4	1	Portrait	Across	0, 0
F1A00041	4	2	Portrait	Across	0, 0
F1A00042	4	Tumble	Portrait	Across	0, 0
F1A00050	5	1	Portrait	Across	0, 0
F1A00051	5	2	Portrait	Across	0, 0
F1A00052	5	Tumble	Portrait	Across	0, 0

Form Definitions Specifying N_UP Page Positioning

The form definitions in Table 29 have various N_UP values and page placement. Refer to *IBM Page Printer Formatting Aid: User's Guide* more information about N_UP printing.

Table 29. Form Definitions for N_UP Page Positioning

Form Definition	Bin	Sides	N_UP	Page Placement	Presentation Mode	Print Direction	Page Position[1]
F1BOOK [2]	1	2	2	Page 1 at 1 Front Page 2 at 2 Front Page 3 at 2 Back Page 4 at 1 Back	Portrait	Across	0, 0
F1N2SST1 [2]	1, 2, 3, 4, 5	Tumble	2	Page 1 at 1 Front Page 2 at 1 Back Page 3 at 2 Front Page 4 at 2 Back	Portrait	Across	0, 0
F1N2SS11 [2]	1, 2, 3, 4, 5	2	2	Page 1 at 1 Front Page 2 at 2 Back Page 3 at 2 Front Page 4 at 1 Back	Portrait	Across	0, 0
F1N2SS12 [2]	1, 2, 3, 4, 5	2	2	Page 1 at 1 Front Page 2 at 2 Front Page 3 at 1 Back Page 4 at 2 Back	Portrait	Across	0, 0
F1N2SS13 [2]	1, 2, 3, 4, 5	2	3	Page 1 at 1 Front Page 2 at 2 Front Page 3 at 3 Front Page 4 at 1 Back Page 5 at 2 Back Page 6 at 3 Back	Portrait	Across	0, 0
F1N20010	1	1	2	Default	Portrait	Across	0, 0
F1N20011	1	2	2	Default	Portrait	Across	0, 0
F1N20012	1	Tumble	2	Default	Portrait	Across	0, 0
F1N20110	1	1	2	Default	Portrait	Across	0.165, 0.165
F1N20111	1	2	2	Default	Portrait	Across	0.165, 0.165
F1N20112	1	Tumble	2	Default	Portrait	Across	0.165, 0.165
F1N20120	2	1	2	Default	Portrait	Across	0.165, 0.165
F1N20121	2	2	2	Default	Portrait	Across	0.165, 0.165
F1N20122	2	Tumble	2	Default	Portrait	Across	0.165, 0.165
F1N20130	3	1	2	Default	Portrait	Across	0.165, 0.165
F1N20131	3	2	2	Default	Portrait	Across	0.165, 0.165
F1N20132	3	Tumble	2	Default	Portrait	Across	0.165, 0.165
F1N20140	4	1	2	Default	Portrait	Across	0.165, 0.165
F1N20141	4	2	2	Default	Portrait	Across	0.165, 0.165
F1N20142	4	Tumble	2	Default	Portrait	Across	0.165, 0.165
F1N20150	5	1	2	Default	Portrait	Across	0.165, 0.165
F1N20151	5	2	2	Default	Portrait	Across	0.165, 0.165
F1N20152	5	Tumble	2	Default	Portrait	Across	0.165, 0.165
F1N201LA	1	1	2	Default	Landscape	Across	0.0, 0.5

Table 29. Form Definitions for N_UP Page Positioning (continued)

Form Definition	Bin	Sides	N_UP	Page Placement	Presentation Mode	Print Direction	Page Position[1]
F1N201LD	1	1	2	Default	Landscape	Down	0.0, 0.5
F1N201PA	1	1	2	Default	Portrait	Across	0.0, 0.5
F1N201PD	1	1	2	Default	Portrait	Down	0.0, 0.5
1. Specified in inches from the top-left corner of the page.							
2. Used with printers that support enhanced N_UP values.							

Form Definitions for Printing on Prepunched Paper

Use the form definitions in Table 30 for jobs that require prepunched paper.

Table 30. Form Definitions for Prepunched Paper

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the top-left corner of the page)
F1H10110	1	1	Portrait	Across	1.000, 0.165
F1H10111	1	2	Portrait	Across	1.000, 0.165, 0.165, 0.165
F1H10112	1	Tumble	Portrait	Across	1.000, 0.165, 1.000, 0.165
F1H10120	2	1	Portrait	Across	1.000, 0.165
F1H10121	2	2	Portrait	Across	1.000, 0.165, 0.165, 0.165
F1H10122	2	Tumble	Portrait	Across	1.000, 0.165, 1.000, 0.165
F1H10130	3	1	Portrait	Across	1.000, 0.165
F1H10131	3	2	Portrait	Across	1.000, 0.165, 0.165, 0.165
F1H10132	3	Tumble	Portrait	Across	1.000, 0.165, 1.000, 0.165
F1H10140	4	1	Portrait	Across	1.000, 0.165
F1H10141	4	2	Portrait	Across	1.000, 0.165, 0.165, 0.165
F1H10142	4	Tumble	Portrait	Across	1.000, 0.165, 1.000, 0.165
F1H10150	5	1	Portrait	Across	1.000, 0.165
F1H10151	5	2	Portrait	Across	1.000, 0.165, 0.165, 0.165
F1H10152	5	Tumble	Portrait	Across	1.000, 0.165, 1.000, 0.165

Form Definitions for Specific Models of IBM Printers

Use the form definitions in Table 31 with the IBM 3831 Page Printer, IBM 3835, and IBM 3900 Advanced Function Printers.

Table 31. Form Definitions Supplied for IBM 3831, 3835, and 3900 Printers

Form Definition	Printer Type Compatible with	Bin	Sides	Presentation Mode	Print Direction	Page Position[1]
F1OGL [2]	3800	1	1	Landscape	Across	0.0, 0.0
F10101LA	3800 wide forms	1	1	Landscape	Across	0.00, 0.50
F10101LD	3800 narrow forms	1	1	Landscape	Down	0.00, 0.50
F10101PA	3800 narrow forms	1	1	Portrait	Across	0.00, 0.50
F10101PD	3800 wide forms	1	1	Portrait	Down	0.00, 0.50
F1C10110 [3]	Cut-sheet	1	1	Landscape	Down	0.165, 0.165
F1C10111 [4]	Cut-sheet	1	2	Landscape	Down	0.165, 0.165
F1C10112 [4]	Cut-sheet	1	Tumble	Landscape	Down	0.165, 0.165

1. Specified in inches from the paper edge.
2. Created using Overlay Generation Language (OGL). Positions sample overlays.
3. Designed for use with the IBM 3835 printer.
4. Designed for use with advanced function printers. Specify these form definitions when printing data that has been formatted for cut-sheet printers.

Use the form definitions in Table 32 with the IBM 3935 Advanced Function Printer and the IBM 3160 Advanced Function Printer.

Table 32. Form Definition Supplied for IBM 3935 and 3160 Printers

Form Definition	Bin	Sides	Presentation Mode	Print Direction	Page Position (in inches from the top-left corner of the page)
F1A1BIN2	2	1	Portrait	Across	0.165, 0.165
F1A1BIN3	3	1	Portrait	Across	0.165, 0.165
F1A1BIN4	4	1	Portrait	Across	0.165, 0.165
F1A1BIN5	5	1	Portrait	Across	0.165, 0.165

Page Definitions Supplied with Infoprint

Table 33 through Table 37 on page 708 list the page definitions that are supplied with Infoprint. The page definitions are grouped by the size of the paper on which the job prints.

Page Definitions for Letter-Sized Paper

Table 33. Page Definitions for Letter-Sized Paper

Page Definition	Printable Area (Width by Height, In Inches)	Print Lines per Page	Print Position: Down/Across	Recommended Font	Printing Direction	Page Presentation
P1A06462 [1, 2]	8.17 by 10.67	64 at 6.0 lpi	30/0	**GT10**	Across	Portrait
P1A08682 [3]	8.17 by 10.67	86 at 8.2 lpi	24/0	**GT12**	Across	Portrait

1. This page definition is also valid for 9.5 by 11.0 inch continuous-form paper.
2. Designed for use with IBM 3812, 3816, 3820, 3825, 3827, 3835, 3900, 4028, 4224, and 4234 printers.
3. Designed for use with IBM 3820, 3827, and 3835 printers.

Page Definitions for A4-Sized Paper

Table 34. Page Definitions for A4-Sized Paper

Page Definition	Printable Area (Width by Height, In Inches)	Print Lines per Page	Print Position: Down/Across	Recommended Font	Printing Direction	Page Presentation
P1C09182 [1]	7.94 by 11.36	91 at 8.2 lpi	25/0	**GT12**	Across	Portrait
P1V0436B [2]	10.67 by 7.11	43 at 6.1 lpi	30/0	**GT10**	Up	Landscape
P1V04863 [1, 2]	10.67 by 7.94	48 at 6.1 lpi	30/0	**GT10**	Down	Landscape
P1V0588B [2]	10.67 by 7.11	58 at 8.2 lpi	24/0	**GT12**	Up	Landscape
P1V0598B [2]	10.67 by 7.11	59 at 8.2 lpi	24/0	**GT12**	Up	Landscape
P1V0608B [2, 3]	10.67 by 7.11	60 at 8.5 lpi	24/224	**GT15**	Up	Landscape
P1V0618B [2, 3]	10.67 by 7.11	61 at 8.5 lpi	24/224	**GT15**	Up	Landscape
P1V06483 [1, 2]	10.67 by 7.94	64 at 8.2 lpi	24/0	**GT12**	Down	Landscape
P1V06683 [1, 2, 3]	10.67 by 7.94	66 at 8.5 lpi	24/224	**GT15**	Down	Landscape
P1X04763 [2, 4]	10.60 by 7.77	47 at 6.1 lpi	30/0	**GT10**	Down	Landscape

1. Designed to work with 3820, 3827, 3835 printers.
2. Designed to work for letter-sized and A4-sized paper.
3. The printable area is 9.74 by 7.94 inches because of the 224 logical unit offset in the "Print Position: Down/Across" column.
4. Designed for use with HPCL and PPDS data streams.

Page Definitions for Letter- and A4-Sized Paper with Multiple-Up of 2 and 4

Table 35. Page Definitions for Letter- and A4-Sized Paper with Multiple-Up of 2 and 4

Page Definition	Printable Area (Width by Height, In Inches)	Print Lines per Page	Print Position: Down/Across	Recommended Font	Printing Direction	Page Presentation
P1W1168B	10.67 by 7.11	58 at 8.2 lpi	Page 1 24/0 Page 2 24/1281	GT15	Up	Landscape
P1W1188B	10.67 by 7.11	59 at 8.2 lpi	Page 1 24/0 Page 2 24/1281	GT15	Up	Landscape
P1W120C2 [1]	7.94 by 10.67	60 at 12.0 lpi	Page 1 16/160 Page 2 1344/160	GT20	Across	Portrait
P1W12883 [1]	10.67 by 7.94	64 at 8.2 lpi	Page 1 24/0 Page 2 24/1281	GT15	Down	Landscape
P1W216FB	10.67 by 7.11	54 at 15.2 lpi	Page 1 16/48 Page 2 890/48 Page 3 16/1322 Page 4 890/1322	GT24	Up	Landscape
P1W220FB	10.67 by 7.11	55 at 15.2 lpi	Page 1 16/48 Page 2 890/48 Page 3 16/1322 Page 4 890/1322	GT24	Up	Landscape
P1W240F3 [1]	10.67 by 7.94	60 at 15.2 lpi	Page 1 16/48 Page 2 968/48 Page 3 16/1322 Page 4 968/1322	GT24	Down	Landscape

1. Designed to work with 3820, 3827, 3835 printers.

Page Definitions for Legal-Sized Paper

Table 36. Page Definitions for Legal-Sized Paper

Page Definition	Printable Area (Width by Height, In Inches)	Print Lines per Page	Print Position: Down/Across	Recommended Font	Printing Direction	Page Presentation
P1B0446B	13.67 by 7.34	44 at 6.0 lpi	30/0	GT10	Up	Landscape
P1B04963 [1]	13.67 by 8.17	49 at 6.0 lpi	30/0	GT10	Down	Landscape
P1B0608B	13.67 by 7.34	60 at 8.2 lpi	24/0	GT12	Up	Landscape
P1B06683 [1]	13.67 by 8.17	66 at 8.2 lpi	24/0	GT12	Down	Landscape
P1B08262 [2]	8.17 by 13.67	82 at 6.0 lpi	30/0	GT10	Across	Portrait
P1B11082 [1]	8.17 by 13.67	110 at 8.2 lpi	24/0	GT12	Across	Portrait
P1R04763 [3]	13.6 by 8.0	47 at 6.0 lpi	30/0	GT10	Down	Landscape

1. Designed for use with IBM 3820, 3827, and 3835 printers.
2. Designed for use with IBM 3812, 3816, 3820, 3825, 3827, 3828, 3835, 3900, 4028, and 4224 printers.
3. Designed for use with HPCL and PPDS data streams.

Page Definitions for B4-Sized Paper

Table 37. Page Definitions for B4-Sized Paper

Page Definition	Printable Area (Width by Height, In Inches)	Print Lines per Page	Print Position: Down/Across	Recom- mended Font	Printing Direction	Page Presentation
P1D0556B	14.0 by 8.96	55 at 6.1 lpi	30/0	**GT10**	Up	Landscape
P1D06063 [1]	14.0 by 9.79	60 at 6.1 lpi	30/0	**GT10**	Down	Landscape
P1D0748B	14.0 by 8.96	74 at 8.2 lpi	24/0	**GT12**	Up	Landscape
P1D08083 [1]	14.0 by 9.79	80 at 8.2 lpi	24/0	**GT12**	Down	Landscape
P1D08462 [1]	9.79 by 14.0	84 at 6.0 lpi	30/0	**GT10**	Across	Portrait
P1D11382 [1]	9.79 by 14.0	113 at 8.2 lpi	24/0	**GT12**	Across	Portrait
1. Designed for use with IBM 3820, 3827, and 3835 printers.						

Glossary

This glossary provides definitions of specialized terms used by IBM Infoprint Control (Infoprint). This glossary does not define terms that are defined in non-technical dictionaries or that have no special meaning in information processing.

Sources and References

This glossary includes definitions from the following sources:

- Definitions reprinted from a published section of the International Organization for Standardization's (ISO) *Vocabulary—Information Processing* or from a published section of the ISO *Vocabulary—Office Machines* are identified by the symbol (I) following the definition.
- Definitions reprinted from working documents, draft proposals, or draft international standards of ISO Technical Committee 97, Subcommittee 1 (Vocabulary) are identified by (T), indicating that final agreement has not yet been reached among its participating members.
- Definitions from *Introduction to OSF DCE*, by Open Systems Foundation, published by Prentice-Hall, are identified by (OSF).
- Definitions from *Portable Operating System Interface (POSIX) System Administration Interface/Printing Standards Project* are identified by (P).
- Definitions from *Information technology—Document printing application (DPA)—Part 1: Abstract-service definition and procedures* are identified by (D).
- Definitions from *AIX Version 4.1 Topic Index and Glossary* are identified by (X).
- Definitions from *IBM Dictionary of Computing*.
- Definitions that are specific to IBM products are so labeled, for example, "in Infoprint", or "In DCE".

This glossary uses the following cross references:

Contrast with.   This refers to a term that has an opposed or substantively different meaning.

Synonym for.   This indicates that the term has the same meaning as a preferred term, which is defined in its proper place in the glossary.

Synonymous with.   This is a backward reference from a defined term to all other terms that have the same meaning.

See.   This refers you to multiple-word terms that have the same last word.

See also.   This refers you to terms that have a related, but not synonymous, meaning.

Special Characters

.Guidefaults file.   A file created by Infoprint in the home directory of a person using the Infoprint GUI. Infoprint uses this file to save and reference information about the servers you are monitoring and the windows you are working in.

A

Access Control List (ACL).   In computer security, a collection of all access rights for one object. In DCE. a list associated with each object in the namespace that specifies the access authorization level for each user or user group.

ACL.   Access control list.

acl editor.   A command line interface that allows you to view, add, update, and delete access authorization records in an ACL.

action.   In the Infoprint GUI, an icon that represents an operation that you can perform on an Infoprint object. You drag and drop the action onto an object to initiate the operation for that object; for example, using the **Enable** action to enable a disabled actual destination.

actual destination.   In Infoprint, an object that represents the output device that performs the printing or transmission function. See *email destination*, *fax destination*; see also *physical printer*, *printer device*; contrast with *logical destination*.

additive color system.   A system that reproduces an image by mixing (adding) appropriate quantities of red, green, and blue light (the additive primary colors) to create all other colors of light, either direct or transmitted. When the additive primaries are superimposed on one another, they create white light. Contrast with *subtractive color system*.

administrator.   In Infoprint, the person who creates and manages one or more components of a printing system, such as servers and actual destinations. By default, Infoprint gives administrators authorization to

perform some Infoprint operations and to access certain information that is not available to the operators or job submitters.

Adobe Acrobat.   An Adobe software program that provides instant access to documents in their original format, independent of computer platform. With the Adobe Reader, you can view, navigate, print, and present any Portable Document Format (.pdf) file.

Adobe PageMaker.   A desktop publishing program that produces PostScript documents.

Adobe PostScript Raster to Image Transform (RIP). See *raster image processor (RIP)*.

ADSM/6000.   *Advanced Distributed Storage Manager*.

Advanced Distributed Storage Manager (ADSM/6000).   A program that provides storage management for archived files.

Advanced Function Common Control Unit (AFCCU).   An IBM RISC-based control unit with code common to all printers that use the AFCCU.

Advanced Function Presentation (AFP).   A set of licensed programs, together with user applications, that use the all-points-addressable concept to print data on a wide variety of printers or to display data on a wide variety of display devices. AFP includes creating, formatting, archiving, retrieving, viewing, distributing, and printing information.

Advanced Function Presentation data stream (AFP data stream).   The printer data stream used for printing AFP data. The AFP data stream includes composed text, page segments, electronic overlays, form definitions, and fonts downloaded from the operating system to the printer. A presentation data stream that is processed in AFP environments. The AFP data stream includes MO:DCA-P-based data streams.

Advanced Interactive Executive (AIX).   An operating system used with RS/6000 computers. The AIX operating system is IBM's implementation of the UNIX operating system.

AFCCU.   Advanced Function Common Control Unit.

AFP.   Advanced Function Presentation.

AFP data stream.   Advanced Function Presentation data stream.

ainbe.   The printer input/output backend program used by the PSF DSS to send jobs to printer devices. Depending on the incoming data stream of the job, the PSF DSS may have transformed the data stream of the job prior to the backend program sending it to the printer device.

AIX.   Advanced Interactive Executive.

AIX-attached printer.   A printer device, attached to an RS/6000 through the network or through a serial or parallel port, that receives jobs from an AIX print queue. In Infoprint, a PSF physical printer that represents an AIX-attached printer device. See also *channel-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

AIX destination support system.   In Infoprint, the destination support system that communicates with the standard AIX print backend (**piobe**), or with certain variations of the **rembak** print backend, to print jobs.

AIX physical printer.   In Infoprint, the object representing a printer device that uses the AIX destination support system.

aliasing.   In a digitized image, the creation of diagonal lines by combining short, horizontal, and vertical line segments that approximate the path of the desired line.

all-points-addressability (APA).   The capability to address, reference, and position text, overlays, and images at any defined point of the printable area of the paper or display medium.

alphameric.   Synonym for *alphanumeric*.

alphanumeric.   Pertaining to a character set containing letters, digits, and other symbols such as punctuation marks. Synonymous with *alphameric*.

AMPV.   Average monthly print volume.

analog.   Pertaining to a continuous variable sampling of information between two points that achieves an even smooth transition of photographic material.

analog color proof.   An off-press color proof made from separation films.

anti-aliasing.   The rendering of hard-edged objects so that they blend smoothly into the background. PhotoShop offers anti-aliasing when rasterizing an EPS file. Removing the jagged "stairstep" quality in diagonal lines produced on a computer screen by aliasing. This removal is affected by creating less densely shaded fields parallel to the diagonal line.

APA.   All-points-addressability.

API.   Application Program Interface.

Application Program Interface (API).   The call interface between a client program and the procedures that implement the printing system, as defined by the specification. Clients use the API to access servers. (P)

architecture.   The set of rules and conventions that govern the creation and control of data types such as text, image, graphics, font, fax, color, audio, bar code, and multimedia.

archiving. The transfer of digital information from an online system onto magnetic tape, floppy disk, compact disc, or other media for offline storage. The original copy is deleted from the online system. See also *retrieval*.

array inkjet. An ordered collection of multiple print heads used in an inkjet printer.

ASCII. American National Standard Code for Information Interchange. The standard code, using a coded character set consisting of 7-bit coded characters (8-bits including a parity check), that is used for information interchange among data processing systems, data communications systems, and associated equipment. The ASCII set consists of control characters and graphic characters.

asynchronous. Pertaining to two or more processes that do not depend upon the occurrence of specific events, such as common timing signals. (T) In Infoprint, occurring without a regular or predictable time relationship to a specified action. Contrast with *synchronous*.

attachment type. Defines the method by which a printer device is attached to the system from which it receives data. See *AIX-attached printer*, *channel-attached printer*, *TCP/IP-attached printer*, *direct-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

attribute. A defined characteristic of an object, such as the number of copies required of a job, or the document formats accepted by a physical printer.

attribute name. A string that identifies an attribute. Typically, in Infoprint attribute names consist of two or more words separated by hyphens.

attribute value. The element of an attribute that specifies the characteristics relating to the attribute.

authorization. In computer security, verification of the eligibility of a user to access an object.

authorized user. A person with the appropriate permissions to access an object or to issue a command.

automatic recovery. A function of printer logic that permits the printer to reprint a job if the job is misprinted or damaged or if a component has failed.

auxiliary sheet. In Infoprint, an object that represents a particular sheet of paper, blank or otherwise, that can precede a job, separate documents within a job, or follow a job.

auxiliary-sheet selections. A particular combination of start, separator, and end sheets that print with jobs on a particular printer device.

B

backend. In AIX, the program that is invoked by the **qdaemon** process to run a print or batch job. Synonymous with *backend program*.

backend program. Synonym for *backend*.

backlog. In Infoprint, the amount of time calculated by Infoprint that is required to print all of the jobs currently in a queue.

backspace. In Infoprint, the action used to back up and reprint pages in a job.

bar code. A code representing characters by sets of parallel bars of varying thickness and separation that are read optically by transverse scanning. In architecture, an array of parallel rectangular bars and spaces that together represent data elements or characters in a particular symbology. The bars and spaces are arranged in a predetermined pattern following unambiguous rules defined by the symbology.

BCOCA. Bar code object content architecture.

Bezier curves. A method of defining curves using anchor points, control handles, and tangent lines. The PostScript path passes through anchor points, and its approach direction is along the tangent lines that are controlled by the control handles. Many PC programs use this drawing method. Type 1 PostScript fonts are defined using Bezier curves.

binding. The cover and materials that hold a book together. See *edition binding*, *perfect binding*, *spiral binding*, *wire-o binding*. The process of applying the binding to a book. In Infoprint, assigning a job to an actual destination. See *early binding*, *late binding*. In DCE, pointers stored in a DCE cell that are used to connect clients to servers.

bitmapped. Pertaining to an image formed by a rectangular grid of pixels. Each pixel is assigned a value to denote its color. One-bit images are black and white; 8-bit images have 256 colors (or grays); 24-bit images have full color. CMYK images have 32 bits per pixel to encode 256 levels in each of four channels. Bitmapped images are also called raster images.

bleed. An extra amount of printed image that extends beyond the trim edge of the sheet. Bleed ensures that no white gap appears at the edge of the sheet.

boot. To prepare a computer for operating by loading an operating system.

BSD. Berkeley Software Distribution.

BSD destination support system. In Infoprint, the destinatin support system that generates a print command string that the shell runs to print jobs.

BSD physical printer. In Infoprint, the object representing a printer device that uses the BSD destination support system.

burn. In platemaking, an exposure. Burn is named because of the extremely bright ultraviolet lamps used to transfer images from film to plate. In photography, to lengthen the exposure time to increase the final density of print.

C

cathode ray tube (CRT). A vacuum tube in which a beam of electrons can be moved to draw lines or form characters or symbols on its luminescent (phosphor-coated) screen. CRTs are the heart of all modern computer display screens. Black and white displays have only white phosphor scanned by one electron beam, while color displays have RGB phosphors scanned by three beams.

CDE. Common Desktop Environment.

cell. Synonym for *DCE cell*.

Cell Directory Service. A DCE component that manages a database of information about resources within a cell.

channel-attached printer. A printer attached to an RS/6000 by cables, rather than through telecommunication lines. In Infoprint, a PSF physical printer that represents a channel-attached printer device. See also *AIX-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

child. See *parent/child relationship*.

choke. In color printing, an area whose dimensions have been reduced to avoid overlapping another color. Contrast with *spread*.

class. Synonym for *object class*.

clean. In Infoprint, an action used to remove all the jobs from specified servers, actual destinations, or queues, or all the jobs submitted to specified logical destinations.

CLI. Command Line Interface.

client. In Infoprint, the component of the print system that assembles a print request and submits the request to a server. The client generates the local ID numbers for each job, submits the jobs to the servers, and keeps track of where each user's jobs have been submitted. IBM Infoprint Control and IBM Infoprint Submit include clients; you can also install the IBM Infoprint Select clients on workstations.

CMY. Cyan, magenta, yellow.

CMYK. Cyan, magenta, yellow, black.

collator. In some printers, for example, the IBM InfoColor 70, a special-purpose hard drive disk array used to store RIPped files and later transfer them to the LED print heads for imaging.

color balance. The relative levels of cyan, magenta, and yellow channels in an image to produce accurate color rendition of an original image.

color correction. The adjustment of the color balance in an image to produce accurate color rendition of an original image. Color correction is used for two- or three-spot-color jobs.

color key. A color proof similar to Cromalin, but typically not laminated and not necessarily accurate in color. Color keys are used to verify that breaks or color assignments and traps have been made accurately.

Command Line Interface (CLI). A type of user interface where commands are specified on the command line. Contrast with *Graphical User Interface*.

Common Desktop Environment (CDE). A graphical user interface running on a UNIX operating system.

complex attribute. In Infoprint, an attribute that can have multiple values with each value containing multiple components.

constant data. Data that does not change between jobs and that is merged with variable data to produce personalized copies of documents. For example, a form letter (constant data) can be merged with a customer's name and address (variable data).

contextual help. A type of online help that provides specific information about each selectable object, menu choice, notebook tab, field, control and pushbutton in a window.

control strip. A strip of information that can be attached to a print job and used to measure registration and density.

Cromalin. The Dupont color proofing system. Four layers (CMYK) of light-sensitive material are exposed through final halftone negative films, then laminated together on an opaque backing to produce a color and trap-accurate final proof showing actual half-tone dot structure. Cromalin is sometimes called an analog proof.

crop. To remove unwanted areas of an image, usually indicated by crop marks on the original.

CRT. Cathode ray tube.

CTS. Cutter-trimmer-stacker.

cutter-trimmer-stacker (CTS). A post-processing device attached to a printer device and used for paper handling.

cyan, magenta, yellow (CMY). The subtractive primary colors.

cyan, magenta, yellow, black (CMYK). The four basic colors used in offset printing, as opposed to the three basic colors of light: red, green, and blue. Magenta, yellow, and cyan are the subtractive primaries. Black is addes to provide better density and to produce a true black.

D

daemon. A program that runs unattended to perform a standard service. Some daemons are triggered automatically to perform their task; others operate periodically. Daemon processes generally provide service that must be available at all times to more than one task or user, such as sending data to a printer.

DAT. Digital audio tape.

DataBase 2/6000 (DB2*/6000). The component of the Infoprint Library that indexes data for easy retrieval.

data stream. All information (data and control commands) sent over a data link. A continuous stream of data that has a defined format. In Infoprint, pertaining to the incoming format of the job and the output format required by the printer device. Infoprint transforms the incoming format into the output format, as required. See also *document format*.

DB2*/6000. DataBase 2/6000.

DCE. Distributed Computing Environment.

DCE authority. The permission granted by DCE to access an object.

DCE cell. The basic unit of operation and administration in DCE. A group of DCE machines that work togetner and are administered as a unit. A cell represents a group of users, systems, and resources that typically have a common purpose and share common DCE services.

DCE login ID. The identifier of a person logging into DCE. DCE uses this ID to determine a user's authenticity and authorization levels for accessing and modifying data in the DCE cell.

DCE ticket. The time-limited DCE authority granted whenever a user logs into DCE. When the DCE ticket expires, the user must log into DCE again in order to access objects protected by DCE.

deadline. In Infoprint, a queuing technique where the next job assigned to the first position in the queue is the one whose deadline is closest. Contrast with *fifo (first-in-first-out)*, *job-priority*, *longest-job-first*, and *shortest-job-first*.

default document. In Infoprint, an object that represents default attribute values for a document within a job. Synonymous with *initial value document*.

default job. In Infoprint, an object that represents default attribute values for a job. Synonymous with *initial value job*.

default object. In Infoprint, a general term that refers either to an *default document* or an *default job*. Synonymous with *initial value object*.

default value. A value stored in the system that is used when no other value is specified.

delete. In Infoprint, an action used to delete default objects, jobs, logical destinations, actual destinations, or queues from the server.

desktop publishing. Performing print-related activities on a personal computer, including but not limited to layout, design, photo manipulation, creating fonts, editing text, color separation, scanning, and animation.

destination. See *actual destination*, *logical destination*.

destination support system (DSS). In Infoprint, the programs that an actual destination uses to communicate with the output device. Synonymous with *device support system*. See *AIX destination support system*, *BSD destination support system*, *email destination support system*, *fax destination support system*, *PSF destination support system*, *3170 destination support system*.

device. An individual piece of equipment (hardware) that attaches to a computer, such as a printer device.

device address. The identification of an input or output device by its channel and unit number.

device driver. A file that communicates with a specific device such as a printer, disk drive, or display. An application that sends output to a device controls the actions of the device through the device driver. See *printer driver*.

device support system (DSS). Synonym for *destination support system*.

DFS. Distributed File Service.

digital. Pertaining to data represented by digits, sometimes with special characters and the space character.

digital audio tape (DAT). A high-capacity, low-cost megabyte bulk storage system used for archiving, copying (for backup purposes), and transferring large files. Typical DAT units store 1.3 GB on inexpensive cassette tapes.

digital color proof. An off-press color proof made from a color printer attached to a computer.

digital printing. A filmless and plateless printing process in which digital data for each page is transferred directly to a light-sensitive drum and then to paper for a final image.

direct-attached printer. A printer device, attached to an RS/6000 through the network or through a serial or parallel port. In Infoprint, a PSF physical printer that represents a direct-attached printer device. See also *AIX-attached printer*, *channel-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

disable. In Infoprint, an action used to stop the acceptance of jobs on destinations, queues, or servers, or to stop writing information to logs.

Distributed Computing Environment (DCE). A software system from the Open Software Foundation (OSF). DCE provides the services that allow a distributed application to interact with a collection of possibly heterogeneous computers, operating systems, and networks as if they were a single system.

Distributed File System (DFS). A DCE component consisting of a single, integrated file system that is shared among all DCE users and host computers in a DCE cell. DFS allows users to access and share files stored in a network, without having to know the physical location of the files. It also prevents users from simultaneously modifying the same information.

distributed print system. A computer system with the ability to interchange print data and controls among different computing environments with the intent of printing the data on a different system from the one where the print request was generated. For example, in host-to-LAN distributed printing, data that resides on the host is printed on printers attached to a local area network.

dithering. A technique of filling the gap between two pixels with another pixel having an average value of the two to minimize the difference or add detail to smooth the result.

document. In Infoprint, an object representing a grouping of data within a job. A job can contain one or more documents. The documents in a job can differ from each other in some ways. For example, they can contain different data and can have different document formats. A document within a job can contain printable data or a resource that is not printable by itself. See *file-reference document*, *printable document*, and *resource document*.

document element. A portion of a document at least a single page in size.

document format. In Infoprint, a document format describes the type of the data and control characters in the document, such as line data or PostScript. The

format of the data determines which printer devices are capable of printing the document and whether Infoprint must transform the format.

document identifier. A string that identifies a document within a job. It consists of a job ID followed by a period (.) and a document sequence number. For example, 12.2. Document sequence numbers are integers starting at 1.

Document Printing Application (DPA). An ISO/IEC 10175 standard that addresses those aspects of document processing that enable users in a distributed open systems environment to send electronic documents to shared, possibly geographically-dispersed printers. Infoprint supports the DPA standard.

document transfer method. In Infoprint, the transfer method describes how documents are transferred to, or acquired by, servers. See *pipe-pull* and *with-request*.

document type. In Infoprint, the document type describes the kind of data in the document. A *printable document* can only contain printable data. A *resource document* can only contain data such as fonts or form definitions that are not printable. A *file reference document* can only contain names of files entered on separate lines.

dot. The individual elements of a halftone.

dot gain. An increase in the size of a halftone dot during printing, caused by ink spreading. Generally, this value is known precisely, and the scanning and filming production process is calibrated to compensate for it. The Cromalin proofing system simulates this effect.

dots per inch (dpi). A measure of data density per unit distance. Typical values for desktop publishing work range from 200 to 300 dpi. Values for printing with the IBM InfoColor 70 range as high as 600 dpi.

DPA. Document Printing Application.

dpi. Dots per inch.

drag and drop. In graphical user interfaces, a procedure by which you perform actions and tasks. Using the mouse, you drag (move) an action or object icon to a new position where you want the action or task to occur.

DSS. Destination support system.

dummy. A rough paste-up or hand-drawn representation of the anticipated finished product. A dummy is used for basic design and pagination.

duplex printing. Printing on both sides of the paper. Contrast with *simplex printing (1)*. Printing on both sides of the paper, placing output images on the media in a head-to-head format, so that the top of one image is at

the same edge as the top of the next image. Contrast with *tumble duplex printing*; see also *simplex printing (2)*.

E

early binding.   In Infoprint, assigning a job to an actual destination as soon as it is accepted. Early binding permits Infoprint to estimate the time when the job will be completed. Contrast with *late binding*.

edition binding.   A type of book binding in which printed sheets are folded into 16- or 32-page signatures. Four-page endleaves are pasted on the outside of the first and last signature. The signatures are then collated by machine and sewn together using special sewing machines. Contrast with *perfect binding*, *spiral binding*, *wire-o binding*.

electronic document.   A document stored in a computer instead of printed on paper.

electronic mail.   Correspondence in the form of messages transmitted between workstations over a network. Synonymous with *email*.

electrophotographic.   Pertaining to a type of printer technology that creates an image on paper by uniformly charging the photoconductor, creating an electrostatic image on the photoconductor, attracting negatively charged toner to the discharged areas of the photoconductor, and transferring and fusing the toner to paper.

em.   In composition, a unit of measurement exactly as wide and as high as the point size of the font being set. The name is derived from the fact that the letter M in early typefaces was usually cast on a square body.

email.   Electronic mail.

email destination.   In Infoprint, an actual destination representing an electronic mailing system.

email destination support system.   In Infoprint, the destination support system that supports email destinations.

embellishments.   Variable data added to all copies of assembled pages to make the unit seem like a whole; for example, headers, footers, page numbers, a table of contents, and chapter separations.

en.   In composition, exactly one half an em.

enable.   In Infoprint, the action that makes a destination, queue, or server able to accept jobs, or a log able to accept information.

end sheet.   The sheet of paper, blank or otherwise, that can follow a job. See also *auxiliary sheet*.

Enhanced X-Windows.   A tool designed to permit multiple application processes to operate within multiple windows displayed on a virtual terminal. See *X-Windows*.

environment variable.   Any one of a number of variables that describe the way an operating system runs and the devices it recognizes.

error log.   A data set or file in a product or system where error information is stored for later access.

estimate.   The professional cost analysis made by a print shop in response to a customer's request for a price quotation on a print job.

event.   In Infoprint, an occurrence in the printing system during an operation; for example, the completion of a command.

event log.   In Infoprint, a collection of messages about events that have occurred.

event notification.   The notification that is sent by Infoprint for an event.

extensions.   An IBM program-provided software component that enables users to incorporate variable data into fixed-text documents to produce personalized or customized documents.

F

fax destination.   In Infoprint, an actual destination representing a fax device.

fax destination support system.   In Infoprint, the destination support system that supports fax destinations.

FIFO (first-in-first-out).   In Infoprint, a queuing technique where the next job assigned to the first position in the queue is the job that has been in the queue for the longest time. Infoprint processes jobs in the order in which they are received. Contrast with *deadline*, *job-priority*, *longest-job-first*, and *shortest-job-first*.

file-reference document.   In Infoprint, a file containing the names of other files, each entered on a separate line. Job submitters can specify this file for printing when they specify a document type of **file-reference**. Infoprint prints each file listed in the reference document.

File Transfer Protocol.   In TCP/IP, the application protocol that makes it possible to transfer data to and from host computers and to use foreign hosts indirectly.

finisher.   A hardware device attached to a printer that performs such operations as folding or stapling the printed page.

finishing. In a print shop, the final operations on a printed product, such as stapling, trimming, drilling, folding, embossing, varnishing, gluing, shrink wrapping, perforating, laminating, collating, and so on.

flag. A modifier of a command that specifies the action of the command. A dash usually precedes a flag. Synonymous with *option*. See also *keyword*.

FOCA. Font object content architecture.

folder. In the Infoprint GUI, an object that represents a container for a collection of similar objects. For example, the Retained Jobs folder contains retained jobs.

font. A family of characters of a given size and style; for example, 9-point Helvetica. One size and one typeface in particular type family, including letters, numerals, punctuation marks, special characters, and ligatures. A paired character set and code page that can be used together for printing a string of text characters. A double-byte font can consist of multiple pairs of character sets and code pages.

form definition. A resource object used by Infoprint that defines the characteristics of the form or printed media, which include: overlays to be used, the paper source (for cut-sheet printers), duplex printing, text suppression, and the position of composed-text data on the form.

forward space. In Infoprint, the action used to move ahead and skip the printing of a specified number of pages in a job.

FPO. Low-quality (sometimes photographic) images placed in a dummy to represent final images. Desktop publishing software produces images as display-screen resolution FPOs.

front panel. In the CDE, a workspace area containing controls that represent various tasks you can perform and workspace switches. In basic Infoprint installations, the front panel has been customized for Infoprint.

FTP. File Transfer Protocol.

G

GCR. Gray component replacement.

GIF. Graphics Interchange Format.

global change. In the Infoprint GUI, an action used to make changes to one or more attributes of several objects at once. You can also perform the same action on several objects of the same object class at the same time; for example, disabling two or more actual destinations at the same time.

global character. A character or set of characters used to specify an unknown number or set of characters in a search string. In Infoprint, a global character is represented by an asterisk (*).

global ID. Global job identifier.

global job identifier. An unambiguous job identifier. In Infoprint, it is represented as the name of the server managing the job followed by a colon (:) and a generated integer. This ID uniquely identifies the job within the Infoprint server.

glyph. An image, usually of a character, in a font.

GOCA. Graphics object content architecture.

graphic character. A visual representation of a character, other than a control character, that is normally produced by writing, printing, or displaying.

Graphical User Interface (GUI). A type of user interface that takes advantage of a high-resolution monitor and includes a combination of graphics to implement an object-action paradigm, the use of pointing devices, menu bars, overlapping windows, and icons. Contrast with *Command Line Interface*.

Graphics Interchange Format (GIF). A compresses graphics format widely used on the Internet.

gray component replacement (GCR). Synonym for *under color removal (UCR)*.

gray scale. A strip of standard gray tones, ranging from white to black, placed at the side of the original copy during photography to measure the tonal range and contrast obtained.

GUI. Graphical User Interface.

gutter. The blank area or inner margin from the printing area to the binding.

H

halftone. A printing method that simulates continuous-tone shading using dots of varying sizes laid out on a regular grid. Larger dots simulate darker tones and smaller dots simulate lighter tones. Typical grid spacings are 85 lines per inch (lpi) (newspaper), 133 lpi (low end), 150 lpi (midrange), and 175+ lpi (high quality).

help. In the Infoprint GUI, an action used to display the online help for a specific template, object, action, button, control or area in an application window. The name of a button used to access the online help.

hold. An indication determined by the **job-hold** attribute that is used to keep a job in the queue and prevent Infoprint from scheduling it.

hostname. The name given to an AIX system.

hot folder. A workstation directory where users copy jobs to submit them to print.

hypertext. A way of presenting information online with connections between one piece of information and another. These connections are called hypertext links. See also *hypertext link*.

hypertext link. A connection between one piece of information and another. Selecting a link displays the target piece of information.

I

IBM InfoColor 70. A duplex, process color, web-fed printer with 600 dpi pel resolution.

IBM Infoprint. A solution of software and hardware products that can supplement or replace the offset presses and copiers in print shops with high-quality, non-impact, black and white, or process color printers. Infoprint takes documents from creation to the published, kitted, and shipped product.

IBM Infoprint Control. The administration and management component of Infoprint Manager It runs on AIX and provides a complete set of system administrator and operator functions to control all aspects of a print environment, as well as job submitter printing functions to submit and control jobs.

IBM Infoprint Library. A component of Infoprint Manager. IBM Infoprint Library is a document archival and retrieval system in which job tickets and their associated resource files (graphics, fonts, images, and PostScript data) are stored and from which these data types can be retrieved for reuse.

Infoprint Manager. The software component of IBM Infoprint. Infoprint Manager handles the scheduling, archiving, retrieving, and assembly of a print job and its related resource files. It also tracks the finishing and packaging of the printed product.

Infoprint is based on Palladium technology developed at MIT/Project Athena. It conforms to the ISO DPA and POSIX standards.

IBM Infoprint Network. The local area network running TCP/IP protocol that InfoPrint uses to communicate among servers, clients, and output devices.

IBM Infoprint Scan. The component of Infoprint Manager that allows users to scan images as TIFF files to be included in jobs submitted by Infoprint Submit from a Windows workstation.

IBM Infoprint Select. The component of Infoprint Manager that allows users to submit jobs from an OS/2 or Windows workstation.

IBM Infoprint Submit. The component of Infoprint Manager that allows users to submit jobs with a job ticket from a Windows or Macintosh workstation.

IBM Infoprint 20. A black and white, large-format, cut-sheet workgroup laser printer with optional duplexing and 600-dpi resolution.

IBM Infoprint 4000. A duplex, black and white, continuous-forms printer with 600-dpi resolution.

IBM Infoprint 60. A duplex, black and white, cut-sheet printer with 600-dpi resolution.

icon. A graphic symbol displayed on a screen that a user can select to invoke a function or software application.

image. Toned and untoned pels arranged in a pattern.

image data. Rectangular arrays of raster information that define an image.

imagesetter. A high resolution (1270 dpi–3600+ dpi) printer that uses an Argon (green) laser to write to film using digital input. Imagesetting is the step before Cromalin proofing and platemaking.

imposition. The process of arranging pages on a press sheet to ensure the correct order during final cutting, folding, and binding. Electronic imposition builds press sheets automatically during the RIP and outputs film formatted for immediate use in platemaking.

Infoprint. IBM Infoprint In IBM Infoprint software publications, Infoprint Manager or any of its components, especially IBM Infoprint Control.

initial value document. Synonym for *default document*.

initial value job. Synonym for *default job*.

initial value object. Synonym for *default object*.

initially settable attribute. An attribute whose value can be established when an object is created but cannot be subsequently set or modified. See also *resettable attribute*; contrast with *non-settable attribute*.

input focus. The area of a window where user interaction is possible from either the keyboard or the mouse.

input tray. For a printer device, the container that holds the medium upon which the printer prints its output.

Intelligent Printer Data Stream (IPDS). An all-points-addressable data stream that enables users to position text, images, and graphics at any defined point on a printed page. Information that the host sends to IBM IPDS printers. This information generally contains basic formatting, error recovery, and character data and

enables the printers to make decisions. An architected host-to-printer data stream that contains both data (text, image, graphics, and bar codes) and controls defining how the data is to be presented. IPDS provides a device-independent interface for controlling and managing all-points-addressable (APA) printers.

International Organization for Standardization (ISO). An organization of national standards bodies from various countries established to promote development standards to facilitate international exchange of goods and services, and develop cooperation in intellectual, scientific, technological, and economic activity.

Internet. A wide area network connecting thousands of disparate networks in industry, education, government, and research. The Internet network uses TCP/IP as the protocol for transmitting information.

Internet Protocol. The set of rules that determines how to route data from its source to its destination in an Internet environment.

intervening jobs. In Infoprint, the number of jobs in a queue that are scheduled to print before the job in question.

IOCA. Image object content architecture.

IP address. The Internet Protocol address of the server in a dotted decimal format where each node is an integer. (For example, 9.99.9.143).

IPDS. Intelligent Printer Data Stream.

ISO. International Organization for Standardization.

J

job. In Infoprint, an object that represents a request to print or transmit one or more documents together in a single printing session. A job includes the data to be printed or transmitted and resources such as fonts, images, and overlays. Depending on how it was submitted, it may also include a job ticket. Synonymous with *job bundle*, *print job*.

job bundle. Synonym for *job*.

job data. The page descriptions, merge data, and embellishments that compose a document in a job, either directly or by reference.

job ID. A local or a global identifier that identifies a job to a job submitter, administrator, operator, or Infoprint. See *local job identifier*, *global job identifier*.

job-priority. In Infoprint, a queuing technique where the next job assigned to the first position in the queue is the one with the highest priority. Contrast with *deadline*, *FIFO (first-in-first-out)*, *longest-job-first*, and *shortest-job-first*.

job submitter. In Infoprint, the person who submits jobs for printing. Often, this person is an application programmer who maintains applications that generate data to be printed.

job ticket. The customer's hardcopy or electronic instructions listing all the variables describing a print job, either directly or by reference. The print shop can add specifications to the job ticket and can print the job ticket.

Joint Photographic Experts Group (JPEG). A compressed graphics format widely used on the Internet.

JPEG. Joint Photographic Experts Group.

K

kerning. In typesetting, adjusting the relative spacing of two characters to improve their appearance and readability. Kerning pairs are specific sets of characters with built-in relative spacing. Some typefaces have as many as 100 kerning pairs.

keyword. A name or symbol that identifies a parameter. Part of a command operand that consists of a specific character string, such as **DSNAME=**.

kitting. In the print shop environment, packaging the completed published work with attendant binders, tabs, diskettes, and other equipment or information, before shipping the finished product.

L

LAN. Local Area Network.

laser (light amplification by stimulated emission of radiation). In IBM printers, a devices that emits a beam of coherent light that forms the image on the photoconductor that is subsequently transferred to the paper.

late binding. In Infoprint, waiting to assign a job to an actual destination until it is about to be processed. Late binding permits Infoprint to route a job to the first suitable actual destination that becomes available. Contrast with *early binding*.

LED. Light-emitting diode.

light-emitting diode (LED). The imaging device element for electrophotographic print units.

lines per inch (lpi). A measure of the density of the grid used to space halftone dots. Typical grid spacings are 85 lpi (newspaper), 133 lpi (low end), 150 lpi (midrange) and 175+ lpi (high quality).

Local Area Network (LAN). A computer network at one location that consisting of devices connected to one

another and communicating. This network can also be connected to a larger network.

local ID.   Local job identifier.

local job identifier.   In Infoprint, a job identifier automatically generated by the server, identifying the job to the person who submitted it. Infoprint maps a local job ID to a global job ID.

locale.   The human language and character set of information presented to a user. In Infoprint, the language Infoprint uses when sending notification and error messages or displaying the Infoprint graphical user interfaces.

log.   A collection of messages or message segments added to a file for accounting or data collection purposes. To record messages in a file.

logical destination.   In Infoprint, an object to which users submit their jobs. The destination routes jobs to one or more actual destinations representing output devices such as printers, electronic mail systems, or fax machines. See also *logical printer*; contrast with *actual destination*.

logical printer.   In Infoprint, a type of logical destination. The logical printer routes jobs to one or more physical printers representing printing devices.

logical unit (LU).   A type of network accessible unit that enables end users to gain access to network resources and communicate with each other.

logical unit (LU) 6.2.   A type of logical unit that supports general communication between programs in a distributed processing environment. LU 6.2 is characterized by (a) a peer relationship between session partners, (b) efficient utilization of a session for multiple transactions, (c) comprehensive end-to-end error processing, and (d) a generic application program interface (API) consisting of structured verbs that are mapped into a product implementation.

longest-job-first.   In Infoprint, a queuing technique where the next job assigned to the first position in the queue is the longest job in the queue. Contrast with *deadline*, *FIFO (first-in-first-out)*, *job-priority*, and *shortest-job-first*.

lpi.   Lines per inch.

LU.   Logical unit.

M

magnetic-ink character recognition (MICR). Identification of characters printed with ink that contain particles of magnetic material.

mainframe processor.   A functional unit that interprets and executes instructions in a large computer to which other computers are connected so that they can share the facilities the mainframe provides.

makeready.   All the setup work involved in preparing a press for a print run.

manage.   In the Infoprint GUI, the action used to put an object into a mode where its icon reflects changes of status.

mechanical.   A camera-ready layout. The mechanical can consist of multiple sheets or overlays for each spot or process color used. Final images, if not stripped in later, should be at final size, cropped and screened to the correct final-line frequency.

medium.   In Infoprint, an object representing the physical material upon which a job is printed.

merge data.   Data that is unique to each copy of a document and that customizes the document; for example, serial numbers or mailing information. Merge data is typically a small percentage of the total data in a document.

message catalog.   A file of all the possible messages than can display during the processing of an application.

MICR.   Magnetic ink character recognition.

Mixed Object Document Content Architecture (MO:DCA).   An architected, device-independent data stream for interchanging documents.

MO:DCA-P.   Mixed Object Document Content Architecture Presentation.

modify.   In Infoprint, an action used to modify the values of attributes within the object attributes notebook.

moire.   Undesirable interference patterns caused by two overprinting halftone screens with incorrect halftone dot angles.

monospaced.   In typesetting, a typeface in which all the characters have equal widths. Monospaced typefaces are useful for tabulating figures.

Multiple Virtual Storage (MVS).   An operating system developed by IBM. The design of MVS incorporates an addressing architecture that provides a unique address space to each job in the system.

MVS.   Multiple Virtual Storage.

N

N_UP.   Pertaining to the number of forms placed together in a layout. Typical layouts are 2_UP, 4_UP, 8_UP, 16_UP, and so on. N_UP printing is done to use the maximum area of the print sheet.

name service. The DCE service that administers the namespace and provides the network binding information that a client requires to access the server.

namespace. A global name repository available to all utilities and API procedures. The namespace contains mappings of object names to other related objects. For example, the namespace provides the mapping of a logical destination to the server in which it resides.

Network File System (NFS). A protocol developed by Sun Microsystems that uses Internet Protocol to allow a set of cooperating computers to access each other's file systems as if they were local.

newline options. The different ways in which the printer determines how lines are delimited in a document data stream.

NFS. Network File System.

non-process-runout (NPRO). A printer function that moves the last printed sheet to the stacker of the printer device.

non-settable attribute. An attribute that is neither initially settable nor resettable. The values for these attributes are controlled by Infoprint. Contrast with *initially settable attribute*, *resettable attribute*.

notification. The act of reporting the occurrence of events. In Infoprint, notification of events appears as messages in event logs or messages sent to administrators, operators, and job submitters. In the Infoprint GUI, notification of events also appears as changes to the appearance of icons.

notification-profile. In Infoprint, an attribute associated with an object that contains information designating the people to whom Infoprint sends notification about events for that object, which event information it sends, and how it sends the information.

NPRO. Non-process-runout.

O

object. A collection of attributes that represent a physical or logical entity in the print system. For example, a specific printer device is represented by an actual destination (physical printer) object. An object is identified by its object name. Objects are grouped into classes. See also *object class*.

object class. A group of objects that share a common definition and therefore share common properties, operations, and behavior as defined by their attributes. For example, all Infoprint queue objects are in the same object class and each queue has the same set of queue attributes. However, the values for those attributes can differ for each queue within the queue object class.

Object Identifier (OID). In architecture, a notation that assigns a globally unambiguous identifier to an object or a document component. The notation is defined in international standard ISO.IEC 8824(E).

object name. The alphanumeric term that identifies an object.

object state. The state of an object indicates its availability and readiness for performing its functions. An object can be in one of a number of states such as ready, busy, or unknown.

OCR. Optical character recognition.

octet. A byte that consists of eight binary digits (bits).

offset stacking. In certain printer devices, a function that allows the printer to offset the printed output pages for easy separation of the jobs.

OID. Object Identifier.

open destinations window. In the Infoprint GUI, the action used to open a new application window displaying the logical and actual destinations associated with a queue.

Open Prepress Interface (OPI). An industry standard for replacing low-resolution images in review documents with high-resolution images needed for high-quality final output.

Open Software Foundation (OSF). A nonprofit research and development organization created by a consortium of companies that work together to develop software in the open systems market. OSF developed the Distributed Computing Environment (DCE).

open window. In the Infoprint GUI, the action used to open a new application window representing one or more objects displayed in the currently open application window.

operation. An action performed on one or more data items.

operator. In Infoprint, the person responsible for printer devices. Also, this person performs a subset of tasks for Infoprint queues and actual destinations, and performs some job-related tasks.

OPI. Open Prepress Interface.

optical character recognition (OCR). Conversion of scanned text to editable ASCII characters.

option. A modifier of a command that specifies the action of the command. A dash usually precedes an option. Synonymous with *flag*. See also *keyword*.

orphan logical destination. In the Infoprint GUI, an object that represents a logical destination that is not associated with an existing queue.

orphan logical printer. In the Infoprint GUI, an object that represents a logical printer that is not associated with an existing queue.

OSF. Open Software Foundation

overlay. A collection of constant data, such as lines, shading, text, boxes, or logos, that is electronically composed in the host processor and stored in a library, and that can be merged with variable data during printing.

P

PAC. Privilege Attribute Certificate.

page definition. A resource that contains the formatting controls for line data. In Infoprint, a resource that defines the rules of transforming line data into composed pages and text controls.

page segment. A resource that contains composed text and images, prepared before formatting and included during printing.

Palladium. A distributed print system developed at MIT/Project Athena with participation from Digital Equipment Corporation (DEC), International Business Machines (IBM), and Hewlett-Packard (HP). It is a reference implementation for the OSI Document Printing Architecture (DPA) standard, ISO/IEC 10175. Infoprint was designed using Palladium concepts.

pane. In the Work Area of the Infoprint administrator's GUI, an area containing a group of objects of a specific type, such as an actual destinations pane.

parent/child relationship. In Infoprint, servers, queues, and destinations are related to one another in a parent/child relationship. For example, a server is the parent of all the queues that reside in that server and these queues are its children.

pass through. In Infoprint, referring to options submitted with a job that are used by the device driver, but not Infoprint. Infoprint does not process or validate this information; it passes it along to the device driver. See *device driver*.

path. The route used to locate files; the storage location of a file. A fully qualified path lists the drive identifier (if any), directory name, subdirectory name (if any), and file name with the associated extension.

pause. In Infoprint, the action used to temporarily halt the printing of jobs on physical printers or the distribution of jobs from servers or queues.

pdcrcds. In Infoprint, a utility used to create directories within the DCE namespace.

pdcreate. In Infoprint, the command used to create a new object and set its attributes to specified values.

PDF. Portable Document Format. Printer description file.

pdmsg. In Infoprint, a utility used to display information about a message.

pdpr. In Infoprint, the command used to create and submit a job, consisting of one or more documents, to a server for printing or transmission.

perfect binding. A type of book binding in which the pages are held together with flexible adhesive. Contrast with *edition binding*, *spiral binding*, *wire-o binding*.

permissions. In AIX, codes that determine who can access a file and what operations they can perform on the file.

physical printer. In Infoprint, a type of actual destination that represents a printer device. See also *printer device*.

piobe. The standard printer input/output backend program used by AIX for printing. See also *ainbe*.

pipe-pull. In Infoprint, a document transfer method where Infoprint saves the documents in a file and transfers the address of the file to the server. Infoprint transfers the file to the server upon the request from the server. This is an efficient transfer method for large jobs and is the default transfer method at job submission. Contrast with *with-request*.

plex. A document or actual destination attribute used to define the placement of output images on the page. See the plex values *simplex* and *tumble*.

plug-ins. A component of Adobe PageMaker that enables users to incorporate variable data into fixed-text documents to produce personalized or customized documents.

Portable Document Format (PDF). An Adobe PostScript data format that can be viewed or printed.

Portable Operating System Interface for Computer Environments (POSIX). An Institute of Electrical and Electronics Engineers (IEEE) standard for computer operating systems.

POSIX. Portable Operating System Interface for Computer Environments.

PostScript. Adobe's page-description language. PostScript has become a standard for graphic design and layout software. PostScript files can contain both vector and raster data. Fonts are described using PostScript coding. Many desktop publishing systems produce PostScript data as their output data stream.

PostScript printer description (PPD). A file that contains options for printing PostScript data on various printer devices.

PPD. PostScript printer description.

preflight. To assess all resources for a job before the actual print run.

prepress. Work done in the print shop before printing a job, such as preparing data and art, page imposition, color retouching, electronic editing, and page layout.

print database. The set of files on disk which provide a permanent repository for the attributes of all print objects such as logical destinations, queues, and actual destinations.

print job. Synonym for *job*.

Print Quality Enhancement (PQE). A printer facility that provides edge smoothing along diagonal lines, fine fidelity protection, and independent boldness control.

Print Services Facility (PSF). Any of several programs, including PSF for AIX, PSF/MVS, PSF/VM, and PSF/VSE, that produce printer commands from the data sent to them.

print system. A group of one or more print servers and one or more printing devices, which may or may not be located in the same geographical area. The components of a print system are assumed to be interconnected in some manner, providing at least one network interface to print clients, and acting synergistically to supply the defined document print service. (D)

printable document. In Infoprint, an object that represents text or data to be printed by a job. Contrast with *resource document*.

printer description file (PDF). A file that contains options for printing PostScript data on a specific printer device.

printer device. The physical output device that performs the printing function. See also *physical printer*.

printer driver. A file that describes the physical characteristics of a printer or other peripheral device, and is used to convert graphics and text into device-specific data at the time of printing or plotting. Synonymous with *device driver*.

priority. In Infoprint, a number assigned to a job that determines its precedence in being printed. Jobs with higher priority numbers are handled before jobs with lower priority numbers.

Privilege Attribute Certificate (PAC). In DCE, a certified set of access privileges that can be presented by a user or administrator to establish access rights to objects.

process color. Color made up of CMYK inks simulating a specified color. This is the traditional method of reproducing continuous tone color images

(color separations). Because of the nature of color inks, certain inks do not reproduce well.

processor. In a computer, a functional unit that interprets and executes instructions. A processor consists of at least an instruction control unit and an arithmetic and logic unit. (T)

promote. In Infoprint, an action used to advance a queued job to the beginning of the queue so it will print on the next available printer that can handle that job.

protocol. A set of semantic and syntactic rules that determines the behavior of functional units in achieving communication.

PSF. Print Services Facility.

PSF destination support system. In Infoprint, the destination support system that communicates with PSF for AIX to print jobs.

PSF physical printer. In Infoprint, the object representing a printer device that uses the PSF destination support system.

Q

QuarkXpress. A desktop publishing system produced by Quark, Incorporated.

queue. In Infoprint, an object that manages a collection of jobs that are waiting to print. A queue receives jobs from one or more logical destinations and sends jobs to one or more actual destinations. A line or list formed by items waiting for processing.

R

raster. A pattern of dots comprised of varying data depths. Black and white images are one-bit (on/off); grayscale images are 8-bit (256 levels); RGB images are 24-bit; CMYK images are 32-bit.

raster image processor (RIP). A processor in which a PostScript data stream is converted into dot patterns that are transferred to the final print medium. Infoprint uses an Adobe RIP to convert PostScript to IPDS for such printers as the IBM Infoprint 4000 and IBM Infoprint 60.

rc.pd. In Infoprint, a utility used to start the Infoprint servers listed in the **/etc/pd.servers** file.

read-only. In Infoprint, describes an attribute value that cannot be set by the user but may change based on other activity.

ready. A state in which an object is ready and able to perform tasks. An available resource, such as a value of the **media-ready** attribute. Contrast with *supported*.

red, green, blue (RGB). The colors of CRT display phosphors. RGB images are for screen display only. They must be converted to CMYK images before printing.

registration. The accuracy of printing on paper relative to the edges of the paper. The accuracy of printing a single color (cyan, magenta, or yellow) relative to black. The accuracy of printing on one side of a page relative to printing on the reverse side of the page.

Remote Procedure Call (RPC). A DCE component that manages communication between clients and servers in a DCE environment. It allows requests from a client program to access a procedure anywhere in the network.

reprographics. The process of copying or duplicating documents or information.

requested. In Infoprint, pertaining to the specific values of attributes requested by a job when it is submitted. The requested attribute values of a job are validated against supported attribute values for a physical printer to determine if the printer can handle that job. Contrast with *supported*.

resettable attribute. An attribute whose value can be set or modified after an object has been created, assuming the object is in an appropriate state to be modified. See also *initially settable attribute*; contrast with *non-settable attribute*.

resource. In AFP, a file containing a collection of printing instructions used when printing a job. Resources include fonts, overlays, form definitions, page definitions, and page segments.

resource context. In Infoprint, an object that contains directory path information that helps the print system locate resources needed for printing a job. The resources include fonts, overlays, form definitions, page definitions, and page segments.

resource document. In Infoprint, an object that represents a resource, such as graphics or fonts, used by a job to print a printable document. Contrast with *printable document*.

resubmit. In Infoprint, an action used to reroute pending or retained jobs to a different logical destination than the one through which the job was originally submitted.

resume. In Infoprint, the action used to resume the printing of paused jobs or resume the distribution of jobs from paused servers or queues.

retained job. In Infoprint, an object that represents a job that is being stored in the print system, normally

after the completion of printing the job, for a specified amount of time. A retained job does not reside in a queue.

retention. The process of storing data after completion of a process for a certain length of time.

retrieval. The process of bringing digital archived data out of storage and into online memory for reuse. See also *archiving*.

RGB. Red, green, blue.

RIP. Raster image processor. To convert data to dot patterns using a raster image processor.

root user. In the AIX environment, the system user with the most authority who can log in and execute restricted commands, shut down the system, and edit or delete protected files. Synonymous with *superuser*.

RPC. Remote Procedure Call.

RS/6000. A family of workstations and servers based on IBM's POWER architecture. They are primarily designed for running multi-user numerical computing applications that use the AIX operating system.

S

scanner. A device that converts hardcopy source data into digital format (halftone dots) to avoid retyping the data.

scheduler. In Infoprint, the scheduling method that the queue uses when assigning a job to an actual destination.

separator sheet. The sheet of paper, blank or otherwise, that separates documents within a job. See also *auxiliary sheet*.

server. In Infoprint, the object that accepts configuration, management, and printing requests, performs the requested operations, and sends responses back as a result of the operation.

settable attribute. See *initially settable attribute*, *resettable attribute*.

severity. An indication of how serious an error condition is.

shell. In the AIX operating system, a command interpreter that acts as an interface between the user and the operating system. In Infoprint documentation, all shell examples use the Korn shell.

shift-out, shift-in code. Control characters used to indicate the beginning and end of a string of double-byte, ideographic characters.

shortest-job-first. In Infoprint, a queuing technique where the next job assigned to the first position in the queue is the shortest job in the queue. Contrast with *deadline*, *FIFO (first-in-first-out)*, *job-priority*, and *longest-job-first*.

shut down. In Infoprint, the action used to halt all server or actual destination processes without deleting the server or actual destination.

signature. A group of pages that are printed, folded, cut, and bound together. Manual placement of pages on the signature is determined using a folding dummy.

simplex. In Infoprint, the value of the document or actual destination **plex** attribute indicating that output images are placed on the media in a head-to-head format, so that the top of one image is at the same edge as the top of the next image. Depending on the value of the document or actual destination **sides** attribute, the document may be printed on one or both sides of the paper. Contrast with *tumble*; see also *simplex printing (2)*, *duplex printing (2)*.

simplex printing. Printing on only one side of the paper. Contrast with *duplex printing (1)*. Printing on one or both sides of the paper, placing output images on the media in a head-to-head format, so that the top of one image is at the same edge as the top of the next image. Contrast with *tumble duplex printing*; see also *duplex printing (2)*.

SMIT. System Management Interface Tool.

SNA. Systems Network Architecture.

spiral binding. A type of book binding in which wire or plastic coils are threaded through a series of holes or slots in the binding edge. Contrast with *edition binding*, *perfect binding*, *wire-o binding*.

spot color. Individual colored inks formulated to exactly match a specified color. Spot color is used when CMYK process color is unable to produce a reasonable facsimile of the color or when vivid color is needed. Spot color also is used when fluorescent or metallic colors are needed.

spread. In color printing, an area whose dimensions have been enlarged to eliminate white space between it and another color. Contrast with *choke*.

start sheet. The sheet of paper, blank or otherwise, that can precede a job. See also *auxiliary sheet*.

state. Synonym for *object state*.

stripping. The process of mechanically assembling film into plate layouts. Page imposition takes place during stripping.

subnet mask. A bit template indicating which part of an IP address represents the network. A 1 in the subnet

mask means that the corresponding bit in the IP address is part of the network address; a 0 means that it is not. For example, if the IP address is 9.99.12.137 and the subnet mask is 255.255.255.0, the network address is 9.99.12.0.

subnetwork. Any group of nodes that have common characteristics, such as the same network ID. In the AIX operating system, one of a group of multiple logical divisions of another network, such as can be created by TCP/IP.

subtractive color system. A system that reproduces an image by mixing (adding) appropriate quantities of cyan, magenta, and yellow paints on white paper. These paints reflect certain colors and absorb—or subtract—others. Contrast with *additive color system*.

superuser. Synonym for *root user*.

supported. In Infoprint, pertaining to the specific job attribute values that the actual destination can accept during job validation. Infoprint validates the requested attribute values of the job against the supported attribute values of the actual destination to determine whether the actual destination can handle that job. Contrast with *requested*.

synchronous. Occurring with a regular or predictable time relationship to a specified action. Contrast with *asynchronous*.

system administrator. Synonym for *administrator*.

System Management Interface Tool (SMIT). In the AIX operating system, an interface tool for installation, maintenance, configuration and diagnostic tasks. SMIT allows you to perform tasks without entering any commands.

Systems Network Architecture (SNA). The description of IBM's logical structure, formats, protocols, and operational sequences for transmitting units through, and controlling the configuration and operation of, networks.

T

table reference character (TRC). An optional control character in a print data set. The TRC identifies the font used to print the record and can be used to select a font during printing.

Tagged Image File Format (TIFF). A digital format for storing scanned images. TIFF files are also referred to as raster format files (as opposed to vector format files). When used in desktop publishing, TIFF files produce only a low-resolution FPO image; the high-resolution data remains on the hard disk.

task help. A type of online help that provides a list of tasks that can be completed with a selected object.

When you select a task, the help provides step-by-step information about how to complete the task.

TCP/IP. Transmission Control Protocol/Internet Protocol.

TCP/IP-attached printer. A printer device attached to an RS/6000 through telecommunication lines using the TCP/IP protocol. In Infoprint, a PSF physical printer that represents a TCP/IP-attached printer device. See also *AIX-attached printer*, *channel-attached printer*, *direct-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

template. In the Infoprint GUI, an object that represents a set of default attribute values that has been defined for creating a particular type of object, such as an actual destination.

ticket. See *job ticket*, *DCE ticket*.

TIFF. Tagged Image File Format.

Transmission Control Protocol/Internet Protocol (TCP/IP). A set of communication rules used in the Internet and in any network that follows the U.S. Department of Defense standards for inter-network protocol. TCP provides a reliable host-to-host protocol between hosts in packet-switched communications networks and in interconnected systems of such networks. It assumes that the Internet Protocol (IP) is the underlying protocol. See also *Internet Protocol*.

trapping. In desktop publishing, the amount of overlap in overprinting colors. Trapping prevents white paper showing through gaps caused by normal errors in registration. On sheet-fed presses, trapping is usually 0.25 point. See also *choke*, *spread*.

TRC. Table reference character.

tumble. In Infoprint, the value of the document or actual destination **plex** attribute indicating that output images are placed on the media in a head-to-toe format, so that the top of one image is at the same edge as the bottom of the next image. The document must be printed on both sides of the paper. Contrast with *simplex*.

tumble duplex printing. Printing on both sides of the paper, placing output images on the media in a head-to-toe format, so that the top of one image is at the same edge as the bottom of the next image. Contrast with *simplex printing (2)*, *duplex printing (2)*.

U

UCR. Under color removal.

under color removal (UCR). Conversion of neutral color areas to black ink that reduces use of CMY inks, improves trapping, and reduces setup time. Generally, UCR is performed during image scanning, but some

RIPs perform it during processing. Synonymous with *gray component replacement (GCR)*.

unmanage. In the Infoprint GUI, the action used to put an object into a mode where its icon does not reflect the changes of status for the object.

upload printer. See *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

upload-SNA-attached-printer. In Infoprint, a PSF physical printer that represents a printer device attached to an MVS system and managed by PSF/MVS. Infoprint communicates with the MVS system through the SNA network. See also *AIX-attached printer*, *channel-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-TCP/IP-attached printer*.

upload-TCP/IP-attached-printer. In Infoprint, a PSF physical printer that represents a printer device attached to an MVS system and managed by PSF/MVS. Infoprint communicates with the MVS system through the TCP/IP network. See also *AIX-attached printer*, *channel-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*.

V

validate. In Infoprint, to compare the attribute values requested by a job with the supported attribute values of the actual destinations in the system and to determine whether there is an actual destination capable of printing or transmitting the job.

value. A specific characteristic of an attribute.

variable. A name used to represent a data item whose value can change while the program is running.

variable data. Data that can be changed between jobs. For example, a form letter (constant data) can be merged with variable data such as a customer's name and address to produce personalized copies of documents.

varnish. A protective layer applied to a finished sheet, usually for photos, but sometimes used as a design element due to its reflective nature. Varnishes can be tinted.

vector. An absolute coordinate point and line in space. PostScript files can contain vector artwork. Vector files are converted to rasters during the RIP process.

velox. A black and white photographic print made from a halftone negative, to be used as a proof copy.

vignette. An image with soft, fade-away edges.

Virtual Machine (VM). An IBM licensed product that manages the resources of a single computer so that multiple computing systems appear to exist. A virtual data processing system that appears to be at the

exclusive disposal of a particular user, but whose functions are accomplished by sharing the resources of a real data processing system. (T)

Virtual Storage Extended (VSE). An IBM licensed program whose full name is the Virtual Storage Extended/Advanced Function. It is a software operating system controlling the execution of programs.

Visual Systems Management (VSM). In AIX, a type of graphical user interface that allows system management through the direct manipulation of objects.

VM. Virtual Machine.

VSE. Virtual Storage Extended.

VSM. Visual Systems Management.

W

web. A roll of paper used in web or rotary printing.

well. In the Infoprint administrator's GUI, an area within a pane that contains a group of objects related to the objects in the pane; for example, a queues well within a servers pane.

what you see is what you get (WYSIWYG). Refers to the fact that the composite image displayed on the screen at a computer workstation has the appearance of the final printed image.

window. A rectangular area of the screen that you can move about, place on top of, or pull under other windows, or reduce to an icon.

wire-o binding. A continuous double series of wire loops run through punched slots along the binding side of a booklet. Contrast with *edition binding*, *perfect binding*, *spiral binding*.

with-request. In Infoprint, a document transfer method where the client transfers the documents directly to the server. Contrast with *pipe-pull*.

workstation. A terminal or microcomputer, usually one that is connected to a mainframe or to a network, at which a user can use applications.

write access. A level of authorization that grants the ability to modify data.

WYSIWYG. What you see is what you get.

X

X-Windows. A network-transparent windowing system developed by MIT. It is the basis for Enhanced X-Windows, which runs on the AIX Operating System.

xerography. A dry printing process using corona-charged photoconductive surfaces to hold latent

images that are developed with a dry toner and then transferred to paper and fused with heat.

Xstation. A terminal that is connected through a network to an RS/6000 system, from which a user can perform command-line functions and run X-Windows based applications.

Xtensions. A UNIX-provided software component that enables users to incorporate variable data into fixed-text documents to produce personalized or customized documents.

Numerics

3170 destination support system. The destination support system used by the IBM InfoColor 70 to print jobs.

3170 physical printer. A physical printer representing an IBM InfoColor 70 printer device.

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Index

Special Characters

*install_path***reslib**   424, 427
* (wildcard)   9
\usr\lpp\psf\reslib directory   423
/etc/services file   176, 179, 652
install_path**reslib** directory   425
/usr/lib/lpd/pio/predef directory   352
/usr/lpd/pio/predef directory   365
/usr/lpp/pd/attr directory   329
/usr/lpp/psf/reslib directory   422, 424, 425, 426, 427

Numerics

00000000.tab file   308
240-pel
   output for PDF   291
   output for PostScript   291
300-pel
   output for PDF   291
   output for PostScript   291
3170 destination support system (DSS)   326
40010000.tab file   308
40040000.tab file   308
480-pel
   output for PDF   291
   output for PostScript   291
600-pel
   output for PDF   291
   output for PostScript   291

A

accept-jobs attribute
   actual destination   332
accept-unsupported-jobs attribute
   server   623
account-text attribute
   default document   453
   document   453
accounting data
   reporting by destination   134
   reporting by job   131
   reporting by user
      for all users   130, 135
      for specified user   132, 136
accounting-exit attribute
   actual destination   332
accounting information
   for a specific server   19
   specified time   19
ack-interval attribute
   actual destination   333
actual destinations, attributes of
   accept-jobs   332
   accounting-exit   332
   ack-interval   333
   add-carriage-returns   334
   add-line-feeds   334

actual destinations, attributes of *(continued)*
   ascii-character-mapping   335
   ascii-font-map   335
   associated-queue   336
   associated-server   337
   attachment-type   337
   attribute-map   338
   audit-exit   339
   automatic-postscript-mode-switch   339
   auxiliary-sheet-selections-supported   340
   booklet-fold   341
   cancel-individual-document-supported   341
   carriage-control-types-supported   341
   character-mappings-supported   342
   checkpoint-at-stacker   343
   checkpoint-formats-supported   343
   color-mapping-table   344
   color-rip-servers   344
   command   349
   connection-timeout   345
   content-orientations-supported   345
   convert-to-ebcdic-supported   346
   data-fidelity-problem-reported-supported   346
   default-font-fidelity-action   347
   default-font-resolution   347
   default-input-tray   348
   descriptor   348
   destination-command   349
   destination-data-stream   350
   destination-locations   351
   destination-model   351
   destination-name   352
   destination-needs-attention-time   353
   destination-needs-key-operator-attention-time   353
   destination-pass-through   353
   destination-poll-interval   354
   destination-realization   354
   destination-register-threshold   355
   destination-release-timer   355
   destination-state   356
   destination-support-system   357
   destination-tcpip-internet-address   358
   destination-tcpip-port-number   359
   destination-timeout-period   359
   device-name   360
   device-support-system   357
   document-attributes-supported   361
   document-finishings-supported   363
   document-formats-ripped-at-destination   364
   document-formats-supported   364, 646
   document-types-supported   366
   dss-job-message-disposition   367
   dss-job-message-log-size   367
   dss-job-message-log-wrap   368
   ebcdic-character-mapping   368
   enabled   369
   end-message-supported   369
   end-sheets-supported   370

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