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e-business

Print and e-Output 2003

PP01

ITSO iSeries Technical Forum

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Redbooks

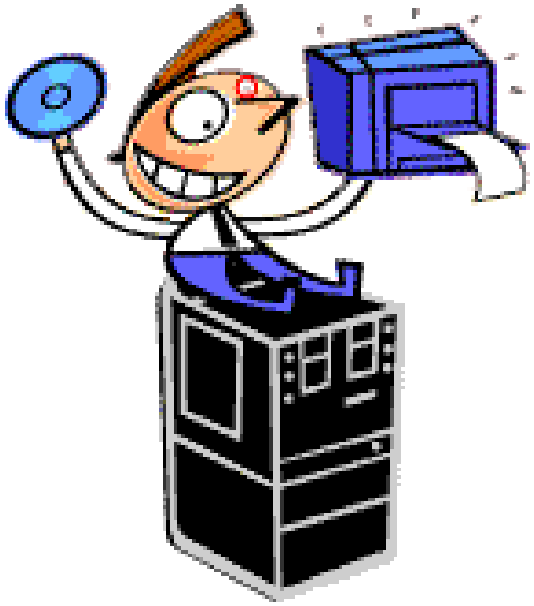
International Technical Support Organization

Notes: Fitting output into the e-business equation

This session is focused on e-Output and printing enhancements for V5. But, as the subtitle implies, it's also concerned with how output needs to fit into the e-business equation and how the iSeries has been enhanced in V5 to transform how output is produced and distributed in the e-business model. Printing is certainly familiar but e-Output may not be. Let's start there.

Who am I?

- **Glenn Rose**
  - Marketing/Technical support for iSeries output
  - Based in Boulder with Printing Systems division



Notes: Introduction

Introducing the speaker.

Agenda

- What is e-Output
- iSeries Output Primer
- Infoprint Server for iSeries
- iSeries Access, Web Access
- Infoprint Designer for iSeries
- Summary
- Additional Information

Notes: Topics

The game plan for today's session.

First, we'll define e-Output and position e-Output within the context of the overall iSeries output architecture.

We'll then look at what's new for V5R2 and V5R2+ (new release mid-2003). This will include new capabilities in Infoprint Server for iSeries, Infoprint Designer for iSeries, iSeries Access, iSeries Access for Web, and new e-output solutions.

e-Output

Notes: e-Output

Let's first turn to e-Output.

Printing and e-output

Printing and e-output

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INVOICE

Bill To:
IMPROVED PRINTING CORP
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PRINTERSVILLE
CO 45789-2657

Ship To:
SAME

Customer Number:	100	Invoice Number:	31300	Invoice Date:	3/26/01	Payment Date:	4/25/01
Ship Via:	BEST WAY	Shipped Date:	3/26/01	Terms:	NET 30	Salesman:	YOUR PRINTER REP

QTY	UOM	ITEM #	DESCRIPTION	PRICE	EXTENSION
1	CT	00000303	HIGH ALTITUDE WATERMELON	1.01	1.01
1	PK	01100517	SPARTAN SEEDS	2.39	2.39
8	PK	04560875	NORTHERN LITE BLUE SPRUCE	858.32	7,724.88
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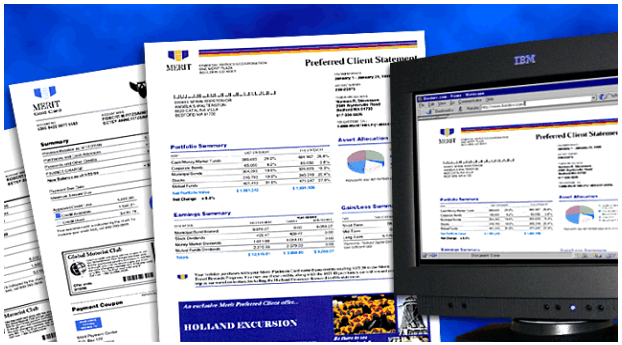
create an electronic document

Printing and e-output



view

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Printing and e-output

print
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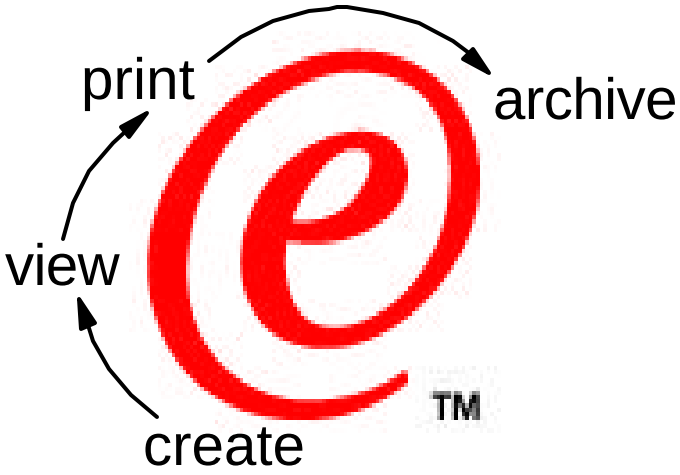
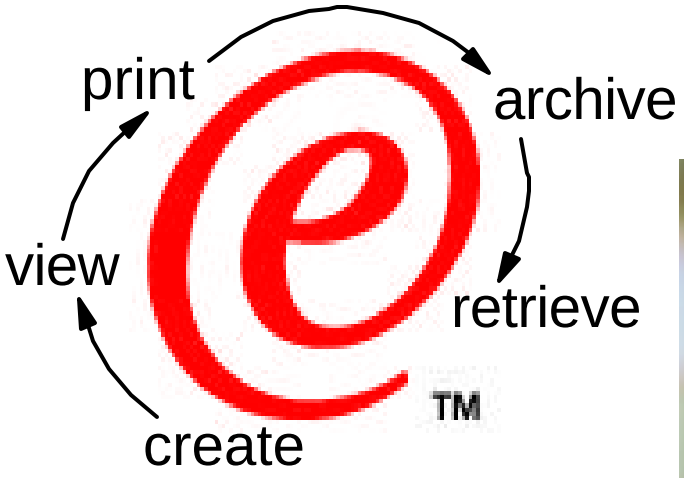
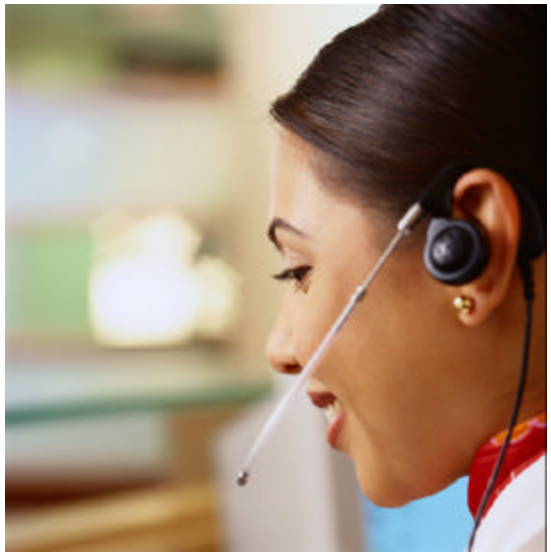
Printing and e-output

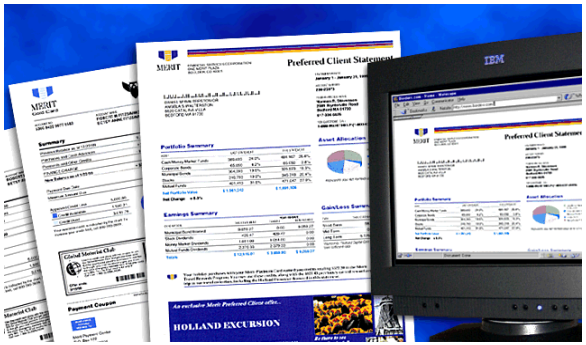


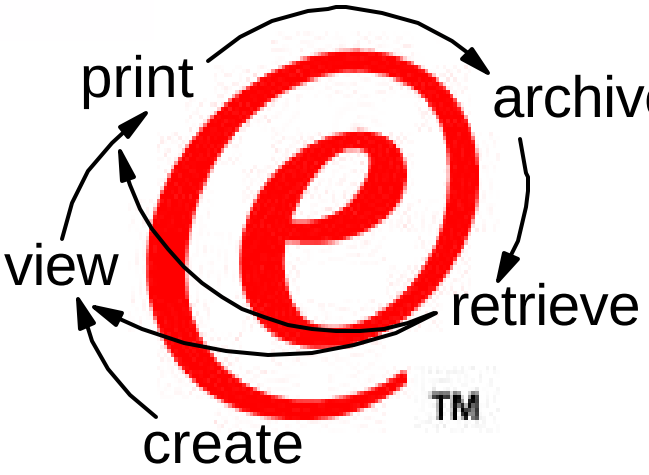
Printing and e-output

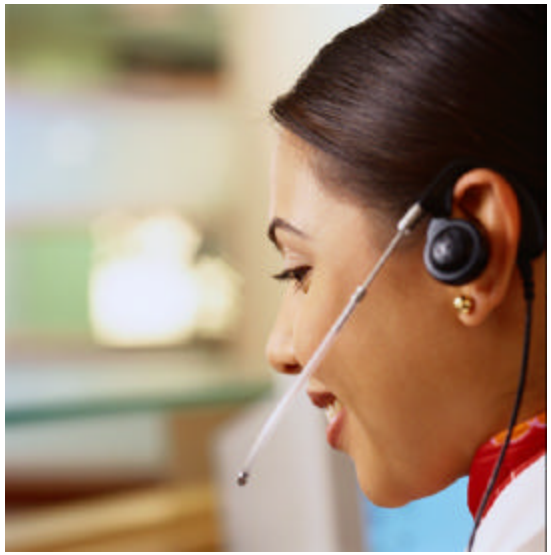




Printing and e-output







Notes: e-output sequence

Previous sequence shows requirements for output flow.

e-Output

E-business is changing the face of business communications

- Traditional information methodology has been "print and distribute"
- Networks, Internet, and electronic documents are transforming this methodology
- Electronic documents mean:
  - Tie to preprinted form is broken
  - Flexibility in content
  - Flexibility in delivery
- Networks and Internet drives e-business process reengineering
  - Printing, if required, must take place later in the flow
  - Electronic documents and reports can flow as the process requires

The output of e-business - "e-business output"

- Ability to create fully electronic pages of information and deliver them to the desired destination in the desired format

Notes: Enabling e-Output

e-Output is to e-business what printing has been to business. It is the output of e-business. Simply put, e-Output means the ability to create fully electronic pages of communications -- such as statements, invoices, bar-coded labels, reports -- and deliver those pages to the required destination in the appropriate format. That could mean printing the pages and distributing in hardcopy format. It could also mean Web access, PDF, e-mail, archival and retrieval, fax, and related methods.

V5 has significantly extended iSeries capabilities in e-Output.

The following section entitled Application Scenarios will give concrete examples of new V5 functions being implemented into iSeries customer business environments.

Why e-Output Solutions

e-business output is a very hot market space

- Nearly every customer has an immediate need to deliver pages electronically
- Larger customers have need to map current and legacy application output to multi-channel (print, fax, web, e-mail, wireless) delivery

Critical piece in providing an end-to-end e-business solution

Management of output is another area where iSeries excels over competition

- Avoid your customer moving critical functions off the iSeries "mainframe" to Unix or Windows

Notes: Why e-Output

iSeries customers are focusing on reengineering their business applications for an e-business environment to take full advantage of Web processes. This reengineering of e-business applications must includes output or what is referred to as e-Output.

V5 addresses their requirements for electronic output of web enable e-business applications. iSeries customers now have the flexibility to drive their critical output communications to whatever format is required hard copy or electronic.

Application Scenarios

Notes: Application Scenarios

Let' take a look at some real business application scenarios which incorporate the features discussed throughout the presentation into an iSeries business environment.

Design your business output

- **Scenario:** Your current output - statements, invoices, reports -- is inadequate.
- **Requirement** - You need to improve the content, appearance, and effectiveness of your communications and accomplish this in a productive manner without disruption.

Solution: Infoprint Designer for iSeries

Notes: Design your business output

The need to redesign your business output may result from a number of requirements:

- The costs of preprinted forms, including material costs and operational inefficiencies.
- Requirements from customers or suppliers, for example, the need to generate bar-coding on documents.
- Your current documents are not effective.
- Your documents change on a frequent basis and the current tools to make design changes cannot respond.
- Your competitors are far ahead in document content, effectiveness, and process -- this is starting to affect sales.
- You are transforming key business processes for the Web and your documents need to be fully electronic to support that.
- You are looking at the possibilities of Infoprint Server -- PDF and e-mail, electronic delivery of documents and reports -- and again, you need fully electronic documents to play.
- The current system of changing design requires programming changes, escalating costs for what should be simple changes, requiring unacceptable delays, and causing disruption is stable application code.

Enter Infoprint Designer for iSeries. A new fully graphical design system for iSeries, fully integrated with the iSeries output architecture and fully application-independent.

Publish documents, reports to the Web

- **Scenario** - Monthly reports are sent out to departments in hardcopy. This results in significant time delays and increasing costs.
- **Requirement** - You would like to produce the reports in electronic format and enable immediate, online access.

Solution: Infoprint Server for iSeries

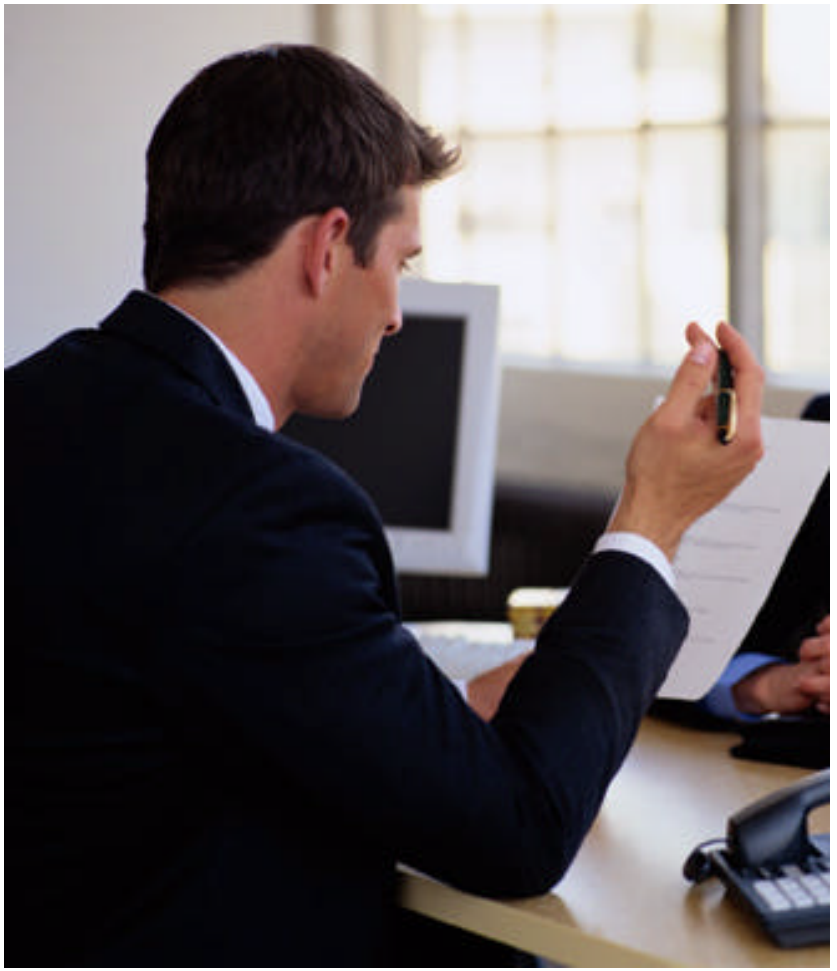
Notes: Publish to the Web

Let's first look at a few application scenarios to see how the new V5 functions fit in.

In this first scenario, documents and reports are being printed in hardcopy format and distributed. The output is not timely and the process is not efficient. Using new PDF services, the documents /reports can be transformed into PDF format and stored for inbound access within the iSeries database (specifically the IFS, or Integrated File System). Consumers of those documents and reports can access them electronically via a browser or client PC.

Electronic Report Distribution

- **Scenario** - monthly sales reports are printed, manually separated and mailed to regional office managers.
- **Requirement** - Customer would like to automatically distribute
  and send the relevant reports to specific managers via e-mail.



Solution: Infoprint Server for iSeries

Notes: Electronic Report Distribution

Here's a similar example, but with a different solution.

Again, reports are being produced by an iSeries application, printed, and delivered in hardcopy.

In this case, we want to do two things electronically. First, we need to break up the overall report in order to deliver segments to particular people. For example, this may be a 1000-page sales report comprised of 10 different sales regions. Thus, the goal would be to create 10 regional reports.

Secondly, we want to deliver the reports electronically. And, we want to deliver them by pushing them out . .. as opposed to having the recipient come get them as we did for the previous scenario.

We'll use the segmentation support in OS/400 and Infoprint Server to automatically trigger the creation of 10 PDF files representing the regional report segments.

Then, we'll automatically pass each PDF file, in turn, to the integrated e-mail function so that an e-mail with the specific report (PDF) for that sales region attached is sent to the one (or more) recipients.

This "outbound" electronic process, coupled with segmentation, ensures timely delivery of the right information to the right people.

Deliver customer documents via e-mail

- **Scenario** - Order entry has been re-engineered to the Web. However, the back end of the order process -- the order confirmation -- is still printed and mailed in hardcopy.
- **Base Requirement** - Customer would like to automatically segment order confirmations, retrieve e-mail data, and send immediately to customer.
- **Advanced Requirement** - need to define/profile routing on a customer/document basis.

Solution: Infoprint Server for iSeries, Intelligent Routing

Notes: Deliver customer documents via e-mail

This is a variation on the report distribution via e-mail scenario.

The order entry process, formerly a batch application, has been re-engineered as a Web application. This enables customers to enter orders directly. However, the back end of the order entry process -- the order confirmation document -- is still printed and sent to each customer in hardcopy. This significantly reduces the benefits of using the Web.

Again, we will use the electronic segmentation support to delineate each customer's order confirmation. This will trigger separate PDF files to be created for each customer. Using the user exit, we are able to retrieve the customer number from the document (on-the-fly) and use it to look up the e-mail ID(s) in the customer master database. The ID(s) is passed back to PDF/e-mail processing and the e-mail is sent.

This "outbound" electronic process, coupled with segmentation, ensures timely delivery of the order confirmation to the customer.

With the planned 2003 delivery of Intelligent Routing (enhancement to Infoprint Server), customers can address advanced output "channel" requirements. They can profile delivery options on a customer/document basis. For example, the first customer may want their order confirmation printed, the next customer says printed plus fax, the next customer says e-mail, etc.

Consolidate enterprise printing

- **Scenario**: Customer has an ERP application which generates data in PCL format. They also have numerous network print applications and proliferation of desktop personal printers.
- **Requirement** - They would like to consolidate their printing, taking advantage of the speed, power and throughput of their high-speed iSeries system printer - plus the IPDS error recovery.

Solution: Infoprint Server for iSeries, IBM iSeries printers, PSF/400

Notes: Consolidate enterprise printing

As your company re-engineered its network topology to take advantage of networks and the Internet, printing and printers followed suit.
This decentralization of printing was initially viewed as a good thing. However, as your applications and print volumes increased, this decentralized structure became a liability. Applications are producing a range of ASCII print data streams (PCL, Postscript, PDF) and the printers themselves were designed for personal and workgroup printing, not business printing.

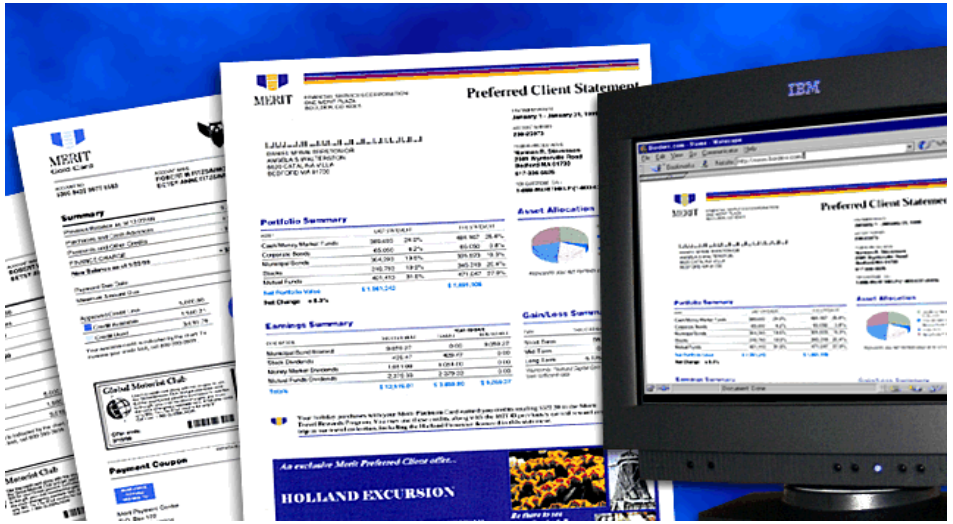
Companies are realizing that having a large number of decentralized printers (or web servers or PCs for that matter) adds significant operational costs, complexities, and roadblocks to process changes.

Let's consolidate our business printing. We'll use the new ASCII transform capabilities of Infoprint Server to change PCL, Postscript, and PDF print jobs into the native page format of the iSeries (AFP) and then consolidate these jobs on a new high-speed, highly reliable, cost-effective, integrated iSeries printer - for example, the IBM Infoprint 85 and 105.

This enables you to apply the efficiencies and reliability of iSeries-integrated printing to your decentralized printing -- saving costs and improving service.

Intranet electronic delivery

- **Scenario** - A company creates standard business documents and reports that contain images, overlays, and typographic fonts. The documents are then printed and distributed.
- **Requirement** - This company wants to take advantage of their intranet and distribute the documents electronically. However, the documents are AFP-based and need to contain the external resources for viewing and printing.



Solution: Infoprint Server for iSeries

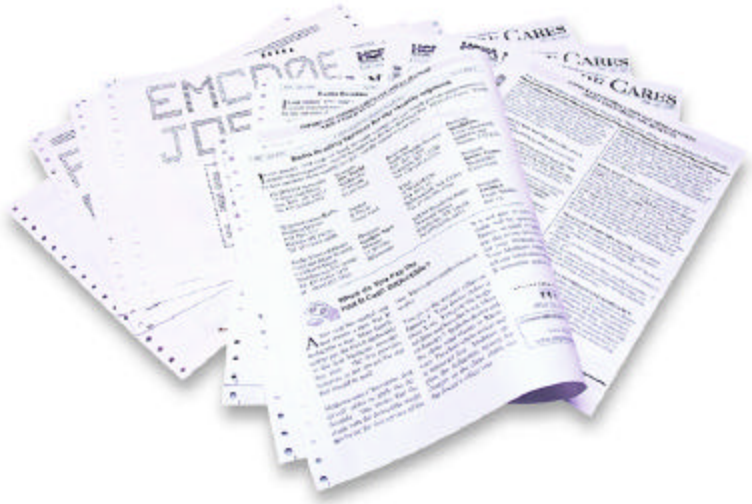
Notes: Intranet electronic delivery

As an intranet alternative to our first two scenarios, V5 (Infoprint Server) also provides for portable or Web AFP.

AFP is the standard data stream within iSeries for graphical pages. AFP architecture structures each page by a combination of application data and references to external page resources -- such as overlays, images, and fonts. When AFP is send to another system or a browser, the external resources need to be present. A new command with V5 (Infoprint Server) called Create AFP Data will produce such a file. There are AFP plug-ins for Internet Explorer and Netscape to view Web AFP files..

Ad Hoc Report Request

- **Scenario** - Key customer has called and would like a recap of their orders for the past month. That data exists on a section of the monthly sales report by customer.
- **Requirement** - Be able to select that customers data and e-mail the information immediately.



Solution: iSeries Access and Infoprint Server

Notes: Ad Hoc Report Request

There are many ad hoc or interactive requests for documents or reports. With V5R2, both iSeries Navigator and iSeries Access for Web provide for access to PDF and e-mail functions and enable electronic presentation or delivery of the information.

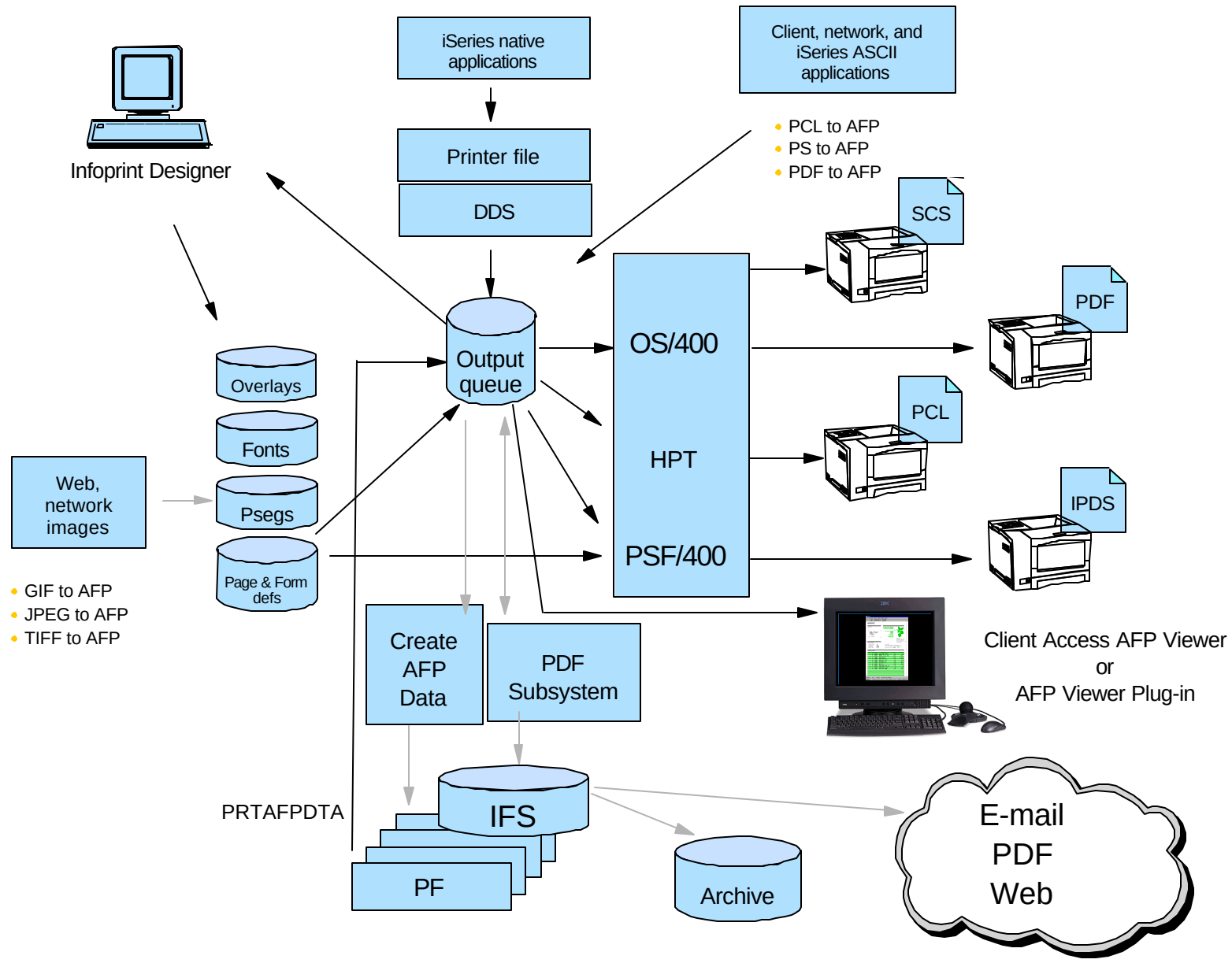
Because of the complete integration of PDF services into the iSeries architecture, standard output management functions easily translate into desired PDF functions. For example, in this scenario, let's assume that this customer's sales data is on pages 21-50 of the customer sales report. If you were printing this range, you would simply override the print file attributes to request this page range. The same function works with PDF since PDF is implemented as a virtual printer. Select the page range then specify the PDF options with iSeries Navigator and you're done.

iSeries Output Primer

Notes: iSeries Output

Before we get into the details, let cover how output flows within the iSeries system.

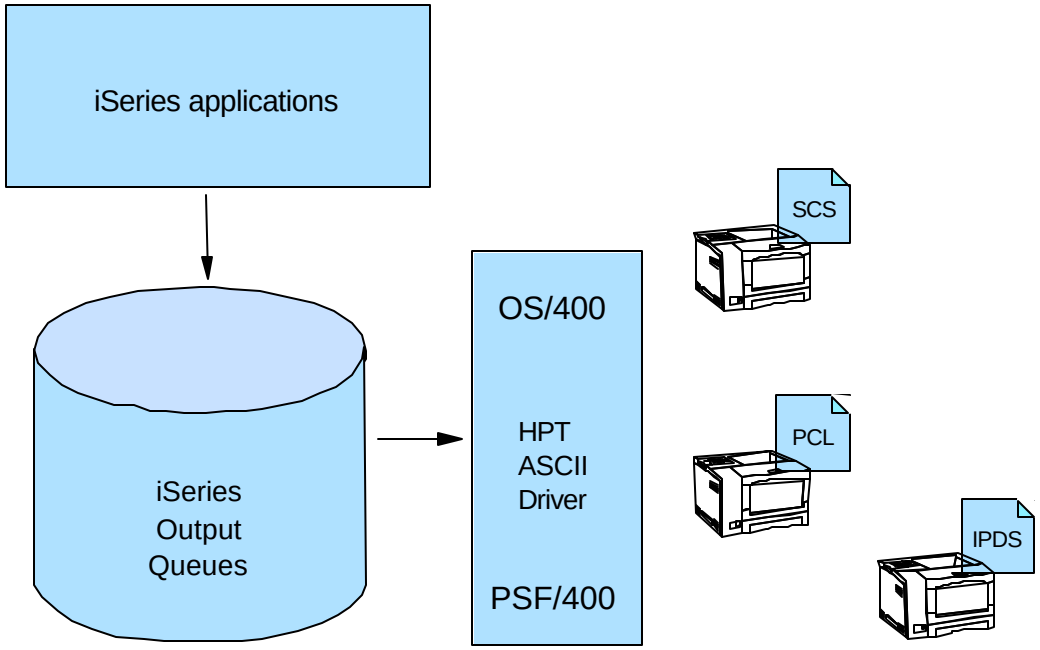
iSeries Output Architecture



Notes: iSeries Output Architecture

This is a key overview chart on iSeries output architecture. Let's go to the next chart and simplify the structure.

Core Print Architecture

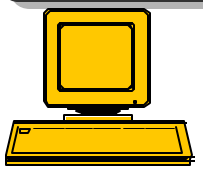


Notes: Core Print Architecture

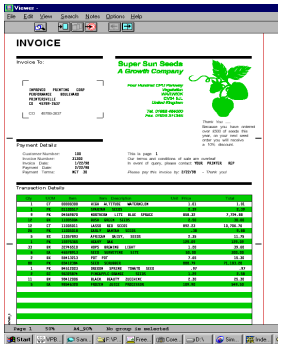
Let's start prior to V5 and look at the basic print flow on iSeries. Applications on the iSeries create output -- also called spooled files -- that are written to iSeries output queues. With the print data in the queue, there are three print drivers to deliver the output to a printer. For simple output, the TwinAx print driver supports line-mode printers (SCS). For PCL printers, there is a driver shipped with OS/400 called Host Print Transform. For IPDS printers, the print driver/manager is Print Services Facility/400 (PSF/400).

Host Print Transform is the simplest driver. PSF/400 is the most advanced. Customers can choose drivers and printers based on (1) volume of printing and (2) how important the specific print job is.

e-Output V5



Infoprint Designer



iSeries applications

Infoprint Server
ASCII Transforms

iSeries Output Queues

OS/400

ASCII Driver

PSF/400

SCS

PDF

PCL

IPP

IPDS

Infoprint Server
Image Transforms

Infoprint Server
AFP Web and Indexing

Infoprint Server
PDF

Infoprint Server
Integrated E-mail

E-mail
PDF
Web

iSeries Access
Web Access
PDF API

Notes: e-Output Flow with V5

What changed with V5? Well, quite a lot.

First., in the top left you see the new graphical document design system - Infoprint Designer for iSeries (5733-ID1). This makes it far easier to compose documents and reports. More importantly, it composes fully graphical, electronic documents -- for example, a customer statement with electronic forms, images, bar-coding, and graphics. A fully electronic document, with the iSeries placing every element on the page, is a prerequisite for e-Output. If a customer is using preprinted forms, then they cannot participate in the key e-Output downstream electronic delivery functions.

The other new boxes (in yellow) relate to Infoprint Server for iSeries (5722-IP1). Infoprint Server has five components and is focused on providing electronic delivery. So, you see that PDF and e-mail functions are added. And, the ability to produce AFP in a portable, Web-ready format. And, the ability to transform Web image formats to iSeries format. You can now take fully electronic output pages sitting in iSeries output queues and deliver them electronically, inbound via client or browser or outbound via e-mail.

The last component of Infoprint Server - in the top right on the flowchart -- is the ASCII transform server. This enables the iSeries to extend its role as a print server, taking jobs that are being produced in non-iSeries formats (i.e.. PCL, Postscript, and PDF) and converting them to AFP for iSeries-managed printing. These jobs could reside on network clients/servers, or on iSeries applications (such as ERP) that create ASCII data streams.

With V5R2, the basic flow stays the same but there are significant enhancements. There are new capabilities in the design "front-end" - Infoprint Designer. Infoprint Server has big changes in PDF functions and in e-mail options. More on that later.

Equally important, Infoprint Server functions are now integrated with other standard iSeries interfaces, including iSeries Navigator and Web Access.

And, as we will see, there are additional enhancements planned as a PTF to V5R2 in 2003.

Infoprint Server for iSeries

Notes: Infoprint Server

Let's look at Infoprint Server.

Infoprint Server for iSeries

Focus of Infoprint Server

- Electronic Distribution of output
- iSeries management of network print

iSeries support for PDF

- Transform services for any iSeries standard output (AFP, IPDS, SCS, even OV/400)
- PDF output to e-mail, IFS, or PDF printer
- High-function PDF Server
- Segmentation - "Electronic Burst and Bind"

Integrated e-mail of output

- PDF output can be automatically e-mailed
- Multiple e-mails based on segmentation
- Exits for customization

iSeries as a network print server

- PCL, Postscript, and PDF to AFP
- Postscript and PDF transform is IBM-Adobe full-function Level 3

Portable, web-ready AFP

- Add external resources to AFP data for portability and browser view
- Add indexing for navigation and report segmentation

Image transforms

- GIF, TIFF, and JPEG transforms to IOCA
- Windows-based

Notes: Infoprint Server

Infoprint Server for iSeries is a separately orderable program (5722-IP1). The focus of Infoprint Server is on the network, extending the considerable capabilities of the iSeries beyond printing to the management and dissemination of output. As business applications are re-engineered into e-business applications, the output of those applications may need to change and flow electronically to the consumer of that output.

For enterprise printing requirements, Infoprint Server delivers improved efficiency, improved reliability, and lower overall printing costs by applying iSeries printing management and iSeries-attached printers to the task of handling all of the essential printing generated across the network.

On the e-business output side, Infoprint Server provides PDF and portable AFP support for the iSeries. Any standard iSeries-AS/400 output format can be transformed into PDF. The PDF is text-based, fully navigable, high-performance. In addition, enhancements to DDS (OS/400) enable you to segment an output file, triggering the PDF server to create multiple PDF files - this is an "electronic burst and bind" function. More than this, e-mail of output (via PDF) has been integrated and automated into this process. Output files can be transformed to PDF and automatically sent to any destination. Integrated e-mail also provides user exits for customization (i.e.. using the trigger field - a customer number for instance - to look up an e-mail ID in an address book)

AFP output can be treated similarly. A new command - Create AFP Data (CRTAFPDTA) provides three critical functions: (1) convert print formatted with page definitions to AFP, (2) create a portable file by pulling in external fonts, page segments, and overlays, and (3) insert indexing to facilitate easy navigation when viewing the print file.

The other key focus of Infoprint Server is iSeries management of network output. Infoprint Server provides transforms for PCL, Postscript, and PDF into AFP so output generated in those formats can be brought into the iSeries and effectively managed to the printer. The Postscript and PDF transforms are the result of joint development by IBM and Adobe and deliver full-function Level 3 capability.

Finally, the standard web, e-business image formats are GIF, TIFF, and JPEG. Infoprint Server provides transforms (Windows-based) to convert those to iSeries-AS/400 image (IOCA - page segments)

Infoprint Server V5R2

- Expanded control over e-mail content
- Support for virtually any mail server
  - Capability to interface with multiple SMTP mail servers
- PDF Enhancements
  - Document indexing maps to PDF bookmarking
  - Font embed option provides for smaller, efficient PDF files
- New PCL to AFP transform
  - Includes DBCS
- Integration of PDF, e-mail functions in iSeries Navigator, Web Access
- System APIs provide programmed access to PDF and e-mail options
- Ability to specify PDF and e-mail parameters after print file creation
  - User define data parm can be changed with Change Spooled File Attributes

Notes: Infoprint Server V5R2

Infoprint Server is significantly enhanced for V5R2, with new function coming in 2003 as a PTF to V5R2. The focus is on PDF and e-mail functions.

You now have far greater control over the e-mail documents that are sent. Essentially, you can control dynamically (programmatically) virtually any aspect of the e-mail -- addressing, contents, attachments.

Additionally, e-mail functions -- limited to the one mail server in V5R1 -- can use virtually any mail server, including Domino. This greatly expands the customers that can take advantage of PDF and e-mail output functions.

With the PDF itself, dynamic indexing will flow to bookmarking within the PDF. Additionally, the customer has control over PDF fonts, which provide for smaller PDF file sizes and increased network performance.

And, as mentioned, Infoprint Server functions are integrated in iSeries Access and Web Access. There is also an API that provides for programmable access to PDF and e-mail services.

Infoprint Server V5R2+

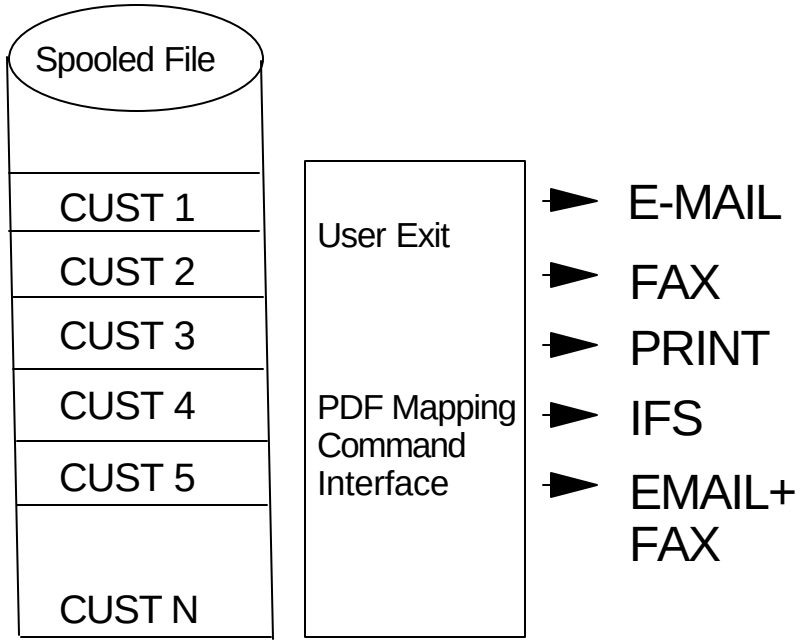
- Intelligent Routing
- New easy-to-use interface for defining PDF and e-mail functions
- Ability to respool segments of spooled file (for fax or print)
- PDF Enhancements
  - Encryption
  - Control over PDF rotation (in Acrobat)

Notes: Infoprint Server V5R2+

Planned enhancement (PTF to V5R2) for 2003. .

Intelligent Routing

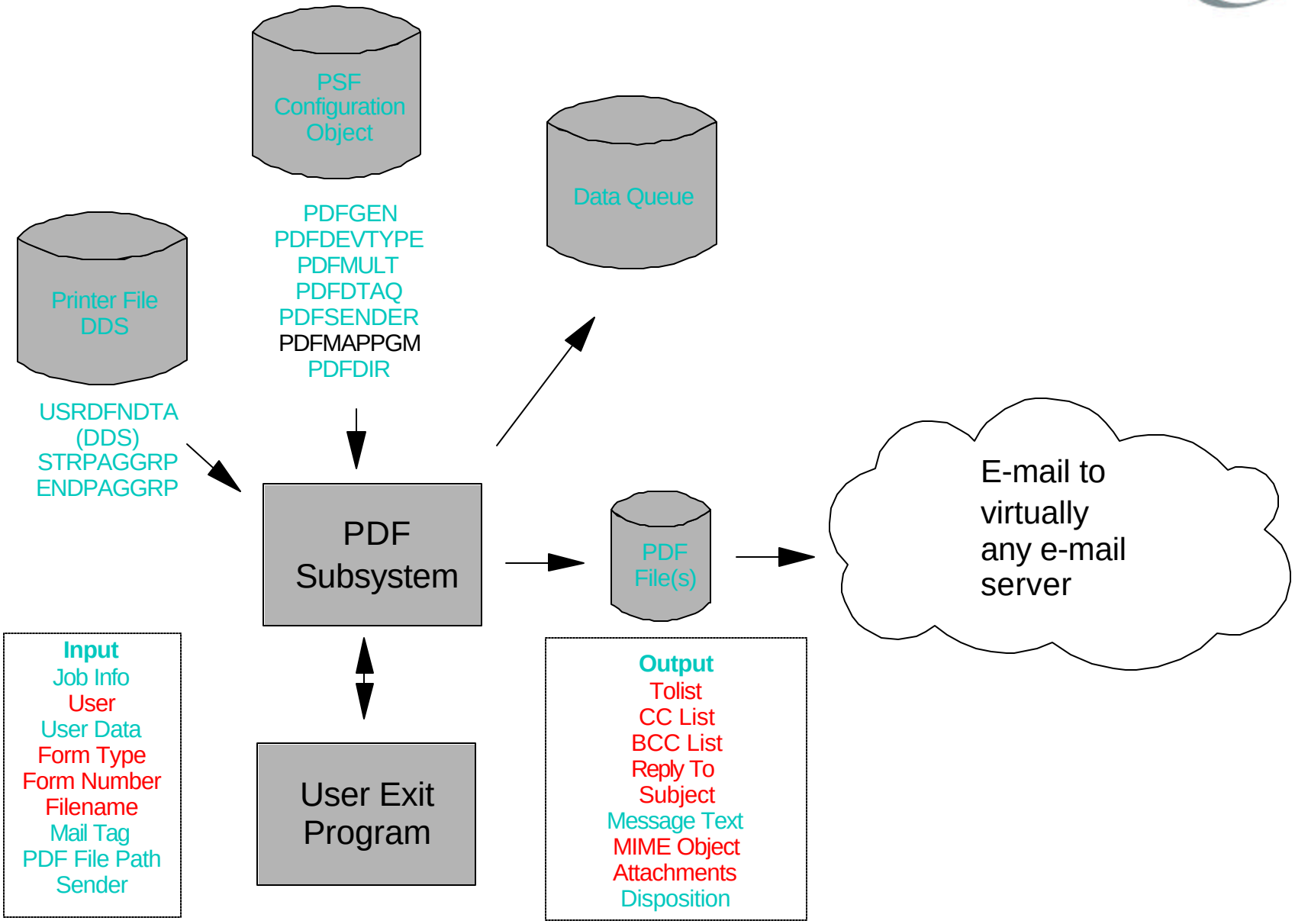
- Built on V5 segmentation support
- Enables document action by segment:
  - IFS
  - E-mail
  - Print
  - Fax
  - Outq
- Multiple actions per segment
- Respool of individual segments
- Programmed access with user exit
- New independent access via command interface, PDF mapping object:
  - Integrated in V5R3, PTF'ed in V5R2
  - Reduced need for user exit
  - Define input matches, desired action



Notes: Intelligent Routing

Narrative on intelligent routing.

PDF and e-mail architecture



Notes: PDF and e-mail V5R1 / V5R2

Here is the flow through PDF and e-mail.

The PDF subsystem is set up as a virtual printer so to configure PDF functions, you create a device description and PSF Configuration object (an extension of the device description). You have at least one PDF queue and writer for each type of PDF function -- (1) PDF to e-mail, (2) PDF to IFS, and (3) PDF to output queue.

Input data for electronic segmentation and addressing can be provided via the USRDFNDTA parameter of the printer file, via DDS, or via the Create AFP Data command. A specific e-mail ID can be specified, or a "mail tag" can be passed - this is some data field (i.e.. customer number) that can be used to resolve the addressing as the PDF processing takes place.

The is an exit point in PDF processing where the spooled file information and mail tag is passed to an exit program. The exit program can do application processing such as retrieving e-mail IDs. At this point, the PDF is created and the e-mail is sent. There is a disposition field that enables you to suppress the e-mail for a specific segment -- perhaps you retrieved the customer record and this customer did not want e-mail delivery.

There is a data queue where PDF processing data is logged so that you can track the process.

This is the V5R1 flow.

Notes: PDF and e-mail V5R2

The major changes with V5R2 are control over e-mail content and integration with other e-mail servers. If you look at the exit point, you can see that more data is passed back and forth. This gives you comprehensive control over all aspects of the e-mail including adding additional attachments.

PDF, e-mail, delivery enhancements

	V5R1	V5R2	V5R2+
To List	◆	◆	
CC List		◆	
BCC List		◆	
Reply To		◆	
Subject		◆	
Message	◆	◆	
Body as File		◆	
MIME Object		◆	
Mail Server	SNDDST	MULT	
Change Spooled File Parm	N	Y	
PDF Font	PTF	STD	
PDF Bookmarking		◆	
Intelligent Routing			◆
Segment Respool			◆
PDF encryption			◆
PDF rotation control			◆

Notes: Enhanced e-mail control

This chart compares PDF and e-mail functions for V5R1, V5R2, and V5R2+. You can see the different elements of the e-mail that you can control with V5R2. As you can see, the limitations in your control over e-mail content have been addressed with V5R2. In addition, the e-mail generated can be passed to any SMTP mail server (not just the Send Distribution, SNDDST, command as was the case with V5R1).

PDF, E-mail Command Interface

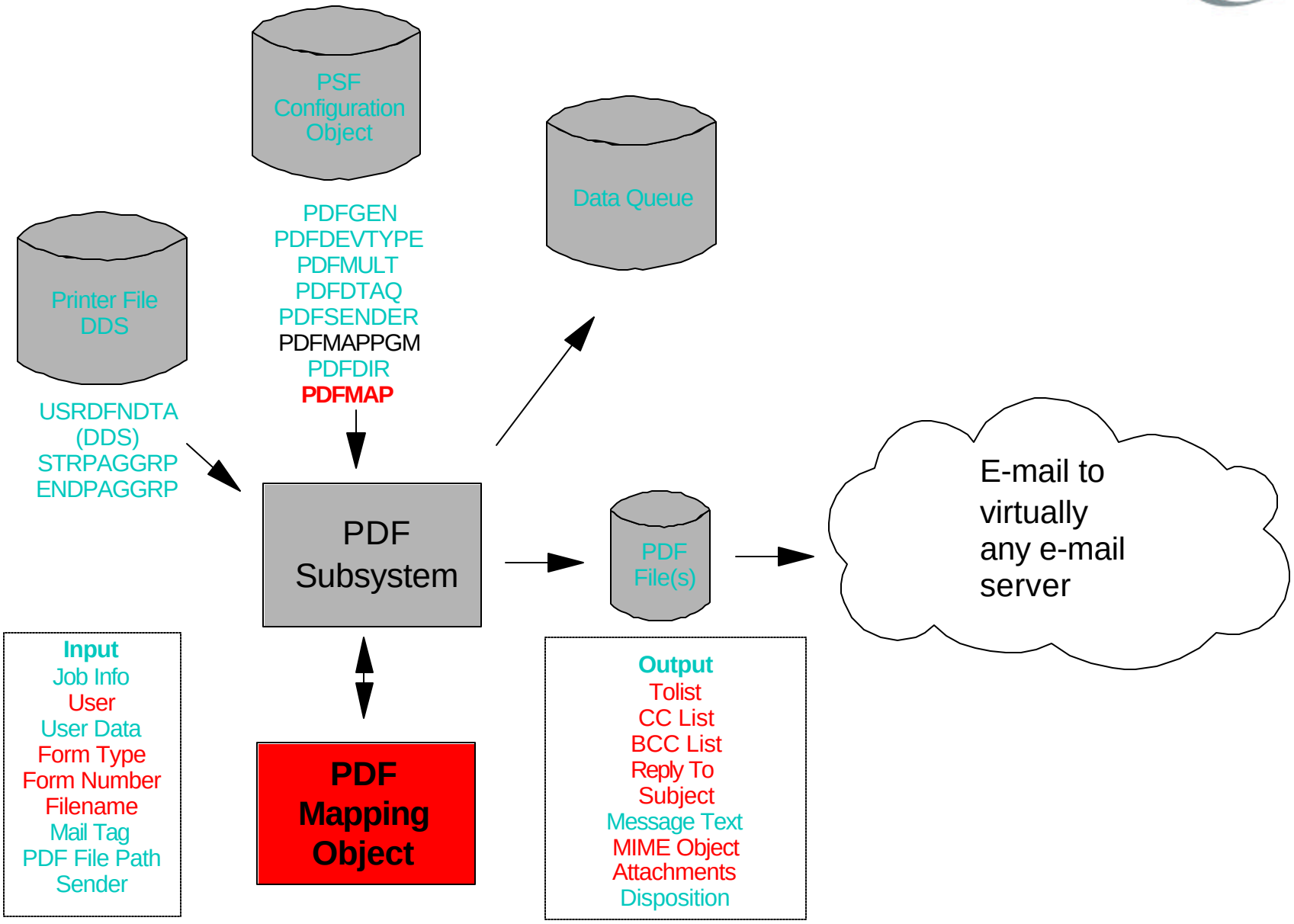
- Eliminate the need for user exit program for many applications
- Command interface to PDF mapping object
  - Customer would use command to create PDF mapping object. The object name would be specified on the PSF configuration object.
  - For each spool file that the user wants to process, they would add an entry to the PDF mapping object.
  - Define selection criteria:
    - User ID
    - User Data
    - Form Type
    - Print file name
    - Job info
    - Output queue
    - Any combination of the above
  - Define action:
    - E-mail, stream file, or respool PDF
  - Define processing data (i.e.. e-mail ID)
- Planned as PTF to V5R2

Notes: PDF, E-mail Command Interface

A new interface is planned for V5R2 (PTF in 2003) to PDF and e-mail functions. The interface will set up processing parameters in a new PDF mapping object. This mapping object can eliminate the need to develop user exit programs to control PDF and e-mail functions for many applications. If the PDF mapping object is specified in the PSF Configuration object (where the basic PDF and e-mail configuration resides), then Infoprint Server will use this "table" to both select and process spooled files.

This command and mapping object interface is planned to be delivered as a PTF to V5R2. It will not be available at General Availability.

PDF Mapping Object



Notes: PDF, E-mail Flow, with PDF Mapping Object

The standard PDF and e-mail processing flow is changed when a PDF mapping object is added. Referenced in the PSF Configuration Object, the attributes of the currently in-process spooled file will be passed by the mapping object, looking for a selection match. When there is a match, then the processing action is picked up. The PDF mapping object replaces the user exit program.

Define spooled target

```
                                Add PDF Map Entry

 Sequence  . . . . . :   100__
 Text  . . . . . . . :   This is it_____________________________________________

 Type choices, press Enter.

 Output queue  . . . . .   *ALL_______   Name, Generic*, *ALL
   Library . . . . . .     __________ Name, *LIBL
 File  . . . . . . . . .   *ALL_______   Name, Generic*, *ALL
 User  . . . . . . . . .   *ALL_______   Name, Generic*, *ALL
 User Data . . . . . . .   *ALL_______   Character value, Generic*, *ALL
 Form Type . . . . . . .   *ALL_______   Character value, Generic*, *ALL
 Mail tag  . . . . . . .   *ALL_____________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________


 Segmented file  . . . .   ______  *YES, *NO


F3=Exit   F12=Cancel
```

Define e-mail

```
                          Define mail entry
Type choices, press Enter.

To e-mail address . . . .   _____________________________________________
      + for more values     _____________________________________________
Subject . . . . . . . . .   *PSFDFT_____________________________________________
_____________________________
Message text  . . . . . .   *PSFDFT_____________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________
CC e-mail address . . . . . _____________________________________________
      + for more values     _____________________________________________
BCC e-mail address  . . .   _____________________________________________
      + for more values     _____________________________________________
Reply to e-mail address . . *MAILSENDER_____________________________________
_____________________________________________________________________________
_____

                                                                      More...
F3=Exit   F12=Cancel
```

E-mail, continued

```
                          Define mail entry

Files for body of e-mail . . . . . *NONE_____________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

                        + for more values _____________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

                                                                 More...
F3=Exit    F12=Cancel
```

E-mail, continued

```
                          Define mail entry

 Attachments . . . . . . . . . . . . . . . *NONE_____________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

                        + for more values _____________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

 Mail sender . . . . . .   *PSFCFG___   Name, *PSFCFG




                                                                        More...
 F3=Exit   F12=Cancel
```

PDF Encryption

```
                        Define mail entry

User password . . . . . . . . . . . . . .   *NONE_____   password, *NONE
Master password . . . . . . . . . . . . .   *NONE_____   password, *NONE

Encryption level  . . . . . . . . . . . .   *40RC4_      *NONE, *40RC4, *128RC4
  Print . . . . . . . . . . . . . . . . .   ____         *YES, *NO
  Change  . . . . . . . . . . . . . . . .   ____         *YES, *NO
  Copy  . . . . . . . . . . . . . . . . .   ____         *YES, *NO
  Change comments . . . . . . . . . . . .   ____         *YES, *NO

                                                                      Bottom
 F3=Exit   F12=Cancel
```

PDS to IFS

```
                        Define PDF stream file entry

 Type choices, press Enter.

 PDF file name . . . . . . . _____________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________

 Authority   . . . . . . . . *EXCLUDE_  *RWX, *RX, *WX, *R...




 F3=Exit   F12=Cancel
```

PDF into output queue

```
                          Define PDF spooled file entry

  Type choices, press Enter.

  PDF output queue . . . . . .   *PSFCFG___     Name, *PSFCFG
    Library  . . . . . . . . .     __________   Name
  File   . . . . . . . . . . .   *SPLF_____     Name, *SPLF
  User Data  . . . . . . . . .   *SPLF_____     Character value, *SPLF
  Form Type  . . . . . . . . .   *SPLF_____     Character value, *SPLF
  User Defined Data  . . . . .   *SPLF_____________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________


  F3=Exit   F12=Cancel
```

Start of defines by segment within spool

```
                          Work with Segments

 Sequence number  . . . . .  1000
 Output queue . . . . . . .  THISISIT      File . . . . . . .   FILE1
   Library  . . . . . . . .    RIGHTHERE   User . . . . . . .   JACKRABBIT
 User data  . . . . . . . .  *BLANK        Form type  . . . .   *STD

 Position to  . . . . . . .  ________________________________  Segment

  Type options, press Enter.
    1=Add   2=Change   3=Copy   4=Remove   5=Display   6=Print

  Opt  Segment identifier
   _   ____________________________________________________________...
   _   Customer A
   _   Customer B
   _   Customer C
   _   Customer D



F3=Exit   F5=Refresh   F12=Cancel
```

iSeries Navigator
iSeries Access for Web
API Interface

Notes: iSeries Navigator, iSeries Access for Web, API

A big change with V5R2 is the integration of e-Output functionality into basic interfaces and system functions of OS/400. This includes integration of PDF and e-mail into iSeries Navigator and iSeries Access for Web. Let's take a closer look at this.

iSeries Navigator V5R2

iSeries Navigator e-Output Functions:

- PDF and e-mail functions built into iSeries Navigator
  - Active when Infoprint Server is installed
- Select single or multiple spooled files
- Define action, and action parameters
  - PDF to e-mail
  - PDF to IFS (Integrated File System)
  - PDF to output queue (for printing on PDF printers)

Customer Value

- Interactive, ad hoc access to PDF and e-mail functions provides benefits of electronic output whenever you need it.

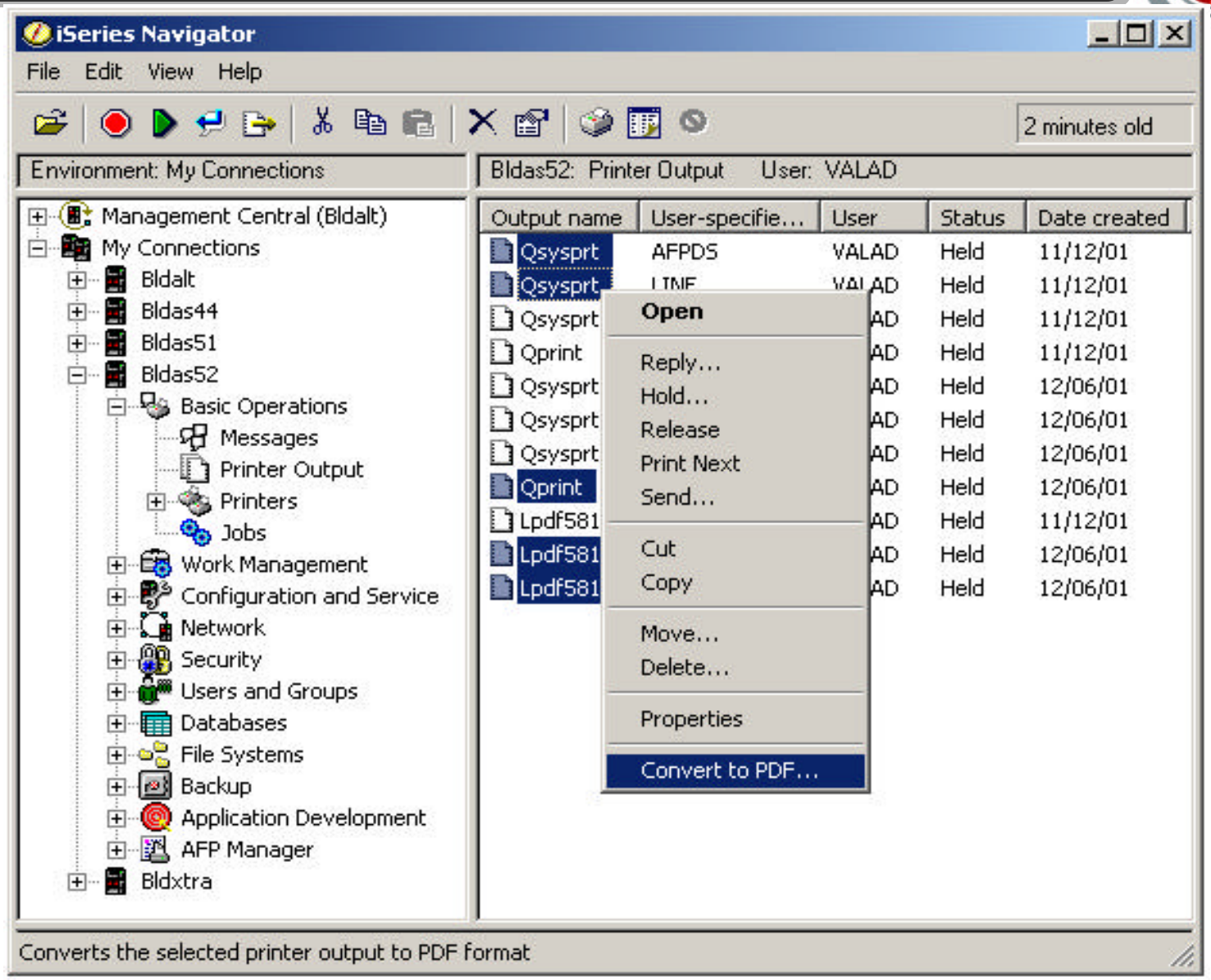
Notes: iSeries Access V5R2

iSeries Access (featuring iSeries Navigator) is enhanced for V5R2. The GUI elements that work with output queues and print files have been expanded and include ad hoc access to PDF and e-mail functions. These functions are active when iSeries Navigator detects that Infoprint Server is installed.

Web Access also taps into PDF services. From the Web Access browser, customers would like to select output files and display and/or print them. The delivery mechanism employed by Web Access is to pass the selected file to the PDF subsystem, get back the PDF file, then pass the PDF to Acrobat which automatically opens the file in the browser automatically.

The technique to interface to PDF and e-mail functions used by iSeries Navigator and Web Access is also available as an systems API. This enables customers and ISVs to tap into PDF and e-mail services dynamically.

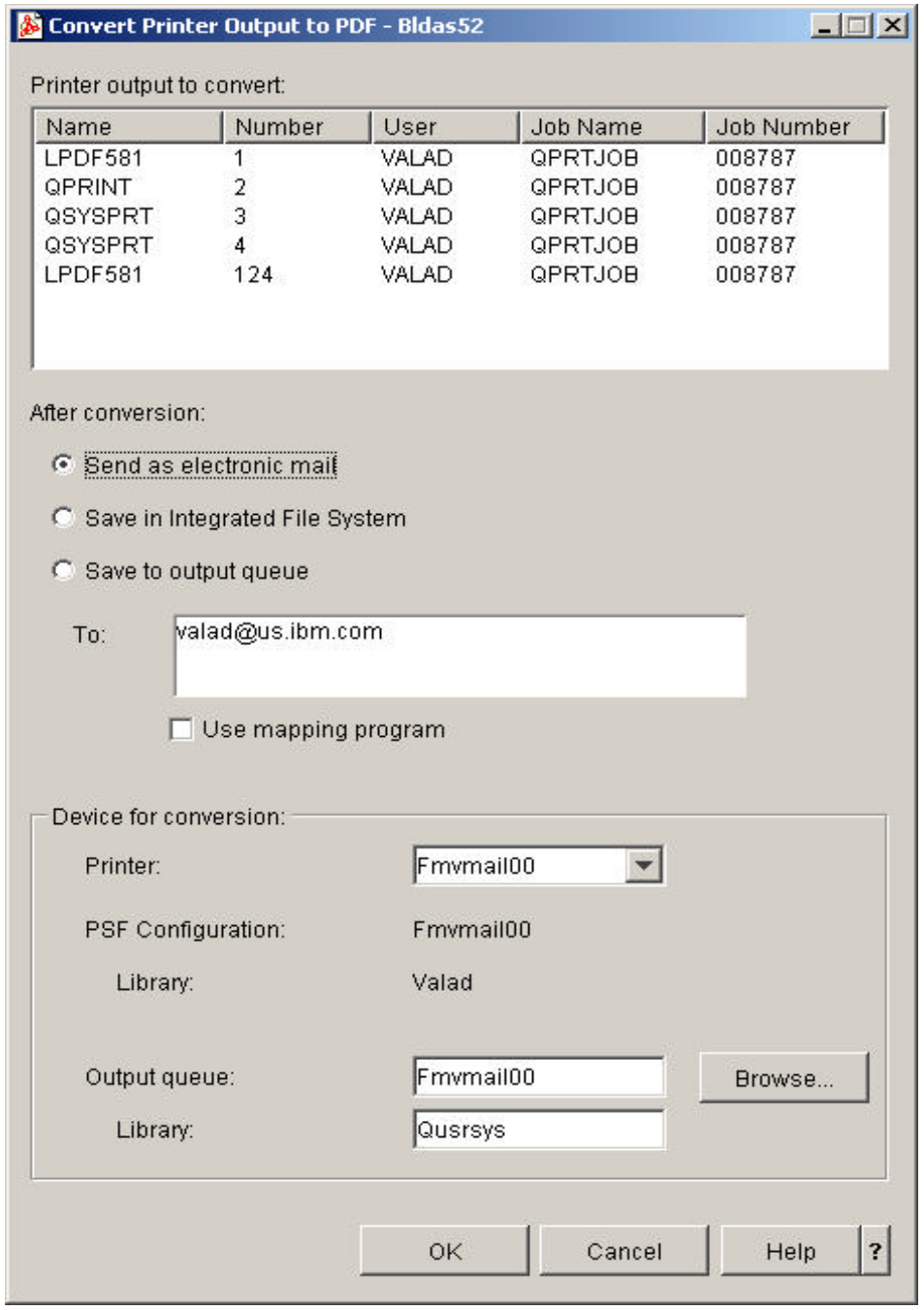
Navigator PDF Interface



Notes: Output Options Dialog

This is the iSeries Access (Navigator) display. Several print files have been selected. The resulting dialog enables access to PDF functions.

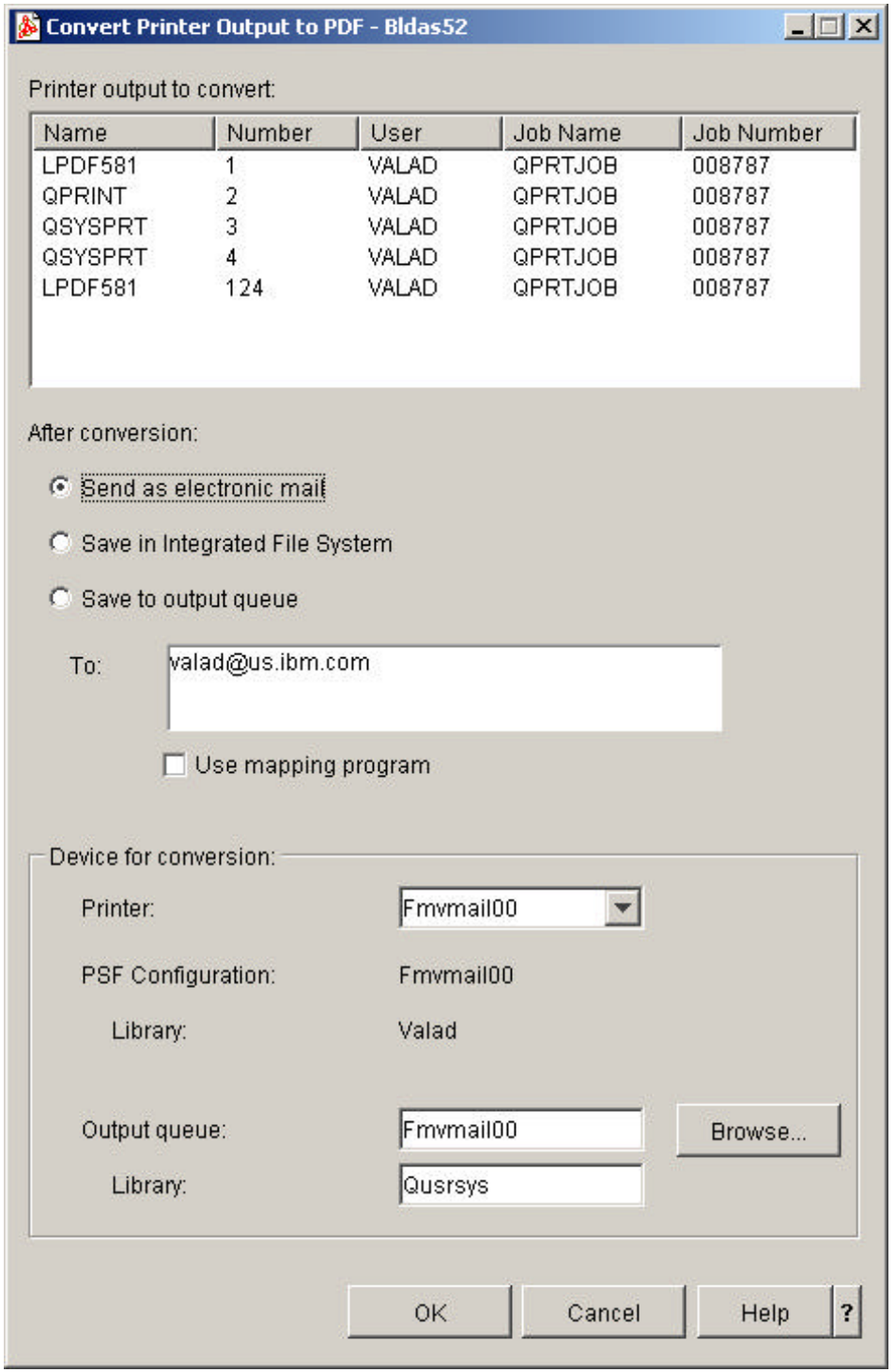
Options dialog



Notes: PDF Dialog

The following dialog enables you to define what PDF options you want. You can produce PDF and have it routed to (1) e-mail, (2) the iSeries database, or IFS, and (3) back to an output queue.

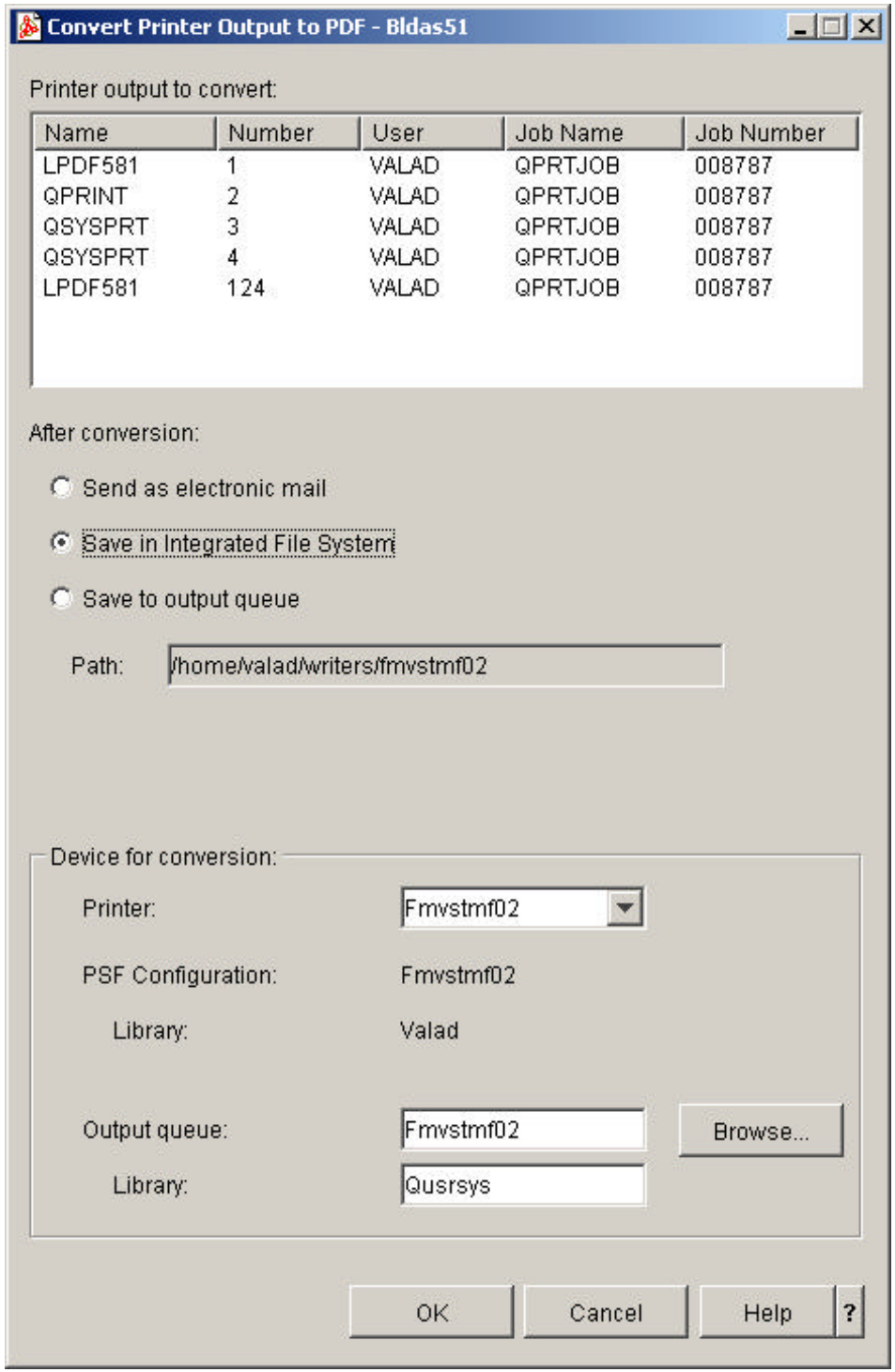
E-mail dialog



Notes: E-mail Dialog

This is the dialog when e-mail is selected.

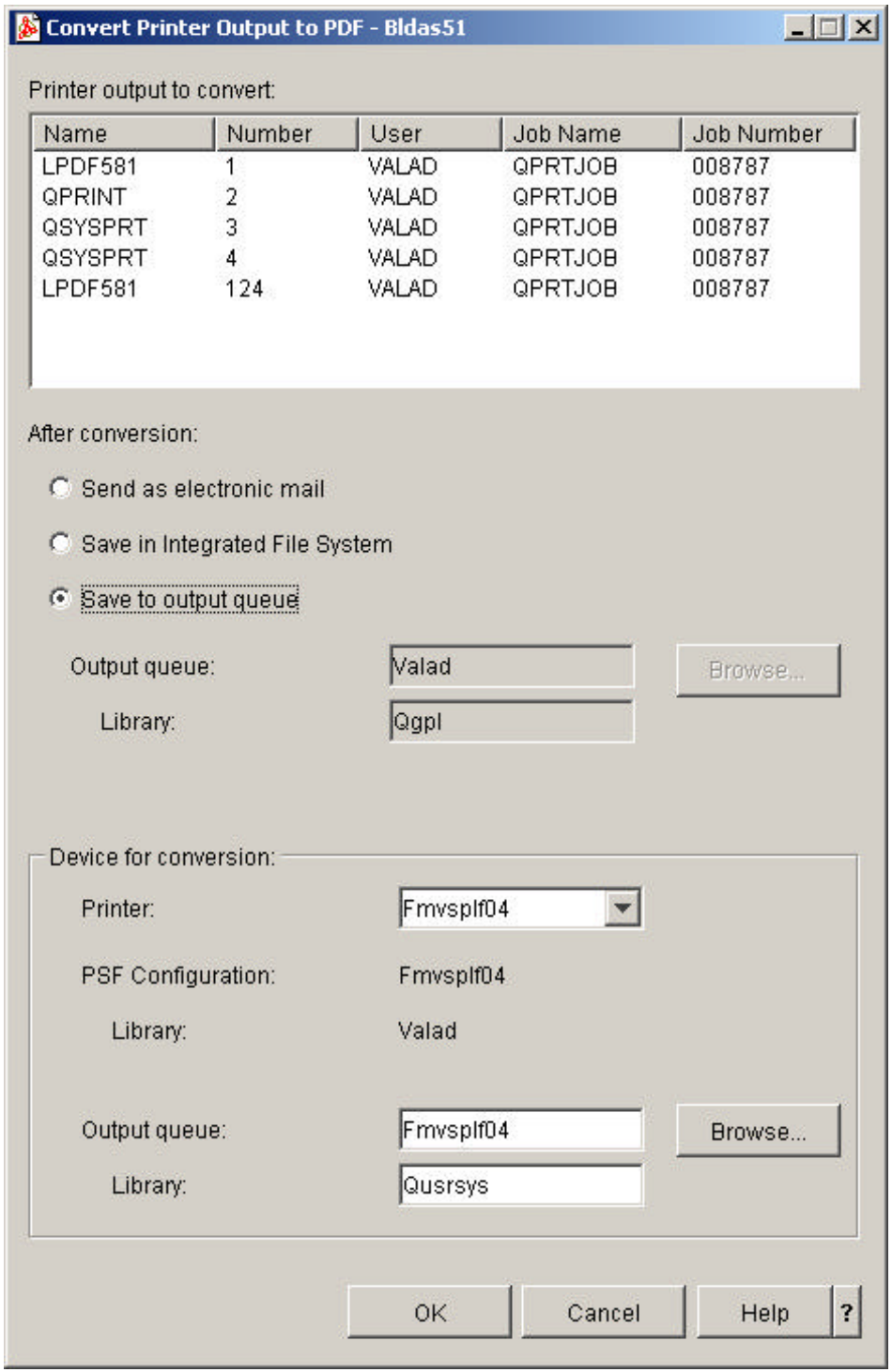
IFS dialog


Convert Printer Output to PDF - Bldas51
Printer output to convert:
Name Number User Job Name Job Number
LPDF581 1 VALAD QPRTJOB 008787
QPRINT 2 VALAD QPRTJOB 008787
QSYSPRT 3 VALAD QPRTJOB 008787
QSYSPRT 4 VALAD QPRTJOB 008787
LPDF581 124 VALAD QPRTJOB 008787
After conversion:
Send as electronic mail
Save in Integrated File System
Save to output queue
Path: /home/valad/writers/fmvstmf02
Device for conversion:
Printer: Fmvstmf02
PSF Configuration: Fmvstmf02
Library: Valad
Output queue: Fmvstmf02
Browse...
Library: Qusrsys
OK
Cancel
Help
?

Notes: IFS Dialog

This is the dialog when you request that the spooled file(s) be written to IFS (Integrated File System).

Outq dialog


Convert Printer Output to PDF - Bldas51
Printer output to convert:
Name
Number
User
Job Name
Job Number
LPDF581 1 VALAD QPRTJOB 008787
QPRINT 2 VALAD QPRTJOB 008787
QSYSPRT 3 VALAD QPRTJOB 008787
QSYSPRT 4 VALAD QPRTJOB 008787
LPDF581 124 VALAD QPRTJOB 008787
After conversion:
Send as electronic mail
Save in Integrated File System
Save to output queue
Output queue:
Valad
Browse...
Library:
Qgpl
Device for conversion:
Printer:
Fmvsplf04
PSF Configuration:
Fmvsplf04
Library:
Valad
Output queue:
Fmvsplf04
Browse...
Library:
Qusrsys
OK
Cancel
Help
?

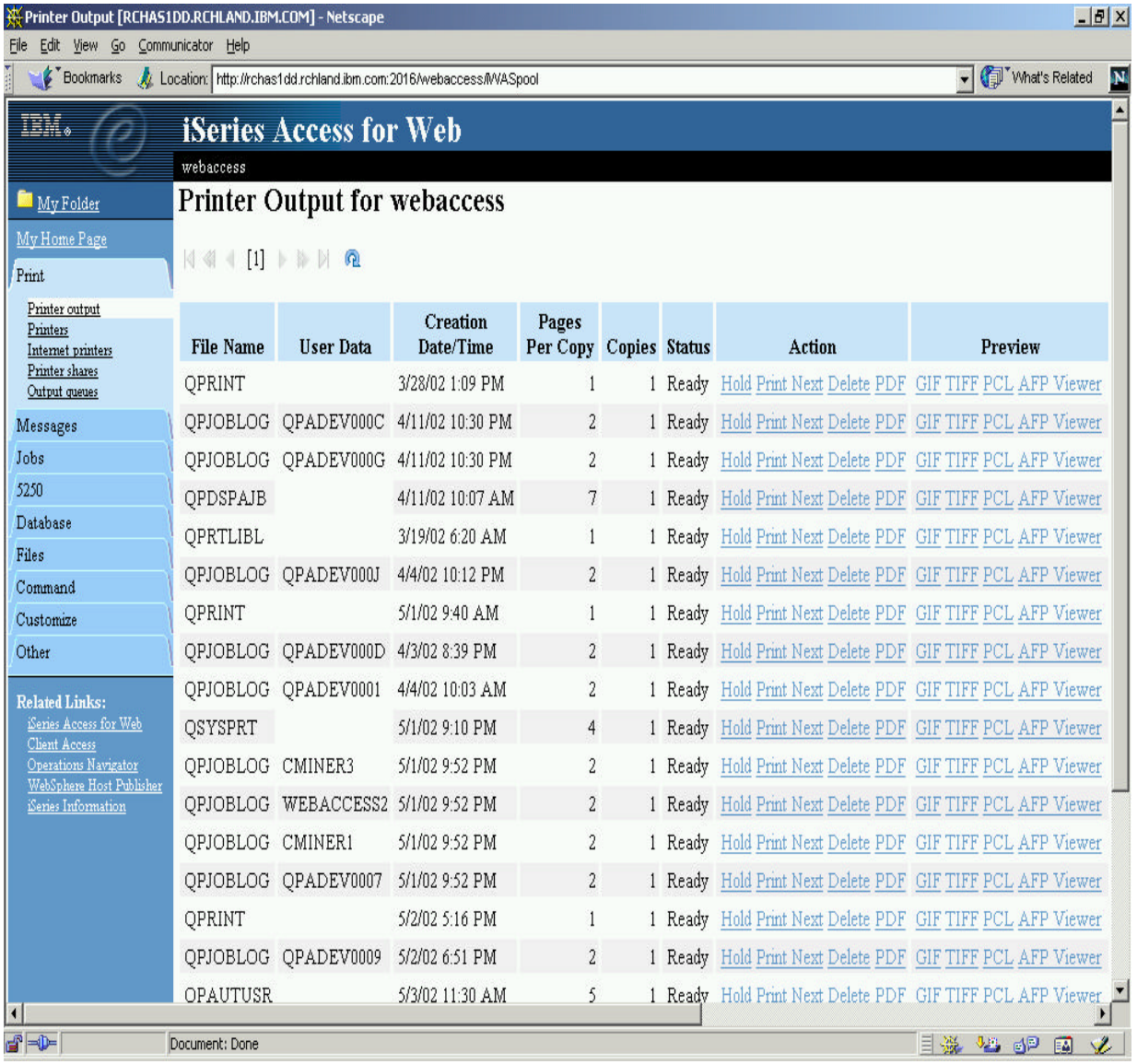
Notes: Output Queue Dialog

This is the dialog when you request routing of the PDF to an output queue.

iSeries Access for Web

Browser GUI for iSeries:

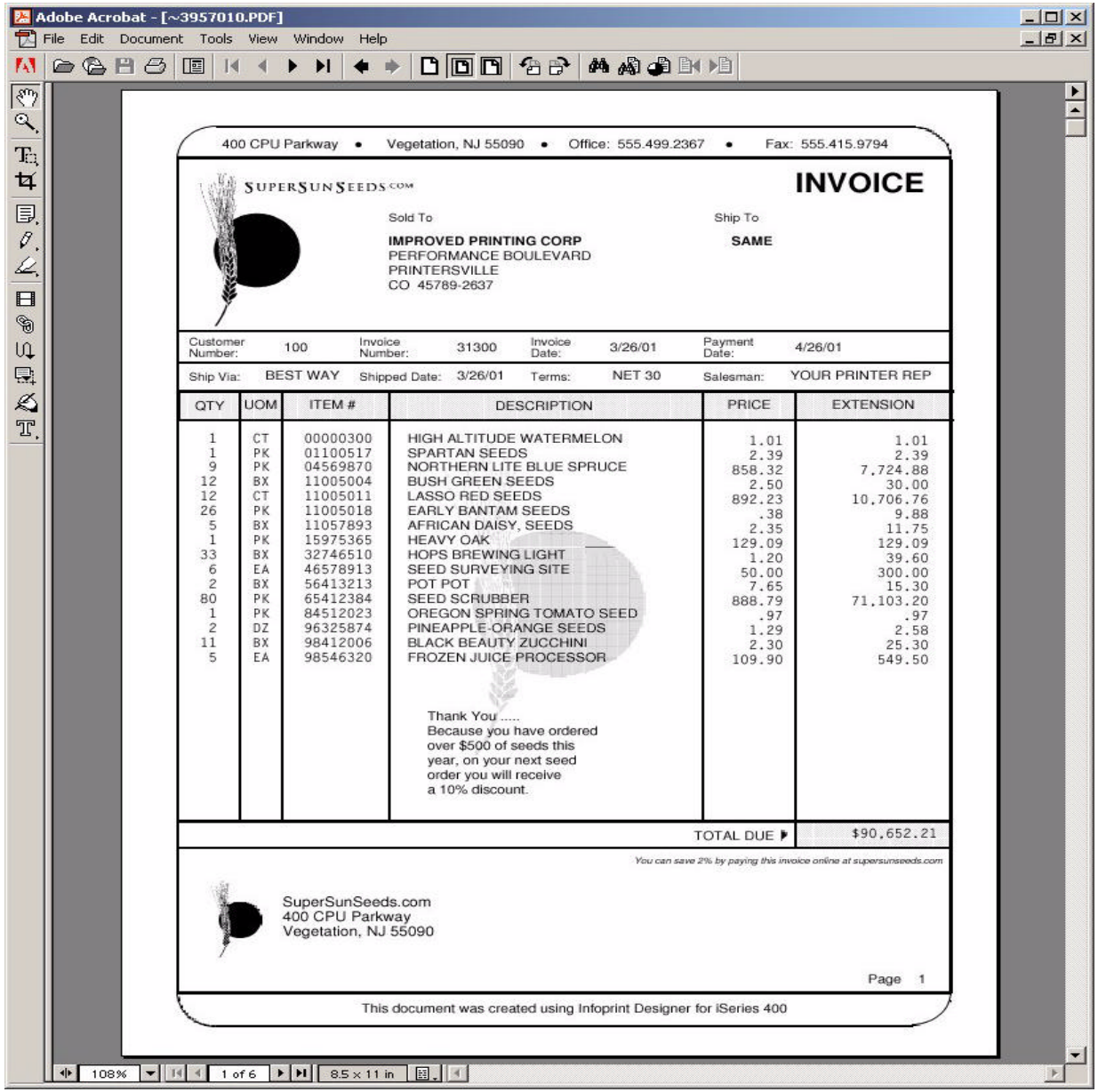
- Displays output queues and print files
- Base print support via TIFF image
- PDF print support
  - Selected automatically if Infoprint Server installed
  - Converts print file to PDF
  - Uses SpoolCopy API
  - Automatically delivers PDF into Acrobat Reader



Notes: iSeries Access for Web

This is the browser interface provided for iSeries Access for Web. This provides iSeries Navigator-like output queue functions but from a browser.

iSeries Access for Web: Print File as PDF



Notes: iSeries Access for Web

Sample of the PDF produced for iSeries Access for Web. Once you select a spooled file within an output queue, the file is passed to the PDF subsystem and converted to PDF. Then, iSeries Access for Web passes the PDF back to the browser, automatically opening it within the Adobe Acrobat Reader.

API for PDF and e-mail

Java Spooled file copy method

- Produces an identical copy of target spooled file, except for the spooled file number and timestamp
- Enables PDF and e-mail parameters to be associated with the copy as the copy is routed to a PDF queue.
- Same API methodology as used by iSeries Navigator and iSeries Access for Web
- Part of Java Toolbox

API Technique

- API controlling program knows target spooled file and uses copy method to copy target file to PDF queue.
- Controlling program monitors PDF data queue for completion, then selects PDF and routes it where desired (i.e.. to a web-facing browser)

Notes: API Using Java Copy Method

This new system API is shipped with the Java Toolbox. It provides for an identical copy of a target spooled file to be made and routed to an output queue. This enables the application developer to set up a dynamic, programmed interface to PDF and e-mail services. This is the same technique used by both iSeries Navigator and iSeries Access for Web to utilize Infoprint Server functions.

The copy does three things, (1) provides an identical copy of the target spooled file, leaving the target spooled file as is for other disposition, (2) enables PDF and e-mail parameters to be associated with the new copy, and (3) drops the spooled file in the specified output queue, which would be a PDF writer queue.

The API process would use the SpooledCopy method to create the duplicate spooled file and drop it into a PDF queue. It would monitor the PDF data queue to see when PDF processing has completed. Then, it could grab the PDF file and take whatever "downstream" action was desired.

Infoprint Designer for iSeries

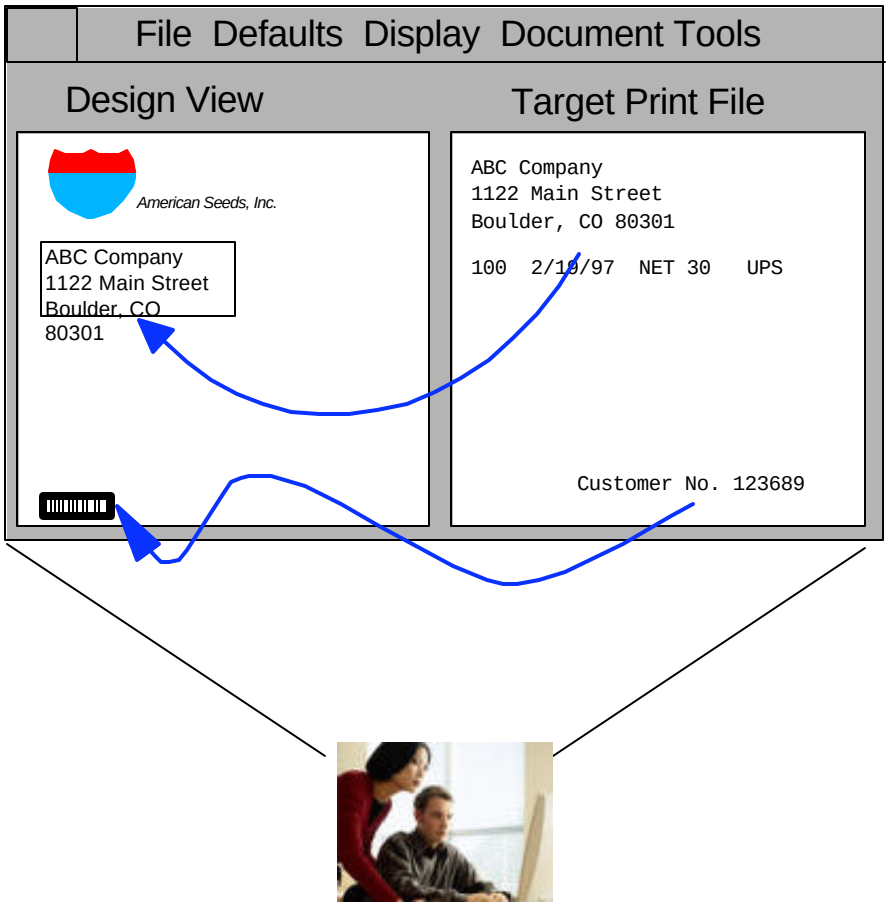
Notes: Infoprint Designer

We're now going to talk about Infoprint Designer, the integrated document design "front-end" for iSeries.

Infoprint Designer for iSeries

Product Summary

- State of the art design front-end to the robust, integrated AFP/IPDS print/presentation subsystem on iSeries-AS/400, geared for the non-technical user



Key Features

- **Overlay Design** editor for designing electronic forms
- **Image Design** editor for designing images
- **Layout Design** editor for designing the entire print application
- Creates standard OS/400 print resources
- Integrated for design
- Integrated for production
- Professional, high-precision system geared to the demands of business
- Output redesign without application changes
- AFP Font Collection fonts built in
- Product ID 5733-ID1
- OS/400 V4R5 required

Notes: Infoprint Designer

Infoprint Designer is new and runs on V4R5 and V5.

Infoprint Designer for iSeries provides a fully-graphical document composition interface to the iSeries-AS/400 printing and e-output system. It supports the requirements of today's complex documents and reports, producing fully electronic documents combining data, text, electronic forms, graphics, image, bar coding, and typographic fonts. Infoprint Designer for iSeries can be used for the design of new output applications or the reengineering of existing applications.

Infoprint Designer for iSeries consists of three components:
Infoprint Overlay Editor designs overlays (electronic forms) to be used in the print application
Infoprint Image Editor designs the images to be used in the print application
Infoprint Layout Editor puts all the design components together into the final document or report

With Infoprint Designer for iSeries, you can build complex print applications easily. It enables you to design image components, design electronic forms, automatically retrieve current application data or spooled files, design the final page layout, and upload all component resources to the iSeries-AS/400 so the application can be put into production. The entire interface is designed for a non-technical user.

You really need a demo to appreciate the ease of use, power, precision, and integration of Infoprint Designer. See:

http//:www.ibm.com/eserver/iseries/printing

for the Infoprint Designer homepage, the place to order the demo CD.

Infoprint Designer is integrated in three ways, (1) design functions are integrated with automatic retrieval of application data and automatic upload and creation of print resources, (2) you are designing iSeries page resources in native formats, and (3) the application resources enable the designed print application to be put into production with a simple printer file change.

Under the covers, Infoprint Designer defines the format of pages with page and form definition resource objects. These are part of the iSeries print architecture. Designing with these resources is application-independent (unlike DDS). They are also compatible with existing or new applications that define output data with DDS. With V5R1, OS/400 will automatically write these applications as full AFP (ensuring viewing and PCL support).

Infoprint Designer Enhancements

- Easy to use Design Wizard for complex application development
  - Provides GUI Wizard that guides user through multi-page and conditional processing design
  - Significantly enhances ease of use for complex applications
- 2D Barcode
  - UPS Maxicode, PDF417, & Datamatrix
- National language support
- Finishing (i.e.. stapling, punch) by sub-document or group
- Expanded design samples
- MICR fonts
- Base version is V4R5
- Enhancements and fixed delivered via PTF - current version is 1.11

Notes: Infoprint Designer V5R2

Infoprint Designer has the following enhancements planned for the V5R2 time frame. Since Infoprint Designer is predominantly Windows code, it is enhanced on an ongoing basis. The current Designer release is 1.12.

Two-dimensional barcode support includes UPS Maxicode, PDF417, and Datamatrix. These are new barcode symbologies that are far denser in data than traditional barcodes. For example, a UPC barcode can store 10-12 characters of data (representing a product ID). In contrast, a PDF417 barcode can store up to 3000 characters of data. UPS Maxicode uses this capability to store all of the data associated with a package.

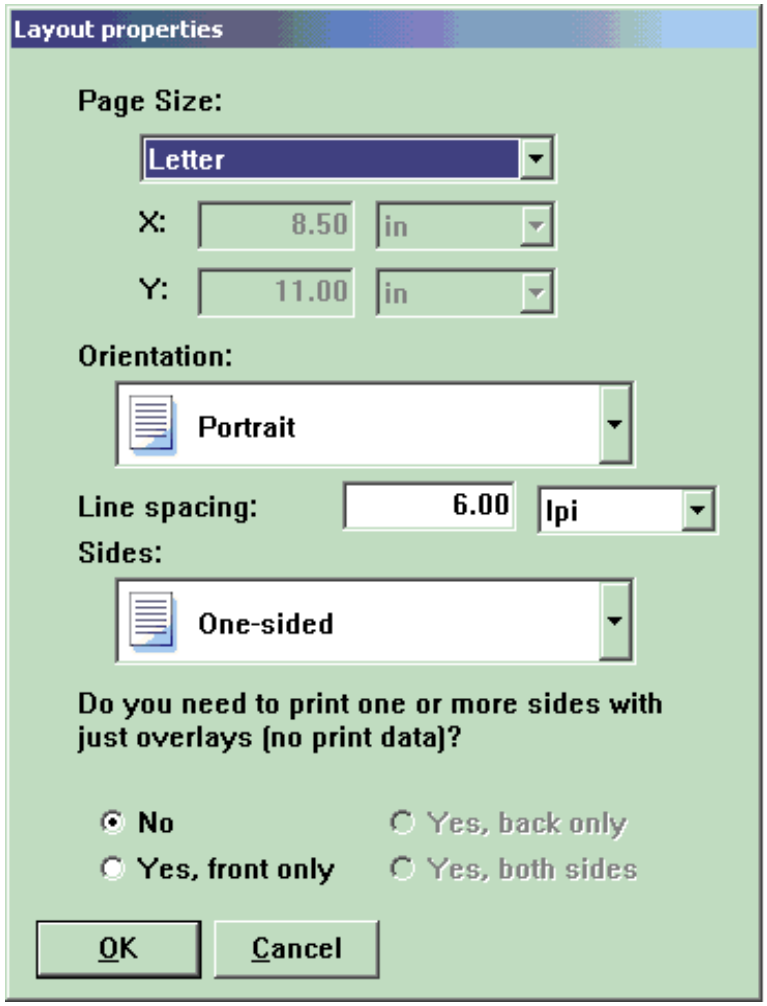
Infoprint Designer will now be available in French, Italian, German, and Spanish language versions.

Font selection in Infoprint Designer will be simplified by enabling selection by code page and character set. This provides more flexibility than the coded font selection currently available.

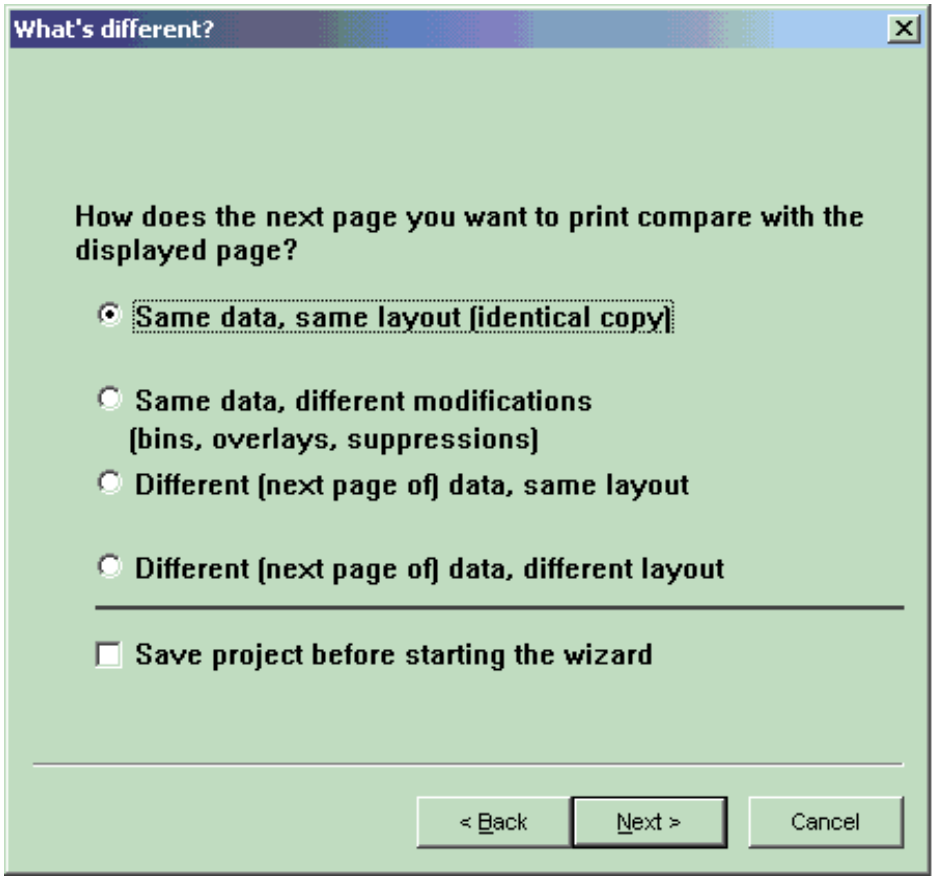
Finishing by sub-document or subgroup means that a spooled file can be electronically segmented (using several new options in V5) and finishing -- such as stapling -- can be performed on these subgroups of the spooled file.

Infoprint Designer will also come with MICR fonts -- for check applications -- and expanded project samples.

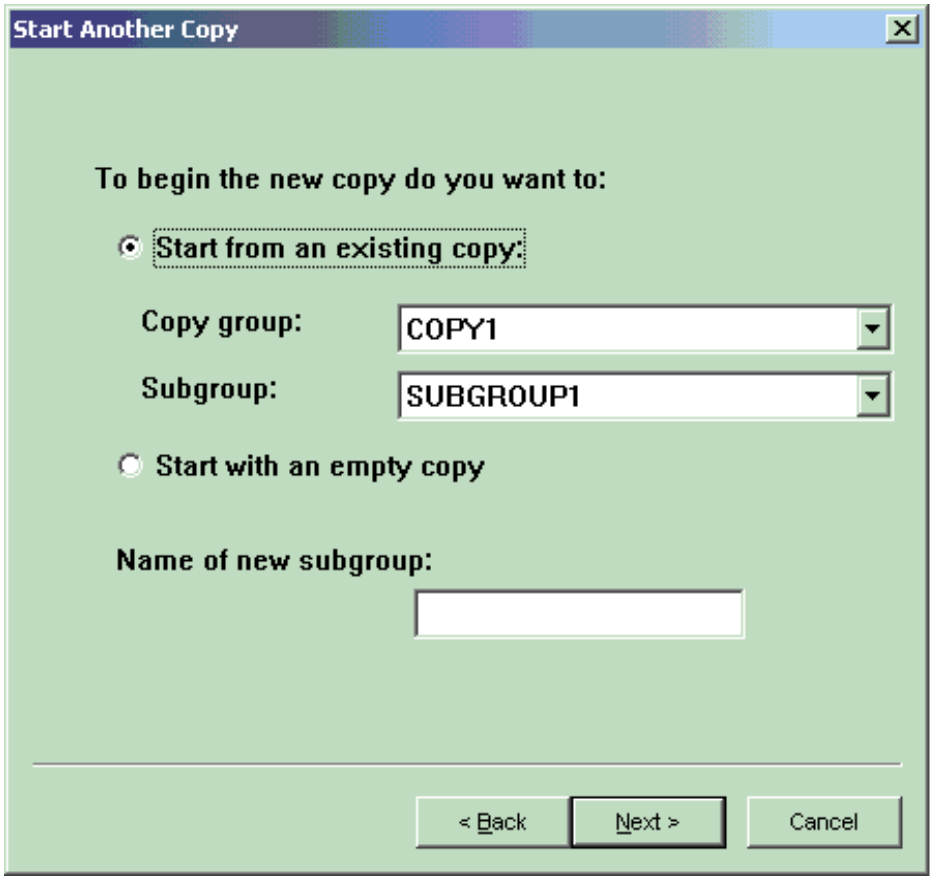
Wizard



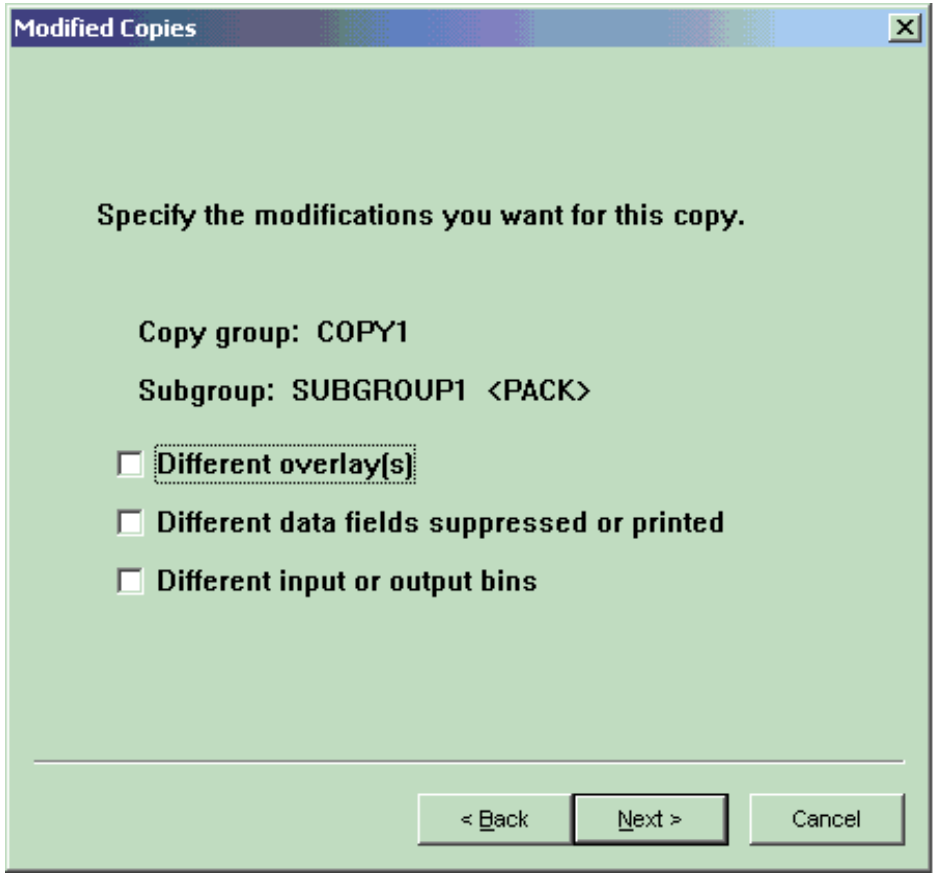
Wizard



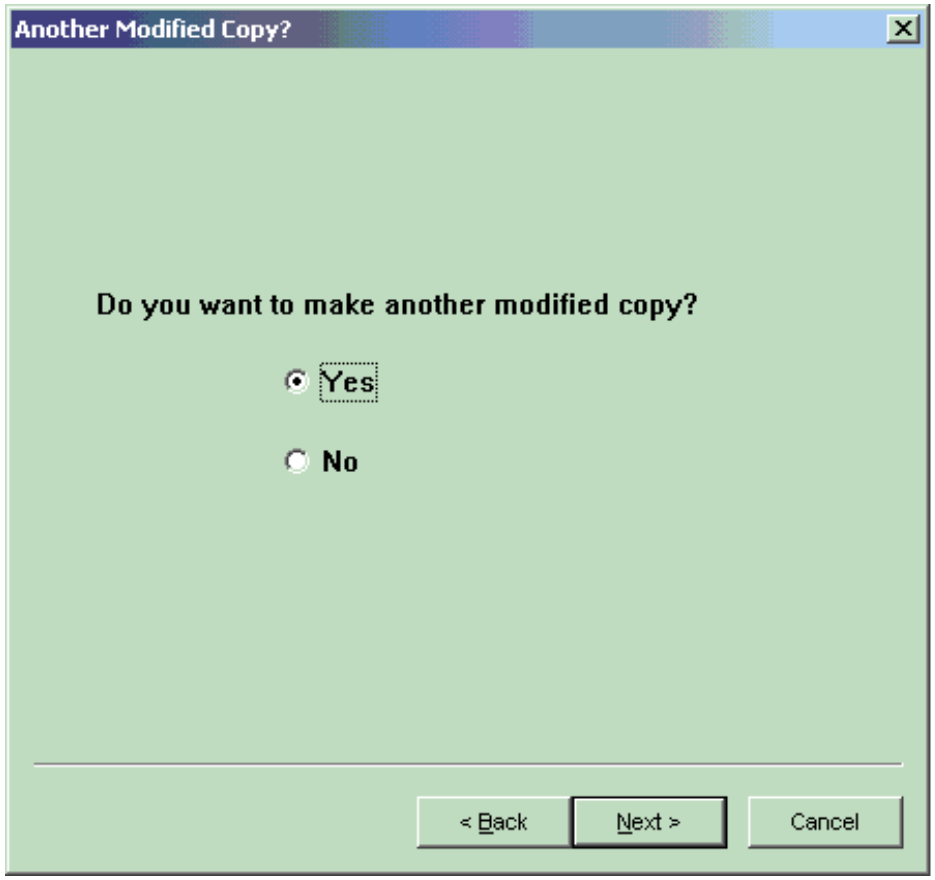
Wizard



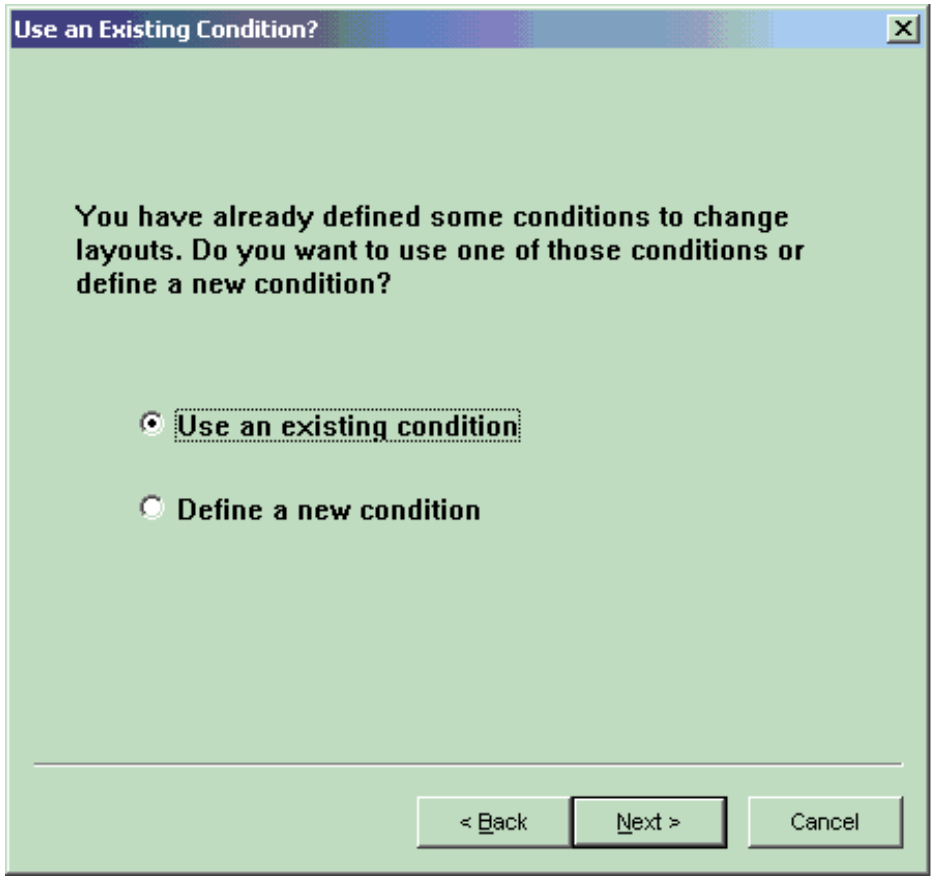
Wizard



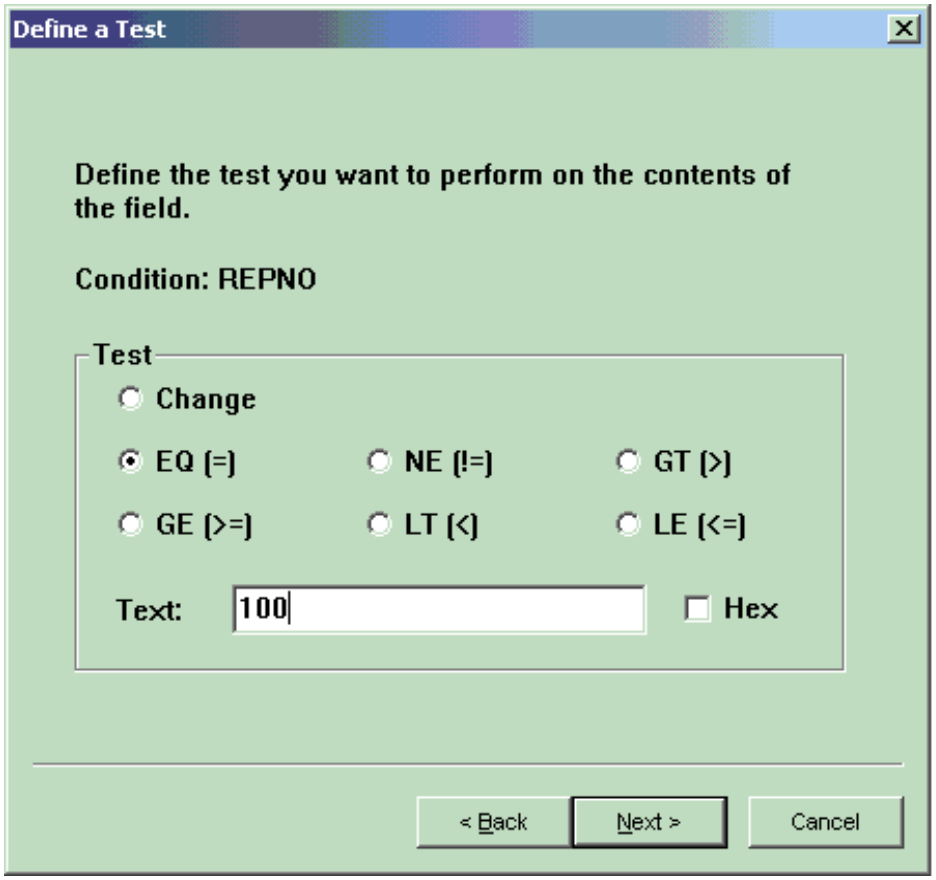
Wizard



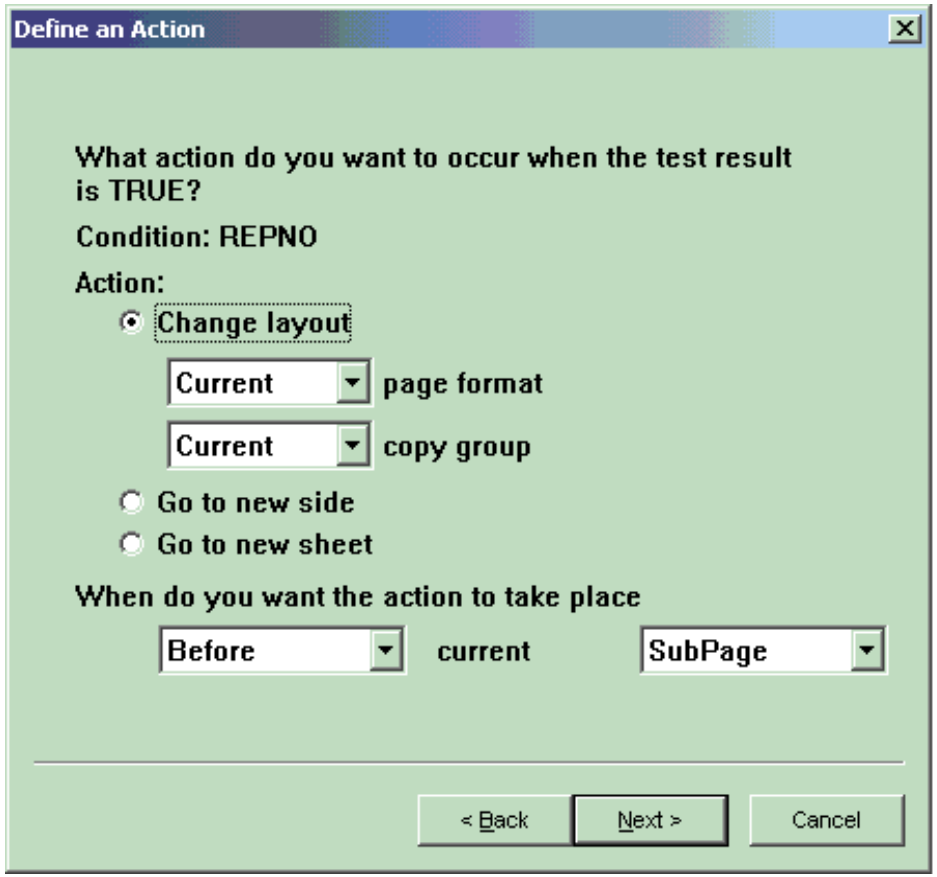
Wizard



Wizard



Wizard

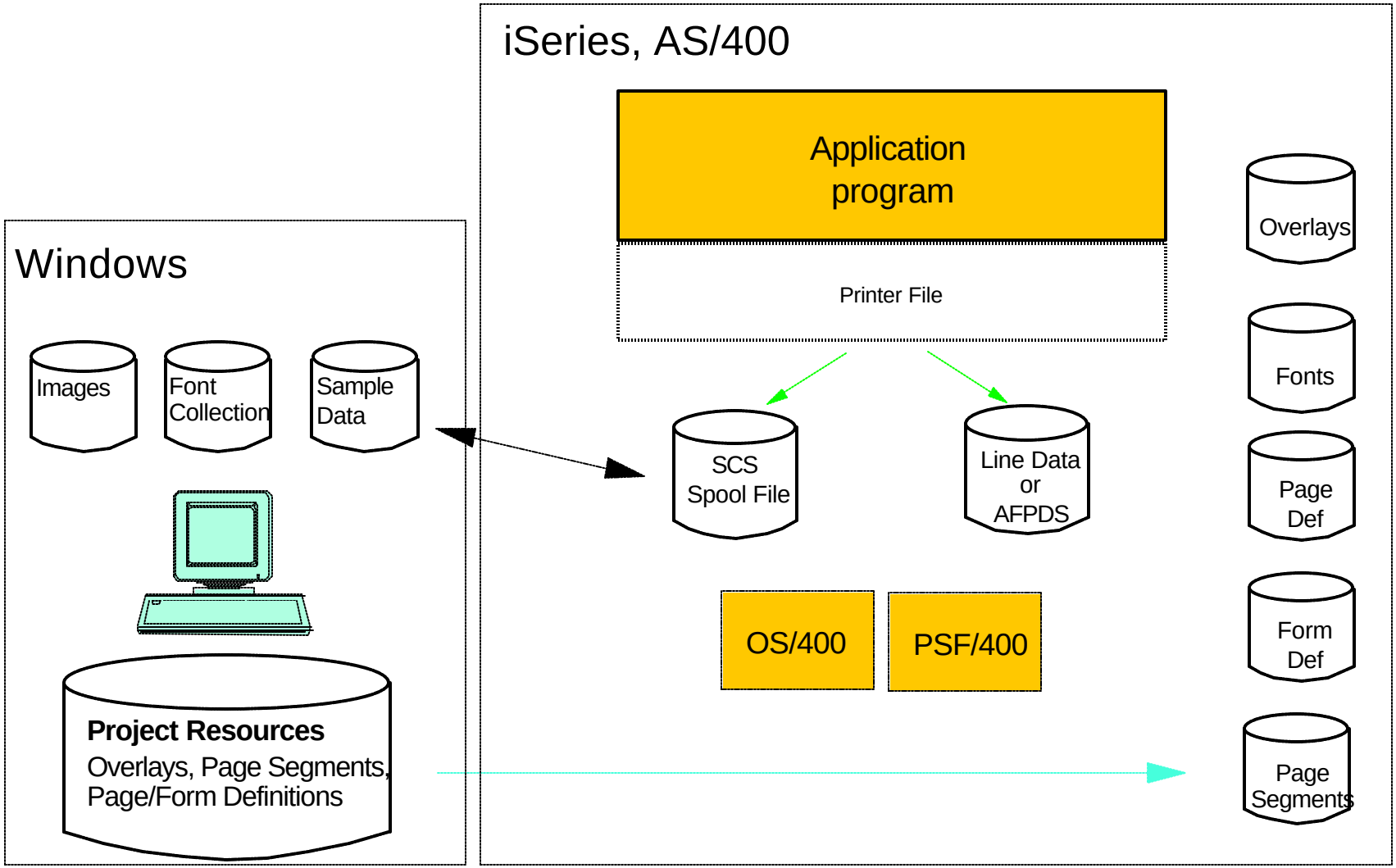


Notes: Design Wizard

PSD intends to develop an enhanced graphical user interface for easier design of complex applications. The following charts represent a sample of the design interface.

This panel support conditional logic by stepping you through the logic of what data changes in the page that should be keyed off of.

Infoprint Designer Schematic



Notes: Infoprint Designer Schematic

It is very helpful to look at an overall schematic to understand how Infoprint Designer works and how it integrates into the iSeries architecture.

This chart depicts the Windows and iSeries environments. Most of Infoprint Designer works under Windows (95, 98,NT, 2000). A Client Access Express connection is required and the interface supports upload and download as well as software license key checking.
On the iSeries side, an application program, through a printer file, produces the current line-mode (SCS) print file. This SCS output is pulled into the Infoprint Designer layout editing process.

On the Windows side, all of the standard fonts are already built it and ready to go. You can easily add additional fonts -- converting any TruType for Adobe font using Type Transformer. Images that will be used can be designed and edited with Image Editor. A design application is called a project. Under the covers during the design process, standard design resources are created. This are overlays, page segments, page definitions, and form definitions.

When the design is done, you select "File" and "Upload to AS/400" on the Infoprint Designer interface and all of the resources are automatically uploaded to the iSeries and the appropriate iSeries object create command is run.

At this point, everything is ready to go on the iSeries except for one small change. The printer file, which is the central control point for application output., must point to the newly designed resources. Using either a change printer file or override printer file option, the printer file for the application program is adjusted to point to the new design objects. The next time the application is run, it sees that it has a new set of instructions. The application creates AFP output, not SCS and the application has been dynamically transformed.

Summary

Notes: Summary

Time to recap.

Summary

V5R1 can:

- produce PDF from any iSeries output
- e-mail automatically any iSeries output
- publish iSeries output in either PDF or AFP format for web/client access
- design iSeries output applications with a new, integrated, fully graphical system
- archive iSeries output to a new, strategic, fully web-enabled archival system
- develop server print applications in Java
- print directly to iSeries-attached printers using Internet Print Protocol (IPP)
- segment iSeries output electronically for presentation or e-mail
- manage printing with the iSeries from any ERP software
- separate page formatting from applications without giving up anything
- Integrate web image into iSeries output applications
- print directly to PDF printers

V5R2 adds:

- Comprehensive control over e-mail distribution and content
- SMTP support for integration with most mail servers
- PDF size control and bookmarking
- API access to PDF and e-mail functions
- Planned interactive configuration of PDF and e-mail
- Infoprint Designer enhancements including wizard-based complex design, 2D barcode, MICR, national language, finishing
- 2D barcode support integrated in DDS
- Finishing by group
- XML formatting with page definitions
- PDF and e-mail functions in iSeries Access
- PDF printing in Web Access
- IPP Client Support
- New iSeries printers

Notes: Summary

Here you get a summary of the print and e-Output functions that have been added with V5R1 and V5R2.

Summary, continued

V5R2+ adds:

- Intelligent Routing
- Delivery options by segment
- Multiple deliveries per segment
- AFP print respool for print/fax
- Command interface (Input/Action) to PDF processing
- PDF encryption
- PDF orientation control (rotation)
- Infoprint Designer enhancements
- Planned enhanced multi-channel input and multi-channel output e-output solution

Additional Information

Support by Phase:

Phase:	Infoprint Designer	Infoprint Server
Pipeline	Boulder, EMEA IMC Programs EMEA IBM Campaigns BP Campaigns	Boulder, EMEA, iSeries IMC EMEA IBM Campaigns BP Campaigns
Interest	iSeries Print web site	iSeries Print web site
Hands-on, demo	Infoprint Designer demo CD (on web site, will be bundled with V5R2)	70-day Try and Buy (automatic with V5) EMDEMO - end to end example Operations Navigator demo
Proof of Concept	Infoprint Designer product CD and temporary license key	70-day Try and Buy (automatic with V5)
Competitive Positioning	Marketing Aid on sales site	Marketing Aid on sales site Competitive Analysis results
References	Gannett, Bertrams Books (UK)	E. D. Smith, Lin-Pac
Education	Getting Started Guide Redbook VI iSeries Jumpstart Services Infoprint Designer University (K2516)	Product documentation Redbook VI iSeries Jumpstart Services Infoprint Server University (K2518)
Implementation	On-site education and implementation (i.e. Gannett)	Implementation services (Lin Pac)
Close	2003 Promotions	2003 Promotions
Marketing Support	ATS, Techline, Field Specialists, Select BPs iSeries Product Managers	ATS, Techline, Field Specialists, Select BPs iSeries Product Managers
Customer Support	iSeries Supportline	iSeries Supportline

Pricing

- Infoprint Server for iSeries, 5722-IP1

P05	P10	P20	P30	P40	P50	P60
595	1495	2495	4295	5995	7995	9995

- Infoprint Designer for iSeries, 5733-ID1

Per Client
6,000

- Print Services Facility for iSeries, 5722-SS1

1-45 PPM	1-100 PPM	Any Speed
2495	4500	6995

  - Infoprint Server requires OS/400 V5R1 or above
  - Infoprint Designer requires OS/400 V4R5 or above
  - PSF/400 is a priced feature of OS/400 and includes the AFP Font Collection

Marketing Support Materials

Customer Deliverables

- Executive brochure, fact sheets for Server, Designer, PSF/400, APU, PPFA, PrintSuite, Font Collection, **Application Briefs**
- Press release/briefings, eServer Magazine (iSeries Edition) features including new **Output Corner**, iSeries News features
- iSeries System Handbook, iSeries Configurator, Quick Pricer, IBM Direct catalog, Shop IBM
- Designer demo, **Designer Screencam**
- **iSeries Printing Redbook VI**
- **Redbook Update for V5R2**
- **iSeries Guide to Output (New)**

Marketing Deliverables

- iSeries printing and e-output on PSD Sales Site, including iSeries Print Marketing Aid, presentations
- Designer demo CD, Screencam, **New Designer flash**
- **Infoprint Server demo (EMDEMO)**

Marketing Programs

- **Webinar** customer demo program
- AFP Utilities migration promotion
- SW bundling promotion
- Beta program
- iSeries roadshows
- Rochester Executive Briefing Center

Business Shows

- COMMON, Xplor, Partnerworld

Customer Education

- iSeries Beta, ISV Disclosure, iSeries Tech Conferences, iSeries Announcement Forums. COMMON training
- **Designer University (K2516)**
- **Server University (K2518)**
- iSeries Jumpstart (PSD Services)

Internal Education

- iSeries Sales Forum, iSeries Tech Forums, PSD Specialist Ed, **i-2003 Workshop for PSD and BP**, Web sales course for iSeries, eServer U, Sales Kickoffs,

www.ibm.com/printers/iseries

w3.printers.ibm.com/sales

Technical Reference:

Reference:

- iSeries Guide to AFP and PSF (S544-5319)
- **IBM AS/400 Printing VI (SG24-6250)**
- IBM AS/400 Printing V (SG24-2160)
- Infoprint Server for iSeries Users Guide (G544-5775)
- Getting Started with Infoprint Designer (G544-5773)
- AS/400 System API Reference (SC41-4801)
- iSeries Printer Device Programming (SC41-5713)
- AS/400 TCP/IP Configuration and Reference (SC41-5420)
- Ethernet and Token Ring Configuration Guide (G544-5711)

Education:

- Infoprint Server Implementation - K2518
- Infoprint Designer University - K2516

www.ibm.com/eserver/iseries/printing

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