Printing Systems

V5 Printing and e-Output Overview

Fitting output into the e-business equation

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Printing and e-output

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Printing and e-output

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INVOICE

Sold To
IMPROVED PRINTING CORP
PERFORMANCE BOULEVARD
PRINTERSVILLE
CO 45789-2637

Ship To
SAME

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

QTY	UOM	ITEM #	DESCRIPTION	PRICE	EXTENSION
1	CT	00000300	HIGH ALTITUDE WATERMELON	1.01	1.01
1	PK	01100517	SPARTAN SEEDS	2.39	2.39
9	PK	04569870	NORTHERN LITE BLUE SPRUCE	858.32	7,724.88
12	BX	11005004	BUSH GREEN SEEDS	2.50	30.00

create an
electronic document

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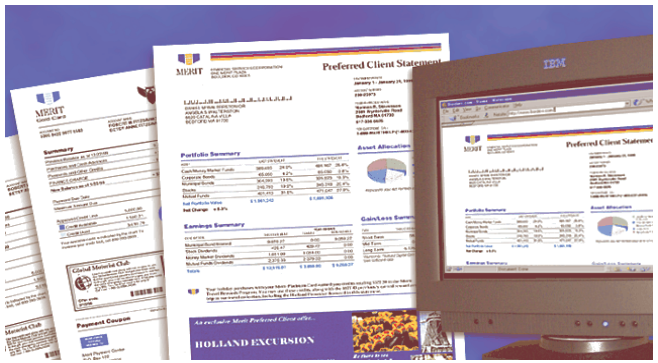
Printing and e-output



view

create

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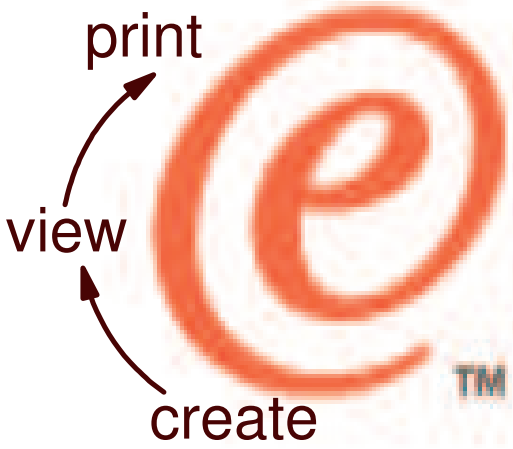
Printing and e-output



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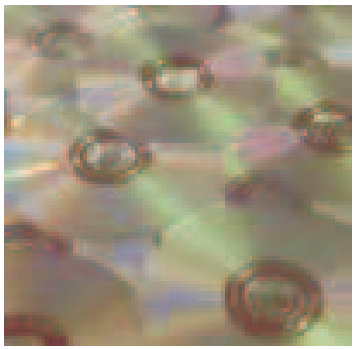
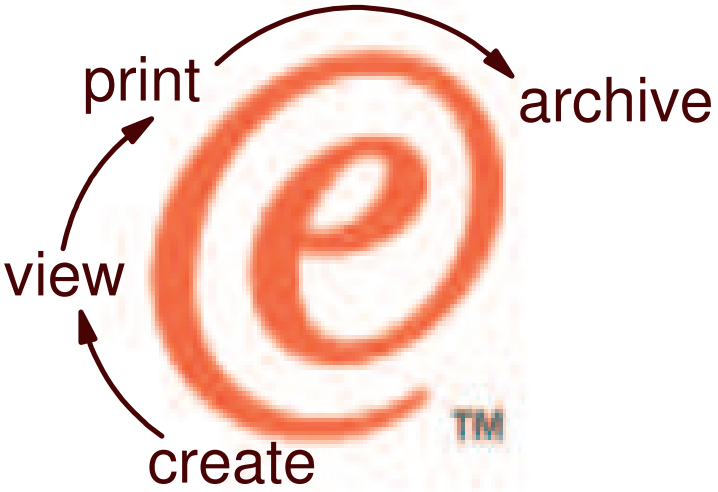
Printing and e-output





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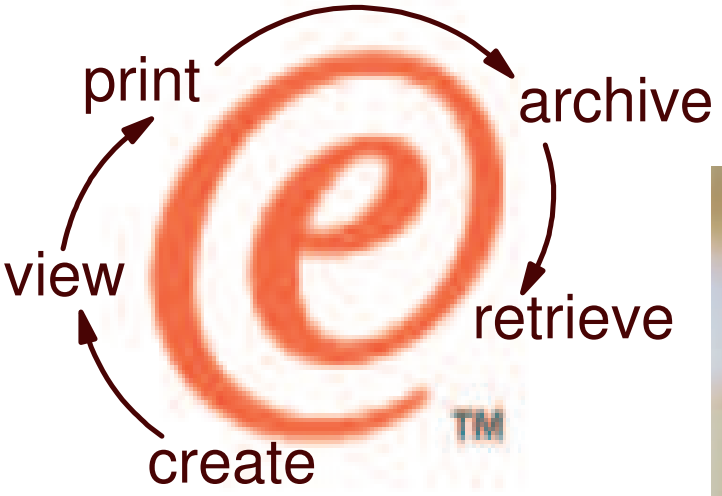
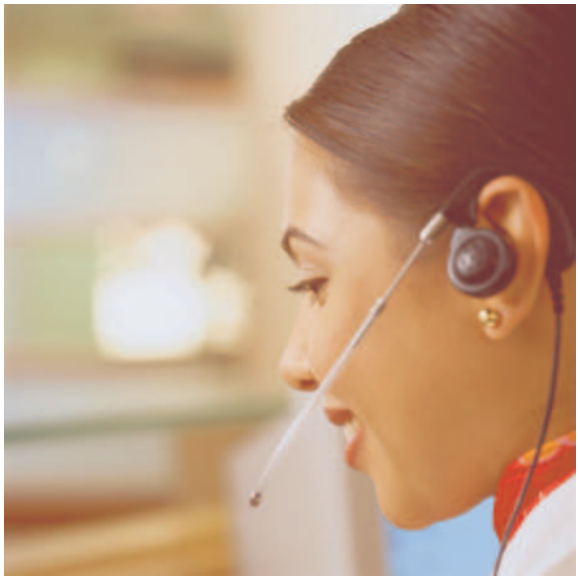
Printing and e-output





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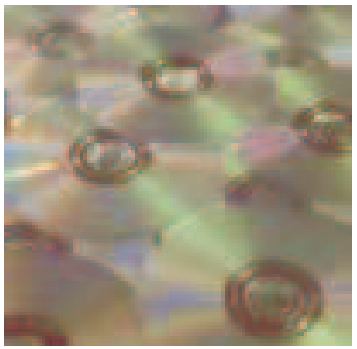
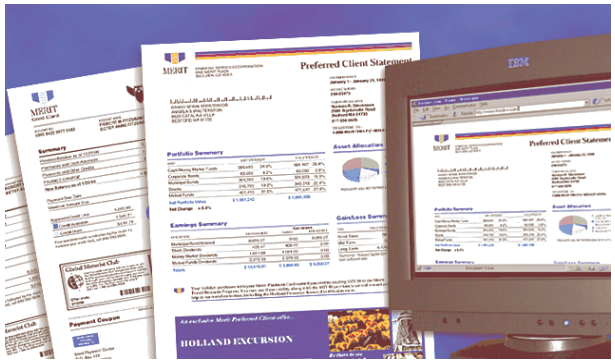
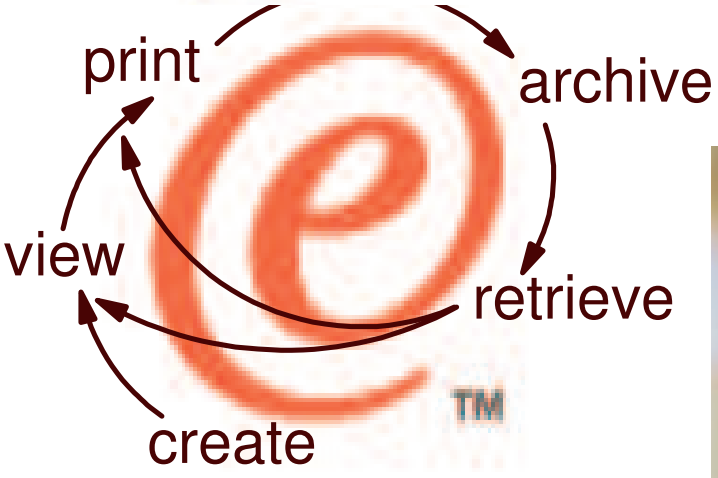
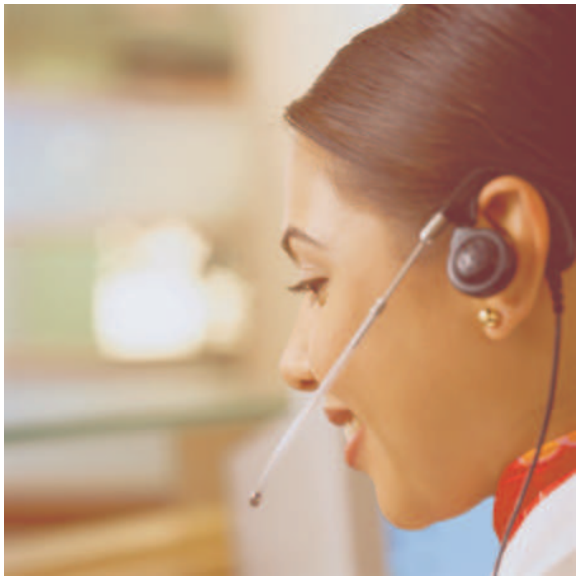
Printing and e-output









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Application Direction

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

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What is e-Output?

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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

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

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

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Why e-Output applications?

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

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Application Examples

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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.

Infoprint Designer for iSeries

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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.

Infoprint Server for iSeries

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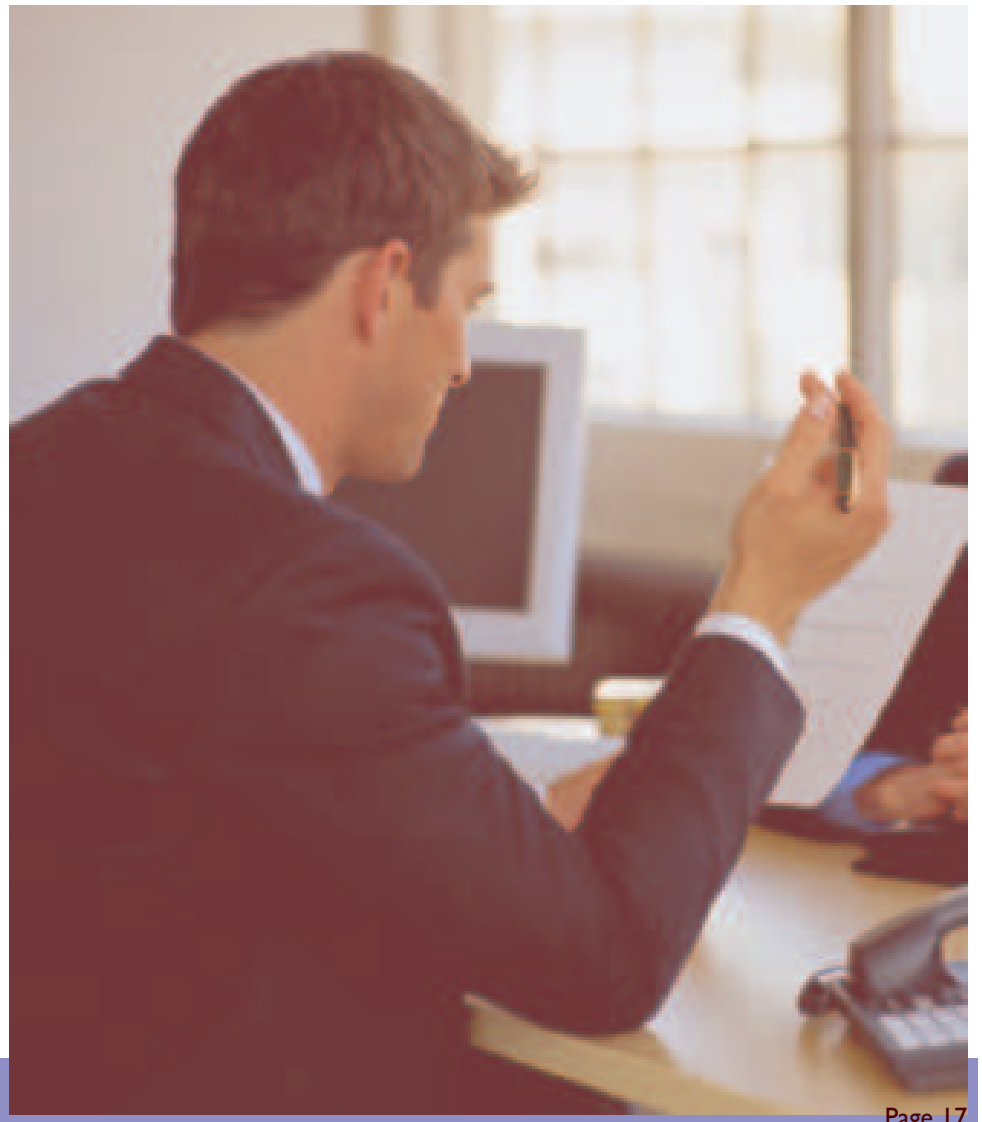
Electronic Report Distribution

- **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.



Infoprint Server for iSeries

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.
- **Requirement** - Customer would like to automatically segment order confirmations, retrieve e-mail data, and send immediately to customer.
- **Advanced Requirement** - need to define/profile multi-channel delivery on a customer/document basis.

Infoprint Server for iSeries

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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.

Infoprint Server for iSeries
IBM iSeries printers
PSF/400

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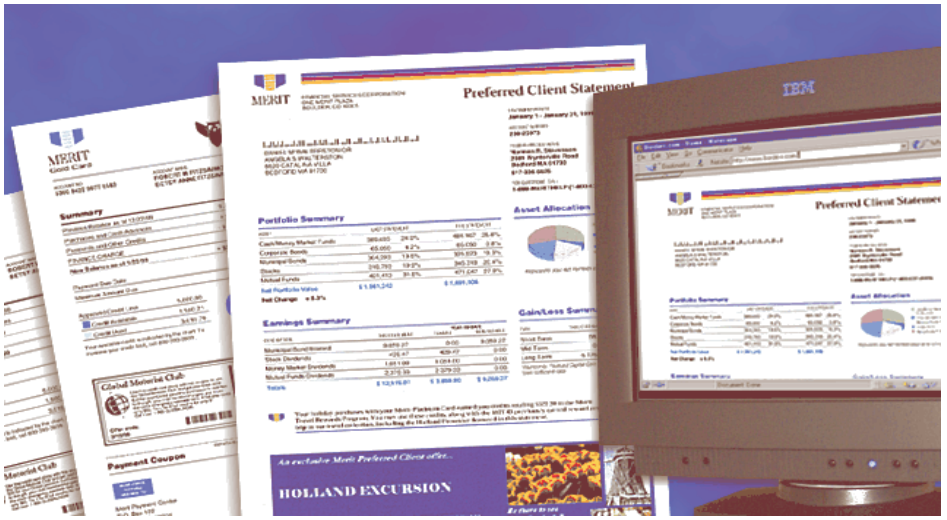
Intranet electronic delivery

- **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.



Infoprint Server for iSeries

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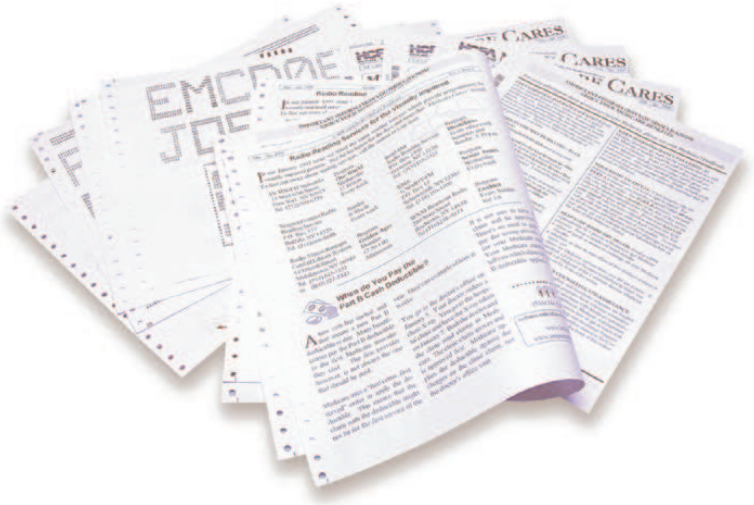
Ad Hoc Report Request

- **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.



iSeries Access and Infoprint Server

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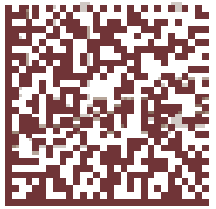
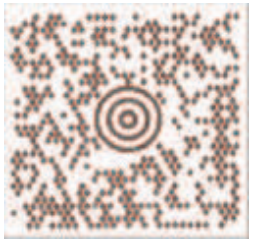
Supply Chain Encoding

- **Scenario** - Distribution company does significant volume of shipments via UPS. It is critical that these shipments are delivered quickly and correctly.
- **Requirement** - UPS has developed a new two-dimensional barcode - Maxicode - for encoding packages. This barcode encodes all of the pertinent information associated with the shipment. Company would like to generate the barcode for all UPS packages.

PDF417



Datamatrix



Maxicode

Solution: iSeries Support for 2D Bar-coding

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Integrate Web Image

- **Scenario** - A manufacturer has an engineering drawing application on Windows NT that creates drawings in JPEG format. The manufacturer wants to be able to print the same drawing on a work order, but the work order is a line of business (LOB) document produced by the iSeries.

Solution: Infoprint Server image transforms

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iSeries Output Primer

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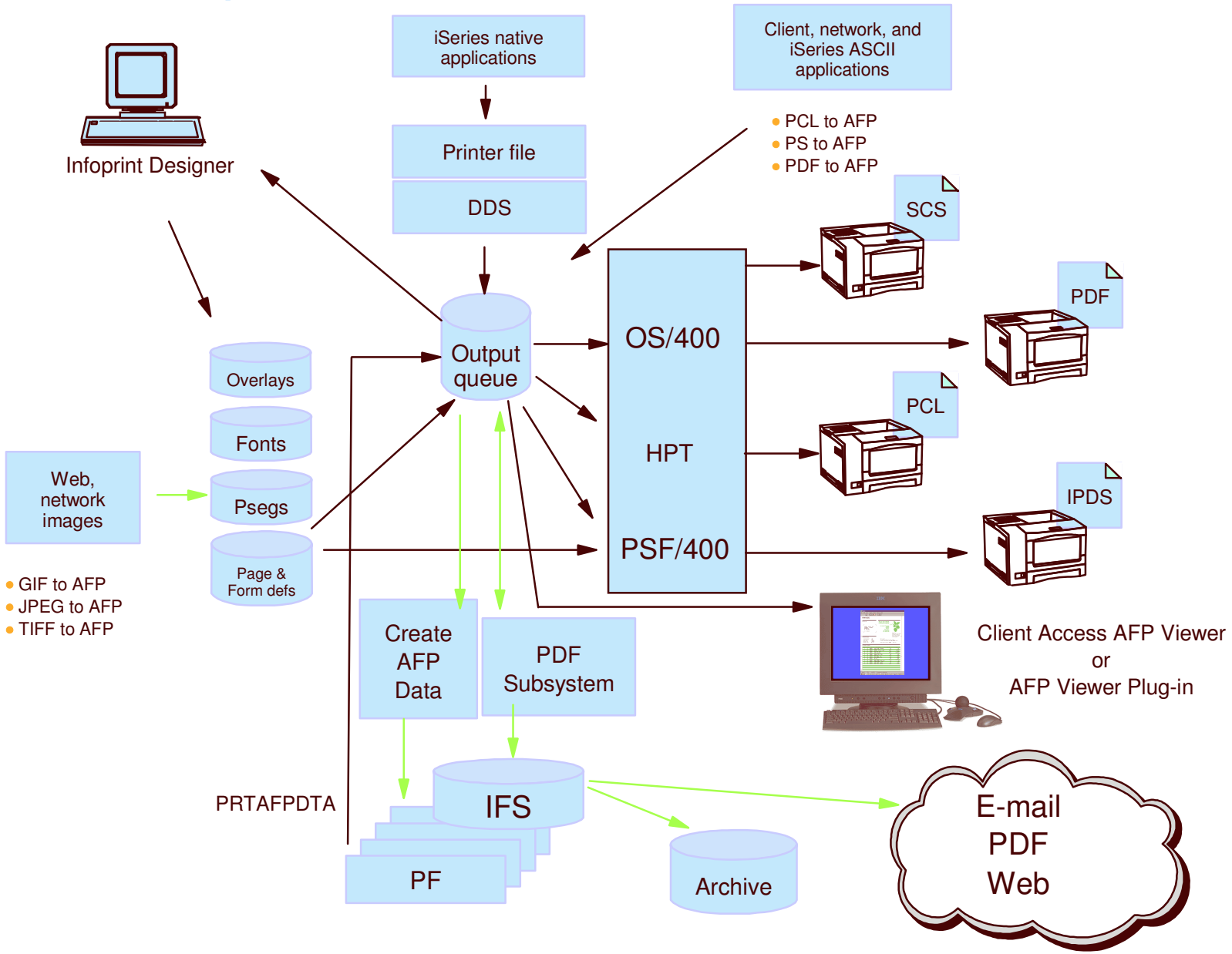
iSeries Output Architecture



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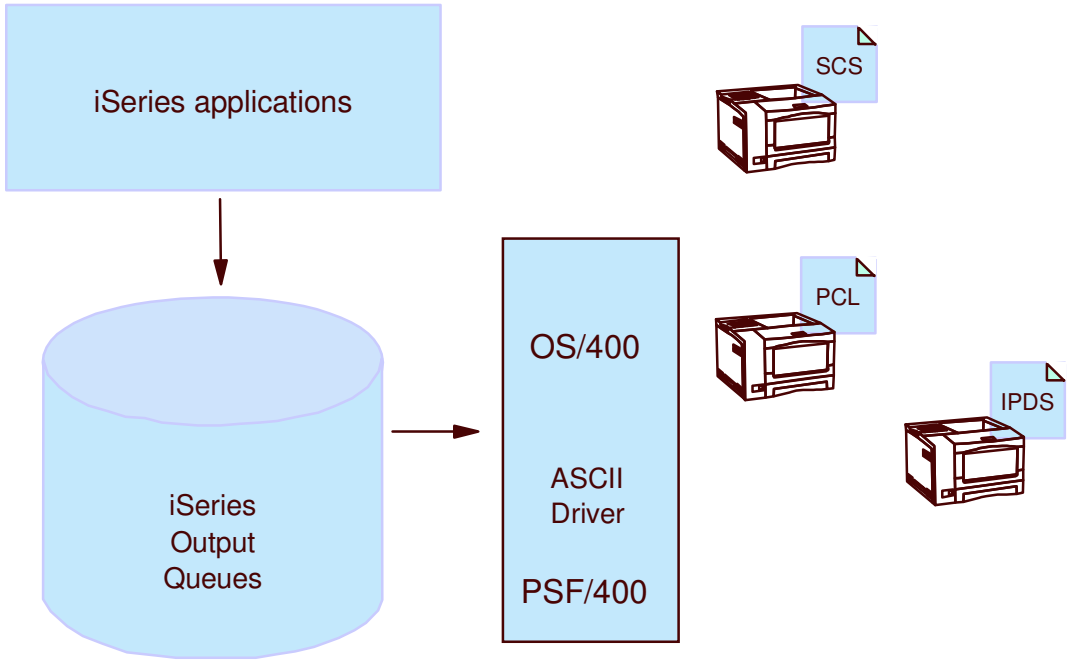
Core Print Architecture



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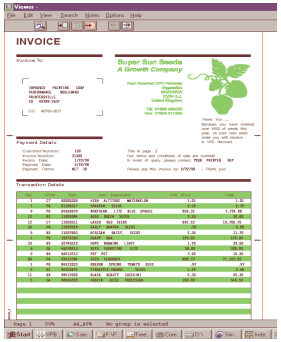
V5R1

Infoprint Designer



iSeries applications

Infoprint Server ASCII Transforms

iSeries Output Queues

OS/400

ASCII Driver

PSF/400

SCS

PDF

PCL

IPDS

AFP Viewer
AFP Viewer Plug-in

E-mail
PDF
Web

Infoprint Server Image Transforms

Infoprint Server AFP Web and Indexing

Infoprint Server PDF

Infoprint Server Integrated E-mail

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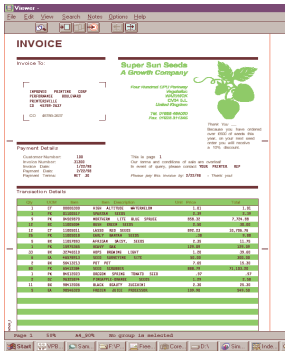
V5R2, V5R2+

nfoprint Designer



iSeries applications

iSeries Output Queues

OS/400

ASCII Driver

PSF/400

Infoprint Server ASCII Transforms

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

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Infoprint Server for iSeries

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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

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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(PCL 6) 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

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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)

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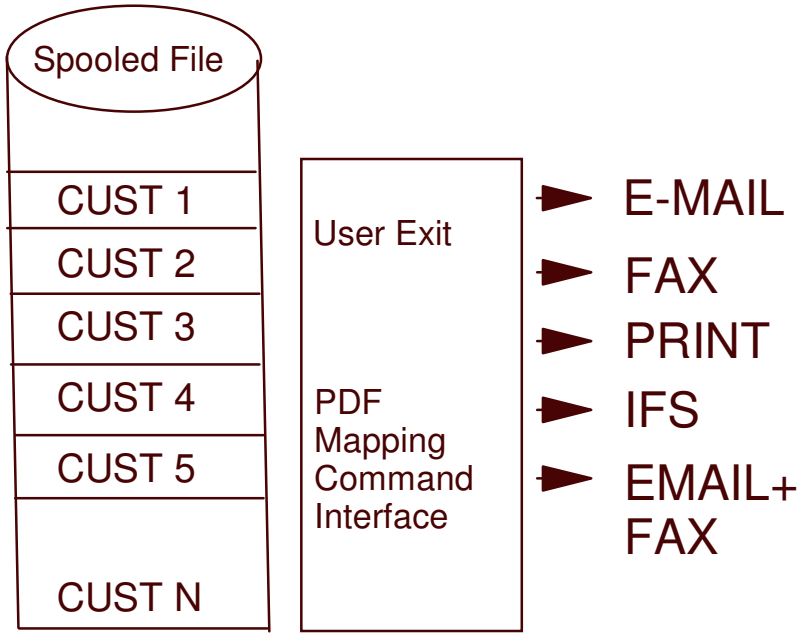
Intelligent Routing

- 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



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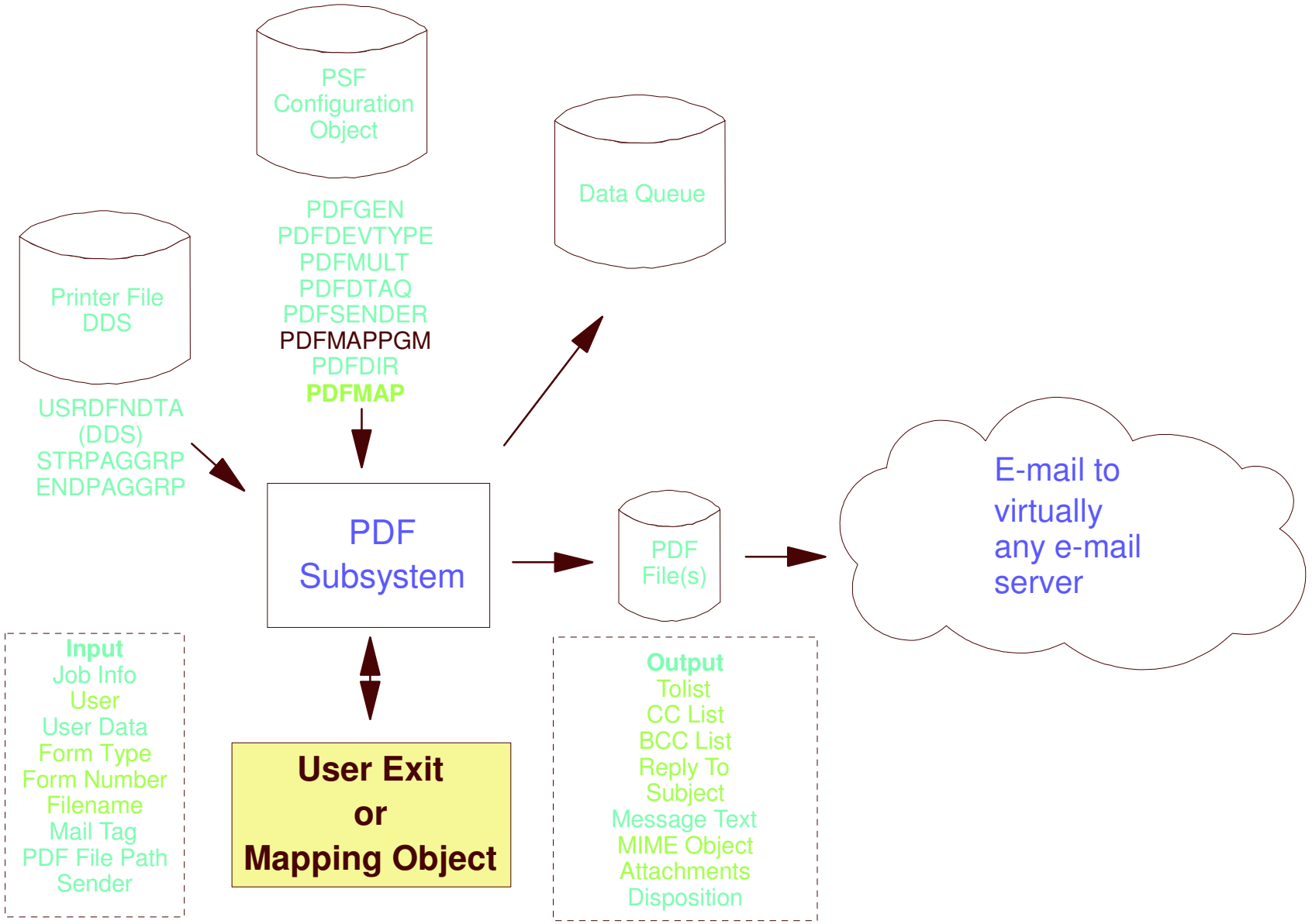
PDF Subsystem Flow



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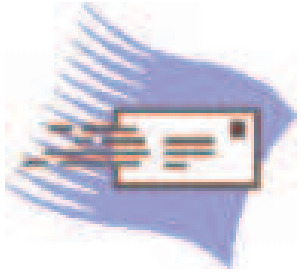
PDF, e-mail, delivery enhancements

	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			◆



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iSeries Access Integration

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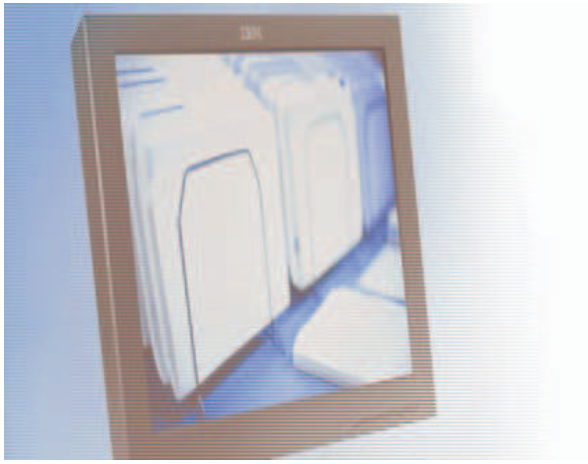
iSeries Access - iSeries Navigator V5R2

- 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.



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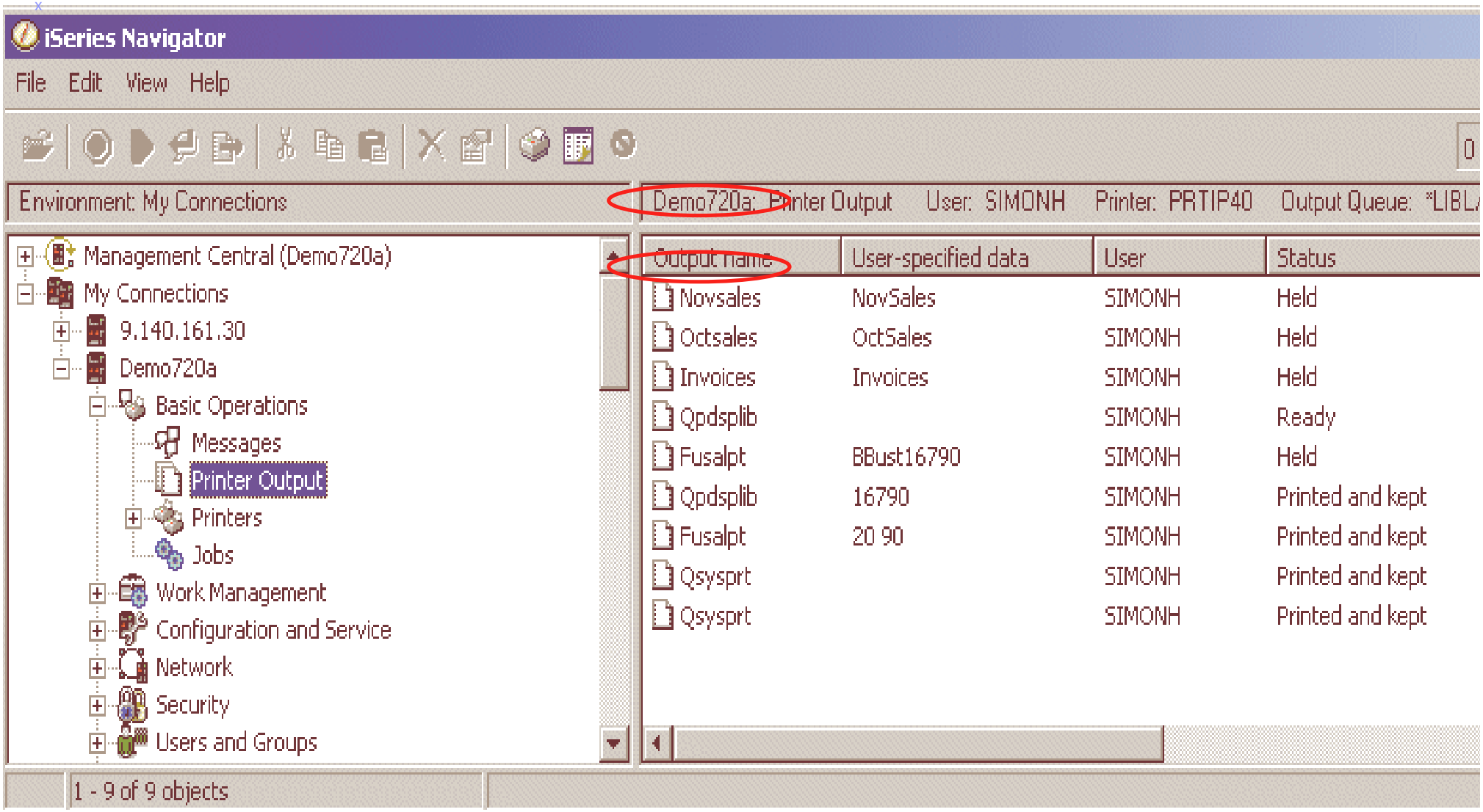
iSeries Access - iSeries Navigator V5R2



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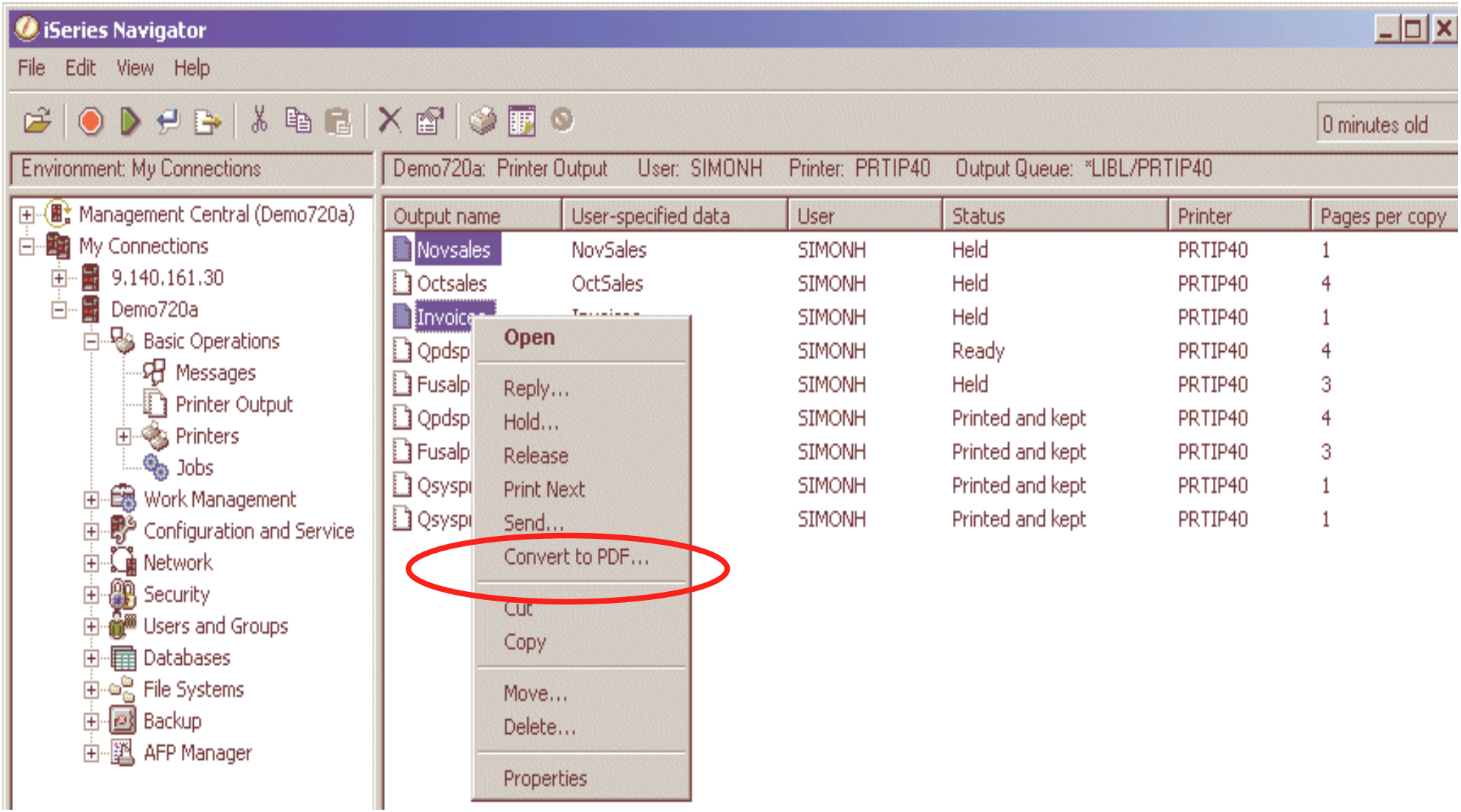

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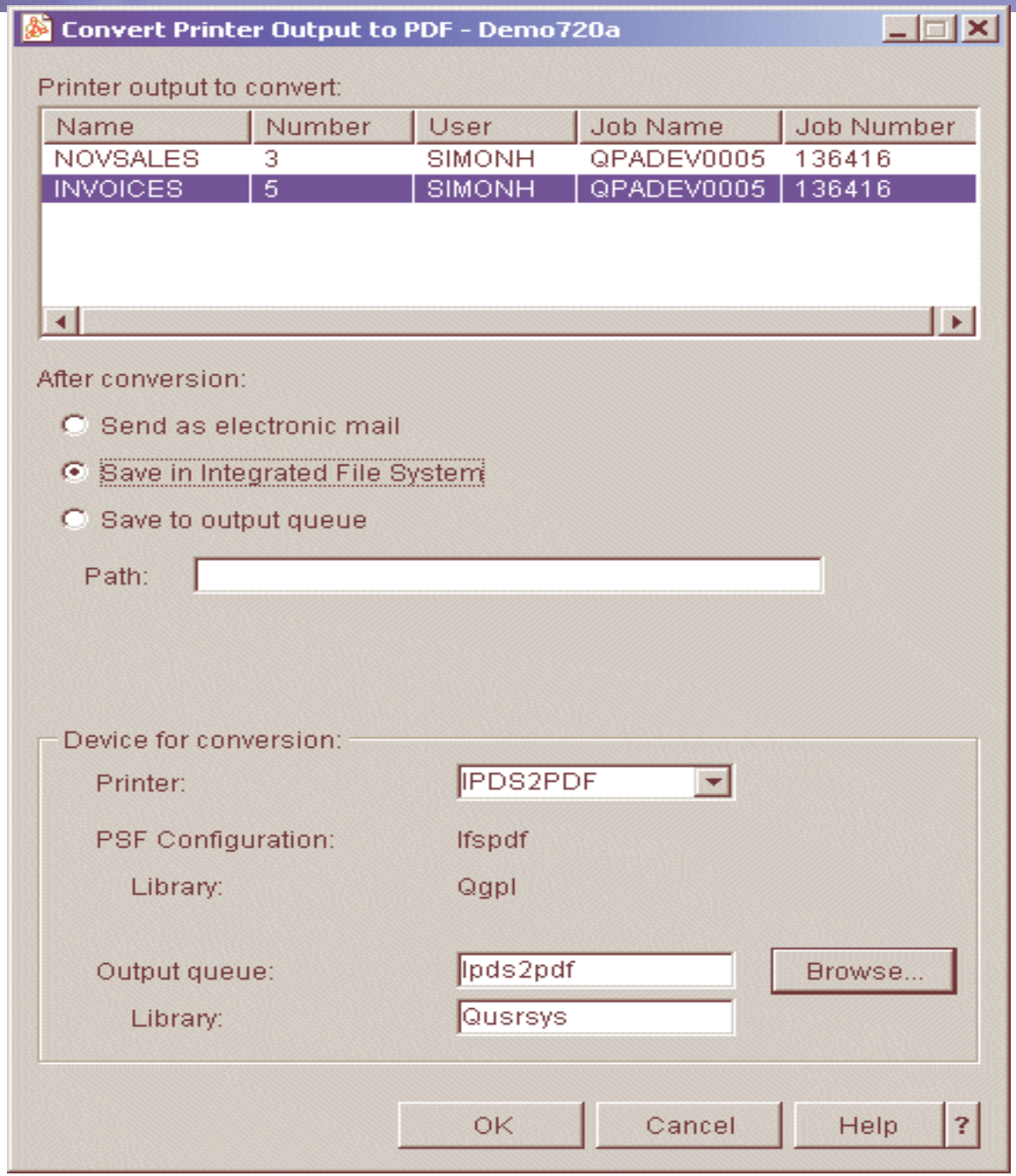

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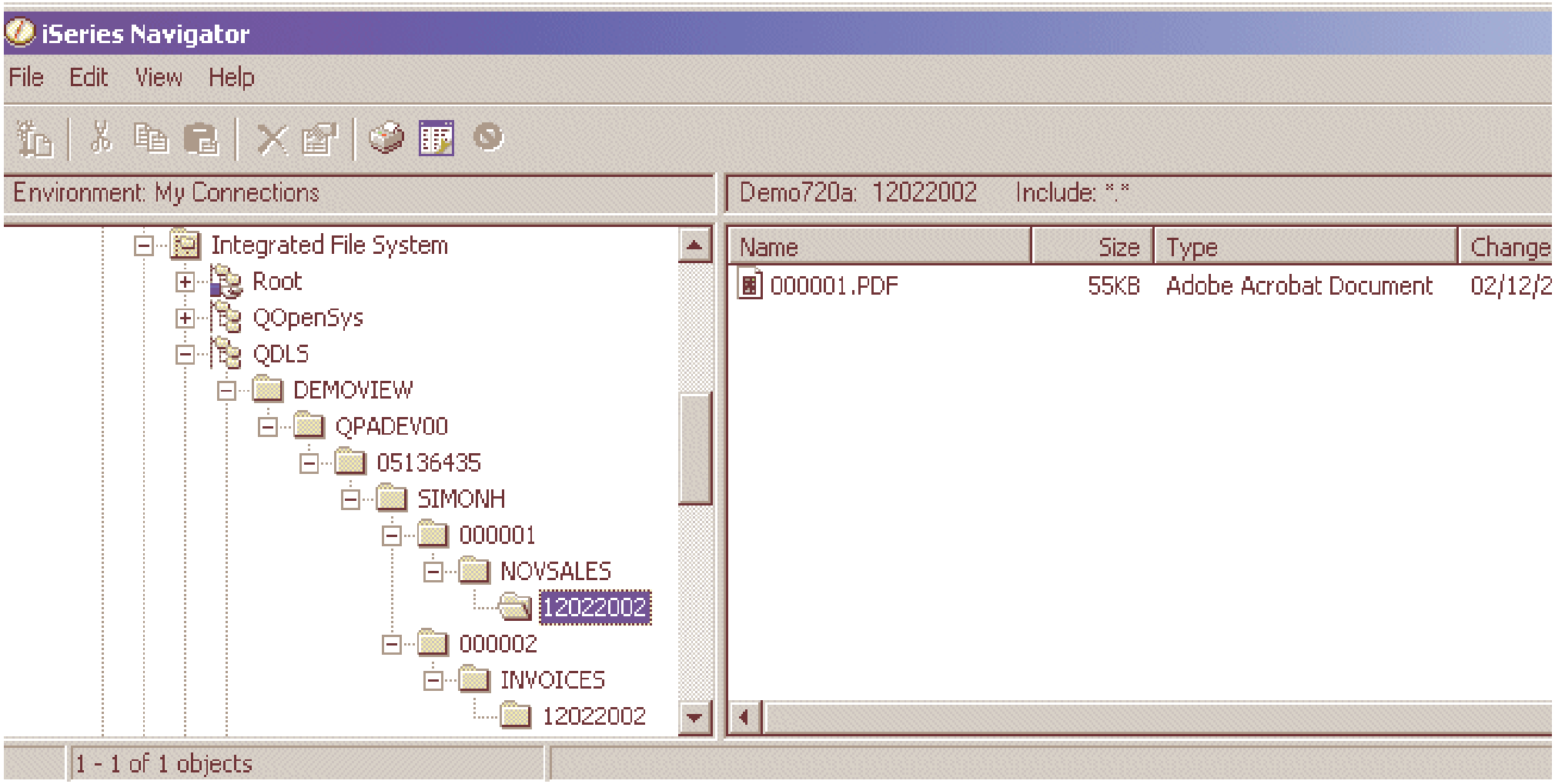
iSeries Navigator to PDF (IFS)



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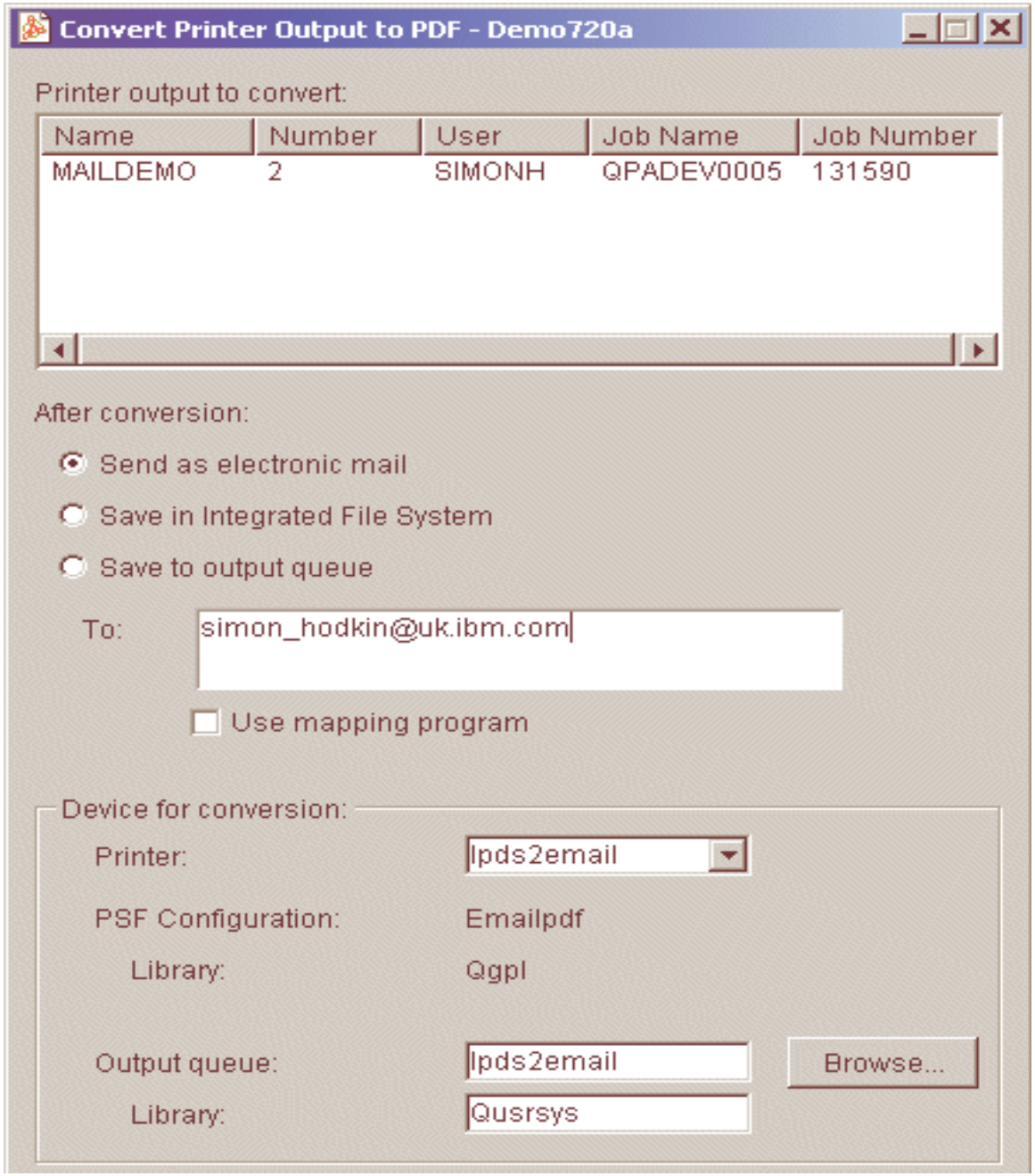
iSeries Navigator: To PDF, E-mail



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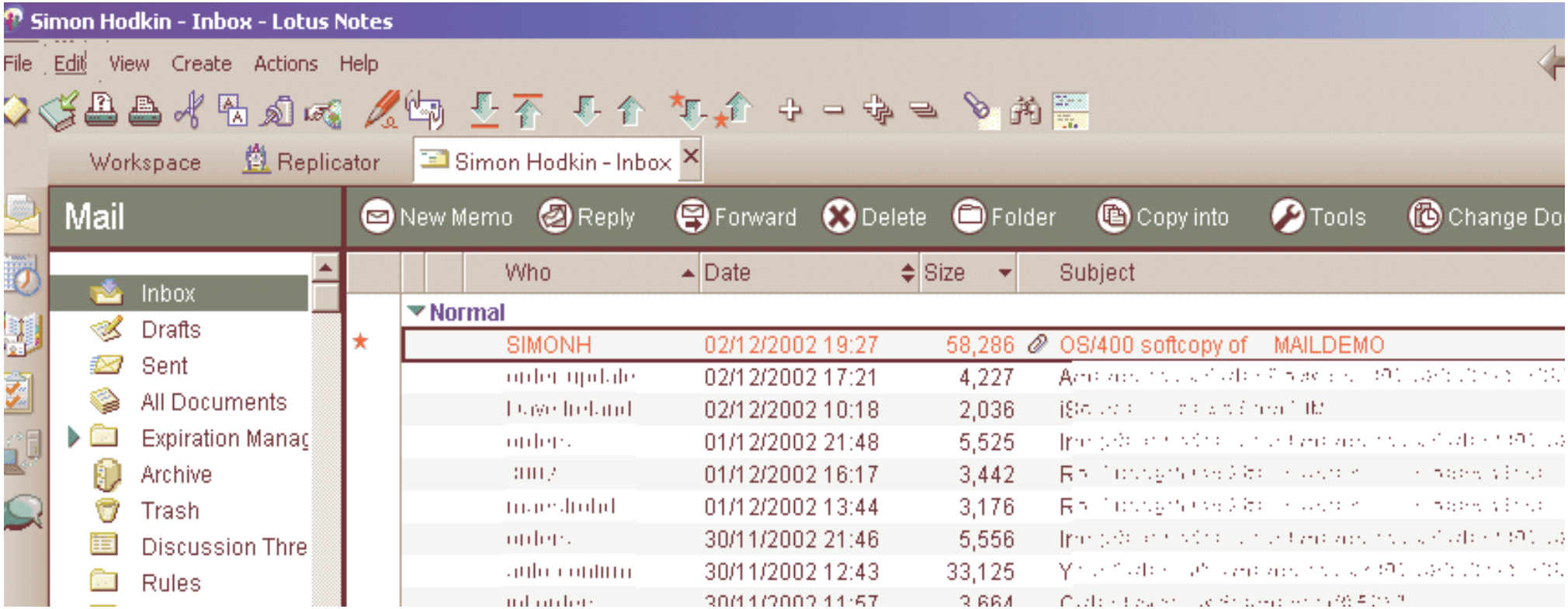

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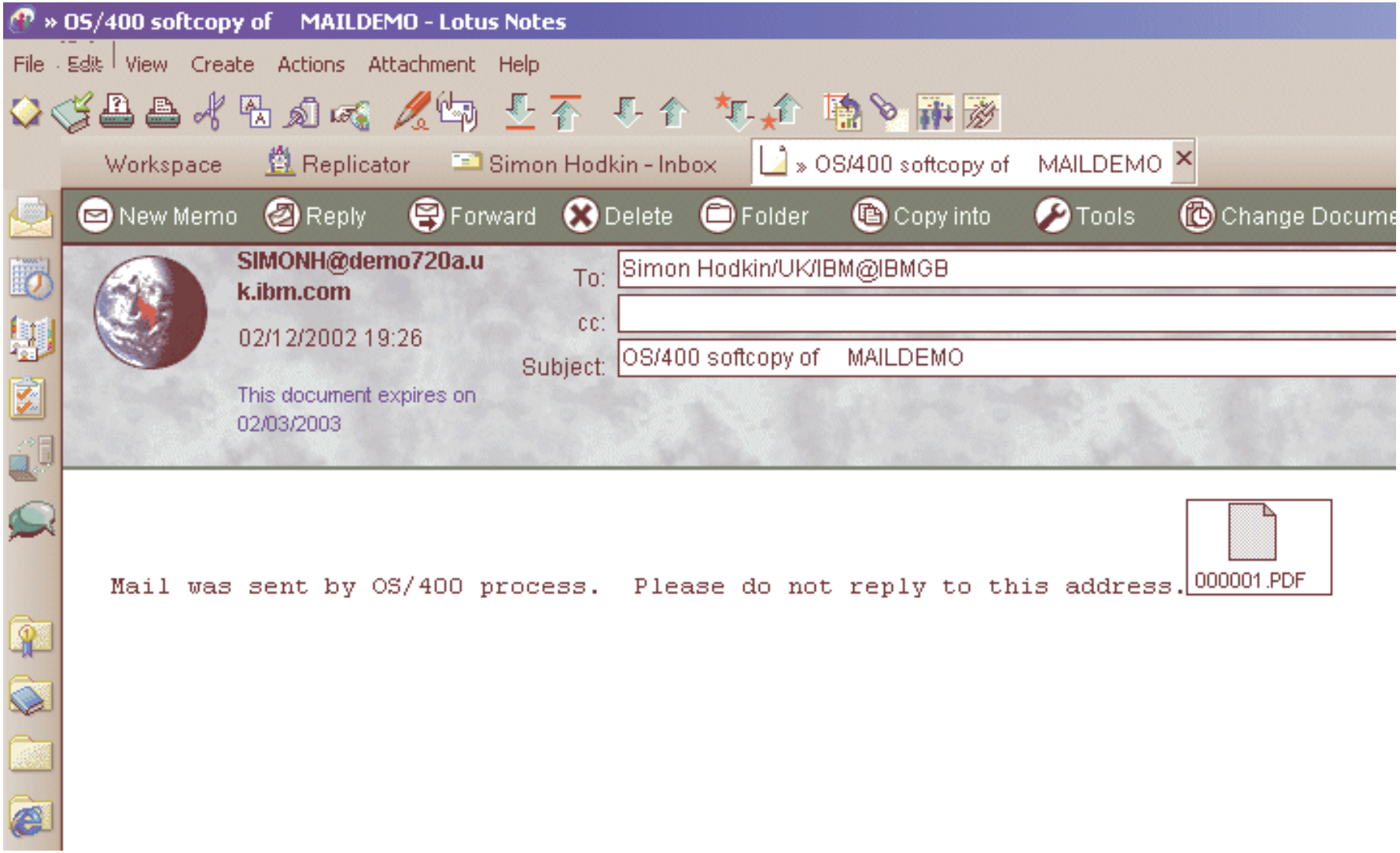

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Web Access Integration

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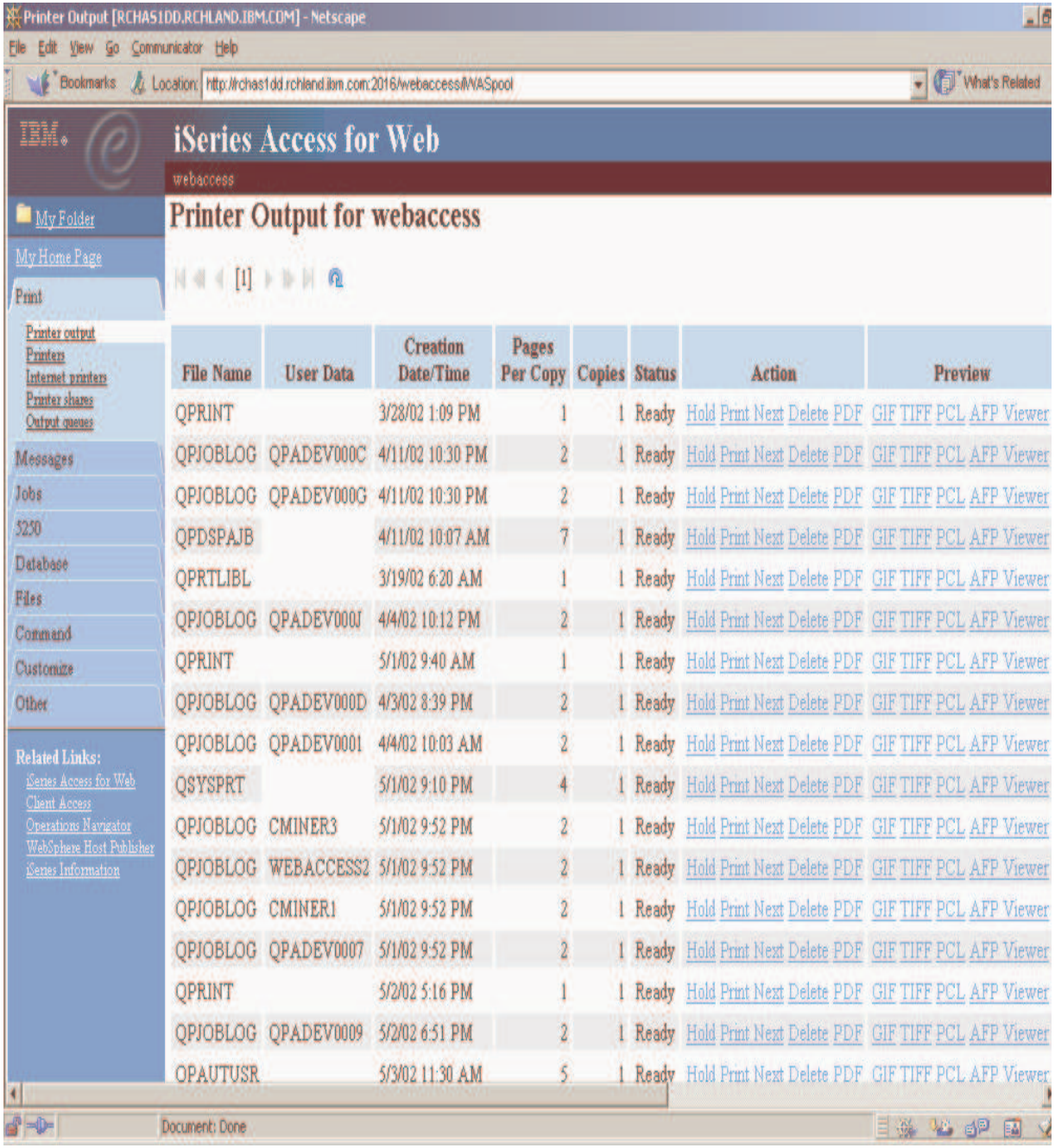
iSeries Access for Web

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



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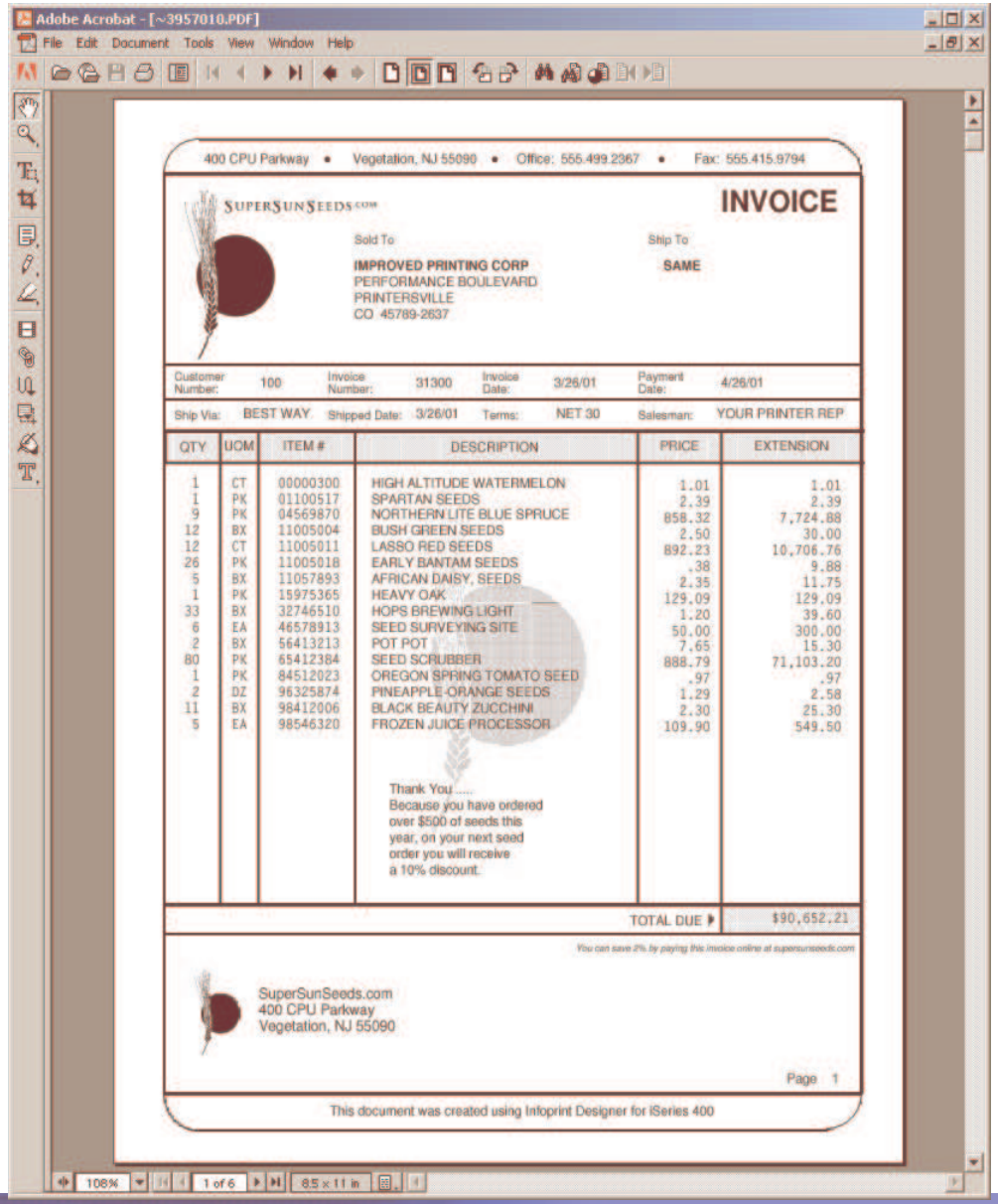
iSeries Access for Web: Print File as PDF



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PDF, e-mail APIs

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API Access to PDF and e-mail functions

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)

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AFP Viewer Plug-in

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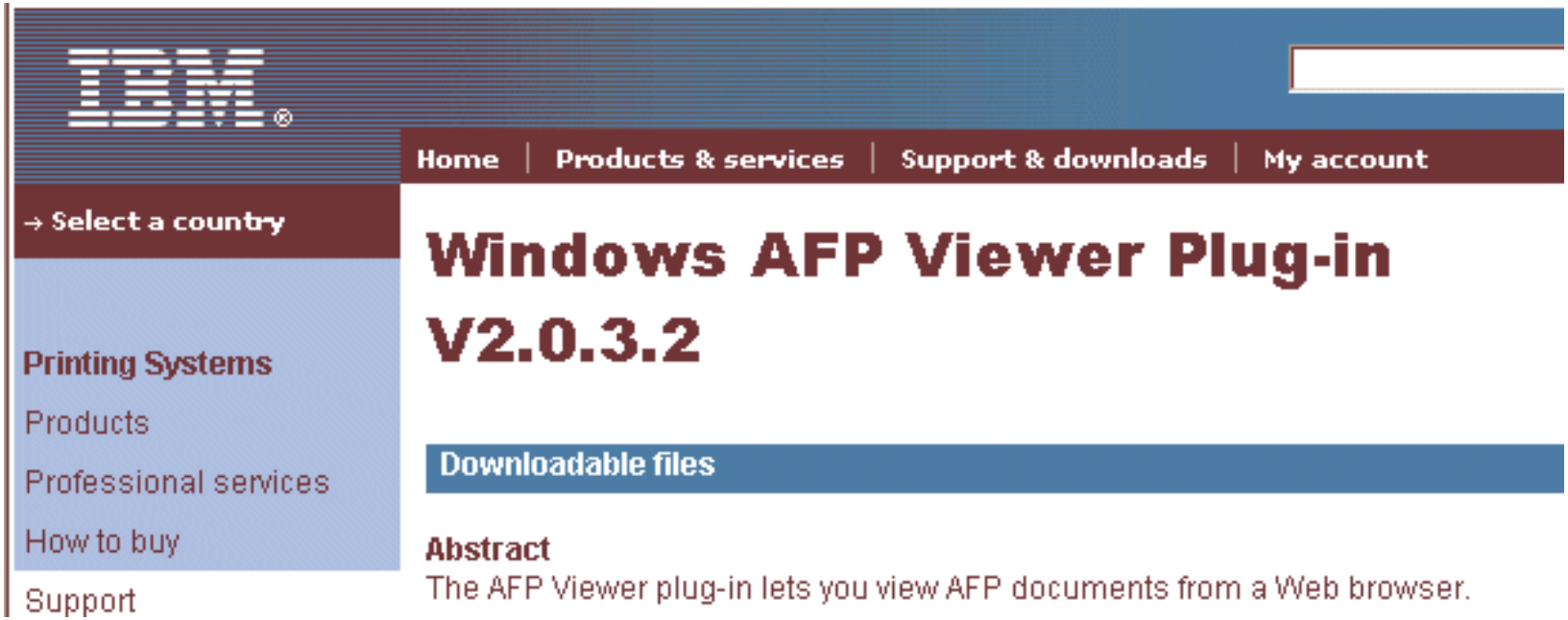
AFP Viewer Plug-in: Intranet document viewing

- AFP Viewer is simply an Netscape or Internet Explorer plug-in
  - Available - at no charge



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Infoprint Designer for iSeries

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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.

Infoprint Designer for iSeries

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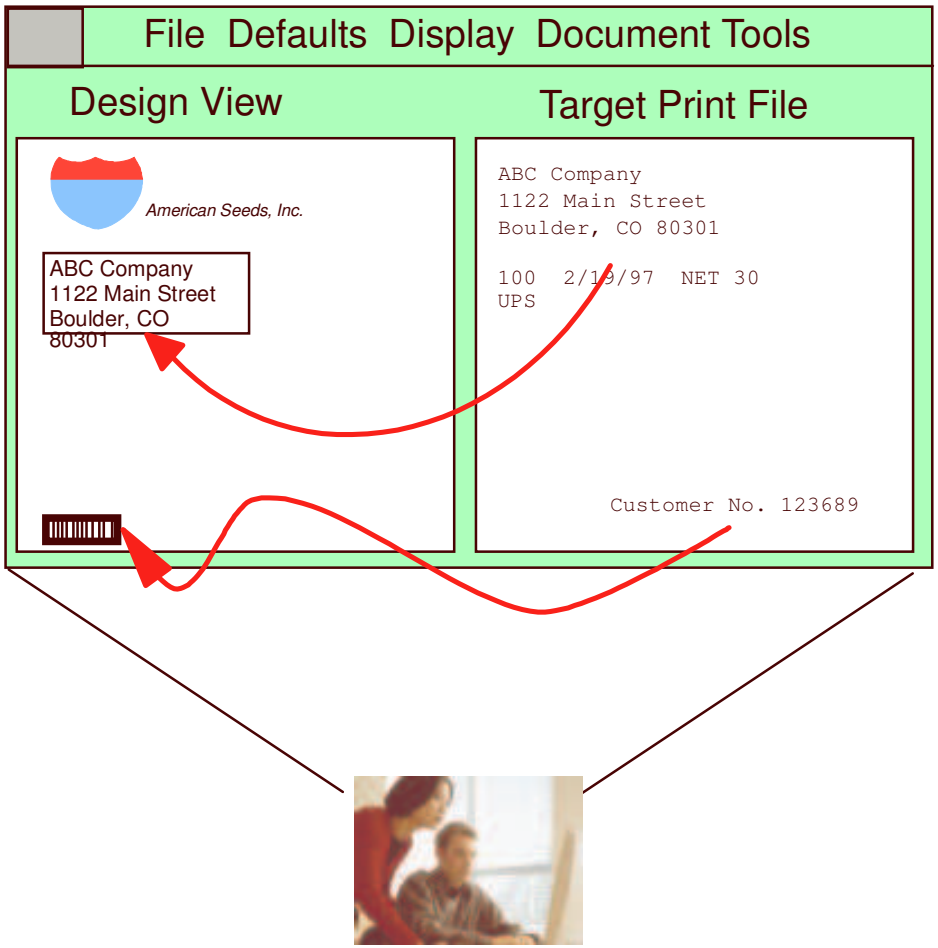
Product Summary

Infoprint Designer

State of the art design tool for 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

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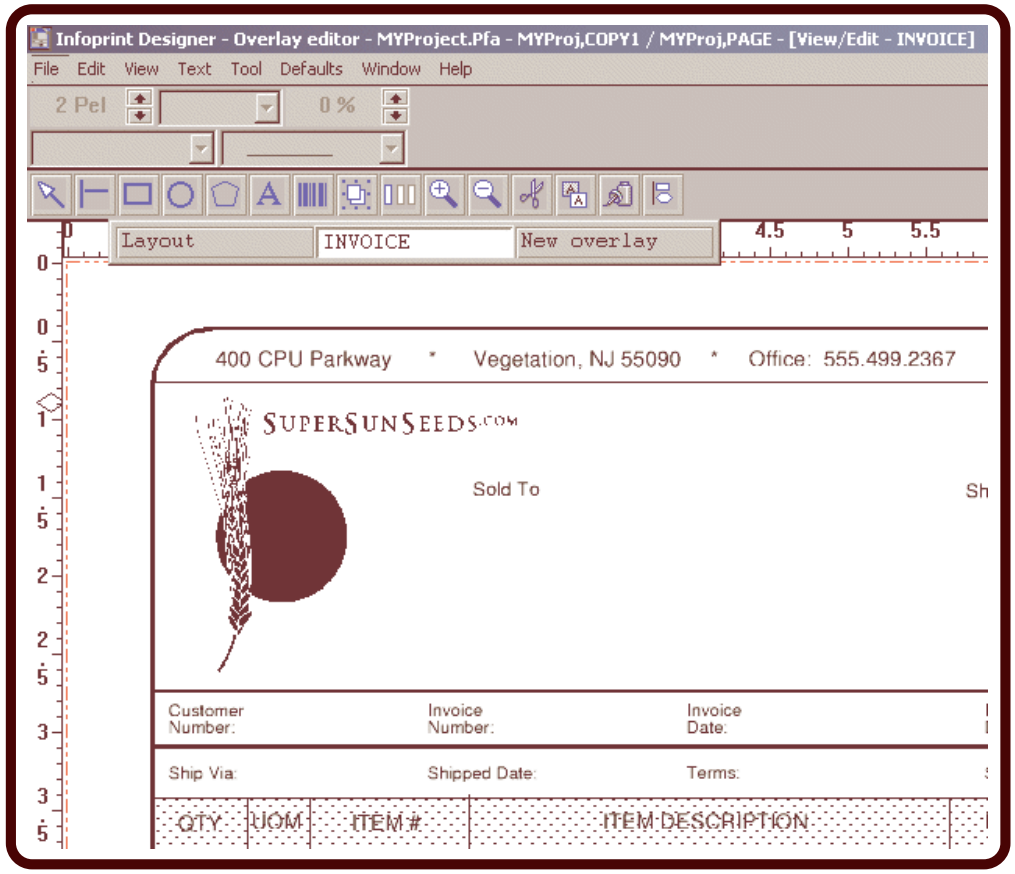
Overlay Editor



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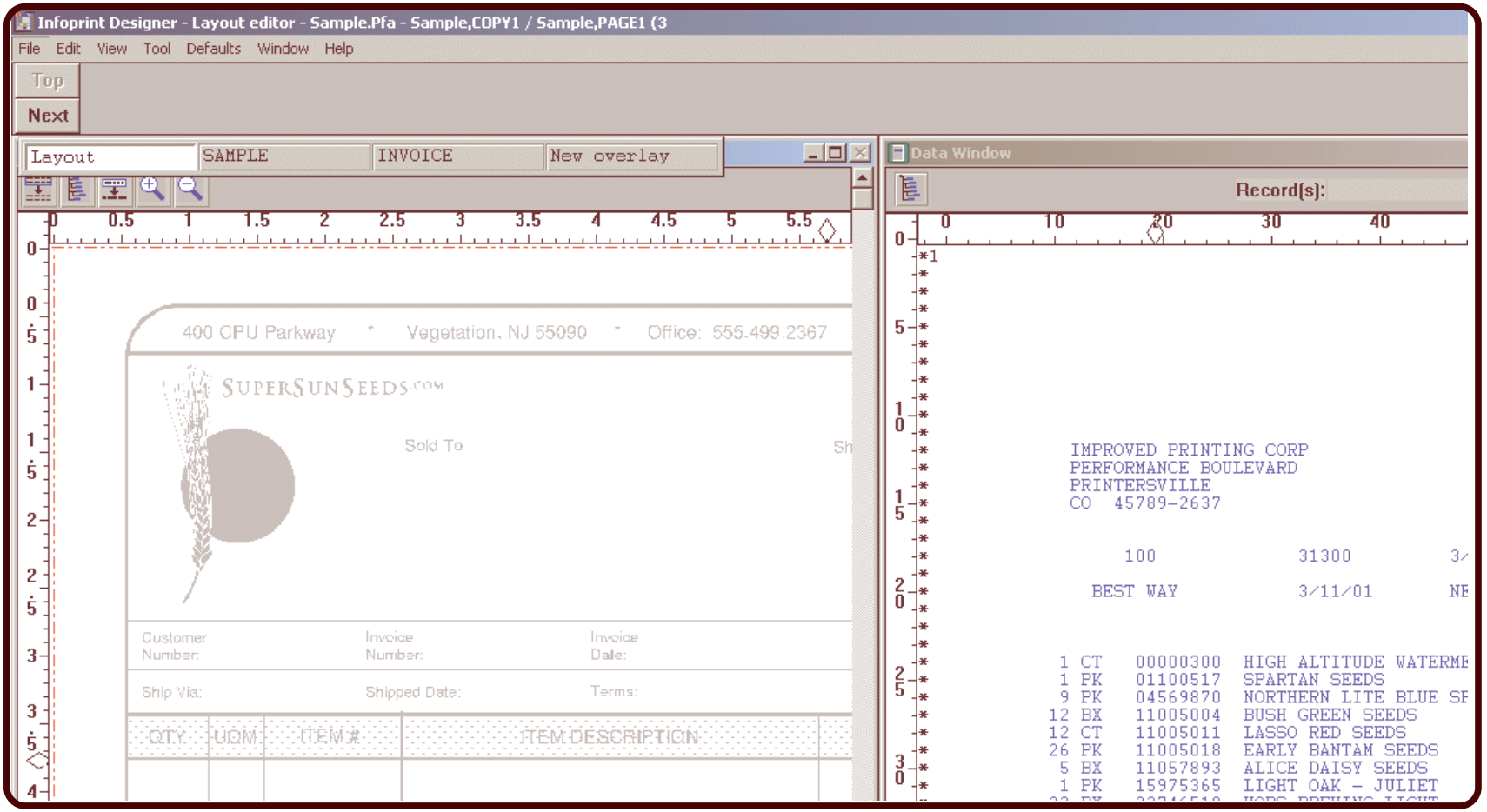
Layout Editor

Overlay in background - data to be mapped in the Data Window



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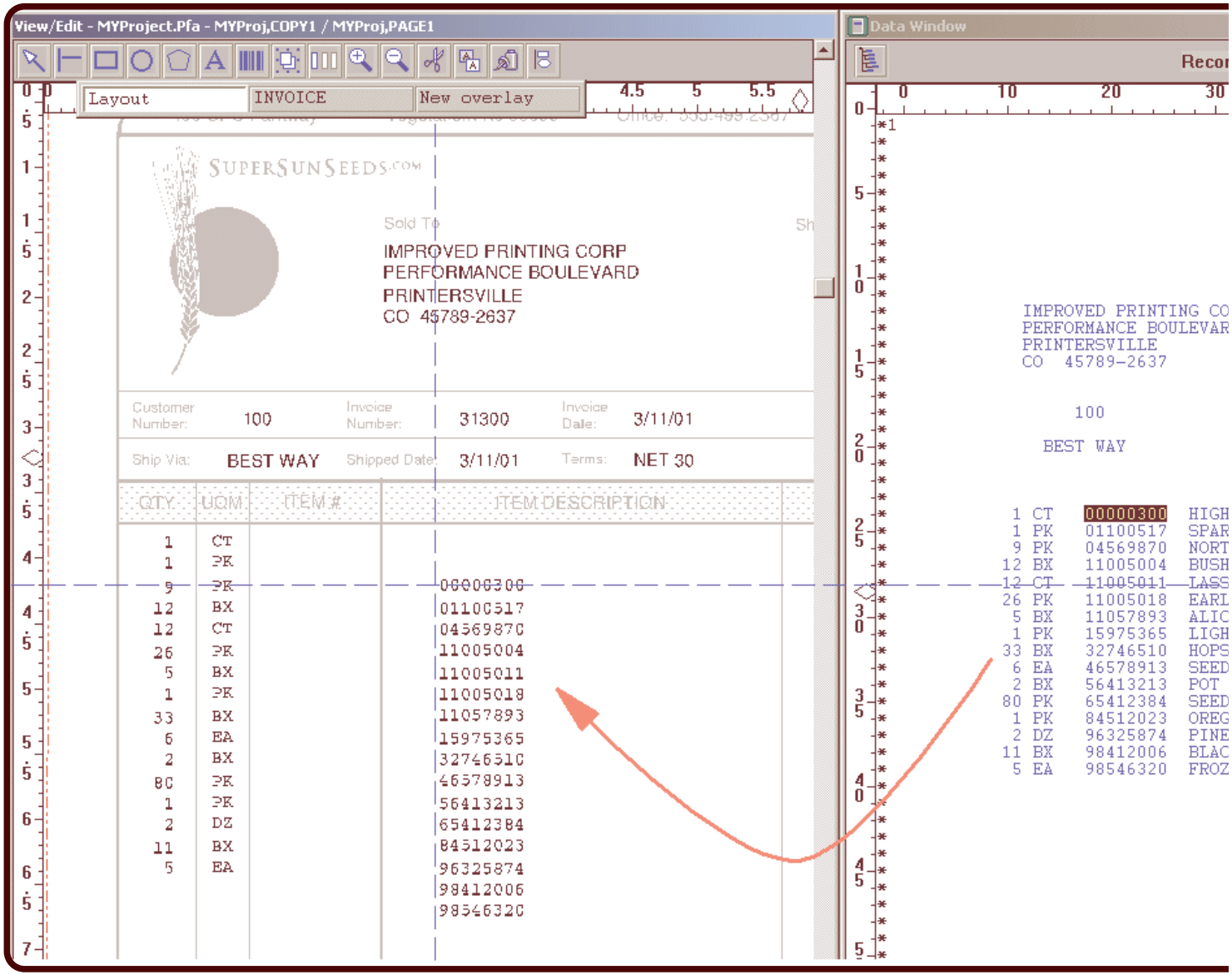
Layout Editor - drag and drop data mapping

Drag and drop individual fields, lines, etc.

as required



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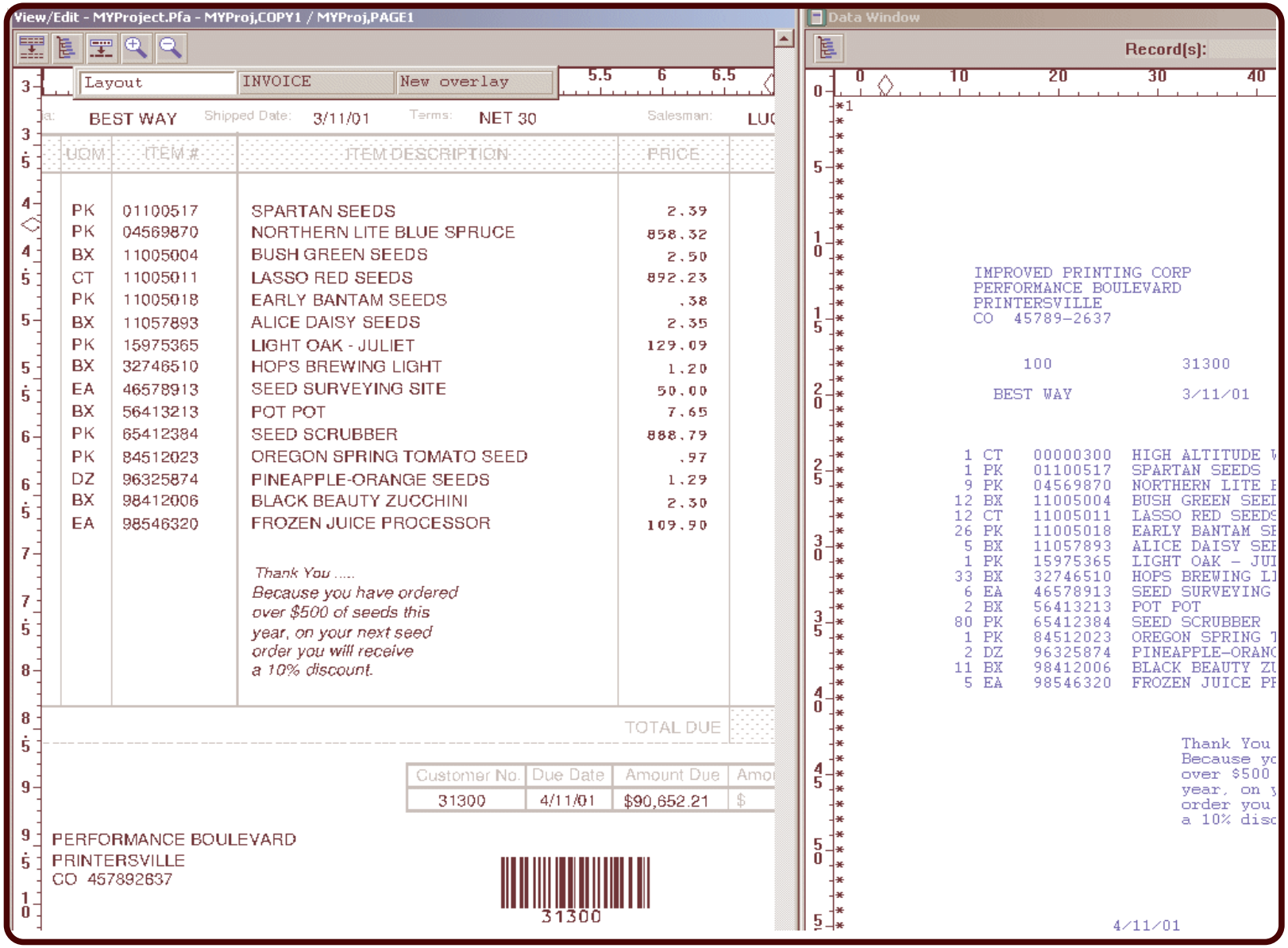
Completed application



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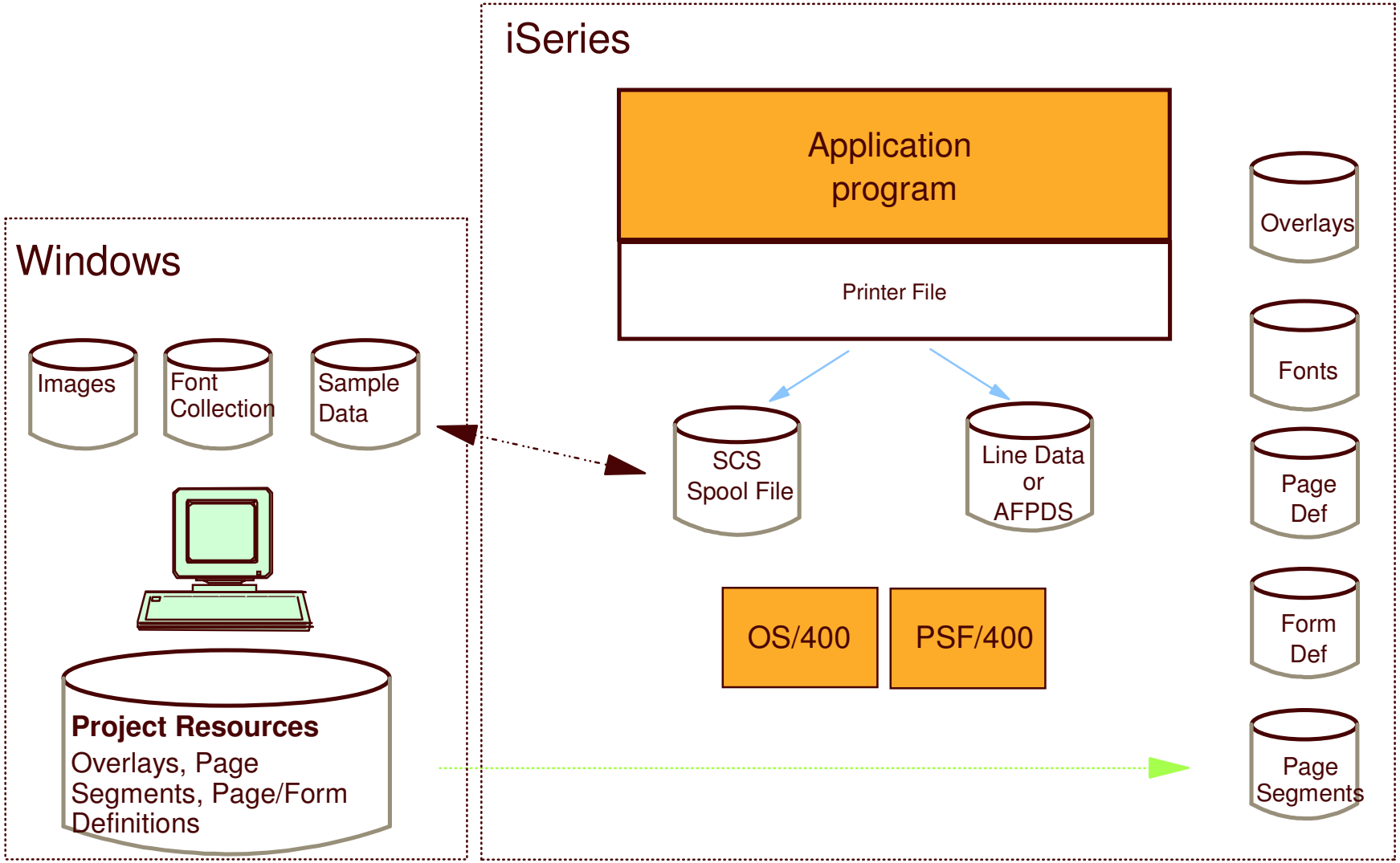
Infoprint Designer Schematic



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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
- Font Selection by Code Page / Character Set
- Finishing 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

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PSF/400

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PSF/400 V5R2

- 2D Barcode
  - Support integrated in DDS
  - Already supported in PPFA, Infoprint Designer
  - UPS Maxicode, PDF417, Datamatrix
- Finishing by Group (DDS and PPFA)
  - Finishing, such as stapling, by sub-document or group within a spooled file
- DDS Variable Font Keyword
  - Enables variable selection of fonts "on-the-fly"
- XML plus page definition to AFP
  - Capability to format XML data into pages using page definitions
- Support for new iSeries printers

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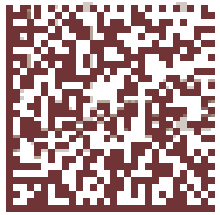
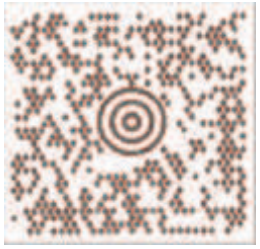
2D Barcode Support

- What is 2D?
  - One-dimensional barcodes (i.e.. UPC, Postnet) are series of bars and white spaces that are scanned by a point scanner
    - Scanning UPC would yield 10-12 characters of data -- the product ID
  - 2D barcodes are a two-dimensional image pattern (i.e.. 2 inch square) that is read in its entirety
    - 2D barcodes can yield up to 4000 characters of data
- V5R2 Support for 2D
  - Support for three 2D symbologies
    - PDF 417 - up to 1850 characters
    - Datamatrix - up to 138 characters
    - UPS Maxicode - up to 3116 characters
  - 2D programming
    - New DDS keywords (V5R2)
    - Support in PPFA/400 (V5R1)
    - Infoprint Designer support (R1.12)

PDF417



Datamatrix



Maxicode

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Summary

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V5R1 vs. V5R2 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
- 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

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V5R1 vs. V5R2 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
- 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
- New iSeries printers

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V5R2+ Summary

V5R2+ adds:

- Intelligent Routing
- Multi-channel delivery options by segment
- Multiple delivery options per spooled file or segment
- AFP respool for print or fax
- Command (input/action) interface for PDF, e-mail processing
- PDF encryption
- PDF rotation control
- Infoprint Designer enhancements

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Technical Reference:

Reference:

- iSeries Guide to Output (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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