

Infoprint Manager for AIX



Introduction and Planning Guide

Version 4 Release 1

Infoprint Manager for AIX



Introduction and Planning Guide

Version 4 Release 1

First Edition (May 2002)

This edition applies to Infoprint Manager for AIX, Version 4 Release 1 Modification 0, and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters. Be sure to use the correct edition for the level of the product.

Although this is the first edition of this publication, it contains information previously published in other Infoprint Manager for AIX publications. Therefore, changes to the information are marked with revision bars in the left margin.

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About this publication

This publication is for people who are interested in purchasing Infoprint Manager for AIX and for people who perform the actual installation and configuration of an Infoprint Manager environment.

This publication helps you prepare to use Infoprint Manager for AIX. It describes the features of this product for driving printers across a wide range of speeds. It addresses migration from previous versions of Infoprint Manager for AIX 3.2 at a high level. This publication also explains the differences between the AIX® and Windows® versions of Infoprint® Manager.

Organization of this publication

This publication contains the following chapters and appendix:

- Chapter 1, "Introduction" on page 1
- Chapter 2, "Planning for configuration" on page 15
- Chapter 3, "Planning to print with host systems" on page 21
- Chapter 4, "Using AFP resources" on page 25
- Chapter 5, "Planning to share printers" on page 27
- Chapter 6, "Verifying prerequisites" on page 33
- Chapter 7, "Migrating to Infoprint Manager for AIX Version 4.1.0" on page 41
- Chapter 8, "Collecting required information for the install" on page 43
- "Reviewing software components" on page 45

Most recent information

The most recent product information (including updates of this manual and the related Infoprint Manager publications), is found on the World Wide Web at the IBM Printing Systems site (<http://www.ibm.com/printers>). From the Printing Systems homepage:

1. Under **Resources For** click **Infoprint Manager**.
2. Under **Products** in the right hand navigation bar click **Infoprint Manager for AIX** or **Infoprint Manager for Windows**.
3. Under **Product Resources** click **Product Library**.
4. Click on the appropriate Infoprint Manager publication.

The Infoprint Publication Library

For the most current information, please go to the IBM Printing Systems website at <http://www.ibm.com/printers>.

Infoprint Manager for AIX Publication Library

Infoprint Manager for AIX provides publications in PDF format on a CD-ROM supplied with the product. You can download PDF versions of these publications or order printed copies of these publications from IBM at the following website:

<http://www.elink.ibm.com/public/applications/publications/cgi-bin/pbi.cgi?CTY=US>

|

| **Notes:**

- | 1. There is a fee for the printed manuals.
- | 2. You can use the form number specified for a publication to download a PDF version or order a printed version.

| Here is the list of publications for Infoprint Manager for AIX:

- | • *IBM Infoprint Manager for AIX: Introduction and Planning Guide*, G544-5833. This publication gives an overview of Infoprint Manager for AIX, introduces its concepts, and helps you prepare to use it. It addresses migration from previous versions of the product. Finally, this publication explains the differences between the AIX and Windows version of Infoprint.
- | • *IBM Infoprint Manager for AIX: Getting Started*, G544-5817. This publication helps you install and configure IBM Infoprint Manager for AIX. It focuses primarily on server and client system software configuration.
- | • *Guidelines for Installing Infoprint Manager for AIX 4.1 in an HACMP Configuration*, G544-5818. This publication helps you install and configure HACMP with IBM Infoprint Manager for AIX. It also tells you how to use HACMP with IBM Infoprint Manager for AIX.
- | • *IBM Infoprint Manager for AIX: Procedures*, G544-5815. This publication describes the primary tasks necessary for setting up an Infoprint environment, submitting print jobs, scheduling jobs, and managing the print environment. This publication contains all the IBM Infoprint Manager for AIX procedures that are available as topics on the web in book format, including an index and table of contents for ease of retrievability.
- | • *IBM 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 IBM Infoprint Manager for AIX 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 Publication Library**

| Infoprint Manager for Windows provides publications in PDF format on a CD-ROM supplied with the product. You can download PDF versions of these publications or order printed copies of these publications from IBM at the following website:

| <http://www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi?CTY=US>

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- | 2. You can use the form number specified for a publication to download a PDF
- | version or order a printed version.

| Here is the list of publications for Infoprint Manager for Windows:

- | • *IBM Infoprint Manager for Windows: Introduction and Planning Guide*, G544-5716. This publication gives an overview of Infoprint Manager for Windows, introduces its concepts, and helps you prepare to use it. 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.
- | • *IBM Infoprint Manager for Windows: Getting Started*, G544-5717. This publication helps you install and configure Infoprint Manager for Windows. 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.
- | • *IBM Infoprint Manager for Windows: Procedures*, G544-5814. This publication contains all the Infoprint Manager for Windows procedures that are available as topics on the web in book format, including an index and table of contents for ease of retrievability.
- | • *IBM 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.

| For information on the use of PSF Direct with Infoprint Manager for Windows,

| visit the Product Library page for Infoprint Manager for Windows at

| <http://www.ibm.com/printers/R5PSC.NSF/Web/impntrefinfo>.

Chapter 1. Introduction

IBM® Infoprint Manager for AIX is a flexible and scalable print management solution, providing you with many choices of how to expand and manage your print environment. Your print environment may be simple, with a few high-speed devices located together, or you may support hundreds of printers dispersed across your enterprise. In either case, Infoprint Manager helps you make the most of your printing resources.

Optimizing your print resources

Your print resources are the applications that generate print jobs, your printer devices, and the Infoprint Manager objects that control the jobs as they process and print. Your default Infoprint Manager configuration includes one Infoprint Manager server, a queue, a logical destination, and an actual destination (physical printer). Before adding more Infoprint Manager objects, consider how Infoprint Manager can help you:

- Manage our printer devices and distribute your printing workload

Many print environments have a significant investment in printer devices and a significant printing workload. Infoprint Manager gives you the ability to manage all of your printer hardware centrally. You can establish a configuration that lets you route jobs with common requirements to a particular printer or set of printers that support those types of jobs. This allows you to mitigate situations where some printers are idle while others have a backlog of jobs waiting to print. By optimizing the use of each printer, you can distribute your print demands among all available printers.
- Balance the use of AIX operating systems

By balancing the printing work load, you can also optimize the use of your AIX systems that support printing. These systems may use a significant amount of their resources to accept, schedule, and process jobs, and to manage the printers they control. System usage includes processing time, memory, and fixed disk capacity. If you use several Infoprint Manager servers running on several AIX systems or Windows NT /Windows 2000 systems, you distribute the printing demands of your organization and produce output more efficiently.
- Control print jobs

Infoprint Manager provides you with flexibility in specifying defaults for your print jobs. You may want to use different job defaults for specific output devices or for specific types of jobs. When you configure your system, you should consider when and how you plan to use defaults, and how to use them most effectively. Effective use of defaults may influence other configuration decisions you make.
- See significant events when they happen

Infoprint Manager supports event notification to inform job submitters, operators, and administrators of conditions that require their attention. For example, Infoprint Manager can notify operators when queues have a backlog of jobs or when the printers they operate are out of paper. Your job submitters can receive notification if Infoprint Manager cannot schedule their jobs at the requested destination. Notifications include event messages to help your personnel diagnose and isolate the cause of the problem. When you configure Infoprint Manager, you select the types of notification you want to ensure that the appropriate people are alerted when significant events occur. The most

common form of notification is that a job has completed successfully. For example, when a set of payroll checks has finished printing, someone in the Payroll department might get notified that they are ready.

Continue with the following section that describes the different Infoprint Manager objects and basic configuration considerations for each.

Understanding the Infoprint Manager server

The Infoprint Manager Server contains a number of “objects” that are used to control the processing of submitted jobs. Objects include queues, logical destinations, actual destinations, and any defaults for job and document characteristics. The server administrator creates, deletes, and modifies these software objects to optimize the management and performance of the Infoprint Manager environment.

The Infoprint Manager server may also contain auxiliary sheets, media, resource-context, and transform objects. You can use auxiliary sheets to separate jobs and to print job identification information. Resource-context objects point to the directory locations of Advanced Function Presentation (AFP) resources, such as fonts and overlays, that some jobs require.

Basic print flow

You can submit print jobs to the Infoprint Manager server in a variety of ways. Various print submission methods are described in detail in Chapter 3, “Planning to print with host systems” on page 21 and Chapter 5, “Planning to share printers” on page 27. No matter which method you use, your jobs will travel similar paths once they get to the server.

In the most common configuration, you submit jobs to an Infoprint Logical Destination (LD). The LD forwards the job to a print queue, and the print queue forwards the job to an Infoprint Actual Destination (AD). The AD then sends the job to the printer. See **Job B** in Figure 1 on page 3 for an illustration. This configuration is especially useful if you have multiple printers and want to balance the workload between them.

Another common configuration is to submit jobs directly to the AD. The AD then forwards the job to the LD that is associated with it. The LD sends the job to a print queue, and the print queue sends the job back to the AD where it started. Then, the AD sends the job to the printer. See **Job A** in Figure 1 on page 3 for an illustration. This configuration is particularly useful when you need to make sure jobs are sent to a specific printer.

Note: If you submit jobs directly to an AD, the AD and LD that you associate with it must reside in the same server.

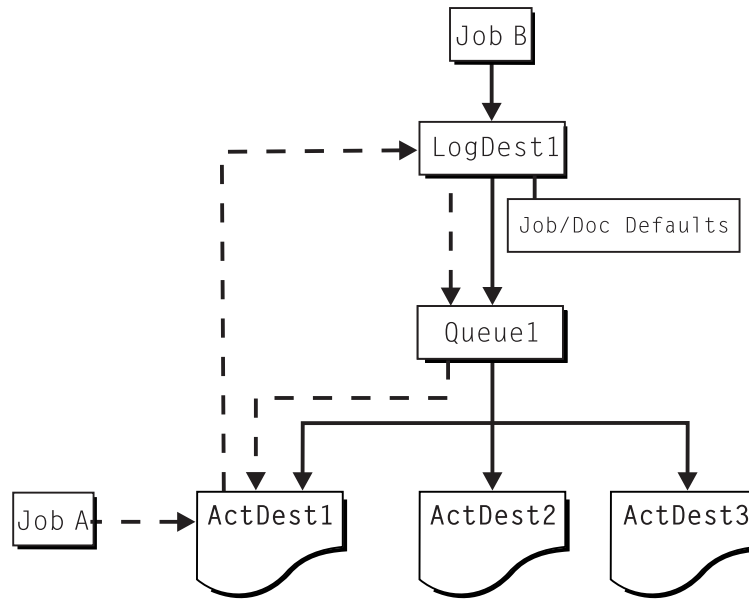


Figure 1. Infoprint Manager print flow. Job B is submitted directly to a logical destination, while Job A is submitted to an actual destination

The following sections provide more information about the different kinds of Infoprint objects and what happens to your print job at each step of the process.

Logical destinations

Logical destinations are objects in your Infoprint Manager system that you can submit jobs to. In the simple print model shown in Figure 1, the Infoprint Manager environment has one default logical destination. You may want to add more logical destinations to support specific types of jobs and specific groups of job submitters. When you create an additional logical destination, you specify a name for the logical destination and associate it with a specific queue. The logical destination and the queue must reside in the same Infoprint Manager server.

You can specify default job and document attributes for a logical destination, so that all jobs submitted to that logical destination are automatically assigned certain default values. This saves time for the job submitter, and helps ensure that jobs submitted will not fail because of missing resources. If necessary, the submitter can override the default values by explicitly setting the attributes at submission time.

Printer pooling (or clustering) is a powerful feature of Infoprint Manager. Pooling allows jobs to be submitted to a single logical destination and then routed to appropriate physical devices. This feature enables you to distribute your work load evenly among available printing devices and to optimize printer utilization. It prevents bottlenecks where a large number of jobs are queued for a few printers while other equally capable printers sit idle. In short, printer pooling allows you to see your output faster, and logical destinations make printer pooling possible.

Queues

A queue receives jobs from one or more logical destinations and routes jobs to one or more actual destinations. The queue holds a job until an actual destination capable of processing the job becomes available. In the simple print model shown in Figure 1, the Infoprint Manager environment has one default queue. The queue and the actual destination to which it sends jobs do not have to be in the same

server. The actual destination can be in an Infoprint Manager server on a different AIX or Windows NT/Windows 2000 system.

Actual destinations

An actual destination represents an output device, such as a printer, fax machine, or electronic mailing system. In general, you create one actual destination for each physical output device that you use with Infoprint Manager. It is possible to create more than one actual destination for a device, but that configuration is not common. You configure the actual destination to mirror the features and capabilities of the output device, such as the output resolution of a printer. You also configure the actual destination to control the order in which it processes jobs, for example, by job size or by submission time.

If you do not specify values for all of the attributes when you create an actual destination, Infoprint Manager provides default values for many of them or obtains those values by using Simple Network Management Protocol (SNMP) requests. You can make modifications, as required, at a later time.

Host receivers

A host receiver provides the point of connection between Infoprint Manager and a host system. The host system connects with the host receiver and downloads print jobs.

There are two kinds of host receivers: PSF Direct host receivers and MVS Download receivers. You create the type of host receiver you need, depending on the host print method you choose. Both host receivers receive print jobs from MVS and submit them to Infoprint Manager.

Refer to Chapter 3, “Planning to print with host systems” on page 21 for additional information about host printing.

Documents and jobs

A job is a unit of work you send to Infoprint Manager for processing. A job may consist of a single file or many files. (To submit multiple files in a single job you must use the **pdpr** command.) In Infoprint Manager terminology, each file in the job and its accompanying attributes is called a document. (Both jobs and documents include attributes that define their respective requirements.)

Job validation is the process of ensuring that there is an actual destination capable of processing the requirements of the job. The values of job and document attributes determine the requirements (such as duplex printing or card-stock media) that the actual destination printing the job must support.

A job may include a complete description of its requirements, or the job submission process can be streamlined through the use of defaults. See “Logical destinations” on page 3 for details.

Auxiliary sheets

An auxiliary sheet is a sheet of paper that may print at any or all of the following points during a job:

- At the beginning
- At the end
- Between sections

The auxiliary sheet may have information printed on it, or it may be blank. Infoprint Manager provides five default types of auxiliary sheets, but you can customize your own sheets if necessary. You can also apply a *user-exit program* to control the information printed on an auxiliary sheet.

Media

A medium represents the type of media, that is, paper, envelopes, transparencies, or multi-part forms, on which an actual destination prints. You can configure a medium to describe its dimensions, color, purpose, or any other useful information.

Infoprint Manager 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.

Resource contexts

When properly configured, Infoprint Manager automatically locates the AFP™ resources (fonts, overlays, form definitions, page definitions, and page segments) that print jobs require. You can store the resources in a centrally available location and then use Infoprint Manager resource contexts to identify the location. After you have configured the resource contexts, Infoprint Manager automatically locates the AFP resources required by a job and then uses them for processing.

Transforms

Transforms are Infoprint objects (like queues and destinations) that you create and configure in Infoprint Manager. Transforms receive data in a particular format or formats, process the data in some way, and output the changed data. When you create a transform, you have complete control over what data format or formats it operates on and what type of processing it does. The processing that the transform performs can be anything from simply copying the data to a different place on disk, to filtering the data stream that the transform receives (for example, to remove a particular PostScript order), to transforming the data to a completely different format (for example, converting PCL to AFP).

In addition, you can specify whether or not you want the file that the transform produces to be printed. If the transform doesn't submit the file to be printed (for example, if the transform completes its processing and saves the file to a different location), it is called a *terminating transform*.

Sizing your Infoprint Manager environment

The number of Infoprint Manager servers you need depends on many factors. In this section, we provide only an overview of the most important performance issues that may influence your server purchase plans. To begin, the features and configurations of each Infoprint Manager server system are extremely important. Important server factors that affect printing system performance include the following:

- Processor speed
- Number of processors
- Available RAM
- Available hard disk space
- Hard disk speed
- Number of hard disk drives

- Balance of Infoprint Manager filesystems across available disk drives
- Tuning specifications for hard disk drivers
- Paging space allocations (drive locations and size)
- Number of data paths (single or dual)

The output devices that Infoprint Manager drives are also important:

- Speed and resolution of printers or other output devices
- Number of concurrent processes for each actual destination
- Number of output devices per actual destination

Finally, how you submit print jobs to each Infoprint Manager server is important:

- Number of client systems submitting jobs
- Frequency of job submission from client systems
- Speed of network data transfer
- Size (density) of jobs to be printed
- Complexity of jobs to be printed
- Number and types of input data streams
- Overall network traffic

Sizing your Infoprint Manager environment is a complex task. It may be impossible to determine in advance precisely how many AIX systems and Windows NT/Windows 2000 will adequately serve your printing needs.

Note: You can run multiple Infoprint Manager servers on one AIX system, but you can run only one Infoprint Manager server on a Windows system.

Your IBM Printing Systems Sales Representative can help you determine if you have enough physical printing devices to address the printing needs of your enterprise. Essentially, this is a question of how many pages of output must be produced in how much time. Your estimate of printed output, combined with the rated speeds of your print devices, should give you the information you require to guide printer purchases.

Determining how many servers you need to drive your printing devices, however, requires experimentation and patience. Consult with your IBM Printing Systems Sales Representative to agree on a reasonable number with which to start.

Finally, it is important to monitor the performance of your printing environment regularly to see how the system reacts to actual usage and the changing needs of your business. Infoprint Manager provides useful tools to make such monitoring easy. You may use standard accounting and audit logs to collect statistical data on jobs processed by any printing device in your environment. You may even customize these logging activities to suit the needs of your business. These logs provide invaluable information on workload balancing. You can also use these logs to determine billing procedures or simply to determine how resources are being used at your installation.

Note: The Infoprint Manager server provides standard accounting logs, and you can also get customized accounting and audit logs with printers that use the PSF DSS.

Understanding server configuration options

Because Infoprint Manager for AIX Version 4 Release 1 provides print management for many different environments, it provides two different types of installation on the Infoprint AIX server, *standard* and *basic*. Once you have decided to use Infoprint Manager, the next decision you must make is whether to use the standard server environment or the basic server option. The following topics describe how each server runs and should give you an idea of which installation you need.

Note: If you read over the following information and are unsure about which server configuration is best for you, consult with your IBM representative to ensure that you create the environment that meets your needs.

Standard server environment

When you install the Infoprint Manager Server, a standard printing environment is created. This environment is generally appropriate for data center printing or distributed printing of many different types of data (including ASCII, ditroff, GIF, JPEG, PCL, PDF, PostScript, and TIFF data). Print jobs in the standard environment often consist of billing statements, payroll statements, and application forms. Users submit these jobs from a command line, a workstation application (such as a word processor), or an Infoprint client (such as Infoprint Select).

In a standard printing environment, Infoprint Manager assigns jobs to printers through late binding. Late binding is much like going to a crowded restaurant and being put on a waiting list for the next available table: you are not “bound” to a particular table until one becomes available. You may have special requirements, such as a non-smoking table with six places (much like a job that requires document finishing capabilities or a particular paper size), but the hostess (much like the scheduler on the Infoprint server) handles these qualifications for you.

When you install the Infoprint Manager GUIs, use the standard or recommended versions of the Infoprint Manager Administration GUI and Infoprint Manager Operations GUI to communicate with your Infoprint Manager Server unless you have installed the Print-on-Demand Feature. If you have installed the Print-on-Demand Feature, refer to “Basic server option”.

Basic server option

When you install the Print-on-Demand Feature, the standard server environment is replaced by or extended with the basic printing environment. The basic printing environment is generally appropriate for commercial print shops printing large runs of image data (usually in PostScript or TIFF format). These jobs often include variable data for direct mail programs. Users submit these jobs from a client (Windows or Macintosh) personal computer using Infoprint Submit or a scanning tool and related software.

In a basic printing environment, Infoprint Manager assigns jobs to printers through early binding. Early binding is much like standing in a checkout line at a supermarket. Once you pick the line, you “bind” yourself to it, no matter what happens. Whether the cashier has a problem with the cash register (much like a paper jam occurring in the physical printer) or a customer in front of you requires a few price checks (much like adding new forms to the server), the only way to change your position is to physically move to another line (much like manually moving a job from one print queue to another).

Notes:

1. The basic server option is available as a separately priced feature of Infoprint Manager for AIX called the Print-On-Demand feature, LK2T-9349-00. When you install the Print-on-Demand feature, the basic version of the Infoprint Manager Administration GUI and Infoprint Manager Operations GUI are installed. The basic server option and the basic Infoprint Manager GUIs are subsets of the standard Infoprint Manager Server and Infoprint Manager GUIs.
2. Infoprint Scan is available as PRPQ 5799-GTG.

Infoprint Manager Interfaces

The main Infoprint Manager interfaces are the Infoprint Manager Administration GUI and the Infoprint Manager Operations GUI, collectively known as the Infoprint Manager GUIs. To administer your Infoprint Manager environment, you will primarily use the Infoprint Manager Administration GUI. You can use this Java™-based interface to create, delete, or modify most Infoprint objects. Printer creation wizards make it easy for you to create Infoprint actual destinations.

To oversee the day-to-day operation of your Infoprint Manager environment, you will use the Infoprint Manager Operations GUI. This interface includes a subset of the functionality available in the Infoprint Manager Administration GUI. In the Infoprint Manager Operations GUI, you can release jobs for printing and disable actual destinations. You cannot, however, modify the fundamental configuration of the Infoprint Manager environment; you cannot delete or add logical destinations, for example.

Both of the Infoprint Manager GUIs are installed on the AIX system that the Infoprint Manager server is installed on. In addition, they can both be installed on remote systems. As a result, administrators and operators can manage the Infoprint Manager system without going to the AIX system that Infoprint Manager is installed on.

The third interface that you will use with Infoprint Manager is called the Infoprint SMIT administrator's interface. You use the Infoprint SMIT administrator's interface to:

- Start and stop Infoprint servers
- Access migration tools
- Perform troubleshooting procedures
- Access the Infoprint SMIT operator's GUI (see "Using the SMIT Operator's GUI" in *Infoprint Manager for AIX: Getting Started*)
- Perform miscellaneous configuration tasks
- Manage security functions
- Use the Infoprint utilities

Comparing Infoprint Manager on different platforms

If you are trying to choose a platform (AIX or Windows NT/Windows 2000) on which to run your Infoprint Manager server, be advised that while Infoprint Manager for AIX and Infoprint Manager for Windows support many of the same features and functions, each product has unique features not available in the other.

Understanding common features

The following Infoprint Manager features are available on both platforms:

- Fully functional non-DCE (Distributed Computing Environment) version of the Infoprint Manager server

- Interoperability with other non-DCE Infoprint Manager servers (AIX or Windows NT/Windows 2000)
- BSD and PSF device support systems
- Support for the following input document formats:
 - AFP
 - ASCII
 - DBCS ASCII
 - GIF
 - JPEG
 - Line data (EBCDIC)
 - PCL
 - PDF Version 1.4
 - PostScript (level 2 or 3)
 - TIFF
 - SAP ABAP and OTF
- Adobe PostScript transform
- PCL transform
- Full event notification
- Infoprint Manager Notifications to enable client systems to receive messages from Infoprint Manager Server systems
- The Infoprint Manager Administration GUI for performing most administrative tasks
- The Infoprint Manager Operations GUI for performing operator tasks
- Infoprint Select client for job submission
- A powerful command-line interface to all Infoprint Manager features
- Simple Network Management Protocol (SNMP) support
- PSF Direct for job submission from mainframe (AS/400, MVS™, VM, VSE, OS/390®) host systems
- MVS Download for job submission from OS/390 and MVS host systems
- IBM Page Printer Formatting Aid (PPFA)
- The **pdaccount** command, which you can use to generate comma-delimited reports of print server data to be fed into spreadsheets
- Configurable transform support (through transform objects)

Understanding Infoprint Manager for AIX features

The following features are currently only available in IBM Infoprint Manager for AIX:

- A DCE version of the Infoprint Manager server for improved security and scalability
- Separate features for print-on-demand customers include the following:
 - A simplified “basic” version of the Infoprint Manager server that defaults to one-to-one mapping of logical and actual destinations.
 - Variable data support
 - Impositioning support
 - Infoprint Submit client support
- Support for the following input document formats:
 - DITROFF

- PPML
- Infoprint E-Mail output support
- Infoprint Fax input and output support
- Infoprint SAP Print Feature, which includes the **sap2afp** transform and callback support and sapconnect support
- Support for printers that use standard AIX printer backend programs (**piobe** and some versions of **rembak**)
- Impositioning support
- InfoColor 70 support
- Infoprint Color 100 support
- Infoprint Color 130 Plus support
- AFP Upload:
 - Upload-SNA
 - Upload-TCP/IP
- SMIT interface for performing tasks not supported by the Infoprint Manager Administration GUI, including PPO and security administration
- Tape input

If you require the features currently only available on IBM Infoprint Manager for AIX, but prefer the Windows NT/Windows 2000 platform, consider a mixed environment of AIX systems and Windows NT/Windows 2000 systems. In many cases, a mixed environment provides you with immediate access to all Infoprint Manager features.

Understanding Infoprint Manager for Windows features

This release of IBM Infoprint Manager for Windows includes the following features that are unique to the Windows platform:

- The Infoprint Manager Management Console interface for performing administrative tasks not supported by the Infoprint Manager Administration GUI
- Interaction between Infoprint Manager and the Windows® print spool to expand Infoprint capabilities
- Distributed Print Facility (DPF) for host printing
- Infoprint SAP Print Feature, which includes the **sap2afp** transform
- Support for the Internet Print Protocol (IPP) to allow Infoprint Manager to access a printer using a Uniform Resource Indicator (URI) string
- The IPP Gateway to allow you to print from an IPP client system to printers that are not IPP-enabled
- The Windows gateway printer to allow job submission to Infoprint Manager without using an Infoprint Manager client. (The destinations appear as shared printers on the Windows network.)
- Customization of MVS Download without programming
- Graphical administration of the Non-DCE Group and Access Control List (ACL) with the Infoprint Manager Management Console

Supported Printers

Infoprint Manager for AIX supports a wide range of printers from other vendors, and of course, IBM.

PCL printers

Infoprint Manager for AIX supports all compatible printers capable of interpreting the Hewlett-Packard Printer Control Languages (PCL4, PCL5, PCL5c, PCL5e, PCLXL, and PCL6). Infoprint Manager is capable of converting all kinds of datastreams to PCL4, PCL5, PCL5c, or passing through any version of PCL to your PCL printer.

PostScript printers

Infoprint Manager for AIX supports printing to PostScript printers by passing your PostScript directly to your PostScript printer.

PPDS Printers

In addition, Infoprint Manager is capable of driving any printer that accepts the IBM Personal Printer Data Stream (PPDS). Infoprint Manager is capable of converting all kinds of datastreams to PPDS, or passing through any version of PPDS to your PPDS printer.

Note: Infoprint Manager only supports non-impact PPDS printers as PSF Other-driver and PSF Command devices.

IBM Printers

The following provides information about supported IBM printers:

- IBM Infoprint 20 Printer
- IBM Infoprint 32 Printer
- IBM Infoprint 40 Printer
- IBM Infoprint 60 Printer. Infoprint Manager for AIX also supports the Finisher Feature (4640 or 4641) of the Infoprint 60. The Finisher is a multifunctional, intelligent output device with the following enhanced finishing options:
 - Stapled set with multiple stapling positions
 - Saddle stitched sets
 - Page inserting
 - Z-folded sheets
- IBM Infoprint 62 Printer
- IBM Infocolor 70 Color Printer with Infoprint Manager Enablement RPQ 8B4443, and optionally, Offline RIP RPQ 8B4444
- IBM Infoprint 1116 Printer
- IBM Infoprint 1120, 1125, 1130, 1140, and 1145 Printers
- IBM Infoprint Color 1220 and 1228 Printers
- IBM Infoprint 2000 Printer SCS and AFP Models
- IBM Infoprint 2085 and 2105 Printers
- IBM Infoprint 3000 Advanced Function Printers with Feature 4140
- IBM Infoprint 3112 and 3116 Advanced Function Printers with Feature 4140
- IBM 3130 Advanced Function Printer with Feature 4120
- IBM 3160 Advanced Function Printer with Feature 4120, 4161, 4162, or 4163
- IBM 3816 Page Printer Models 01D and 01S with Feature 7653 or 7654
- IBM 3825 Page Printer
- IBM 3827 Page Printer
- IBM 3828 Advanced Function MICR Printer
- IBM 3829 Advanced Function Printer

- IBM 3831 Page Printer Model 001 in 3835 compatibility mode (available only in Japan)
- IBM 3835 Page Printer Model 002 in 3835 (including support for the 3835 MICR Printing Interface RPQ and for the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers)
- IBM 3900 Advanced Function Printer Models 001, D01, D02, 0W1, 0W3, DW1, and DW2 (including support for the MICR Post-Processing Interface Feature, the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers, and the Interface Feature 4720)
- IBM Infoprint 3900 Model DR1/DR2 Printer
- IBM 3912 Page Printer Models AS0, AS1, NS0, and NS1
- IBM 3916 Page Printer Models AS1 and NS1
- IBM 3930 Page Printer Models 02D and 02S with Feature 9217 or 9476
- IBM 3930 Page Printer Models 03D and 03S
- IBM 3935 Advanced Function Printer with Feature 4020, 4121, 4161, 4162, or 4163
- IBM Infoprint 4000 Model ID1/ID2 Printer
- IBM Infoprint 4000 Model ID3/ID4 Printer
- IBM Infoprint 4000 Model IR1/IR2 Printer
- IBM Infoprint 4000 Model IR3/IR4 Printer
- IBM Infoprint 4000 Model IS1 and IS2 Printers
- IBM Infoprint 4005 HC2 Hi-Lite Color PrinterPrinter
- IBM LaserPrinter 4019, all models
- IBM LaserPrinter 4028 Models AS1 and NS1 (including support for the 4028 with MICR, RPQ S02177)
- IBM 4100 Printer
- IBM 4312 Network Printer 12. OS Code Release Level 2.23 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- IBM 4317 Network Printer 17. OS Code Release Level 2.23 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- IBM 4324 Network Printer 24. OS Code Release Level 2.35 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- IBM 4400 Thermal Printer
- IBM 6400 Printer with IPDS coax feature V3R1 or higher
- IBM 6408 Model CTA Printer with IPDS coax feature V3R1 or higher
- IBM 6412 Model CTA Printer with IPDS coax feature V3R1 or higher

Supported data streams

Infoprint Manager for AIX is capable of converting the following datastreams to IPDS, PCL4, PCL5, PCL5c, or PPDS:

- Advanced Function Printing™ (AFP)
- ASCII
- DBCS ASCII
- CompuServe Graphics Interchange format (GIF)
- EBCDIC

- Joint Photographic Experts Group image (JPEG)
- PCL (PCL 6 and below)
- PDF (1.4 and below)
- PostScript (level 3 and below)
- Personal Printer Data Stream (PPDS)
- SAP ABAP and OTF (with purchase of the Infoprint Manager: SAP Print Feature)
- S/370 line data, also known as line data
- Tagged Image File Format (TIFF)
- Personalized Print Markup Language (PPML)

In addition, Infoprint Manager will pass through any datastream including PostScript, PCL5e, PCL6, and PCLXL.

To provide optimal system performance, the Infoprint Manager server can transform input data and drive printers concurrently. Infoprint Manager can support multiple document formats on the same printer.

Chapter 2. Planning for configuration

Destination configuration models show the relationships among logical destinations, job- and document-attribute defaults, queues, and actual destinations. Your standard Infoprint destination configuration, the one created during installation, has a one-to-one relationship between a logical destination and an actual destination, and provides minimal job- and document-attribute default setting. As you customize your Infoprint environment to support your printing needs, you may want to consider a more complex destination configuration model.

| For any of the configuration models, while the logical destination and the queue to
| which it sends jobs must reside in the same Infoprint server, the actual destination
| can be running in a different Infoprint server running on a different AIX or
| windows system. However, to submit jobs directly to the actual destination, the
| actual destination must reside in the same server as the logical destination and
| queue.

Default model

The default model has a one-to-many relationship between a logical destination and two or more actual destinations. It also allows you to submit jobs directly to properly configured actual destinations. (In this way, the default model is similar to the “Desktop destination configuration model” on page 16, but it requires you to create and manage fewer objects.) To support direct submission to actual destinations, the default model requires the actual destination to be associated with a logical destination. A job submitted to an actual destination is rerouted to the associated logical destination. At the logical destination, the job derives its job and document defaults. The job is then routed through the associated queue and back to the actual destination.

Infoprint Manager uses this destination configuration model by default. (A single queue and a single logical destination are created automatically when you install Infoprint Manager.) You must configure the actual destinations to enable direct submission.

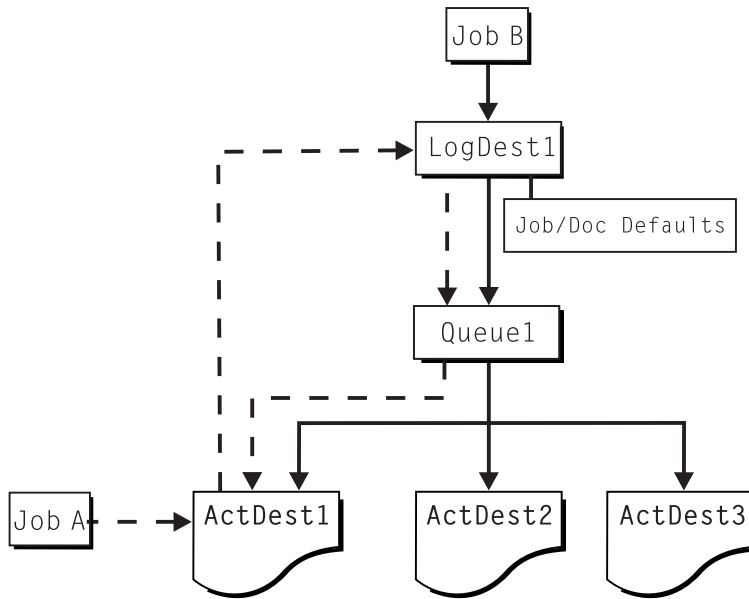


Figure 2. Default Destination Configuration Model. Job A (submitted to an actual destination) prints on that actual destination. Job B (submitted to the logical destination) prints on the first actual destination that can support it.

This is a very flexible model that allows you to enjoy the benefits of printer pooling, while retaining complete control over where certain jobs print.

Desktop destination configuration model

The desktop destination configuration model, as shown in Figure 3, has a one-to-one relationship between a logical destination and an actual destination. The desktop model represents the way you typically manage and use a workstation printer. This model should be familiar to you if you have an existing printing system to which you are adding Infoprint. The capabilities of the actual destination directly control the types of jobs that your users can print, fax, or transmit by electronic mail with this destination configuration.

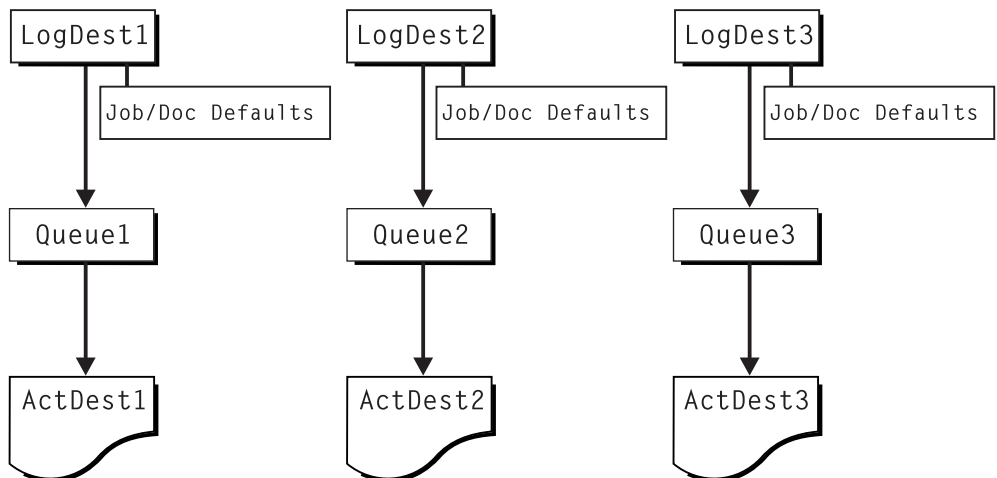


Figure 3. Desktop Destination Configuration Model

Pool destination configuration model

| Like the default destination configuration model, the pool destination configuration
| model has a one-to-many relationship between a logical destination and two or
| more actual destinations.

The pool destination configuration model, as shown in Figure 4, has a one-to-many relationship between a logical destination and two or more actual destinations.

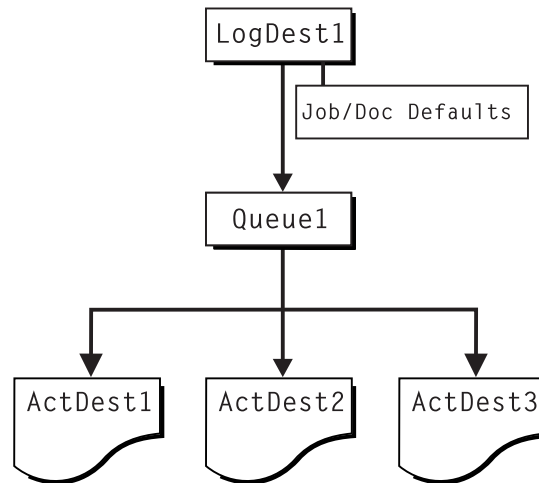


Figure 4. Pool Destination Configuration Model

This model is very effective when you have output devices that you want to group together based on things such as location, capability, speed, and capacity. You may also want to group them based on who uses them or who manages the output they generate. For example, all jobs sent to a specific group of printers come from the department that generates monthly statements for your customers. The jobs use the same set of job- and document-attribute defaults, including the form on which they print and the overlay they require. The printer operators responsible for the printers direct all of the output to a mail room for distribution. The pool model is also very beneficial in workload balancing.

| **Note:** You can submit a job directly to an actual destination with the Pool
| destination configuration model, but you won't achieve a pooling effect; the
| job will only be scheduled to the actual destination you submitted it to.

Funnel destination configuration model

The funnel destination configuration model has a many-to-one relationship between two or more logical destinations and one actual destination. Figure 5 on page 18 shows the funnel configuration.

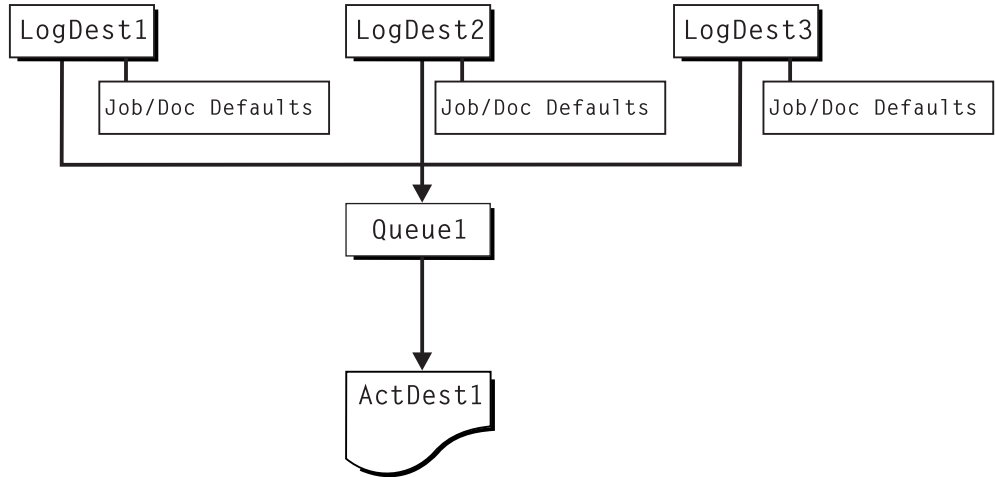


Figure 5. Funnel Destination Configuration Model

This is a flexible configuration model that provides you with the ability to more closely control setting job and document defaults for jobs. For example, you may configure one logical destination to provide job and document defaults for PostScript jobs and another logical destination to support jobs using AFP resources.

Hourglass destination configuration model

The hourglass destination configuration model, shown in Figure 6, has a many-to-many relationship between logical destinations and actual destinations. The hourglass model provides both the workload balancing benefit of the pool model and the flexible job- and document-defaulting benefits provided by the funnel model. The hourglass model is the most flexible of the destination configuration models.

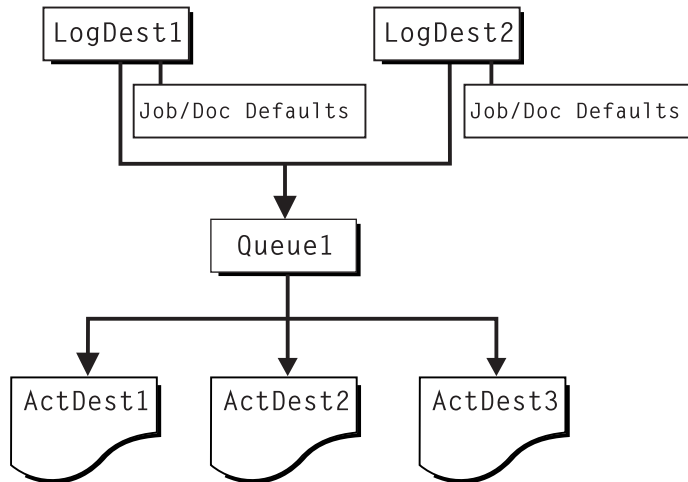


Figure 6. Hourglass Destination Configuration Model

Recommended distributed configuration model

To manage your print environment efficiently in a distributed environment (as shown in Figure 7), we recommend organizing your destinations using the hourglass configuration model and using multiple queues and default jobs to control the work flow through your Infoprint Manager AIX servers. Define queues based upon operators, rather than based upon the number of devices defined in your installation. Whether your installation has one operator for every ten printers at your site, or an operator managing all the printers on a particular floor, grouping printers by queue makes management of all printers and print jobs much easier because one person can monitor a single queue.

Having one person monitor a single queue is highly efficient. An operator can use the **Infoprint Manager Administration GUI** to view a particular queue. Because Infoprint Manager uses queue authorization to manage the security settings on print jobs, an operator has a much easier job overseeing this support without having to switch from one queue to another. You can create default jobs and associate them with different logical destinations to ensure that the queue schedules these jobs on the correct actual destinations. For example, the initial-value-job associated with LogDest1 can default **actual-destination-requested** to ActDest1, so that jobs submitted to LogDest1 are scheduled to ActDest1. Since **actual-destination-requested** is a multiple-valued attribute, you can also specify more than one actual destination on the initial value job's **actual-destination-requested** attribute and let other job and document attributes (such as **document-format**) determine which actual destination is selected.

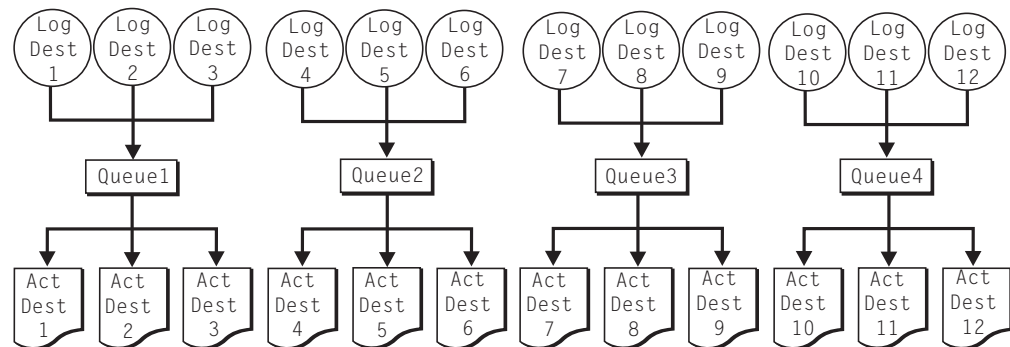


Figure 7. Distributed Configuration Model. With this model, you can have different actual destinations associated with different logical destinations through the job and document defaults you specify.

Chapter 3. Planning to print with host systems

Infoprint Manager provides several options for printing to or from host systems, depending on how much functionality you need and where you want to control printing from (the host system or Infoprint Manager). All of the options allow you to share printers between host and LAN applications, though some require more configuration than others. Available host printing options include:

- **PSF Direct**

If you use PSF on z/OS¹, MVS, VM, VSE, or OS/400, and you want to manage and control printing from the host console, you can use PSF Direct.

- **MVS Download**

If you use the MVS Download feature of PSF on z/OS or MVS, you can use MVS Download to spool jobs to a remote Infoprint Manager Server so that the remote print operator can control printing.

Note: MVS Download is available as Download for OS/390, but within Infoprint Manager, this function is called MVS Download.

- **IP Printway**

If you use the IP Printway feature of PSF on z/OS or MVS, you can use IP Printway to spool jobs to a remote Infoprint Manager Server so that the remote print operator can control printing.

- **LPR**

Remote systems that support LPR (RFC 11179) can also submit output to Infoprint Manager for AIX through its LPD gateway using the TCP/IP protocol. The AIX line printer daemon (**LPD**) works with the Infoprint LPD Gateway to route incoming jobs from remote clients to Infoprint destinations. Some LPR clients, such as the AIX LPR or the **lprafp** utility supplied with Infoprint Manager for AIX, can pass print parameters to Infoprint Manager (using the **-o** flag). However, not all LPR clients support optional parameters.

- **AFP Upload**

AFP Upload allows Infoprint users to print AFP data from AIX and Windows platforms on their existing MVS Host system printers.

PSF Direct and MVS Download are the most powerful host print options. If you use an IBM PSF on your host system, use this information in this chapter to help you decide which of the two is best for you.

Once you have decided which method you want to use, refer to the *Infoprint Manager for AIX: Getting Started*.

1. You can print to Infoprint Manager from both z/OS and OS/390.

Comparing PSF Direct and MVS Download

The following table outlines some of the key differences among the two main host printing options that Infoprint Manager provides. Use this information to determine which option best meets the needs of your print installation.

Table 1. Comparing PSF Direct and MVS Download

PSF Direct	MVS Download
Infoprint Manager for AIX acts as an intermediary passthrough point for Intelligent Printer Data Stream (IPDS) input, or converting from IPDS™ to the PCL or PPDS data stream.	Infoprint Manager for AIX acts as a full print spool system. OS/390 provides the mechanism for transferring jobs from the JES spool to the Infoprint Manager spool.
Use this feature with PSF for OS/390, PSF/MVS, PSF/VM, PSF/VSE, and PSF/400.	Use this feature with PSF for OS/390 or PSF/MVS only.
Communicates through SNA from the PSF host to AIX.	Communicates through TCP/IP from the PSF host to AIX.
Resource management is performed at the PSF host.	Resource management is performed at Infoprint Manager: all print resources must either reside on the Infoprint Manager server where the job prints or be transmitted inline in an Advanced Function Presentation (AFP) job. Refer to “Managing resources with MVS Download” on page 23 for additional information.
Both the printer and the print spool are managed on the host PSF system.	The host print spool is managed on the host PSF system; the Infoprint Manager spool and printer are managed from Infoprint Manager. The job is managed on the host until it is downloaded, then from Infoprint Manager.
Supports all printers supported by the host PSF, as well as PCL and PPDS devices that are not supported on the host.	Supports all printers supported by Infoprint Manager for AIX.
Requires no additional disk space on Infoprint Manager system.	Requires additional Infoprint Manager disk space to spool jobs.
Prints job as it is received by Infoprint Manager (if the printer is not busy).	Prints job only after the entire job has been received by Infoprint Manager and scheduled to print by the Infoprint Manager spool.
Uses host (for example SMF/6) accounting records.	Uses Infoprint Manager accounting information.
Provides printer sharing through host systems, the PSF Direct feature, the host printer support, and Infoprint Manager (as long as only one PSF Direct Host Receiver attempts access at a time).	Provides printer sharing and printer support through Infoprint Manager.
Supports printing of multi-data set jobs as a single print job.	Supports printing of multi-data set jobs as single or multiple print jobs.
Does not support spooling of jobs on Infoprint Manager for printing later.	Supports the downloading of AFP or line data from the JES spool to Infoprint Manager for printing later.

Table 1. Comparing PSF Direct and MVS Download (continued)

PSF Direct	MVS Download
Jobs are not retained by Infoprint Manager; they must be resubmitted for printing from the host PSF.	Jobs may be retained on Infoprint Manager where they can be resubmitted for printing later.

Print shop scenarios

To see how Infoprint Manager can best manage your particular print environment, consider the following sample scenarios.

A black box shop

A data center located on the East coast of the United States provides billing statements to five regional offices around the country, submitting output to a set group of printers. Because these users want to keep all resource management on their MVS systems, they can use the PSF Direct feature in Infoprint Manager for AIX as a black box solution. They never have to move resources, and they can send jobs to their remote offices to print immediately. All print job and resource management takes place at the central host.

Printing from the LAN and the host

This print shop wants to spend the day shift printing staff reports from the local LAN. On the night shift, it wants to use the same IBM Infoprint 4000 printer to print billing statements from the pSeries server. By creating the destination through the Infoprint Manager Administration GUI, the print administrator can ensure that the same destination can print jobs from both the LAN and the host.

This print administrator also has the option of interleaving jobs from the pSeries server and the LAN, using timers to detach the PSF Direct and printing from the LAN during idle moments.

Distributed print shop using remote spooling

A data center prints a monthly series of in-house reports. The jobs that generate the output are run during the evening off-shift (so they do not interrupt other work during the day), then held on the system. The shop saves bandwidth costs by sending the print files once, then printing them at rated speed as many times as needed. Although this data center only has a 56 KB link, MVS Download prevents performance problems caused by inefficient line speed. MVS Download waits for the entire job to be spooled before starting to print it on a high-speed continuous forms printer. Because this shop wants to integrate all their print servers while retaining the ability to send jobs once and print them many times, the MVS Download feature of Infoprint Manager best meets their needs by allowing them to control all jobs locally.

Managing resources with MVS Download

When you use the MVS Download function, all print resources must reside on the AIX system where the Infoprint Manager server resides. You can manage these resources in one of the following ways:

- Download these resources to Infoprint Manager through a standard file transfer protocol (FTP). This method works best when resources do not change often. You can also move resources from the host to Infoprint Manager for AIX using tape, but you must have a compatible tape drive on your pSeries server.

- Use the Network File System (NFS) **mount** command to make OS/390 or MVS systems containing resources accessible to the AIX server on which Infoprint Manager is running. Because this solution can cause a great deal of network traffic, you should be careful when choosing this solution if your resources change frequently.
- Use MVS Download to submit a resource instead of a print job and send it to all print resource libraries defined on your Infoprint Manager server. This method requires you to customize your MVS Download exits and configuration.

Managing Resources with AFP Upload

If a data center has migrated its applications to AIX platforms, but still has its printers attached to the MVS host, they can use AFP Upload. By using AFP Upload, Infoprint Manager for AIX acts as a passthrough point for sending AFP files (or files it can convert to AFP) to the MVS server, which places them on the JES spool. AFP Upload communicates through either TCP/IP or SNA LU 6.2 protocols from the PSF host program to the AIX system. By submitting jobs to the MVS host, a data center performs resource management at the PSF host, so they can use SMF accounting records and take advantage of their operators familiarity with host systems. Resource names and other parameters can be passed as attributes from the AIX client to the MVS system.

Chapter 4. Using AFP resources

After creating the text for your document, you will probably want to format it to make it more readable and interesting. You may want to use images—such as charts, graphs, logos, boxes, and lines—to illustrate or to separate various sections. You may wish to use fonts to emphasize different areas of text. You might like to draw from a catalog of predefined graphic and text elements created for your enterprise. You might like to combine text and graphic elements into segments (such as footers, headers, or side bars) that you can position as single units on the page. To ensure consistency, you may also wish to specify common elements and layout for documents of the same type.

Advanced Function Presentation (AFP) resources provide powerful tools for controlling the appearance of your documents. Infoprint Manager includes a number of AFP resources. The different types of AFP resources follow:

Data object resources

Data object resources are a type of AFP resource; they can be an EPS, PDF, or IOCA file. In addition, if you use the transforms that come with Infoprint Manager to convert TIF, GIF, and JPEG images into AFP first, those types of files can be used as data object resources as well. In Infoprint Manager, data object resources are grouped with BCOCA and GOCA objects, and they are collectively known as presentation object containers.

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, duplexed printing, text suppression, data position, and the number and modifications of pages.

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 you can include at any addressable point on a page or an electronic overlay.

Overlays

Overlays are collections of predefined data—such as lines, shading, text boxes, or logos—that can merge with variable data on a page or a form during printing or transmission.

Fonts A font is a single size and typeface in a particular type family, including letters, numerals, punctuation marks, special characters, and ligatures.

You may also purchase additional resources or even create your own custom resources. To create page definitions and form definitions, you can purchase the Page Printer Formatting Aid (PPFA) for AIX, which is an optional feature of Infoprint Manager for AIX (see Table 3 on page 46).

Infoprint Manager provides several methods for accessing AFP resources. If the only AFP resources available are those that shipped with Infoprint Manager, they

are accessed automatically when a job needs them. If, however, you are using other AFP resources, you must specify the location of these resources. There are also ways to specify resource locations through job submission parameters and environment variables. Finally, each document within a job can specify the path to each of the AFP resource types it requires. You may elect to handle these specifications with a document default associated with a logical destination.

Important: Do not store custom AFP resources in the same directory with the AFP resources included with Infoprint Manager. If you ever need to reinstall or update Infoprint Manager, your custom resource files could be corrupted or deleted.

You can use resource-context objects to access your AFP resources. Resource-context objects identify the locations of different types of AFP resources that jobs sent to PSF actual destinations can reference. Resource-context objects let you encapsulate the directory path name in one place. You then specify the resource-context object name rather than a directory name when specifying where to find resources. Later, if the location of a resource changes, you only need to modify the path name specified in the corresponding resource-context object.

You must use the **pdcreate** command (at an AIX command prompt) to create a resource-context object. You then reference this object when you create or modify a PSF actual destination in the Infoprint Manager Administration GUI. Jobs can also reference resource-context objects through their contained documents. Both the actual destination and the resource-context objects that are referenced must reside in the same Infoprint Manager server.

Chapter 5. Planning to share printers

In many environments, sharing printers allows you to get the most benefit from your printers. One of the primary benefits of using Infoprint Manager is the ability to have various host and client systems share printing resources at a variety of levels. The level of sharing used depends on the requirements of the environment.

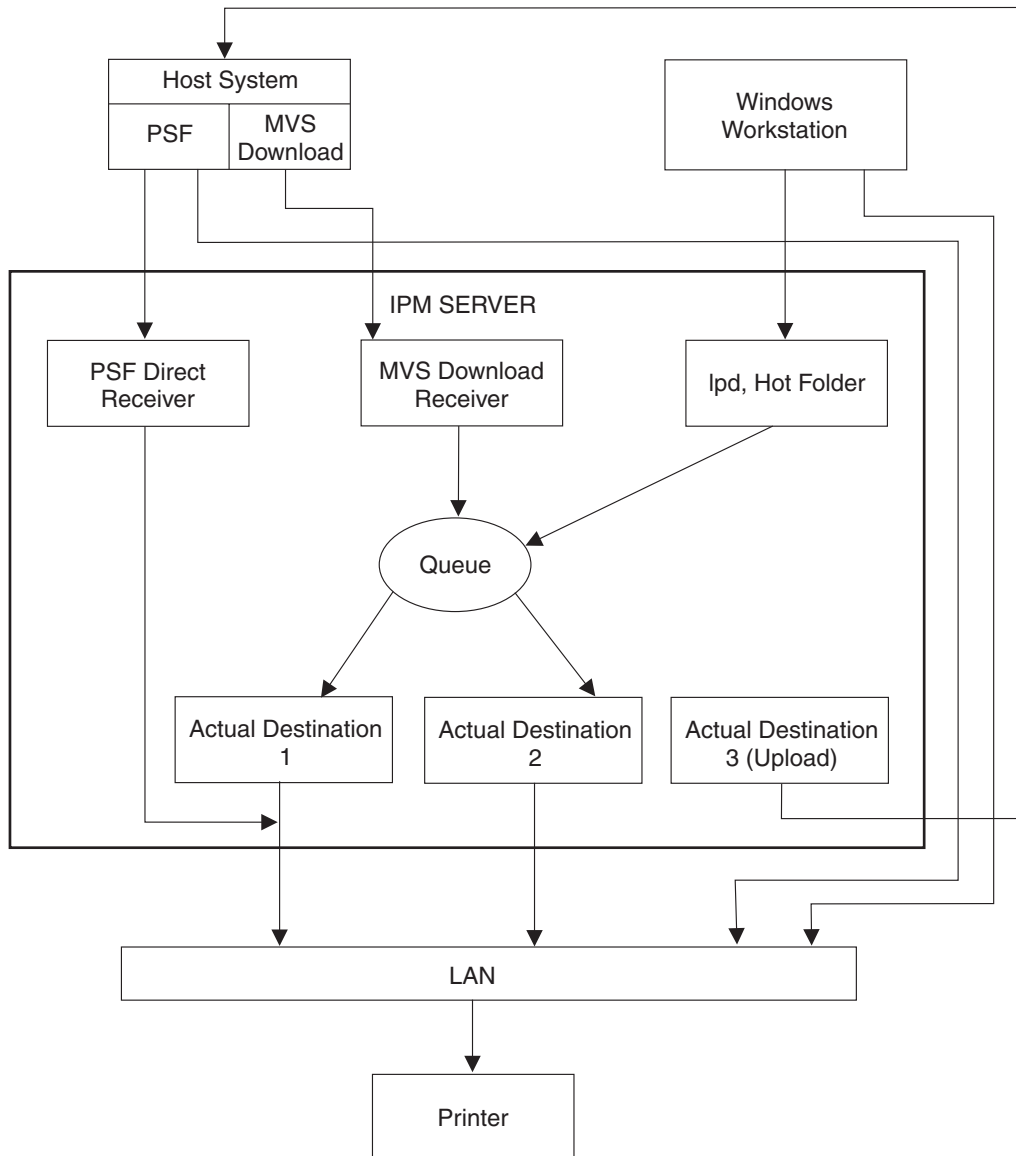


Figure 8. Sharing printers

Methods for sharing printers

You can share printers by having the print drivers share the communication link with the printer or by having various clients submit jobs to the same print queue. Print drivers communicate directly to printers. Print drivers include host PSF printers, Infoprint Manager actual destinations, and PSF Direct destinations.

Sharing the communication link with IPDS printers

Since only one print driver can have an open communication link with an IPDS printer at a time, management of multiple print drivers is necessary. This can be done in one of two ways:

- Manually start and stop the Infoprint Manager actual destinations and Host PSF printers to control the print driver operating the printer
- Configure the print drivers to wait for the printer to become available and to release the communication link when the print drivers have nothing to print.

The **connection** timer identifies how long to wait for the printer to become available. The **release** or **inactivity** timer identifies how long the print driver should maintain the communication link when it has no work to do. When a print driver is actively feeding jobs to the printer, the print driver continues to do so as long as the interval between job submissions is not longer than the specified release or inactivity time. The print driver controls the printer until the flow of jobs sufficiently slows. The release or inactivity time values ensure that the destination is shared equally between the printer drivers, which is important. For detailed information on setting these values in Infoprint Manager, see “Sharing actual destinations with a host” in *Infoprint Manager for AIX: Procedures*.

You must configure the print drivers when one or more of the following are configured to drive the same printer:

- Infoprint Manager actual destinations
- PSF Direct Receivers
- Host PSF printers

When you configure the print drivers, the following apply:

- There is no single point of control and auditing for all jobs printer. Multiple interfaces must be used to determine all pending jobs for a printer.
- There is no automated job prioritization between jobs from different print drivers. Manual actions are required to force an active print driver to release the printer to allow another waiting print driver to use it.
- Aside from the printer and network, there is not a single point of failure.

Sharing the communication link with PostScript, PCL, or PPDS printers

When Infoprint Manager sends PostScript, PCL, or PPDS to a printer, no configuration is necessary to allow print sharing between:

- Infoprint Manager actual destinations
- PSF Direct Receivers
- Windows workstations
- Lpr clients submitting directly to the printer

Most printers will automatically print jobs in the order that the jobs are received. Some configuration options may be available on some printers.

Submitting jobs to the same print queue

When you submit jobs to the same print queue, only one print driver communicates with the printer. The print driver may either be an Infoprint

Manager actual destination or a PSF for OS/390 defined printer. All jobs are managed on either one Infoprint Manager queue or one PSF for OS/390 defined printer.

Using an Infoprint Manager actual destination

You can use the following ways to submit jobs to one Infoprint Manager queue:

- MVS Download Receivers when jobs are received from Host MVS Download drivers
- **lpd** when jobs are received from **lpr** clients on any platform
- Hot Folder when jobs are received from a mapped network directory.
- Infoprint Manager Select or Submit Client when jobs are received directly from the Windows client

When you submit print jobs to the same queue, the following apply:

- There is a single point of control and auditing for all jobs printed. A single Infoprint Manager interface can be used to determine all pending jobs for the printer.
- There is automated job prioritization between jobs. Several methods of prioritization are available.
- There is a single point of failure.

Using a PSF for OS/390 defined printer

Infoprint Manager for AIX provides the ability to upload jobs to the JES spool through a TCP/IP or SNA communications link. Jobs may be submitted to Infoprint Manager using any of the methods described in “Using an Infoprint Manager actual destination”. When the jobs are directed to a PSF Upload actual destination, the jobs are placed on the JES spool with existing host print jobs. Final control of the print jobs is performed on the OS/390 system. The Infoprint Manager system is used to control jobs that it sends to the OS/390 system.

When you upload jobs to the JES spool, the following apply:

- There is a single point of control and auditing for all jobs printed. An OS/390 interface can be used to determine all pending jobs for the printer.
- There is automated job prioritization between jobs.
- There is a single point of failure.

Sharing printers between host and LAN applications

To get the most out of your printers, you may wish to share them among your host and LAN applications.

Printing from existing host applications

There are several ways you can submit jobs from host applications to Infoprint Manager:

- Host PSF sends jobs to a PSF Direct Receiver.
- MVS Download sends jobs to an MVS Download Receiver.
- **lpr** client sends jobs to the **lpd** on the Infoprint Manager server.

Note: As described in “Methods for sharing printers” on page 27, the method used affects how the printer is shared.

For more information, see Chapter 3, “Planning to print with host systems” on page 21.

Printing from existing LAN applications

It is extremely important in many networked environments to allow existing applications to submit print jobs. PC users expect to be able to select **Print** from the **File** menu when they want to produce printed output. There are three ways that users can use to submit print jobs to Infoprint Manager for AIX destinations from their workstations. Choose the one that best suits your environment.

- Install Infoprint Select on all client workstations
- Install Infoprint Submit on Windows or Macintosh workstations
- Create an Infoprint hot folder that automatically submits files that are stored in it to an Infoprint Manager destination.

Using Infoprint Select

To use Infoprint Select (available for Windows 98, Millennium, Windows NT, Windows 2000, and Windows XP) to enable job submission from applications, you must install and configure Infoprint Select on the workstation. During this configuration, you must make a destination controlled by Infoprint Manager known to the client system. On Windows clients, you use the Windows **Add Printer Wizard** to add a local printer, load the appropriate driver, and assign a unique port to each Infoprint Manager destination. The Infoprint Select client is available on the Infoprint Manager Common Client CD-ROM. Installation instructions are included in the Infoprint Select readme file and in the *IBM Infoprint Manager for AIX: Getting Started*.

With Infoprint Select in place, the user receives relevant event notifications generated by Infoprint Manager. Typically, this notification simply informs the user that a job has completed successfully. If, however, an error occurs in the processing of a job, the event notifications include information to help you diagnose the problem. With Infoprint Select, the user is also provided access to the Infoprint Manager command-line interface, including the **pdpr** command. This provides client-application access to all the AFP print attributes that can control such jobs. Finally, the Infoprint Select user may submit jobs to destinations controlled by either Infoprint Manager for Windows or Infoprint Manager for AIX.

Using Infoprint Submit

To use Infoprint Submit (available for Windows NT, Windows 2000, and Mac 10.1 or higher), you must install and configure Infoprint Submit on the workstation. The Infoprint Submit clients and installation instructions are available with the Infoprint Manager for AIX: Print-on-Demand Feature.

With Infoprint Submit in place, commercial print shops can create job tickets, submit print jobs to the Infoprint Manager for AIX server, and track the progress of those jobs. A job ticket contains all the specifications for a job (including layout and finishing options), as well as the files that are associated with that job. The job ticket refers to the customer's job data and pulls them together in a job bundle. Infoprint Submit allows client users to make use of all the data stream transforms (PCL, PostScript, TIFF, GIF, and JPEG) that are available from the Infoprint Manager for AIX server. Finally, the Infoprint Submit user can submit jobs to destinations controlled by Infoprint Manager for AIX.

Using Infoprint Manager hot folders

An Infoprint Manager *hot folder* is a directory that is associated with a logical destination. When you copy or move a file to the hot folder, Infoprint Manager automatically submits the job to that logical destination. The hot folder directory can be created on any system that the Infoprint Manager server and all job submitters can access, including the system that the Infoprint Manager server is

installed on. The directory should then be shared so that all of the users who need to copy files to it can access it. To submit files to the hot folder, users copy their files to that directory from their local systems.

If you set the **notification-profile** attribute in an attributes file, and submit that file along with your print file, you can receive notification messages about the print jobs you submit using hot folders.² Otherwise, this feature does not provide detailed event notification from Infoprint Manager.

2. Additional information about using hot folders, including creating attribute files, is available in the *Infoprint Manager for AIX: Getting Started*.

Chapter 6. Verifying prerequisites

Before installing Infoprint Manager for AIX, you should verify that you have satisfied the hardware and software requirements in this chapter.

Understanding hardware requirements

The following defines the minimum hardware requirements for the Infoprint Manager solution.

AIX hardware requirements for print load light

Minimum configuration:

- 66 MHz Power2 or 133 MHz PowerPC RS6000
- 64 MB of memory
- 2 GB of DASD
- CD-ROM
- 17-inch graphical display

AIX hardware requirements for print load heavy

Minimum configuration:

- IBM 7025 Model F50 RS/6000
- 512 MB of memory
- Four 4.5 GB SCSI disk drives
- CD-ROM SCSI drive
- Four 166 MHz processors
- 1.44 MB 3.5-inch diskette drive (DASD)
- Appropriate printer and LAN attachments
- 4 GB/8 GB 4-mm tape drive
- 21-inch graphical display

AIX hardware requirements for print load high performance

Minimum configuration:

- IBM 7025 Model F50 RS/6000
- 512 MB of memory
- Seven 4.5 GB SCSI disk drives or seven GB SSA disk drives
- CD-ROM SCSI drive
- Four 332 MHz processors
- 1.44 MB 3.5-inch diskette drive
- Appropriate printer and LAN attachments
- 4 GB/8 GB 4-mm tape drive
- 21-inch graphical display

Note: To install this product, your system must have a greater than standard VGA driver.

Client hardware requirements

IBM recommends the following hardware to run the Infoprint Manager Administration GUI or the Infoprint Manager Operations GUI:

- 300 MHz Pentium® processor or higher
- 128 MB RAM or more

- CD-ROM drive
- 3.5-inch diskette drive
- 10 MB available hard disk space or more
- Access to at least one Infoprint Manager server (either on a local system or remotely over a LAN)

The recommended hardware for running the Infoprint Select client software follows:

- 166 MHz Pentium processor or higher
- 32 MB RAM or more
- CD-ROM drive
- 3.5-inch diskette drive
- 10 MB available hard disk space
- Access to at least one Infoprint Manager server (either on a local system or remotely over a LAN)

To communicate with other systems across a LAN (including Infoprint Manager server systems), you must install a suitable token-ring, ethernet, or FDDI adapter card and connect the appropriate cabling. Acceptable network hardware is available from IBM and other vendors.

Printer attachment requirements

RS/6000 requirements

- You need a S/370 Channel Emulator/A adapter for each channel-attached printer. This adapter must be installed in the first bus slot of a workstation with Micro Channel™ Architecture.

Note: The IBM 4161 Infoprint Multiple Printer Controller machines do not have Micro Channel capability and cannot support the S/370 channel attachment.

- You need one or more IBM 4033 LAN Connections for Printers and Plotters Models 1 or 3 or IBM 7318 Serial Communications Network Servers if you are connecting more than one parallel-attached printer or two serial-attached printers to one RS/6000. Each 4033 has one parallel port and one serial port to which you can connect printers. You can connect multiple 4033s to one RS/6000 to accommodate your parallel- and serial-attached printer needs as determined by performance considerations. Each 7318 provides two parallel and sixteen serial ports on the network.
- You need one i-data 7913 IPDS Printer LAN attachment for each coaxial or twinaxial printer.
- 4-mm tape drive, 8-mm tape drive, or a drive for IBM 3420, 3480, 3490, or 3490E tape if tape-to-print capability is desired.

TCP/IP-attached printer requirements

The following printers must be TCP/IP-attached to the RS/6000 using their Ethernet or Token-Ring attachments:

- IBM Infoprint 20 Printer
- IBM Infoprint 32 Printer
- IBM Infoprint 40 Printer
- IBM Infoprint 60 Printer.
- IBM Infocolor 70 Color Printer
- IBM Infoprint 2000 Printer Model NP1

- IBM 3130 Advanced Function Printer with Feature 4120
- IBM 3160 Advanced Function Printer with Feature 4120, 4161, 4162, or 4163
- IBM 3900 Advanced Function Printer Models D02 (with RPQ 8B3940 or 8B3943), 0W1 (including the sixteen-inch version, RPQ 8B3939), 0W3, and DW2 (including support for the MICR Post-Processing Interface Feature, the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers, and the Interface Feature 4720)
- IBM Infoprint 3900 Model DR1/DR2 Printer
- IBM 3935 Advanced Function Printer with Feature 4020, 4121, 4161, 4162, or 4163
- IBM Infoprint 4000 Model IS1 and IS2 Printers

Channel-attached requirements

The following printers must be channel-attached to the RS/6000:

- IBM 3825 Page Printer
- IBM 3827 Page Printer
- IBM 3828 Advanced Function MICR Printer
- IBM 3829 Advanced Function Printer
- IBM 3831 Page Printer Model 001 in 3835 compatibility mode (available only in Japan)
- IBM 3835 Page Printer Model 002 in 3835
- IBM 3900 Advanced Function Printer Model 001

For each of these printers, the following additional hardware is required:

- An S/370 Channel Emulator/A adapter Feature 2759, which includes a 10-foot adapter cable, one bus terminator, and one tag terminator. One printer can be attached to each adapter, and up to four adapters can be installed in the RS/6000, depending on the model. However, performance and backup considerations may limit the actual number of adapters for each RS/6000.
- A Micro Channel Architecture bus slot in the RS/6000 for each S/370 Channel Emulator/A adapter. The Micro Channel adapter can only be installed in bus 0.
- A channel cable, up to 200 feet in length.

Other printer considerations

If the printer supports a choice of channel attachment or TCP/IP attachment, the TCP/IP attachment **must** be used.

If you plan to print compressed images (IOCA) or vector graphics (GOCA), the Advanced Function Image and Graphics (AFIG) Feature 4200 is required for the following printers:

- IBM 3825 Page Printer with RPQ 8B4233
- IBM 3827 Page Printer
- IBM 3835 Page Printer Model 001

AFIG is standard for the following printers:

- IBM 3828 Advanced Function MICR Printer
- IBM 3829 Advanced Function Printer
- IBM 3835 Page Printer Model 002
- IBM 3900 Advanced Function Printer Model 001
- IBM 3900 Advanced Function Printer Models D02, 0W1, 0W3, and DW2
- IBM Infoprint 3900 Model DR1/DR2 Printer
- IBM 3935 Advanced Function Printer with Feature 4020, 4121, or 4161

IOCA and GOCA support is also standard on the following printers:

- IBM Infoprint 3112 and 3116 Advanced Function Printers with Feature 4140
- IBM 3912 Page Printer Models AS0, AS1, NS0, and NS1
- IBM 3916 Page Printer Models AS1 and NS1

- IBM LaserPrinter 4028 Models AS1 and NS1

Although not required, the Decompression Performance Enhancement (DPE) Feature 4202 provides an additional performance enhancement for the IBM 3825, 3827, 3829, 3835 Model 002, and 3900 Model 001 printers for IOCA images that are compressed using IBM Modified Modified Read (MMR) and Telecommunications Standardization Sector (TSS), formerly CCITT, Group 3 and Group 4 compression algorithms. However, the AFIG feature must be installed before the DPE feature can be installed.

Understanding AIX software requirements

To ensure correct operation, Infoprint Manager requires that certain components of the AIX operating system be installed on your RS/6000 system. It is up to you to install the base level of these components from your AIX product CD-ROMs before starting the Infoprint Installer for Version 4.1.0 (see *Infoprint Manager for AIX: Getting Started* for more information on using the Infoprint Installer).

If you want to install the non-DCE version of the Infoprint Manager base, we recommend that you simply run the Infoprint installer. If you are missing any required base AIX filesets for Version 4.1.0, the installer will list them and direct you to install them from your AIX product CD-ROMs.

If you want to install the DCE version of the Infoprint Manager base, there are additional requirements. We strongly recommend that you install all of the DCE filesets required by Infoprint Manager for AIX Version 4.1.0 **before** running the Infoprint Installer.

To make the installation as easy as possible, the Infoprint installer will automatically apply service to your AIX software to meet Infoprint Manager prerequisites. This service is needed to ensure that Infoprint Manager will function properly. Be advised, however, that the installer will not automatically apply service that is hardware-specific.

Infoprint Manager supports running on the Version 5.1 operating system in a 32-bit kernel environment. This support is limited to Infoprint Manager for AIX Version 4.1.0 as a 32-bit application running on the 32-bit kernel of the PowerPC chip.

Notes:

1. Existing Infoprint Manager for AIX customers who want to migrate to Version 4.1.0 must be at AIX Version 4.3.3 or higher.
2. AIX Version 5.1 offers two different print spoolers: the legacy AIX PowerPC print subsystem and the System V print subsystem. Infoprint Manager for AIX requires the use of the legacy AIX PowerPC print subsystem. Infoprint Manager does not support the System V print subsystem.
3. The default shell for AIX 4.3.3 and AIX 5.1 is KornShell 88. You cannot change this default to Ksh93, because some of the Infoprint Installer scripts will not run successfully at that level.
4. Infoprint Manager Version 4.1.0 requires no fileset updates to install on an AIX Version 5.1 operating system.
5. With Infoprint Manager Version 4.1.0 and AIX Version 4.3.3, we recommend Maintenance Level 09.

Verifying AIX filesets for Version 4.1.0

Infoprint Manager for AIX requires the AIX operating system to be installed at Version 4.3.3 or later. It also expects the Common Desktop Environment (CDE) to be installed on the system. Infoprint Manager has specific dependencies on the base-level filesets listed below, all of which may be installed from the AIX operating system Version 4.3.3 CD-ROMs.

Note: If you are running a later version of AIX, such as 5.1, you will find that your CD-ROMs contain later versions of some of these filesets. Because this is a list of **minimal** requirements, you should install the later versions from your AIX CD-ROMs.

Verifying requirements for all Infoprint Manager installations

The following filesets are required on each AIX system on which you will install Infoprint software:

- bos.loc.iso.en_US 4.3.3.25 (Base System Locale ISO Code Set—U.S. English)
- bos.mh 4.3.3.11 (Mail Handler)
- bos.rte 4.3.3.75 (Base Operating System Runtime)
- bos.rte.libc 4.3.3.75 (libc Library)
- bos.rte.libpthreads 4.3.3.75 (libpthreads Library)
- dce.pthreads.rte 3.1.0.4 (DCE Threads Compatibility Library)
- ipfx.rte 2.2.0.0 (Information Presentation Facility Runtime)
- printers.rte 4.3.3.75 (Printer Backend)
- X11.apps.msmit 4.3.3.75 (AIXwindows msmit Application)
- X11.base.rte 4.3.3.75 (AIXwindows Runtime Environment)
- X11.loc.en_US.Dt.rte 4.3.3.0 (AIX CDE Locale Configuration—US English)
- X11.loc.en_US.base.lib 4.3.0.0 (AIXwindows Client Locale Configuration—US English)
- X11.loc.en_US.base.rte 4.3.0.0 (AIXwindows Locale Configuration—US English)
- X11.motif.lib 4.3.3.75 (AIXwindows Motif Libraries)
- X11.msg.en_US.base.rte 4.3.1.0 (AIXwindows Runtime Environment Messages—US English)

Note: Regardless of the language that you plan to use when installing Infoprint Manager, you must apply the X11.loc.en_US* filesets, as well as the bos.loc.iso.en_US 4.3.0.0 fileset listed above.

The following will be installed automatically by the Infoprint installer:

- xlc.rte 5.0.2.0 (C Set ++ for AIX Application Runtime)
- ibmcxx.rte 3.6.6
- java130.rte 1.3.0.12 (Java Runtime)

Verifying additional requirements for DCE version

There are additional requirements if you are installing the Distributed Computing Environment (DCE) version of the Infoprint Manager Version 4.1.0 product. At a minimum, on every system on which you will be running DCE Infoprint servers, you must purchase and have the following installed:

- dce.client.core.rte 3.1.0.4 (DCE Client Services)
- dce.compat.client.core.smit 3.1.0.1 (DCE SMIT Client Tools)
- dce.msg.en_US.client.core.rte 3.1.0.1 (DCE Base Client Messages)
- dce.msg.en_US.compat.client.core.smit 3.1.0.1 (DCE SMIT Base Messages)

If you will be using the installer to create your DCE cell, you will also need the following filesets on the primary Infoprint server system:

- dce.cds.rte 3.1.0.5 (DCE Cell Directory Services)

- dce.msg.en_US.compat.cds.smit 3.1.0.1 (DCE SMIT Cell Directory Server Messages)
- dce.msg.en_US.compat.security.smit 3.1.0.1 (DCE SMIT Security Services Messages)
- dce.security.rte 3.1.0.5 (DCE Security Services)

If your Infoprint server is configured to use DCE, you must also configure your client workstations to enable the full set of commands provided by the DCE version of Infoprint Manager. To enable client systems, perform a custom installation and then select the DCE checkbox. This applies to the following Infoprint clients:

- Infoprint Select for Windows
- Infoprint Manager Operations GUI
- Infoprint Manager Administration GUI

Note: Infoprint Manager for AIX Version 4.1.0 users must purchase DCE Version 3.1 or DCE Version 3.2 and the Advanced Security/Scalability Feature, LCD4-1920, to implement DCE security characteristics on their AIX server.

Verifying additional requirements for the SAP print feature

If you plan to install the SAP print feature, you must have bos.loc.adt.iconv 4.3.3.25 (Language Converter Development Toolkit) installed.

Displaying currently installed AIX filesets

You can verify if the prerequisite filesets are already installed on the AIX system by using the AIX `lslpp` command. For example, you can check the Mail Handler fileset by entering the following at the command line:

```
lslpp -l bos.mh
```

If the fileset is installed, AIX displays the level, state, and description of the fileset. If the fileset is not installed, AIX issues an error message. For missing filesets, use the AIX system management interface tool (SMIT) to install the appropriate filesets from the AIX CD-ROM.

Locating missing required filesets

If your system is missing any required filesets, the Infoprint installer will identify them for you. Most required filesets may be installed from Volume 1 of the AIX operating system CD-ROMs, but there are a few exceptions. The following base-level filesets are on the AIX 4.3.3 Volume 2 CD-ROM:

- dce.client.core.rte (DCE Client Services)
- dce.compat.client.core.smit (DCE SMIT Client Tools)
- dce.msg.en_US.client.core.rte (DCE Base Client Messages)
- dce.msg.en_US.compat.client.core.smit (DCE SMIT Base Messages)
- dce.pthreads.rte (DCE Threads Compatibility Library)
- bos.mh (Mail Handler)

In addition, AIX 4.3.3 users will find the ipfx.rte (Information Presentation Facility Runtime) fileset on the AIX 4.3.3 Bonus Pack CD-ROM.

Installing required filesets

To install requisite software from the AIX CD-ROM media, follow these steps:

1. Log into the AIX system as **root**.
2. Insert the appropriate AIX operating system CD-ROM into the CD-ROM reader. (See "Locating missing required filesets" for details on fileset locations.)

3. Open a terminal window. If you are using CDE, you may open a terminal window by clicking on the terminal icon contained in the task bar that appears at the bottom of the screen. By default, the terminal icon is contained in a popup menu above the text editor icon that appears on the task bar.
4. Type the following on the command line:


```
smit install_all
```
5. Click the **List** button and select your CD-ROM device name (*/dev/cd0*, for example).
6. Click the **List** button next to the **SOFTWARE to install** field and select the required fileset(s) from the list presented.
7. Click **OK** to close the **Multi-select List** dialog box.
8. Click **OK** to install the software.
9. Click **OK** in the **ARE YOU SURE?** dialog box.
10. Press the **F12** key to exit SMIT.

Verifying updates to AIX filesets for Infoprint Manager for AIX Version 4.1.0

To install Infoprint Manager for AIX Version 4.1.0 on an AIX Version 4.3.3 operating system, we recommend Maintenance Level 09.

Infoprint Manager for AIX Version 4.1.0 requires no fileset updates to install on an AIX Version 5.1 operating system.

Verifying filesets updated by the Infoprint installer

The Infoprint installer automatically updates AIX filesets to the following levels (if they are not already updated to higher levels):

- bos.rte.libc 4.3.3.75 (libc Library)
- X11.apps.msmit 4.3.3.75 (AIXwindows msmit Application)

If you are having problems with Infoprint Manager, you may verify that installer has correctly updated these filesets by following the procedure in “Displaying currently installed AIX filesets” on page 38.

Verifying recommended DCE filesets

If you are using the DCE version of Infoprint Manager, you should update any required DCE software to the following levels (if available in your geography):

- dce.cds.rte 3.1.0.5 (DCE Cell Directory Services)
- dce.client.core.rte 3.1.0.4 (DCE Client Services)
- dce.client.rte.admin 3.1.0.5 (DCE Client Administrative Tools)
- dce.client.rte.cds 3.1.0.4 (DCE Client CDS Tools)
- dce.client.rte.config 3.1.0.5 (DCE Client Configuration Tools)
- dce.client.rte.security 3.1.0.5 (DCE Client Security Tools)
- dce.client.rte.time 3.1.0.1 (DCE Client Time Tools)
- dce.client.dfs.rte 3.1.0.3 (DCE DFS Client Client Services)
- dce.en_US.compat.client.core.smit 3.1.0.1 (DCE SMIT Client Tools)
- dce.en_US.compat.security.smit 3.1.0.1 (DCE SMIT Security Services)
- dce.dfs_server.rte 3.1.0.3 (DCE DFS Base Server)
- dce.edfs.rte 3.1.0.3 (DCE Enhanced DFS)
- dce.msg.en_US.client.core.rte 3.1.0.1 (DCE Base Client Messages)
- dce.msg.en_US.compat.client.core.smit 3.1.0.1 (DCE SMIT Base Messages)
- dce.security.rte 3.1.0.5 (DCE Security Services)
- dce.tools.admin.rte 3.1.0.4 (DCE Administration Tools)

- dce.tools.appdev.adt 3.1.0.4 (DCE Application Development Tools)

Notes:

1. To install the DCE version of the Infoprint Manager base requires only the 3.1.0.0 level of the DCE client software. However, the service levels listed above are strongly recommended for best results. If these levels are not available in your geography, we recommend that you upgrade your DCE software to the latest level that is available.
2. Infoprint Manager for AIX Version 4.1.0 users must purchase DCE Version 3.1 or DCE Version 3.2 and the Advanced Security/Scalability Feature, LCD4-1920, to implement DCE security characteristics on their AIX server.

You may verify the levels of your DCE software filesets by following the procedure in “Verifying additional requirements for DCE version” on page 37.

Client software prerequisites

To run Infoprint Select on a client system, you must have one of the following operating systems installed:

- Windows 98
- Windows NT Workstation 4.0 (Service Pack 6a or later)
- Windows NT Server 4.0 (Service Pack 6a or later)
- Windows 2000 Professional
- Windows 2000 Server
- Windows NT Server 4.0, Terminal Server Edition (Terminal Server Edition Service Pack 6a or later)
- Windows ME
- Windows XT

Note: Service Packs 4 and 5 work with Infoprint Manager for Windows NT/2000, but IBM highly recommends using Service Pack 6a on NT only.

To run an Infoprint Manager GUI on a client system, you must have one of the following operating systems installed:

- Windows 98
- Windows NT Workstation 4.0 (Service Pack 6a or later)
- Windows NT Server 4.0 (Service Pack 6a or later)
- Windows 2000 Professional
- Windows 2000 Server
- Windows NT Server 4.0, Terminal Server Edition (Terminal Server Edition Service Pack 6a or later)
- Windows XP

Note: Service Packs 4 and 5 work with Infoprint Manager for Windows NT/2000, but IBM highly recommends using Service Pack 6a on NT only.

Chapter 7. Migrating to Infoprint Manager for AIX Version 4.1.0

Attention: Migrating to Infoprint Manager for AIX Version 4.1.0 requires environment-wide updates. If you plan to migrate a server, be sure to allocate time and resource to make the following upgrades:

- Upgrade all client applications (management and submission) on all networked workstations to 4.1.0 levels
- Upgrade all interoperating Infoprint Manager for AIX servers to 4.1.0
- If you plan to interoperate with Infoprint Manager for Windows, upgrade to Infoprint Manager for Windows Version 2.1.0

If you have previously installed IBM Printing Systems software on your AIX system, you may have invested considerable time defining your printing system configuration. Redefining this configuration to work with Infoprint Manager 3.2 might present a rather daunting, time-intensive task. Fortunately, the Infoprint installer will automatically migrate your predecessor product configuration to Infoprint Manager for AIX Version 4.1.0.

Preparing to migrate to Infoprint Manager for AIX Version 4.1.0

Before running the Infoprint Installer to migrate to Infoprint Manager for AIX Version 4.1.0, it is extremely important to make a complete backup of your current printing system. Consult product documentation for details on how to back up your system. To be completely safe, it is recommended that you make a tape backup of each volume group before proceeding.

The only foolproof way to reverse the migration process (or to recover from a migration failure) is to restore your system from a backup.

The migration process will interrupt any active print jobs that have been submitted. You should take steps to delete all active and pending jobs prior to migrating.

During the process of installing the Infoprint software, your AIX software may be updated to ensure that Infoprint will function properly. For more details on the service-level prerequisites of Infoprint Manager, see “Verifying updates to AIX filesets for Infoprint Manager for AIX Version 4.1.0” on page 39. If you are missing any required AIX filesets for Version 4.1.0, the installer will direct you to install them from your AIX product CD.

Chapter 8. Collecting required information for the install

The Infoprint installer helps you load and configure Infoprint Manager on your AIX system. If you have an AIX system with either Version 4.3.3 or Version 5.1 prerequisites, you can use your Infoprint CD to install Infoprint on your system. When you use the Infoprint installer, you may accept the default setup values provided for you or enter your own values. If you accept the default values, very little configuration information is required from you.

Before you install Infoprint 4.1.0, you should back up your system. You should check that you have all prerequisite software installed by following the procedure in “Verifying AIX filesets for Version 4.1.0” on page 37. You may need to contact IBM support to obtain missing prerequisites.

You will need the following information:

- Decisions regarding the configuration options you select during the install
- The invoice shipped with your software or package list
- The communications worksheet that you received from your IBM SE and have filled out. You can also use the “Communications worksheet” provided in this chapter.

Configuration options you select during the install

During the installation process, you will be asked to make decisions regarding the following ways you may choose to configure your Infoprint Manager for AIX server:

- Will this be a DCE server?
- If you want to configure Infoprint Manager to support interoperability between an Infoprint AIX server and an Infoprint Windows server, determine if this server will be a primary or secondary server?

The invoice shipped with your software

You will need the following information from your invoice:

- The names of the options you purchased
- The number and types of printer licenses purchased

Communications worksheet

Do you currently use TCP/IP address over the local area network? ___Yes ___No

Note: A TCP/IP address is a set of four numbers separated by periods. Each number is between 0 and 255. A typical TCP/IP address is 9.99.94.211.

Describe your local area network:

- Token ring ___4MB ___16MB
- Ethernet
 - Ethernet protocol _____
 - 10/100/1000 Ethernet (copper) cables _____
 - 10/100 Ethernet cables _____
- Gigabit SX (fiber) _____

- AIX server host name_____
 - Internet address _____.____.____.____
 - Network mask _____.____.____.____
 - Secondary AIX server host name_____
 - Internet address _____.____.____.____
 - Network mask _____.____.____.____
- Printer name_____
 - TCP/IP address _____.____.____.____
- Printer name_____
 - TCP/IP address _____.____.____.____
- Gateway address_____

Once you have the necessary information, you can go to *Infoprint Manager for AIX: Getting Started*.

| **Planning for Printers**

| Each actual destination in your Infoprint Manager environment must be
 | configured. The specific information required to perform each configuration varies
 | according to the destination support system (DSS) and attachment type to be used.
 | To determine the appropriate DSS and attachment type, see “Understanding
 | Destination Support Systems (DSS)” in *Infoprint Manager for AIX: Getting Started*.

| A worksheet is available to help you prepare to create each type of printer in the
 | *Infoprint Manager for AIX: Getting Started*.

Appendix. Reviewing software components

IBM Infoprint Manager consists of a number of different hardware and software components.

Note: Base components are included when you purchase IBM Infoprint Manager for AIX, while optional components are additions to the base product that you can purchase and install through additional product CD-ROMs.

Table 2 lists the components that are included on the Common Client CD-ROM, Table 3 on page 46 lists the separately installable features that are available with Infoprint Manager for AIX Version 4.1.0, and Table 4 on page 47 lists the PRPQs that are available with Infoprint Manager for AIX Version 4.1.0.

Table 2. Contents of the Common Client CD-ROM shipped with Infoprint Manager Server

Common Client	Description
Infoprint Select	Infoprint Select allows you to submit jobs to Infoprint Manager from word processors, spreadsheets, and other desktop applications. Its powerful command line also allows you to directly interface with Infoprint Manager and to specify AFP print options.
AFP print driver	The AFP print driver allows you to produce Advanced Function Presentation (AFP) output from desktop applications. Use the AFP print driver in conjunction with Infoprint Select to obtain a high degree of control over the appearance of your printed documents.
Lightning Fax Client for use only with Infoprint Manager Fax Feature on AIX	The Lightning Fax Client provides fax configuration support for Infoprint Manager for AIX.
Infoprint Manager GUI	The Infoprint Manager GUI includes the Infoprint Manager Administration and Operation GUIs (Graphical User Interfaces) that are used for most of your day-to-day Infoprint Manager tasks. Both GUIs require the IBM Cross Platform Technologies for Windows (CPT) Version 2.0 Runtime Environment.
IBM Cross Platform Technologies (CPT) Version 2.0 Runtime Environment	The IBM Cross Platform Technologies (CPT) Version 2.0 Runtime Environment is used with the Infoprint Manager Administration and Operation GUIs and with Infoprint Manager Notifications.
Infoprint Manager Notifications	Infoprint Manager Notifications allows you to receive messages generated by an AIX or Windows Infoprint Manager Server. Infoprint Manager Notifications requires the IBM Cross Platform Technologies (CPT) Version 2.0 Runtime Environment.

Table 2. Contents of the Common Client CD-ROM shipped with Infoprint Manager Server (continued)

SAP Clients (AIX and Windows)	The SAP Client installs the Infoprint Manager SAP client on a SAP system on AIX or Windows servers so you can use the Infoprint Manager SAP Print Feature on either an Infoprint Manager AIX server or an Infoprint Manager Windows server. See the <i>SAP R/3 Printing and Configuration Guide</i> on the IBM Printing Systems site (http://www.ibm.com/printers). From the Printing Systems homepage: <ol style="list-style-type: none"> 1. Under Resources For click Infoprint Manager. 2. Under Products in the right hand navigation bar click Infoprint Manager for AIX or Infoprint Manager for Windows. 3. Under Product Resources click Product Library. 4. Click on the appropriate Infoprint Manager publication.
AIX Client	The AIX Client allows users to enter Infoprint Manager commands and the lp , lpr , and qprt AIX print commands on the AIX command line for servers where Infoprint Manager for AIX has not been installed.
HP-UX Client	The HP-UX Client installs Infoprint Manager commands on an HP-UX system.
Sun Client	The Sun Client installs Infoprint Manager commands on an Sun Solaris system.
colorRipd for Infoprint Manager for AIX	colorRipd for Infoprint Manager for AIX allows you to print to the InfoColor 70 and the Infoprint Color 100 printers.

Table 3. Separately-Priced Features Available with Infoprint Manager Server

Infoprint Manager Features	Description
Print-On-Demand Feature	Print-On-Demand is the commercial print option available with Infoprint Manager for AIX. With this support you can obtain: <ul style="list-style-type: none"> • Infoprint's Impositioning assist feature • Mergedoc application for merging variable data into PostScript documents • Personalized Print Markup Language (PPML) transform, which is an emerging XML-based data stream that can include PDF, PostScript, TIFF, and JPEG objects. The PPML transform converts PPML data into AFP data for printing on the Infoprint Color 130 Plus printer. • Infoprint Manager Server (Basic). • Infoprint Submit on Mac 10 operating systems. • Infoprint Submit for Windows.
Advanced Security/Scalability Feature	Distributed Computing Environment (DCE) Version 3 Release 1 provides enhanced security and scalability for your Infoprint Manager distributed application on your AIX system.

Table 3. Separately-Priced Features Available with Infoprint Manager Server (continued)

SAP Print Feature	A business enterprise that uses SAP can use this print feature to plan, implement, and print to Infoprint Manager for AIX. The SAP Print Features contains the SAP Transform for converting both Advanced Business Application Programming (ABAP) data and Output Text Format (OTF) data to AFP for printing, the SAP Callback daemon for obtaining enhanced status from print jobs, and the SAP Connect Daemon for both sending and receiving faxes on a SAP system.
Page Printer Formatting AID (PPFA) Feature	PPFA allows users of IBM's Advanced Function Presentation (AFP) products to create form definitions and page definitions on a variety of different operating systems.
Infoprint DBCS Font Downloader Feature	The Infoprint DBCS Font Downloader is a utility for downloading double-byte PostScript fonts from a Macintosh to Infoprint Manager.
Japanese PostScript Feature	Kanji fonts required to print Japanese PostScript documents.
Fax Line Feature	Infoprint Fax can support from one to fifteen additional fax lines.
Workgroup Printer Attachment	Required to install and use Infoprint-driven printers that print within a range of 0 to 49 pages per minute.
Low Speed Printer Engine Attachment	Required to install and use Infoprint-driven printers that print within a range of 50 to 89 pages per minute.
Medium Speed Printer Engine Attachment	Required to install and use Infoprint-driven printers that print within a range of 90 to 116 pages per minute.
High Speed Printer Engine Attachment	Required to install and use Infoprint-driven printers that print 117 pages per minute or faster.

Table 4. PRPQs available for use with Infoprint Manager for AIX

PRPQ	Description
Infoprint Scan Feature (PRPQ 5799-GTG)	Infoprint Scan is an application program you can use to scan hardcopy pages and assemble the pages into documents that can be viewed, enhanced, and submitted for printing. Image enhancement functions include deskew, despeckle, auto-crop, rotation, and image inversion. Functions for zoning, page alignment, adding text, erasing, and resizing are also provided.
Infoprint XT for AIX (PRPQ 5799-GTF)	Infoprint XT for AIX contains the xerox2afp transform.

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EuroReady

Infoprint Manager is capable of processing data containing the euro sign. Font character sets and code pages that contain and map the euro sign consistently with the application must be present either in a host library or in the printer. AFP fonts that support the euro sign are included in the AFP Font Collection (Program Number 5648-B33).

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Introduction and Planning Guide
Version 4 Release 1

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