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InfoPrint Manager for Windows: Introduction and Planning Guide

G550-1071-00

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InfoPrint Manager for Windows: Introduction and Planning Guide

> **Note:**
>
> Before using this information and the product it supports, read the information in "Notices" on page 61.

This edition applies to InfoPrint Manager for Windows, Version 2 Release 2 Modification 0, with PTF UO00688 (March 2008), and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces G544-5716-12.

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About this publication

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

This publication helps you prepare to use InfoPrint Manager for Windows. It describes the features of this product and explains the differences between the AIX® and Windows® versions of InfoPrint® Manager.

Organization of this publication

This publication contains the following chapters:

Most recent information

For the most recent information about InfoPrint Manager, go to the InfoPrint Solutions Company Web site at **http://www.infoprint.com**.

The InfoPrint publication library

For the most current information, see the InfoPrint Solutions Company Web site at **http://www.infoprint.com.**

InfoPrint Manager common publication library

These publications are common to both InfoPrint Manager for AIX and InfoPrint Manager for Windows:

- *InfoPrint Manager: SAP R/3 Planning and Configuration Guide*, S550-1051. For print administrators who need to create and configure both the SAP R/3 environment. we recommend that users possess a detailed knowledge of a SAP R/3 environment, as well as administering and maintaining either AIX or Windows operating systems. This publication describes how a business enterprise that uses SAP R/3 can use either InfoPrint Manager for AIX or InfoPrint Manager for Windows to manage its print environment.
- *InfoPrint Manager: Reference*, S550-1052. For print administrators, operators, and application programmers with the need to perform command-line functions.

This publication describes the commands, utilities, transforms, attributes, and attribute values associated with InfoPrint.

- *InfoPrint Manager: PSF and Server Messages*, G550-1053. This publication lists the PSF and Server messages and explanations from InfoPrint Manager.
- *InfoPrint Manager Print-on-Demand Feature: Submit Express User's Guide*, S544-5894. This publication is for the user who installs, configures, and uses Submit Express on a Windows or Macintosh workstation. Although you can use this publication for general guidance in using Submit Express, you should use the online Help to find more detailed instructions.
- *InfoPrint Job Ticketer: Job Ticketer User's Guide*, S550-0419. This publication is a guide for using the InfoPrint Job Ticketer Web application. This guide provides descriptions of tasks and procedures that an end-user needs to know to set up their workstation to use the application, and then to create, layout, store, retrieve print jobs, and submit the jobs to a print server for printing.
- *InfoPrint Job Ticketer: Administrator's Guide*, S550-0420. This publication is a guide for system administrators who are responsible for the InfoPrint Job Ticketer Web application. This guide provides information about the Job Ticketer system requirements, installation and configuration, system maintenance, security, and problem determination.

InfoPrint Manager for AIX publication library

InfoPrint Manager for AIX includes publications in PDF format on a CD-ROM supplied with the product.

The publications for InfoPrint Manager for AIX are:

- *InfoPrint Manager for AIX: Installation Instructions*, G544-5891. This publication provides updated migration and installation information from the instructions available in the *InfoPrint Manager for AIX: Getting Started* manual.
- *InfoPrint Manager for AIX: Introduction and Planning Guide*, G550-1060. This publication gives an overview of InfoPrint Manager for AIX, introduces its concepts, and helps you prepare to use it. It addresses migration from previous versions of the product. Finally, this publication explains the differences between the AIX and Windows versions of InfoPrint.
- *InfoPrint Manager for AIX: Getting Started*, G550-1061. This publication helps you install and configure InfoPrint Manager for AIX. It focuses primarily on server and client system software configuration.
- *InfoPrint Manager for AIX: Configuration and Tuning Guide*, S544-5892. This publication provides information about configuring and tuning the InfoPrint Manager for AIX, Version 4.2. This book is designed for the InfoPrint Manager administrator who needs to understand the topics necessary to configure and tune an InfoPrint Manager system. It should help administrators to evaluate, develop, and maintain both a logical and hardware configuration for their environment.
- *Guidelines for Installing InfoPrint Manager for AIX 4.2 in an HACMP Configuration*, G544-5818. This publication helps you install and configure HACMP™ with InfoPrint Manager for AIX. It also tells you how to use HACMP with InfoPrint Manager for AIX.
- *InfoPrint Manager for AIX: Using Generalized Fax*, S544-5893. This publication describes the primary tasks necessary for configuring and using the Generalized Fax support that is included with InfoPrint Manager for AIX. This includes sending and receiving faxes from an InfoPrint Manager Server.

- *InfoPrint Manager for AIX: Impositioning Assist*, G544-5910. This publication describes how commercial print shops can use InfoPrint Manager for AIX to make frequent layout changes to signature-based documents with relatively static content. As a prerequisite, this solution requires the InfoPrint Manager for AIX: Print-On-Demand feature, an InfoPrint 4100 Advanced Function Printing™ System, and a third-party impositioning product, such as ScenicSoft Preps.
- *InfoPrint Manager for AIX: Procedures*, G550-1066. This publication describes the primary tasks necessary for setting up an InfoPrint environment, submitting print jobs, scheduling jobs, and managing the print environment.
- *PSF Direct Network Configuration Guide for System/370*™, S544-5486. For system administrators or network specialists responsible for configuring a system for Print Services Facility™ (PSF) Direct. PSF Direct is a function of InfoPrint Manager for AIX that allows a PSF program (PSF for z/OS®, PSF/390, PSF/400, PSF/MVS, PSF/VM, or PSF/VSE) to print remotely, using the SNA LU 6.2 protocol, on printers supported by InfoPrint. The PSF program sends the print data stream directly to the InfoPrint printer.
- *PSF for AIX: AFP Upload Configuration Guide Using SNA Server/6000*, S544-5422. For system administrators, this publication describes how to configure AFP™ Upload on both AIX (client) and MVS™ (server) to send files to the JES spool on the MVS server, using a SNA LU 6.2 protocol.
- *PSF for AIX: AFP Upload Configuration Guide Using TCP/IP*, S544-5423. For system administrators, this publication describes how to configure AFP Upload on both AIX (client) and MVS (server) to send files to the JES spool on the MVS server, using a TCP/IP protocol.

InfoPrint Manager for Windows publication library

InfoPrint Manager for Windows includes publications in PDF format on a CD-ROM supplied with the product.

The publications for InfoPrint Manager for Windows are:
- *InfoPrint Manager for Windows: Introduction and Planning Guide*, G550-1071. This publication gives an overview of InfoPrint Manager for Windows, introduces its concepts, and helps you prepare to use it. It describes features of this product and compares its functions to those of IBM® Print Services Facility for OS/2® (PSF for OS/2). It addresses migration from PSF for OS/2 at a high level. Finally, this publication explains the differences between the AIX and Windows versions of InfoPrint.
- *InfoPrint Manager for Windows: Getting Started*, G550-1072. This publication helps you install and configure InfoPrint Manager for Windows. It focuses primarily on server and client system software configuration, but it also includes information for the IBM 4159 Model 001 S/390® Parallel Channel Emulator Card.
- *InfoPrint Manager for Windows: Procedures*, G550-1073. This publication describes the primary tasks necessary for setting up an InfoPrint environment, submitting print jobs, scheduling jobs, and managing the print environment.

Chapter 1. Introducing InfoPrint Manager for Windows

InfoPrint Manager for the Windows Operating System, hereafter called InfoPrint Manager for Windows, is a flexible and scalable print management solution, providing you with many choices of how to expand and manage your print environment. Your print environment might be simple with a few high-speed devices located together, or you might support many printers dispersed across your enterprise. In either case, InfoPrint Manager helps you make the most of your printing resources.

Optimizing your print resources

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

- Manage your printer devices and distribute your printing work load:

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

- Balance the use of Windows systems:

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

- Control print jobs:

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

- See significant events when they happen:

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

InfoPrint Manager, you select the types of notification you want to ensure that the appropriate people are alerted when significant events occur. The most common form of notification is that a job has completed successfully. For example, when a set of payroll checks has finished printing, someone in the Payroll department can be notified that they are ready.

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

Understanding the InfoPrint Manager server

The InfoPrint Manager server runs as a service on Windows. The server manages jobs submitted to it from client applications (including InfoPrint Select and Windows applications that support a print function). The InfoPrint Manager server contains a number of "objects" that are used to control the processing of submitted jobs. Objects include queues, logical destinations, actual destinations, and any defaults for job and document characteristics. The server administrator creates, deletes, and modifies these software objects to optimize the management and performance of the InfoPrint Manager environment.

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

Basic print flow

You can submit print jobs to the InfoPrint Manager server in a variety of ways. Various print submission methods are described in Chapter 3, "Planning to print with host systems," on page 21 and Chapter 5, "Planning to share printers," on page 29. No matter which method you use, your jobs will travel similar paths once they get to the server.

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

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

Notes:

1. If you submit jobs directly to an AD, the AD and LD that you associate with it must reside on the same server.
2. If you use the Distributed Print Facility (DPF) to print from a host system, you must submit directly to an AD.
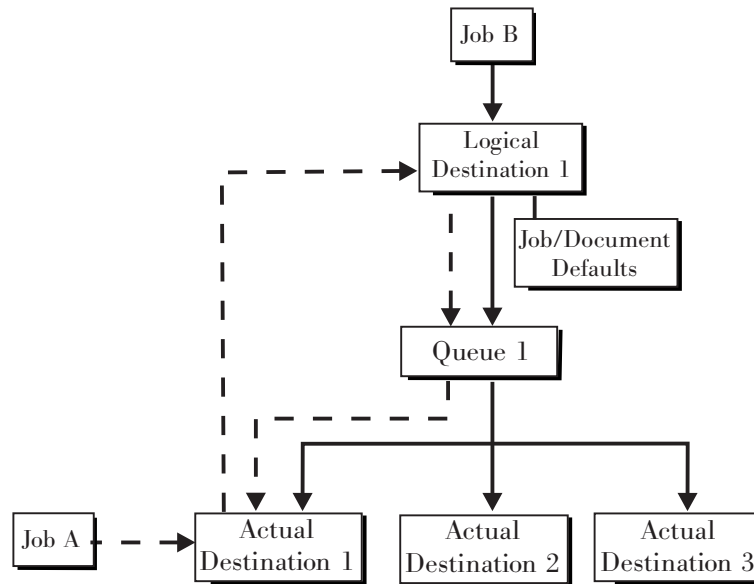
Figure 1. InfoPrint Manager print flow. Job B is submitted directly to a logical destination, while Job A is submitted to an actual destination

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

Logical destinations

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

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

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

Queues

A queue receives jobs from one or more logical destinations and routes jobs to one or more actual destinations. The queue holds a job until an actual destination capable of processing the job becomes available. Your initial InfoPrint Manager environment has one default queue. The queue and the actual destination that it

sends jobs to do not have to be in the same server. The actual destination can be in an InfoPrint Manager server on a different AIX or Windows system.

Actual destinations

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

If you do not specify values for all of the attributes when you create an actual destination, InfoPrint Manager provides default values for many of them. You can make modifications, as required, at a later time.

Host receivers

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

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

Note: Within InfoPrint Manager, the term MVS Download refers to both the Download for z/OS feature of PSF for z/OS and the AFP Download Plus for z/OS feature of PSF for z/OS.

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

Documents and jobs

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

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

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

Auxiliary sheets

An auxiliary sheet is a sheet of paper that can print at any or all of the following points during a job:
- At the beginning

- At the end
- Between sections

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

Media

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

InfoPrint Manager uses the names of media as values for actual destination attributes, such as **media-supported**. Actual destination attributes that reference media can use any name as long as the name is within syntax limits.

Resource contexts

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

Transforms

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

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

Sizing your InfoPrint Manager environment

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

- Processor speed
- Number of processors
- Available RAM

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

The output devices that InfoPrint Manager drives are also important:
- Speed and resolution of printers or other output devices
- Number of output devices operating concurrently
- Number of output devices per actual destination

Finally, how you submit print jobs to each InfoPrint Manager server is important:
- Number of client systems submitting jobs
- Frequency of job submission from client systems
- Speed of network data transfer
- Size (density) of jobs to be printed
- Complexity of jobs to be printed
- Number and types of input data streams
- Overall network traffic

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

Note: You can run only one InfoPrint Manager server on a Windows system.

A *dedicated* InfoPrint Manager for Windows system that meets the **Minimum** recommended hardware requirements (see "Server hardware prerequisites" on page 35 for details on hardware configurations) is capable of driving one InfoPrint 4000 ID3/ID4 printer at rated speed (1002 pages per minute) with simple text data or with input from PSF Direct. This is a very specific benchmark. Each additional device you attach to a server causes considerable network overhead and processor overhead.

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

Determining how many servers you need to drive your printing devices, however, requires experimentation and patience. Consult with your InfoPrint Solutions Company Sales Representative to agree on a reasonable number to start with. We recommend setting up your environment one server at a time, one printer at a time. (Draw diagrams similar to those in "Understanding destination configuration models" on page 17, but realize that these diagrams are subject to change.) After adding each printer to a server, perform a stress test. Try to drive the printers at rated speed with the types and number of jobs expected during peak periods. Also, try to have the server system perform all other activities it will have to

perform while processing the jobs. In short, make your stress test as realistic as possible. If the server system handles the work load without a problem, consider attaching an additional printer. If the addition of a printer degrades performance to an unacceptable level, add an additional server to your network to drive this printer. You might also consider upgrading system and network hardware.

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

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

Understanding server configuration options

Because InfoPrint Manager for Windows Version 2 Release 2 provides print management for many different environments, it provides two different types of installation on the InfoPrint server: *standard* and *basic* installations. Once you have decided to use InfoPrint Manager, the next decision you must make is whether to use the standard server environment or the basic server option. The following topics describe how each server runs and should give you an idea of which installation you need.

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

Standard server environment

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

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

Basic server option

When you install the Print-on-Demand Feature, the standard server environment is replaced or extended with the basic printing environment. The basic printing environment is generally appropriate for commercial print shops printing large

runs of image data (usually in PostScript or TIFF format). Users submit these jobs from a client (Windows or Macintosh) personal computer using InfoPrint Submit Express or InfoPrint Job Ticketer.

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

Note: If you want to use the basic view of the GUI instead of the standard view, see "Using the basic view of the GUI" in the *InfoPrint Manager for Windows: Getting Started*.

InfoPrint Manager interfaces

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

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

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

Note: Mixing different levels of the interfaces, servers, or both might cause unexpected results with the Printer Details. Keep all of the clients and servers in the same namespace at the same level.

The third interface that you will use for some administrative tasks is the InfoPrint Manager Management Console. These tasks include the following:
* Stopping and restarting the InfoPrint Manager server
* Submitting test jobs
* Creating non-shared PSF Direct destinations
* Managing PSF Direct host receivers
* Managing DPF host receivers
* Managing MVS Download receivers
* Viewing and deleting resources in the DPF Resource Database
* Managing security
* Viewing server and destination logs
* Controlling tracing

| The Management Console only runs on the Windows system where the InfoPrint
| Manager server is installed. If you want to be able to use the Management Console
| on a remote system, you must use the built-in Terminal Server capabilities and
| install the InfoPrint Manager server on one of the following systems:
| • Windows 2000 Professional SP4
| • Windows 2000 Server SP4
| • Windows XP Professional SP2
| • Windows Server 2003 Standard Edition
| • Windows Server 2003 R2 Standard Edition SP2
| • Windows Server 2003 Enterprise Edition SP2
| • Windows Server 2003 R2 Enterprise Edition SP2

Comparing InfoPrint Manager on different platforms

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

Understanding common features

The following InfoPrint Manager features are available on both platforms:
• Fully functional non-DCE (Distributed Computing Environment) version of the
  InfoPrint Manager server
• Interoperability with other non-DCE InfoPrint Manager servers (AIX or
  Windows)
• BSD and PSF device support systems
• Print-on-Demand, which includes:
  – A simplified "basic" version of the InfoPrint Manager server that defaults to
    one-to-one mapping of logical and actual destinations.
  – InfoPrint Submit Express client support
  – InfoPrint Job Ticketer support
• Support for the following input document formats:
  – AFP
  – ASCII
  – DBCS ASCII
  – GIF
  – JPEG
  – Line data (EBCDIC)
  – PCL (PCL 6 and below)
  – PDF Version 1.6 and below
  – PostScript Level 3 and below
  – TIFF
  – SAP ABAP and OTF
  – XML
  – PPML
  – DITROFF
• Adobe® PostScript transform

- PCL transform
- XML transform
- Full event notification
- InfoPrint Manager Notifications to enable client systems to receive messages from InfoPrint Manager Server systems
- The InfoPrint Manager Administration GUI for performing most administrative tasks
- The InfoPrint Manager Operations GUI for performing operator tasks
- InfoPrint Select client for job submission
- A powerful command-line interface to all InfoPrint Manager features
- Simple Network Management Protocol (SNMP) support
- PSF Direct for job submission from mainframe (AS/400®, MVS, z/OS, OS/390®) host systems
- MVS Download for job submission from z/OS, OS/390, and MVS host systems
- InfoPrint Page Printer Formatting Aid (PPFA)
- The **pdaccount** command, which you can use to generate comma-delimited reports of print server data to be fed into spreadsheets
- Configurable transform support (through transform objects)
- InfoPrint SAP Print Feature, which includes the SAP Output Management Support (OMS) and the **sap2afp** transform.
- The IPP Gateway to allow you to print from an IPP client system to printers that are not IPP-enabled

Understanding InfoPrint Manager for AIX features

The following features are currently only available in InfoPrint Manager for AIX:
- A DCE version of the InfoPrint Manager server for improved security and scalability
- Impositioning (that is, arranging pages so they will appear in proper sequence after press sheets are folded and bound) is available with the Print-on-Demand Feature.
- InfoPrint E-Mail output support
- Generalized Fax input and output support
- SAPconnect support for fax-in and fax-out in the InfoPrint SAP Print Feature
- Support for printers that use standard AIX printer backend programs (piobe and some versions of rembak)
- Impositioning support
- InfoPrint Color 130 Plus support
- AFP Upload:
  - Upload-SNA
  - Upload-TCP/IP
- SMIT interface for performing tasks not supported by the InfoPrint Manager Administration GUI, including PPO and security administration
- Tape input

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

Understanding InfoPrint Manager for Windows features

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

- The InfoPrint Manager Management Console interface for performing administrative tasks not supported by the InfoPrint Manager Administration GUI. The InfoPrint Manager Management Console also features graphical administration of the Non-DCE Group and Access Control List (ACL).
- Interaction between InfoPrint Manager and the Windows print spool to expand InfoPrint capabilities
- Distributed Print Facility (DPF) for host printing
- Support for the Internet Print Protocol (IPP) to allow InfoPrint Manager to access a printer using a Uniform Resource Indicator (URI) string
- The Windows gateway printer to allow job submission to InfoPrint Manager without using an InfoPrint Manager client. (The destinations appear as shared printers on the Windows network.)
- Customization of MVS Download without programming

Supported printers

InfoPrint Manager for Windows supports a wide range of printers from Infoprint Solutions Company and other vendors.

PCL printers

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

PostScript printers

InfoPrint Manager for Windows supports printing to PostScript printers by passing your PostScript directly to your PostScript printer.

PPDS printers

In addition, InfoPrint Manager for Windows is capable of driving any printer that accepts the Personal Printer Data Stream (PPDS). InfoPrint Manager is capable of converting all kinds of datastreams, except formatted ASCII, to PPDS or passing through any version of PPDS to your PPDS printer.

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

InfoPrint Printers

The following lists supported printers:
- InfoPrint Color 8 (no IPDS™ support)
- InfoPrint 20

- InfoPrint 21
- InfoPrint 32
- InfoPrint 40
- InfoPrint 45
- InfoPrint 60
- InfoPrint 62
- InfoPrint 70
- InfoPrint Color 100 AFP
- InfoPrint Color 130 Plus
- InfoPrint 1116 (no IPDS support)
- InfoPrint 1120, 1125, 1130, 1140
- InfoPrint 1145 (no MFP support)
- InfoPrint Color 1220
- InfoPrint 1222 (no IPDS support)
- InfoPrint 1226
- InfoPrint Color 1228
- InfoPrint 1312 (no IPDS support)
- InfoPrint 1332
- InfoPrint Color 1334 (no IPDS support)
- InfoPrint 1352
- InfoPrint Color 1354
- InfoPrint Color 1354L
- InfoPrint Color 1357
- InfoPrint 1372
- InfoPrint 1410 MFP (no IPDS support)
- InfoPrint 1412 (no IPDS support)
- InfoPrint 1532
- InfoPrint Color 1534
- InfoPrint 1540 MFP
- InfoPrint 1552
- InfoPrint 1560 MFP
- InfoPrint Color 1567
- InfoPrint 1570 MFP
- InfoPrint 1572
- InfoPrint 1572 MFP
- InfoPrint 1580 MFP
- InfoPrint 1585
- InfoPrint 1612
- InfoPrint 1622
- InfoPrint Color 1634
- InfoPrint 1650 MFP
- InfoPrint Color 1654
- InfoPrint Color 1664
- InfoPrint Color 1664 MFP
- InfoPrint Color 1754

- InfoPrint Color 1759 MFP
- InfoPrint Color 1764
- InfoPrint Color 1764 MFP
- InfoPrint Color 1767
- InfoPrint Color 1769 MFP
- InfoPrint 2000 SCS and AFP Models
- InfoPrint 2060ES
- InfoPrint 2075ES
- InfoPrint 2085
- InfoPrint 2090ES
- InfoPrint 2105
- InfoPrint 2105ES
- InfoPrint 2190
- InfoPrint 2210
- InfoPrint 2235
- InfoPrint 3000
- InfoPrint 3112 and 3116 Advanced Function Printers with Feature 4140
- 3130 Advanced Function Printer with Feature 4120
- 3160 Advanced Function Printer with Feature 4120, 4161, 4162, or 4163
- 3816 Page Printer Models 01D and 01S with Feature 7653 or 7654
- 3825 Page Printer
- 3827 Page Printer
- 3828 Advanced Function MICR Printer
- 3829 Advanced Function Printer
- 3831 Page Printer Model 001 in 3835 compatibility mode (available only in Japan)
- 3835 Page Printer Model 001 (including support for the 3835 MICR Printing Interface RPQ)
- 3835 Page Printer Model 002 in 3835 (including support for the 3835 MICR Printing Interface RPQ and for the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers)
- 3900 Advanced Function Printer Models 001, D01, D02, 0W1, 0W3, DW1, and DW2 (including support for the MICR Post-Processing Interface Feature, the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers, and the Interface Feature 4720)
- 3912 Page Printer Models AS0, AS1, NS0, and NS1
- 3916 Page Printer Models AS1 and NS1
- 3930 Page Printer Models 02D and 02S with Feature 9217 or 9476
- 3930 Page Printer Models 03D and 03S
- 3935 Advanced Function Printer with Feature 4020, 4121, or 4161
- InfoPrint 4000
- InfoPrint 4000 Model ID5/ID6
- InfoPrint 4000 Model IR3/IR4
- InfoPrint 4005 HC2 Hi-Lite Color
- LaserPrinter 4019, all models

- LaserPrinter 4028 Models AS1 and NS1 (including support for the 4028 with MICR, RPQ S02177)
- LaserPrinter 4029, all models
- LaserPrinter 4037, all models
- LaserPrinter 4039 Models 10D, 10R, 12L, 12R, and 16L
- InfoPrint 4100 MD1/2
- InfoPrint 4100 Model HD1/HD2
- InfoPrint 4100 Model HD3/HD4
- InfoPrint 4100 Model HD5/HD6
- InfoPrint 4100 Model HS1
- InfoPrint 4100 Model HS2
- InfoPrint 4100 Model HS3
- InfoPrint 4100 Model PD1/PD2
- InfoPrint 4100 Model PS1
- InfoPrint 4100 MS1
- InfoPrint 5000 Model AD1/AD2r
- InfoPrint 5000 Model AS1
- InfoPrint 5000 Model CD1/CD2
- InfoPrint 5000 Model CS1
- 4312 Network Printer 12. OS Code Release Level 2.23 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- 4317 Network Printer 17. OS Code Release Level 2.23 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- 4324 Network Printer 24. OS Code Release Level 2.35 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- 4400 Thermal Printer
- 6400 Printer with IPDS coax feature V3R1 or higher
- 6408 Model CTA Printer with IPDS coax feature V3R1 or higher
- 6412 Model CTA Printer with IPDS coax feature V3R1 or higher
- InfoPrint 6500
- InfoPrint 6700

You typically configure Other-driver or Command attachment for printers such as the InfoPrint 1116 or InfoPrint Color 1220 through the server system's parallel or serial port by using either the Print Services Facility (PSF) or Passthrough device support system (DSS). However, you can use one of the following alternatives to attaching directly to a port:

- IBM 4033 LAN Connection for Printers and Plotters
- IBM 7318 Serial Communications Network Server
- IBM 8260 Multiprotocol Intelligent Switching Hub

These alternatives allow InfoPrint Manager for Windows to drive printers as if they were directly attached, even when all parallel and serial ports are in use. These alternative attachment methods can also improve system performance.

Supported data streams

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

- Advanced Function Presentation™ (AFP)
- ASCII
- DBCS ASCII
- CompuServe Graphics Interchange format (GIF)
- EBCDIC
- Joint Photographic Experts Group image (JPEG)
- PCL (PCL 6 and below)
- PDF (1.6 and below)
- PostScript (level 3 and below)
- Personalized Print Markup Language (PPML) (with purchase of the InfoPrint Manager: Print-on-Demand feature)
- SAP ABAP and OTF (with purchase of the InfoPrint Manager: SAP Print Feature)
- S/370™ line data, also known as line data
- Tagged Image File Format (TIFF)
- eXtensible Markup Language (XML)

In addition, InfoPrint Manager will pass through any datastream including PostScript, PCL5e, PCLXL, PCL6 (which is a combination of PCL5e and PCL XL), and PPDS.

Note: If you send PostScript data generated by an InfoPrint 1700 model PS printer driver to an IPDS printer via InfoPrint Manager, specific controls inserted in the data stream are lost. To avoid this, you can use the generic PostScript driver.

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

Chapter 2. Planning for configuration

This chapter describes destination configuration models that might be important to you as you design your InfoPrint Manager environment.

Understanding destination configuration models

Destination configuration models show the relationships among logical destinations, job- and document-attribute defaults, queues, and actual destinations. A default InfoPrint Manager destination configuration has a one-to-one relationship between a logical destination and an actual destination, and provides minimal job- and document-attribute default settings. As you customize your InfoPrint Manager environment to support your printing needs, you might want to consider a more advanced destination configuration model.

Note: In multiple InfoPrint Manager server environments, the logical destination and the queue that it sends jobs to must reside in the same InfoPrint Manager server. The actual destination, however, can reside in a different InfoPrint Manager server, unless you want to submit jobs directly to the actual destination. For direct submission, the actual destination must reside in the same server as the logical destination and queue.

The default model

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

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

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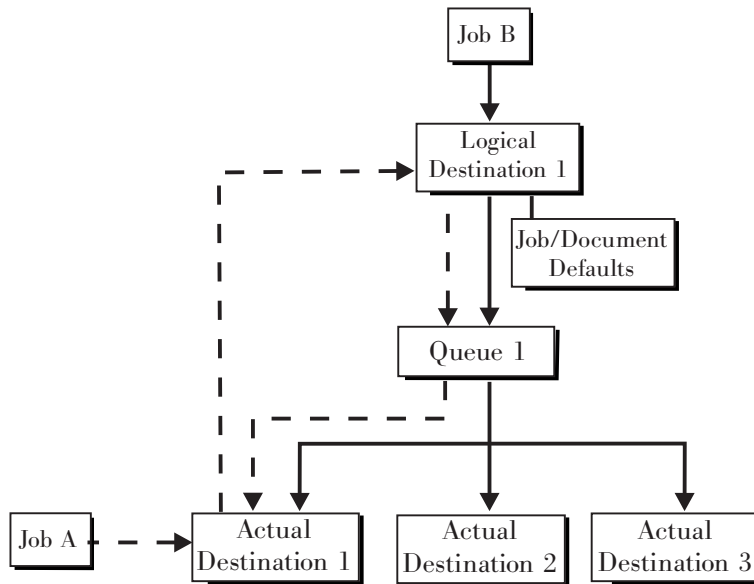
Figure 2. Default destination configuration model. Job A (submitted to an actual destination) prints on that actual destination. Job B (submitted to the logical destination) prints on the first actual destination that can support it.

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

The pool model

Like the default destination configuration model, the pool destination configuration model has a one-to-many relationship between a logical destination and two or more actual destinations.
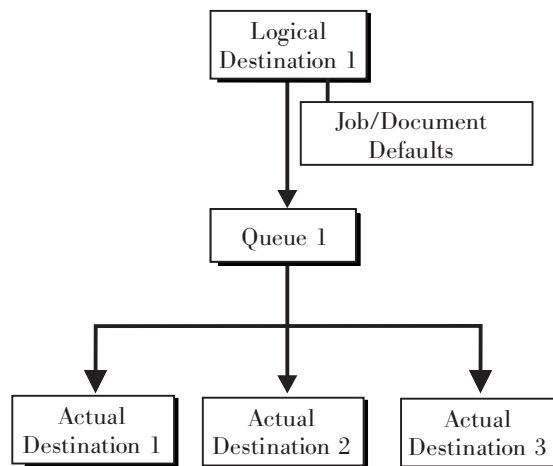
Figure 3. Pool destination configuration model

This model is very effective when you have output devices that you want to group together based on factors such as location, capability, speed, and capacity. You might also want to group them based on who uses them or who manages the output they generate. For example, access to a specific group of printers can be restricted to members of the billing department. Moreover, different types of

statement jobs might use different sets of job- and document-attribute defaults, such as the form they print on or the overlay they require. The pool model allows these different jobs to be submitted to a single logical destination. It then automatically routes each job to the first available printer capable of processing it. In this way, the pool model helps with workload balancing.

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

The desktop model

The desktop destination configuration model has a one-to-one relationship between a logical destination and an actual destination. The desktop model represents the way you typically manage and use a workstation printer. This model should be familiar to you if you have an existing printing system that you are adding InfoPrint Manager to. The capabilities of the actual destination directly control the types of jobs that your users can successfully submit with this destination configuration.
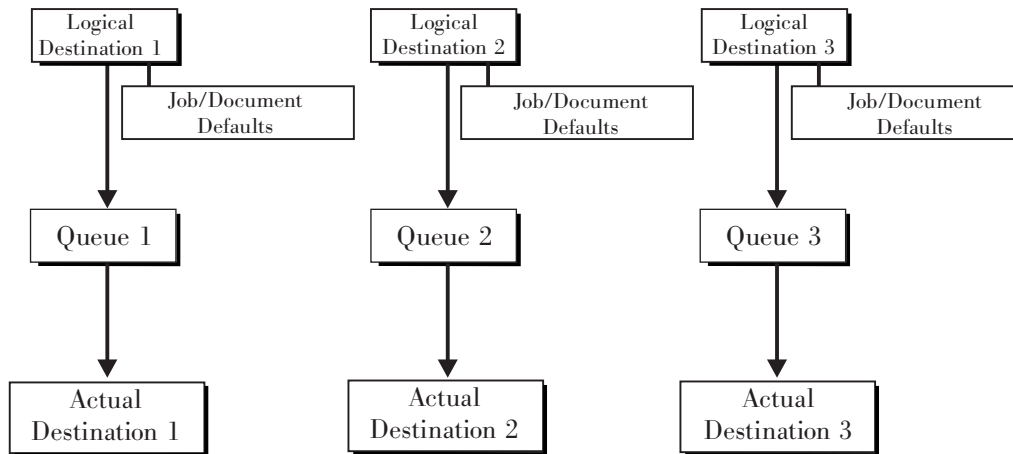
Figure 4. Desktop destination configuration model

The funnel model

The funnel destination configuration model has a many-to-one relationship between two or more logical destinations and one actual destination.
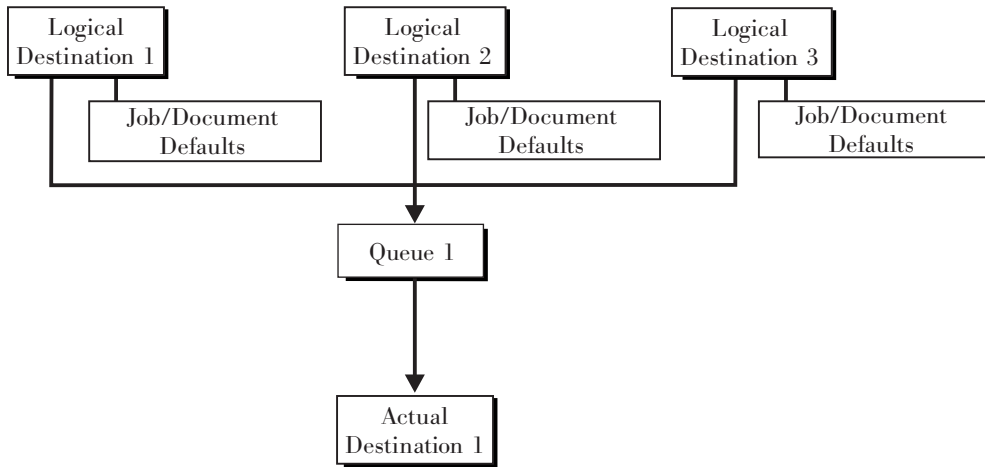
Figure 5. Funnel destination configuration model

The funnel model is a flexible configuration model that allows you to more closely control setting job and document defaults for jobs. For example, you can configure one logical destination to print on the pink paper stored in tray 2 and another logical destination to print duplex from tray 1 with an overlay.

The hourglass model

The hourglass destination configuration model has a many-to-many relationship between logical destinations and actual destinations. The hourglass model provides both the workload balancing of the pool model and the automatic assignment of job and document defaults of the funnel model. The hourglass model is the most flexible of the destination configuration models.
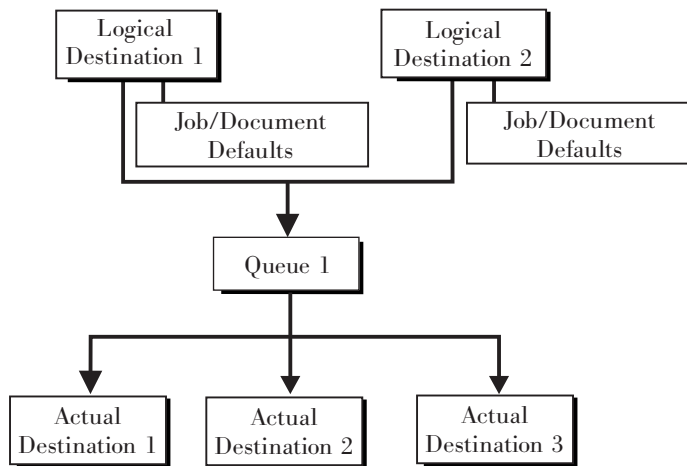
Figure 6. Hourglass destination configuration model

Chapter 3. Planning to print with host systems

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

- **PSF Direct**

  If you use PSF on z/OS[1], MVS, or i5/OS, and you want to manage and control printing from the host console, you can use PSF Direct.

- **Distributed Print Function (DPF)**

  If you use PSF on z/OS, OS/390, or i5/OS, you can use DPF to receive IPDS print jobs and their resources, then manage them using InfoPrint Manager.

- **MVS Download**

  The MVS Download receiver/daemon in InfoPrint Manager supports both Download for z/OS and AFP Download Plus for z/OS. If you use MVS Download feature of PSF for z/OS or AFP Download Plus feature of PSF for z/OS, you can spool jobs to remote locations, so that the remote print operator can control printing.

  Note: Within InfoPrint Manager, the term MVS Download refers to both the Download for z/OS feature of PSF for z/OS and the AFP Download Plus for z/OS feature of PSF for z/OS.

- **IPP**

  If you have an IPP client on your host system, you can use it to submit jobs to InfoPrint Manager through the IPP gateway.

- **Infoprint Server on z/OS**

  If you use Infoprint Server on z/OS, you can submit jobs on the host for spooling to a remote InfoPrint Manager server. The IP PrintWay™ component of Infoprint Server, which contains an LPR, and the InfoPrint Manager LPD must be running. (If you run the InfoPrint Manager Server on a Windows system, the InfoPrint Manager LPD replaces the Microsoft® LPD for Windows.) When you submit a job on the host, you can specify advanced InfoPrint options, such as form definitions and page definitions. The remote print operator controls printing after InfoPrint Manager receives the job.

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

Note: If you currently use PSF for OS/2, read "Migrating from PSF for OS/2," on page 49 for information about making a smooth transition to InfoPrint Manager.

Once you have decided which method you want to use, refer to the *InfoPrint Manager for Windows: Getting Started* for configuration information.

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

Comparing PSF Direct, DPF, and MVS Download

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

Table 1. Comparing PSF Direct, DPF, and MVS Download

PSF Direct	DPF	MVS Download
InfoPrint Manager for Windows acts as an intermediary passthrough point for Intelligent Printer Data Stream (IPDS) input, or converting from IPDS to the PCL or PPDS data stream.	InfoPrint Manager for Windows acts as a full print spool system for Intelligent Printer Data Stream (IPDS) input, or converting from IPDS to the PCL or PPDS data stream.	InfoPrint Manager for Windows acts as a full print spool system. MVS provides the mechanism for transferring jobs from the JES spool to the InfoPrint Manager spool.
Use this feature with PSF for OS/390, PSF/MVS, and PSF/400.	Use this feature with PSF for OS/390, PSF/MVS, and PSF/400.	Use this feature with PSF for OS/390 or PSF/MVS only.
Requires installation and configuration of IBM eNetwork Communications Server for NT Version 6.01 and a Print Services Facility (PSF) software program on the host system.	Requires a Print Services Facility (PSF) software program on the host system.	Requires purchase and configuration of the MVS Download feature or AFP Download Plus feature of PSF.
Communicates through SNA from the PSF host to Windows.	Communicates through TCP/IP from the PSF host to Windows.	Communicates through TCP/IP from the PSF host to Windows.
Resource management is performed at the PSF host.	Resource management is performed at the PSF host and resources are downloaded automatically with jobs. Refer to "Managing resources with DPF" on page 25 for additional information.	For Download for z/OS, resource management is performed at InfoPrint Manager: all print resources must either reside on the InfoPrint Manager server where the job prints or be transmitted inline in an Advanced Function Presentation (AFP) job. Refer to "Managing resources with MVS Download" on page 25 for additional information. For AFP Download Plus, resource management can be performed at the host, at InfoPrint Manager, or at a combination of the two. Refer to "Managing resources with MVS Download" on page 25 for additional information.

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

PSF Direct	DPF	MVS Download
Both the printer and the print spool are managed on the host PSF system.	The host print spool is managed on the host PSF system; the InfoPrint Manager spool and printer are managed from InfoPrint Manager. The job is managed on the host until it is downloaded, then from InfoPrint Manager.	The host print spool is managed on the host PSF system; the InfoPrint Manager spool and printer are managed from InfoPrint Manager. The job is managed on the host until it is downloaded, then from InfoPrint Manager.
Supports all printers supported by the host PSF, as well as PCL and PPDS devices that are not supported on the host.	Supports all printers supported by both the host PSF and InfoPrint Manager, as well as PCL and PPDS devices that are not supported on the host, **except** 6400 series printers. Some IPDS function is not supported; refer to "IPDS support" on page 52 for more information.	Supports all printers supported by InfoPrint Manager for Windows.
Requires no additional disk space on InfoPrint Manager system.	Requires additional InfoPrint Manager disk space to spool jobs.	Requires additional InfoPrint Manager disk space to spool jobs.
Prints job as it is received by InfoPrint Manager (if the printer is not busy).	Prints job only after the entire job has been received by InfoPrint Manager and scheduled to print by the InfoPrint Manager spool.	Prints job only after the entire job has been received by InfoPrint Manager and scheduled to print by the InfoPrint Manager spool.
Uses host (for example SMF/6) accounting records.	Uses both host (for example, SMF/6) and InfoPrint Manager accounting.	Uses InfoPrint Manager accounting information.
Provides printer sharing through host systems, the PSF Direct feature, the host printer support, and InfoPrint Manager (as long as only one PSF Direct Host Receiver attempts access at a time).	Provides printer sharing through host systems and InfoPrint Manager.	Provides printer sharing and printer support through InfoPrint Manager.
Supports printing of multiple data set jobs as a single print job.	Supports printing of multiple data set jobs as a single print job.	Supports printing of multiple data set jobs as a single print job.
Does not support spooling of jobs on InfoPrint Manager for printing later.	Supports spooling of IPDS data from host PSF for later printing.	Supports the downloading of AFP or line data from the JES spool to InfoPrint Manager for printing later.
Jobs are not retained by InfoPrint Manager; they must be resubmitted for printing from the host PSF.	Jobs can be retained on InfoPrint Manager where they can be resubmitted for printing later.	Jobs can be retained on InfoPrint Manager where they can be resubmitted for printing later.

Print shop scenarios

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

A black box shop

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

Printing from the LAN and the host: option one

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

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

Printing from the LAN and the host: option two

A medium-sized company wants to print to a pool of three InfoPrint 60 printers from both their iSeries® system and the local LAN. Print jobs can come from either place at any time of day. In fact, the company would like to keep the connection between the host system and the print queue open all the time. They decide to use DPF to submit their host print jobs because the host receiver can be connected to InfoPrint Manager constantly without completely taking over a printer. The InfoPrint Manager queue can accept both LAN and host print jobs as they arrive and print them in order of priority.

Spooling jobs to be printed later

The payroll department of a large company generates pay checks for 10,000 employees every two weeks. The checks are created on a host system in San Jose, and need to be printed at the print center in Oakland. To save network bandwidth on those days, the checks are downloaded at night. However, for security reasons, they can't be printed until the print operators arrive in the morning. The print administrator decides to use DPF to download the IPDS print jobs and resources used in them to InfoPrint Manager, where they are held until the print operators arrive. Because the resources used need to be kept secure (signatures), **Save resources** is turned off at the host receiver. Resources are deleted after the jobs print.

Distributed print shop using remote spooling

A data center prints a monthly series of in-house reports. The jobs that generate the output are run during the evening off-shift (so they do not interrupt other work during the day), then held on the system. The shop saves bandwidth costs

by sending the print files once, then printing them at rated speed as many times as needed. Although this data center only has a 56 KB link, MVS Download prevents performance problems caused by inefficient line speed. MVS Download does not wait for the entire job to be spooled before starting to print it on a high-speed continuous forms printer. Because this shop wants to integrate all their print servers while retaining the ability to send jobs once and print them many times, the MVS Download feature of InfoPrint Manager best meets their needs by allowing them to control all jobs locally.

Managing resources with MVS Download

When you use the MVS Download function in InfoPrint Manager with AFP Download Plus for z/OS, all print resources must reside on the Windows NT/Windows 2000 system where the InfoPrint Manager server resides. You can manage these resources in one of three ways:

* Download these resources to InfoPrint Manager through a standard file transfer protocol (FTP) in binary format. This method works best when resources do not change often.
* Use the Network File System (NFS) mount command to make OS/390 systems containing resources accessible to the Windows server that InfoPrint Manager is running on. Because this solution can cause a great deal of network traffic, you should be careful when choosing this solution if your resources change frequently.
* Use MVS Download to submit a resource instead of a print job and send it to all print resource libraries defined on your InfoPrint Manager server. This method requires you to customize your MVS Download exits and configuration.

When you use the MVS Download function in InfoPrint Manager with AFP Download Plus for z/OS, the resources for the print jobs are normally sent with the print job as inline resources used for that job and the resources do not need to reside on the InfoPrint Manager server. However, if AFP Download Plus is configured to not send all resources as inline resources, then the resources that are not sent inline must reside on and be managed by the InfoPrint Manager server.

For more information on these methods, refer to "Setting up to use MVS Download" in the *InfoPrint Manager for Windows: Procedures*, or on the InfoPrint Solutions Company Web site at http://www.infoprint.com.

Managing resources with DPF

When you submit a print job using DPF, both the job files and the required IPDS resources are sent to your InfoPrint Manager system. However, you can reduce traffic on your network by using the **Save resources** function of the DPF host receivers.

Note: The **Save resources** function only works with PSF for VSE, MVS, and z/OS systems. You cannot use **Save resources** if you are using DPF to print from a VM or an i5/OS system.

All DPF Resources that are downloaded with jobs are stored in the DPF Resources database. However, some resources stay in the database for reuse, while others are deleted as soon as they are no longer needed. What happens to the resource depends on how you mark the resources on the host system and on how you have the **Save resources** option set on your DPF host receivers.

On your host system, you can use the PSF resource-marking utility (APSRMARK on MVS or APTRMARK on VSE) to mark your resources as **private** or **public**. Private resources are downloaded to the DPF Resources database with a job and used for that job. When the host receiver disconnects from InfoPrint Manager and the job that uses the resource is purged from the print queue, the resource is deleted from the database. Public resources are downloaded to the DPF Resources database with a job, used for that job, then kept in the database to be reused later. If you don't mark resources, they are treated like private resources.

When you create a DPF host receiver, you can select **Save resources** or you can leave it unselected.

- When **Save resources** is selected, the DPF host receiver acknowledges the public/private mark on the resource. Public resources are downloaded and stored in the database for reuse later; private resources are downloaded and used for one job, then deleted. Unmarked resources are treated as private resources.
- When **Save resources** is not selected, all DPF resources (font, overlays, and page segments) are treated as private resources, even if they have been marked public on the host.

When a job starts to download, the DPF host receiver checks to see what resources it requests, looking for an internal ID and a public/private designation (both set on the host).

- If the resource doesn't have an internal ID, it is downloaded and treated as a private resource.
- If the resource has an internal ID, the receiver checks to see if it is marked **public** or **private**.
  - If the resource is marked private, it is downloaded and used with the job, then deleted.
  - If the resource is marked public, the host receiver checks to see if it is already stored in the database. If it is, InfoPrint Manager will use it from there when it processes the job. If it isn't, the host receiver tells the host to download it. The resource is stored in the database and used for the current job, then it remains in the database for future use.

Chapter 4. Using AFP resources

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

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

Data object resources
> Data object resources are a type of AFP resource; they can be an IOCA file or a type of file natively supported by a particular model of printer (for example, an EPS file on an InfoPrint Color 130 plus). In addition, if you use the transforms that come with InfoPrint Manager to convert objects into AFP first, these non-native types of files can be used as data object resources as well. In InfoPrint Manager, data object resources are grouped with BCOCA™ and GOCA objects, and they are collectively known as presentation object containers.

Form definitions
> Form definitions provide instructions on how output devices position data on the page. Form definitions can specify overlays, a paper source for cut-sheet printer devices, duplexed printing, text suppression, data position, and the number and modifications of pages.

Page definitions
> Page definitions contain the formatting controls for line data. Page definitions can include controls for the number of lines per logical page, font selection, print direction, and the mapping of individual fields to positions on the logical page.

Page segments
> Page segments contain text and images that you can include at any addressable point on a page or an electronic overlay.

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

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

You can also purchase additional resources or even create your own custom resources. To create page definitions and form definitions, you can purchase the Page Printer Formatting Aid (PPFA) for Windows, which is an optional feature of InfoPrint Manager for Windows. Table 5 on page 47 lists the separately orderable features that are available with InfoPrint Manager for Windows.

Note: The DPF function of InfoPrint Manager uses IPDS resources, not AFP resources. As a result, DPF resources can only be used with jobs that are submitted using DPF. However, AFP versions of those resources should exist on your host system. If you need to use the DPF resources with a different job submission method (such as MVS Download), you can transfer the AFP versions from the host to your InfoPrint Manager server.

InfoPrint Manager provides several methods for accessing AFP resources. If the only AFP resources available are those that shipped with InfoPrint Manager, they are accessed automatically when a job needs them. If, however, you are using other AFP resources, you must specify the location of these resources. There are also ways to specify resource locations through job submission parameters and environment variables. Finally, each document within a job can specify the path to each of the AFP resource types it requires. You can elect to handle these specifications with a default document associated with a logical destination.

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

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

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

Chapter 5. Planning to share printers

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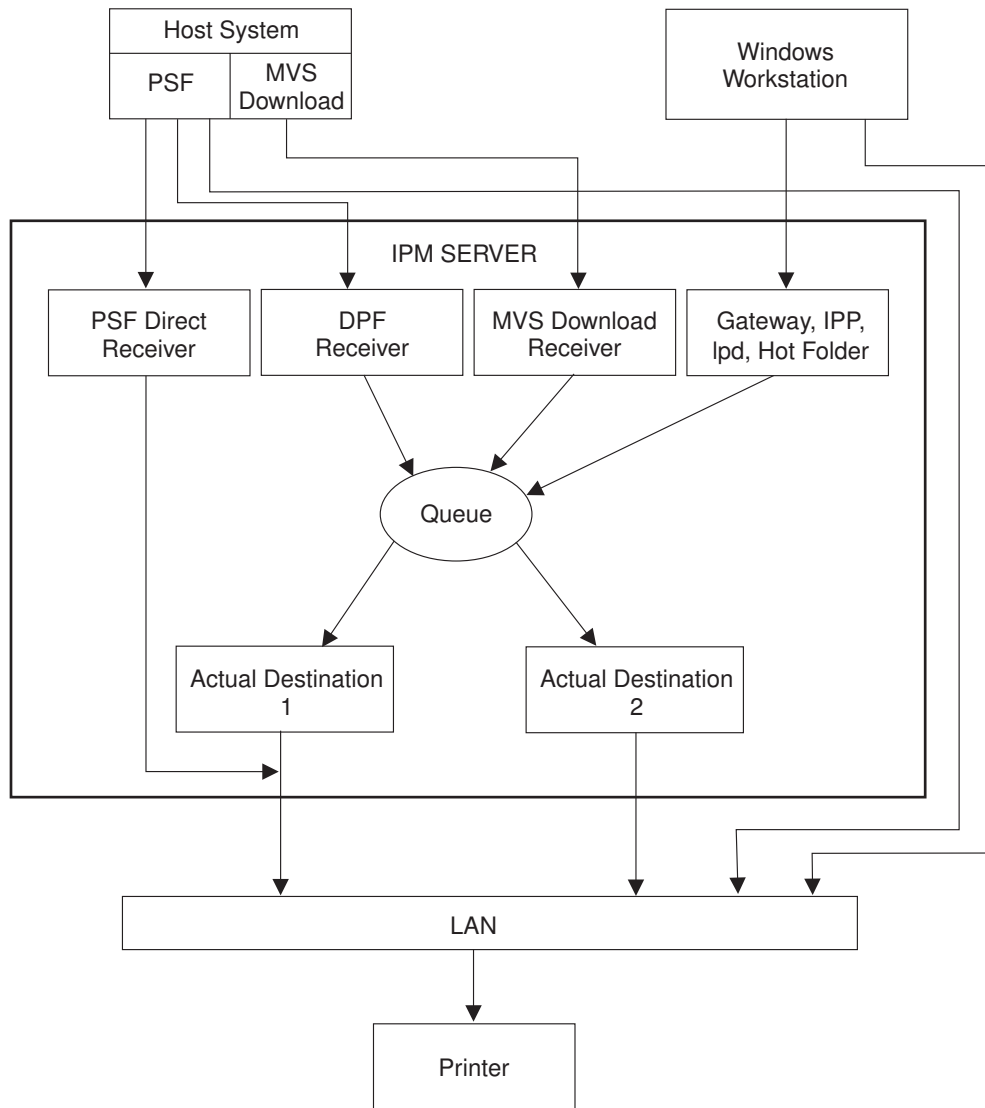

Figure 7. Sharing printers

Methods for sharing printers

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

Sharing the communication link with IPDS printers

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

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

The **connection** timer identifies how long to wait for the printer to become available. The **release** or **inactivity** timer identifies how long the print driver should maintain the communication link when it has no work to do. When a print driver is actively feeding jobs to the printer, the print driver continues to do so as long as the interval between job submissions is not longer than the specified release or inactivity time. The print driver controls the printer until the flow of jobs sufficiently slows. The release or inactivity time values ensure that the destination is shared equally between the printer drivers, which is important.

You must configure the print drivers when one or more of the following are configured to drive the same printer:
- InfoPrint Manager actual destinations
- PSF Direct Receivers
- Host PSF printers

When you configure the print drivers, the following apply:

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

If the printer is S/390 channel-attached to the InfoPrint Manager server, automated printer sharing can be used between one or more InfoPrint Manager actual destinations and PSF Direct receivers on the same server. Printer sharing with a host system requires manual actions to switch the printer connection.

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

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

- InfoPrint Manager actual destinations
- PSF Direct Receivers
- Windows workstations
- LPR clients submitting directly to the printer

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

Submitting jobs to the same print queue

When you submit jobs to the same print queue, only one actual destination communicates with the printer, and all jobs are managed by one InfoPrint Manager queue. You can use the following ways to submit jobs to one InfoPrint Manager queue:

- DPF Receivers when jobs are received from Host PSF print drivers
- MVS Download Receivers when jobs are received from Host MVS Download drivers
- Windows gateway when jobs are received from Windows shared printers
- LPD when jobs are received from LPR clients on any platform
- IPP when jobs are received from IPP clients on any platform
- Hot Folder when jobs are received from a Windows shared folder
- InfoPrint Manager Select client when jobs are received directly from the Windows client

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

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

Sharing printers between host and LAN applications

To get the most out of integrated host and LAN printing, you can share them among your host and LAN applications

Printing from existing host applications

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

- Host PSF sends jobs to a PSF Direct Receiver.
- Host PSF sends jobs to a DPF Receiver.
- MVS Download sends jobs to an MVS Download Receiver.
- The LPR client sends jobs to the LPD utility on the InfoPrint Manager server.
- If you use Infoprint Server on z/OS, you can submit jobs on the host for spooling to a remote InfoPrint Manager server. The IP PrintWay component of Infoprint Server, which contains an LPR, and the InfoPrint Manager LPD must be running. (If you run the InfoPrint Manager Server on a Windows system, the InfoPrint Manager LPD replaces the Microsoft LPD for Windows.) When you submit a job on the host, you can specify advanced InfoPrint options, such as form definitions and page definitions. The remote print operator controls printing after InfoPrint Manager receives the job.

Note: As described in "Methods for sharing printers" on page 29, the method used affects how the printer is shared.

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

Printing from existing LAN applications

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

- Install InfoPrint Select on all Windows workstations
- Install InfoPrint Job Ticketer on all Windows workstations
- Install InfoPrint Submit Express on all Windows workstations
- Create a Windows gateway printer on the InfoPrint Manager server and connect to it from client workstations
- Enable the Internet Printing Protocol (IPP) gateway on the InfoPrint Manager server and create IPP client printers on client workstations
- Create an InfoPrint hot folder that automatically submits files that are stored in it to an InfoPrint Manager destination

Using InfoPrint Select

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

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

Your enhanced InfoPrint Select client allows you to:
- Specify InfoPrint job attributes when submitting a job to the server
- Support the cancelling, holding, and releasing of jobs within a queue

For more information on these specific enhancements, consult the help system.

Using InfoPrint Submit Express

To use InfoPrint Submit Express (available for Windows 2000, Windows 2003, Windows XP, and Mac 10.2.3 or higher), you must install and configure InfoPrint Submit Express on the workstation. The InfoPrint Submit Express clients and installation instructions are available with the InfoPrint Manager for Windows: Print-on-Demand Feature.

With InfoPrint Submit Express in place, commercial print shops can create job tickets, submit print jobs to the InfoPrint Manager for Windows server, and track

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

Using InfoPrint Job Ticketer

InfoPrint Job Ticketer is a Web application that you can use to create, lay out, store, and retrieve print jobs, and to submit the jobs for printing. The InfoPrint Job Ticketer application is installed on the InfoPrint Manager for Windows server. Users can access InfoPrint Job Ticketer in their Web browser on a client workstation running Windows 2000, Windows 2003, Windows XP, or Macintosh 10.3.5. Installation instructions are provided with the InfoPrint Manager for AIX: Print-on-Demand Feature.

When InfoPrint Job Ticketer is installed on the InfoPrint Manager server, users provide input on the user interface to create and submit print jobs to the server. They can also import print jobs or job tickets that were created with InfoPrint Submit, InfoPrint Submit Express, IBM Job Ticket Composer, or any JDF job ticket to create an InfoPrint Job Ticketer print job. A print job contains all of the specifications for a job (including layout and finishing options), along with the print files that are associated with the job. InfoPrint Job Ticketer clients can make use of all the data stream transforms (PCL, PostScript, TIFF, GIF, and JPEG) that are available from the InfoPrint Manager for Windows server and submit jobs to destinations controlled by InfoPrint Manager for Windows.

Using a Windows gateway printer

With the Windows gateway printer, you do not have to install any software on the client system; you perform the majority of the configuration work at the server. First, you create InfoPrint destinations (logical or actual) using the InfoPrint Manager Administration GUI. Then, you use the Management Console to create a Windows gateway printer that points to one of those destinations.

Note: When you create a destination using the InfoPrint Manager Administration GUI, you have the option of creating an associated Windows gateway printer at the same time.

Once the Windows gateway printer is created, users simply use the Windows **Add Printer Wizard** to add a printer managed by a remote printer server to their desktops, just as they would to access any shared network printer. The only information they need is the name of the InfoPrint Manager server system and the shared name of the gateway printer.

The Windows gateway printer provides the InfoPrint Manager administrator with straightforward control over which destinations are accessible to applications. This, coupled with its ease of deployment, makes the Windows gateway printer an attractive choice. This feature does not provide detailed event notification from InfoPrint Manager, but users can receive detailed notification if they install InfoPrint Manager Notifications on their workstations.

Using an IPP gateway

InfoPrint Manager includes an IPP gateway that allows users anywhere in the network to submit jobs through InfoPrint Manager, even to printers that are not IPP-enabled. The InfoPrint Manager administrator enables the IPP gateway in the Management Console and associates it with a destination. Users install IPP client software on their workstations, then follow the instructions provided with the IPP client to access a printer managed by a remote printer server.

The IPP gateway provides the InfoPrint Manager administrator with straightforward control over which destinations are accessible to applications. This feature does not provide detailed event notification from InfoPrint Manager, but users can receive detailed notification if they install InfoPrint Manager Notifications on their workstations.

Using InfoPrint Manager hot folders

An InfoPrint Manager *hot folder* is a directory that is associated with a logical destination. When you copy or move a file to the hot folder, InfoPrint Manager automatically submits the job to that logical destination. The hot folder directory can be created on any system that the InfoPrint Manager server and all job submitters can access, including the system that the InfoPrint Manager server is installed on. The directory should then be shared so that all of the users who need to copy files to it can access it. To submit files to the hot folder, users copy their files to that directory from their local systems.

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

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2. Additional information about using hot folders, including creating attribute files, is available in the *InfoPrint Manager for Windows: Getting Started* and the *InfoPrint Manager for Windows: Procedures*.

Chapter 6. Verifying prerequisites

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

Verifying hardware prerequisites

Server hardware prerequisites

The recommended minimum configuration for the InfoPrint Manager server is:
- 2-way 2.4GHz system
- 2GB RAM
- Three hard disks with 96GB total capacity
- Graphics display

Note: InfoPrint Manager can be installed and run on a smaller or slower system, though performance will be impacted.

InfoPrint Manager for Windows will run on common PC systems from various manufacturers.

To use a channel-attached printer, you must install the IBM 4159 Model 001 S/390 Parallel Channel Emulator Card. You should be advised of the following facts:
- Each IBM 4159 supports at most 8 printers. However, if you are using the card to attach high-speed printers (such as an InfoPrint 4000 or an InfoPrint 4100), you should use one card per printer.
- You should plan to install the IBM 4159 in a long PCI slot. As a result, the number of long PCI slots you have available in your InfoPrint Windows systems determines how many IBM 4159 cards you can install, up to a maximum of 8 cards. Many computers have fewer than 8 long PCI slots.
- The IBM 4159 supports data streaming at either 3.0 Mb per second or 4.5 Mb per second. All printers connected to a computer must be configured for the same data streaming rate.
- The IBM 4159 supports only block multiplex data transfers.

Contact your InfoPrint customer service representative to obtain the IBM 4159 Model 001 S/390 Parallel Channel Emulator Card.

To use TCP/IP-attached printers or to communicate with other systems across a LAN, you must install a suitable token-ring, ethernet, or Fiber Distributed Data Interface (FDDI) adapter card and connect the appropriate cabling. Acceptable network hardware is available from IBM and other vendors.

Client hardware prerequisites

We recommend the following minimum Windows configuration for all InfoPrint clients:
- 800 MHz Pentium® III processor
- 256 MB RAM or more

- CD-ROM drive
- 10 MB available hard disk space or more
- LAN connection (either Ethernet or Token-Ring)
- Access to at least one InfoPrint Manager server (either on a local system or remotely over a LAN)

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

Verifying software prerequisites

Server software prerequisites

The primary software prerequisite for the InfoPrint Manager for Windows server software is one of the following Microsoft operating systems:
- Windows 2000 Professional SP4
- Windows 2000 Server SP4
- Windows XP Professional SP1 or later
- Windows Server 2003 Standard Edition
- Windows Server 2003 R2 Standard Edition SP2
- Windows Server 2003 Enterprise Edition SP2
- Windows Server 2003 R2 Enterprise Edition SP2
- Windows Server 2003 Enterprise x64 Edition SP2 (with limitations)
- Windows Server 2003 R2 Enterprise x64 Edition SP2 (with limitations)

Notes:
- The Windows 2000 Professional operating system has strict limitations on the number of connections. Ensure that an adequate version of Windows is used on your InfoPrint Manager Server to meet your connection requirements.
- The following server components of InfoPrint Manager are not supported on the Windows 2003 x64 platforms:
  - Parallel Channel
  - Font Downloader
  - Web Server and implicitly Infoprint Job Ticketer
  - Windows Gateway
  - InfoPrint Select
  - IBM TCP/IP Port Monitor
  - InfoPrint PPFA
  - AFP Printer Driver
  - InfoPrint Manager AFP2PDF (PRPQ)
  - InfoPrint Manager XT (PRPQ)

The following Windows components must be installed on the system:
- Internet Explorer 6.0 or later
- TCP/IP support
- Generic Text/Only printer driver (if you plan to use the Passthrough DSS)

If you use PSF Direct to print from host systems, you must also install IBM Communications Server, Version 6.1.2. Host systems include z/OS, OS/390, MVS and OS/400®.

AFP Download Plus prerequisites

- For the AFP Download Plus multiple dataset function, AFP Download Plus APAR OA15317 must be installed.
- For the compression between AFP Download Plus and InfoPrint Manager, AFP Download Plus APAR OA16693 must be installed.

Client software prerequisites

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

- Windows 2000 Professional SP4
- Windows 2000 Server SP4
- Windows XP Professional SP1a or later
- Windows Server 2003 Standard Edition SP1
- Windows Server 2003 R2 Standard Edition SP2
- Windows Server 2003 Enterprise Edition SP2
- Windows Server 2003 R2 Enterprise Edition SP2
- Windows Vista Business
- Windows Vista Enterprise

The following Windows components must be installed on the system:

- Internet Explorer 6.0 or later
- TCP/IP support
- LAN connection (either Ethernet or Token-Ring)
- Access to the InfoPrint Manager Server

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

- Windows 2000 Professional SP4
- Windows 2000 Server SP4
- Windows XP Professional SP1a or later
- Windows Server 2003 Standard Edition SP1
- Windows Server 2003 R2 Standard Edition SP2
- Windows Server 2003 Enterprise Edition SP2
- Windows Server 2003 R2 Enterprise Edition SP2
- Windows Server 2003 Enterprise x64 Edition SP2 (with limitations)
- Windows Server 2003 R2 Enterprise x64 Edition SP2 (with limitations)
- Windows Vista Business
- Windows Vista Enterprise

Chapter 7. Migrating to InfoPrint Manager for Windows Version 2 Release 2

Migrating to InfoPrint Manager for Windows Version 2 Release 2

To migrate from an earlier version of InfoPrint Manager for Windows to InfoPrint Manager for Windows Version 2 Release 2, insert the CD-ROM entitled Infoprint Manager for Windows Base Server, Version 2.2.0, into your CD-ROM drive and follow the screen prompts.

Notes:

1. Refer to *InfoPrint Manager for Windows: Getting Started* for detailed instructions on backing up your InfoPrint Manager for Windows system and restoring configuration files after the migration. The *InfoPrint Manager for Windows: Getting Started* publication can be found on the World Wide Web at: `http://www.elink.ibmlink.ibm.com/public/applications/publications/cgibin/pbi.cgi`

2. InfoPrint Manager for Windows, Version 2, Release 2, replaces ICONV with UCONV for translating text strings from ASCII to EBCDIC. UCONV also lets you use UTF16 characters for translation. If you have written your own acif (line2afp) exit code that is using ICONV, you must modify that exit program to use UCONV instead. New parameters are also being added to the line2afp command to specify input and output encodings.

For information about migrating from PSF for OS/2, see "Migrating from PSF for OS/2," on page 49.

Chapter 8. Collecting required information

To configure your InfoPrint Manager environment properly, you need to collect configuration information for each of the environment's individual components. Several worksheets are provided to make collecting this information easier.

Planning for a LAN connection

First, connect your Windows systems to your local area network (LAN). You can perform this task when you install Windows or after you finish the installation. In either case, you might find it useful to complete the following worksheet ahead of time for each system that is new to your LAN.

Table 2. LAN TCP/IP configuration worksheet

Control Panel Prompt	Description	Value
Computer Name	The (NetBIOS) name of this computer on the Windows network.	
Domain/Workgroup	The group of Windows computers that this computer belongs to.	
Adapter	The physical card used to connect this system to the network. An appropriate driver for this card might need to be added.	
Obtain IP address from DHCP server?	The Dynamic Host Configuration Protocol (DHCP) provides a new IP address for this system each time it is restarted. If DHCP is not in use, a static IP address must be assigned.	__ yes __ no **Note:** It is strongly recommended that you specify **no** for DHCP.
IP Address	A dotted-decimal address (for example, 9.99.178.17) statically assigned to this system. Not needed if DHCP is in use.	
Subnet Mask	A dotted-decimal number (for example, 255.255.255.0) indicating which part of the IP address identifies the network and which part identifies the system. Not needed if DHCP is in use.	
Default Gateway	The system used by default to allow this network to communicate with other networks. Not needed if DHCP is in use.	

Table 2. LAN TCP/IP configuration worksheet (continued)

Control Panel Prompt	Description	Value
DNS Host Name	The (Internet) name of this system recognized by the Domain Name System (DNS). If possible, this name should be the same as the Windows computer name.	
DNS Domain	The Internet domain that this computer belongs to.	
DNS Service Search Order	An ordered list of IP addresses of DNS servers. These systems are queried to resolve Internet names into IP addresses.	
Domain Suffix Search Order	An ordered list of TCP/IP domains to search for a given host name.	
Primary WINS Server	The first Windows Internet Name Service (WINS) system to query to resolve a Windows (NetBIOS) system name into an IP address.	
Secondary WINS Server	The second WINS system to query.	
Enable DNS for Windows Resolution?	DNS can be used to resolve Windows (NetBIOS) names into IP addresses.	__ yes __ no
Enable LMHOSTS Lookup?	LMHOSTS files statically associate Windows system names to IP addresses.	__ yes __ no
Scope ID	The set of IP addresses assignable for a Windows domain is a called a *scope*.	
Enable IP Forwarding?	IP Forwarding allows data to be forwarded on a multi-homed system.	__ yes __ no

Planning for a printer network connection

You might want to create a separate network of printers with higher bandwidth connectivity. In this case, you must configure an additional network adapter on each InfoPrint Manager for Windows server system that controls printers on the independent printer network. Use the following worksheet to assist in this configuration. For additional information about setting up a separate printer network, refer to the Administrator Procedure *Using Multiple Network Adapter Cards*.

Table 3. Printer Network TCP/IP configuration worksheet

Control Panel Prompt	Description	Value
Adapter	The physical card used to connect this system to the printer network. An appropriate driver for this card might need to be added.	
IP Address	A dotted-decimal address (for example, 9.99.178.17) statically assigned to this system on the printer network. Required for printer network participation.	
Subnet Mask	A dotted-decimal number (for example, 255.255.255.0) indicating which part of the IP address identifies the network and which part identifies the system. Required for printer network participation.	
Default Gateway	The printer network should not require communication with another network. All communication with the printers is mediated by InfoPrint Manager.	none

Planning for printers

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

A worksheet is available to help you prepare to create each type of printer in *InfoPrint Manager for Windows: Getting Started*.

Planning for host receivers

A host receiver is used to accept print jobs submitted from mainframe host systems (such as MVS, z/OS, or i5/OS). In InfoPrint Manager, there are three kinds of host receivers: PSF Direct host receivers, DPF host receivers, and MVS Download receivers. When you are ready to create your receivers, you use the InfoPrint Manager Management Console.

A worksheet is available to help you prepare to create each type of host receiver in *InfoPrint Manager for Windows: Getting Started*.

Chapter 9. Reviewing components

InfoPrint Manager consists of a number of different hardware and software components. **Base components** are included when you purchase InfoPrint Manager for Windows, while **optional components** are additions to the base product that you can purchase and install through additional product CD-ROMs.

The Infoprint Manager for Windows Base Server CD (LCD4–5583) contains all software for installing an InfoPrint Manager server on a Windows NT/Windows 2000 system. All of the following components are installed with the server; you cannot eliminate any of them.

- **InfoPrint Manager server**
- **InfoPrint Manager graphical user interfaces (GUIs)**

  Allow you to administer print operations from the system that the server is installed on.

- **InfoPrint Manager Notifications server**

  Allows the InfoPrint Manager server to send status messages about InfoPrint objects to InfoPrint Manager Notifications clients.

- **InfoPrint Manager Notifications client**

  Allows the InfoPrint Manager server to display messages on the system that it is installed on.

Table 4 lists the components that are included on the Common Clients CD-ROM (LCD4–1917). Each client has its own installer and must be installed separately. All of the components can be installed on multiple systems.

Table 4. Contents of the Common Clients CD-ROM shipped with InfoPrint Manager Server

Common Client	Description
InfoPrint Select	InfoPrint Select allows you to submit jobs to InfoPrint Manager from word processors, spreadsheets, and other desktop applications. You can submit jobs to InfoPrint Manager with print options or attributes, and you can also hold, release, and cancel jobs. InfoPrint Select comes with a powerful command line as well.
AFP Printer Driver for Windows	The AFP print driver allows you to produce Advanced Function Presentation (AFP) output from desktop applications. Use the AFP print driver in conjunction with InfoPrint Select to obtain a high degree of control over the appearance of your printed documents.
PostScript printer description (PPD) files	The PostScript Printer Description (PPD) files are composed of ASCII text PostScript data that is used to provide device specific information to an application. A device might include any hardware or software that generates output by interpreting PostScript input. Device specific information can include finishing operations, paper dimensions, available fonts, the amount of memory, and paper or file processing options.
InfoPrint Manager GUI	The InfoPrint Manager GUI includes the InfoPrint Manager Administration and Operation GUIs (Graphical User Interfaces) that are used for most of your day-to-day InfoPrint Manager tasks. Both GUIs require the IBM 32-bit Runtime Environment for Windows, Java™ 2 Technology Edition, Version 1.4.2 SR9 or Version 5.0.

Common Client	Description
IBM 32-bit Runtime Environment for Windows, Java 2 Technology Edition, Version 1.4.2 SR9 or Version 5.0	The IBM 32-bit Runtime Environment for Windows, Java 2 Technology Edition, Version 1.4.2 SR9 or Version 5.0 , is used with the InfoPrint Manager Administration and Operation GUIs and with InfoPrint Manager Notifications.
IBM 32-bit Runtime Environment for AIX, Java 2 Technology Edition, Version 1.4.2 SR9	The IBM 32-bit Runtime Environment for AIX, Java 2 Technology Edition, Version 1.4.2 SR9 , is used with the InfoPrint Manager Notifications.
InfoPrint Manager Notifications	The InfoPrint Manager Notifications Client enables remote systems to receive messages generated by either an InfoPrint Manager AIX server or an InfoPrint Manager Windows server. InfoPrint Manager Notifications Client requires the IBM 32-bit Runtime Environment, Java 2 Technology Edition, Version 1.4.2 SR9 or Version 5.0.
SAP Clients (AIX and Windows) **Note:** The clients for SAP systems running on Sun Solaris or HP-UX are included with the SAP Print Feature.	SAP Client code is installed on a SAP system so that you can use the SAP system with either an InfoPrint Manager AIX server or an InfoPrint Manager Windows server. View the latest version of the *SAP R/3 Printing and Configuration Guide (S544-5902)* manual at: `http://www.elink.ibmlink.ibm.com/public/applications/ publications/cgibin/pbi.cgi`
AIX Client	The AIX Client allows users to enter InfoPrint Manager commands (such as **pdpr**) for AIX systems where InfoPrint Manager has not been installed, and allows users to enter the **lp**, **lpr**, and **qprt** AIX print commands on the AIX command line to a remote InfoPrint Manager AIX server or InfoPrint Manager Windows server.
HP-UX Client	The HP-UX Client installs InfoPrint Manager commands on an HP-UX system and allows users of HP-UX 11.0 and above to issue InfoPrint commands over a TCP/IP-connected network to either an InfoPrint Manager AIX server or an InfoPrint Manager Windows server.
Sun Solaris Client	The Sun Solaris Client installs InfoPrint Manager commands on a Sun Solaris system and allows users of Sun Solaris 2.5.1 and above to issue InfoPrint commands over a TCP/IP-connected network to either an InfoPrint Manager AIX server or an InfoPrint Manager Windows server.
Linux® Client	The Linux Client installs InfoPrint Manager command on a Linux system and allows users of Linux on Intel-based machines to issue InfoPrint commands over a TCP/IP-connected network to either an InfoPrint Manager AIX server or an InfoPrint Manager Windows server.
InfoPrint Manager Command Line Client (for Windows)	The InfoPrint Manager Command Line Client installs InfoPrint Manager command on a Windows system and allows users to issue InfoPrint commands over a TCP/IP-connected network to either an InfoPrint Manager AIX server or an InfoPrint Manager Windows server.

Table 5. Separately-priced features available with InfoPrint Manager for Windows

InfoPrint Manager Features	Description
Print-On-Demand (LCD4-1918 and LCD4-1919)	Print-On-Demand is the commercial print option available with InfoPrint Manager for Windows. With this support you can obtain: • InfoPrint's Impositioning assist feature (AIX only) • Personalized Print Markup Language (PPML) transform, which is an emerging XML-based data stream that can include PDF, PostScript, TIFF, and JPEG objects. The PPML transform converts PPML data into AFP data for printing on the Infoprint Color 130 Plus printer • Halftone Management System • InfoPrint Manager Server (Basic) • InfoPrint Submit Express • InfoPrint Job Ticketer
InfoPrint DBCS Font Downloader Feature	The InfoPrint DBCS Font Downloader is a utility for downloading double-byte PostScript fonts from a Macintosh to InfoPrint Manager.
SAP Print Feature	A business enterprise can use the SAP Print Feature to print to InfoPrint Manager for AIX. The SAP Print Feature contains the **sap2afp** transform for converting both Advanced Business Application Programming (ABAP) data and Output Text Format (OTF) data to AFP for printing, and the SAP OMS (Output Management Support) support for obtaining enhanced status regarding print jobs. View the latest version of the *SAP R/3 Printing and Configuration Guide*, S544-5902, manual at: `http://www.elink.ibmlink.ibm.com/public/ applications/publications/cgibin/pbi.cgi`
Page Printer Formatting Aid (PPFA) Feature	PPFA allows users of IBM's Advanced Function Presentation (AFP) products to create form definitions and page definitions on a variety of different operating systems. These definitions specify how pages of printed output are formatted and how the printer should handle the physical sheets of paper. Using PPFA, you can turn unformatted z/OS or ASCII line data into highly effective documents without making changes to the application program.
InfoPrint XT for Windows	InfoPrint XT for Windows allows you to easily transform Xerox datastreams to AFP, then print to distributed IBM Intelligent Printer Data Stream™ (IPDS), Adobe and PCL devices.
Workgroup Printer Engine	This is required to install and use InfoPrint-driven printers that print within a range of 0 to 62 pages per minute.
Low Speed Printer Engine	This is required to install and use InfoPrint-driven printers that print within a range of 63 to 91 pages per minute.
Medium Speed Printer Engine	This is required to install and use InfoPrint-driven printers that print within a range of 92 to 116 pages per minute.

Table 5. Separately-priced features available with InfoPrint Manager for Windows (continued)

InfoPrint Manager Features	Description
High Speed Printer Engine	This is required to install and use InfoPrint-driven printers that print 117 pages per minute or faster.

Appendix. Migrating from PSF for OS/2

InfoPrint Manager for Windows is a functional replacement product for IBM Print Services Facility for OS/2 (PSF for OS/2). Most of the functionality that was available in PSF for OS/2 is also available in InfoPrint Manager for Windows. In addition, InfoPrint Manager includes many features that were not available in PSF for OS/2, such as page-definition support and PostScript Level 3.

Like PSF for OS/2, InfoPrint Manager for Windows supports integrated host and LAN printing. Host platforms that InfoPrint Manager supports include: i5/OS®, VM, VSE, and z/OS.

If you are replacing your PSF for OS/2 system with InfoPrint Manager, there are some differences that you need to know about. "Important information for PSF for OS/2 users" provides descriptions of the most important differences. "Collecting Information from your PSF for OS/2 system" on page 53 will help you collect the information you need to recreate your printing environment on a Windows system. It also provides information about other tasks you will have to perform, such as moving your AFP resources and understanding the differences in printer definitions between PSF for OS/2 and InfoPrint Manager.

Important information for PSF for OS/2 users

If you are replacing your PSF for OS/2 system with InfoPrint Manager for Windows, you must be aware of the following differences between the two products.

- InfoPrint Manager does not support SNA-connected printers or 3820 printers.
- The Upload-n-Print function of PSF for OS/2 (the direct submission of print jobs from LAN applications to host-attached printers) is not available in InfoPrint Manager.
- If you currently use the Distributed Print Function (DPF) of PSF for OS/2 , the resource files you use for printing are in Intelligent Printer Data Stream (IPDS) format. If you plan to use the DPF function of InfoPrint Manager, you can still use those resources. However, if you want to switch to MVS Download for your host printing, you will need to use the Advanced Function Presentation (AFP) versions of those files on the Windows NT/Windows 2000 system that InfoPrint Manager is installed on. You can find the AFP versions on your host system.
- If you currently submit print jobs to PSF for OS/2 from a Netware server, you can submit them to InfoPrint Manager as well. However, the netware.exe feature of InfoPrint Manager can only accept jobs from a Netware server running version 4.1 or higher. If you currently use netware.cmd in PSF for OS/2, you already have the correct version of Netware. If you use nwqinfo.dll or nwpsf2.exe in PSF for OS/2, you will need to upgrade your Netware server.

DPF in InfoPrint Manager

The DPF function of InfoPrint Manager replicates almost all of the features that were available in DPF in PSF for OS/2, with three important differences. The most important differences between the two versions are the communications protocol they use, the way you configure the print spool, and the interfaces you use to manage the system.

Communications protocol

In InfoPrint Manager, the DPF host receiver emulates a TCP/IP printer instead of an SNA printer.

Spool configuration

The spool configuration in InfoPrint Manager is much more versatile than it was in PSF for OS/2. In PSF for OS/2, each host receiver had its own spool and print queue. In addition, if you wanted to accept print from the LAN, you had to configure a separate spool. Refer to Figure 8 for an illustration.
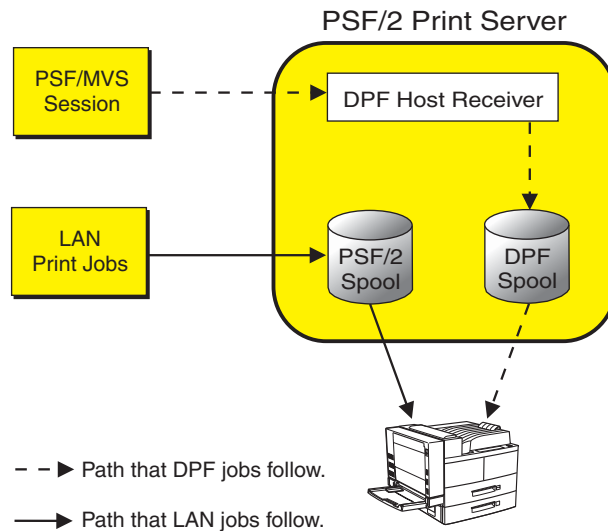

Figure 8. Job flow in PSF for OS/2 Print Server for DPF and LAN print jobs

In InfoPrint Manager, the DPF host receiver submits print jobs to an InfoPrint Actual Destination (AD). The AD routes the job through the Logical Destination (LD) associated with it, which places the job in the queue. The job eventually returns to the AD where it started and is sent to the printer. Different DPF host receivers can submit jobs to the same AD, which means they are all sent to the same LD and queue. LAN print jobs (and jobs from other host print methods) can use the same ADs, LDs, and queues as well. Refer to Figure 9 on page 51 for an illustration.
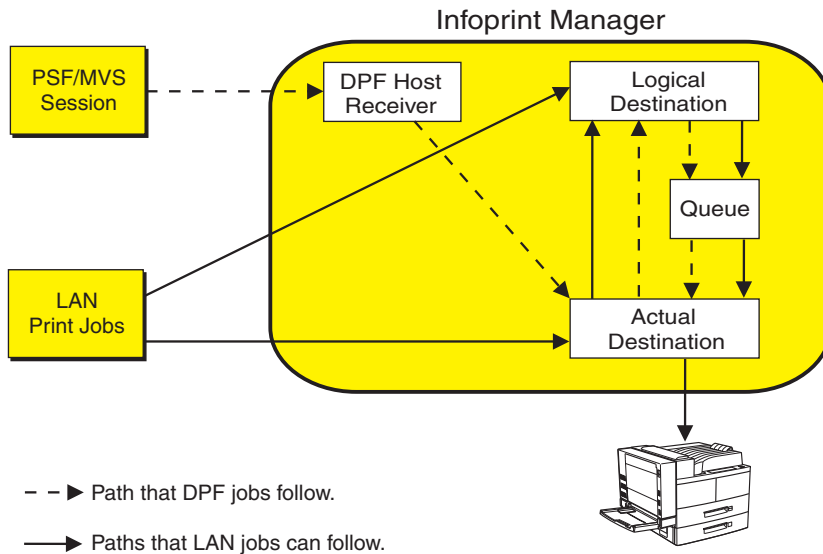
Figure 9. Job flow in InfoPrint Manager for DPF and LAN print jobs

Because the DPF host receivers submit jobs directly into the InfoPrint Manager print flow (not to their own queues), you have much more flexibility when you plan your configuration. In fact, you can use any of the configurations described in "Understanding destination configuration models" on page 17.

Figure 10 on page 52 shows an example of how you can set up the Default model in a DPF environment. In this case, three host sessions connect to three host receivers. Each host receiver submits its jobs to a different AD, but all three ADs share one LD and queue. For all three host sessions, the print job follows this path:

1. The host system connects to the DPF host receiver and downloads the print job.
2. The DPF host receiver submits the job to the AD that is associated with it.
3. The ADs forward their jobs to the LD, which applies any default attributes that you have set to the jobs. In this case, all three ADs forward their jobs to the same LD, so the same defaults are applied to all jobs.
4. The LD sends the job to the queue.
5. The queue sends each job back to the AD that it started in.
6. The ADs submit the jobs to the printers that they represent.
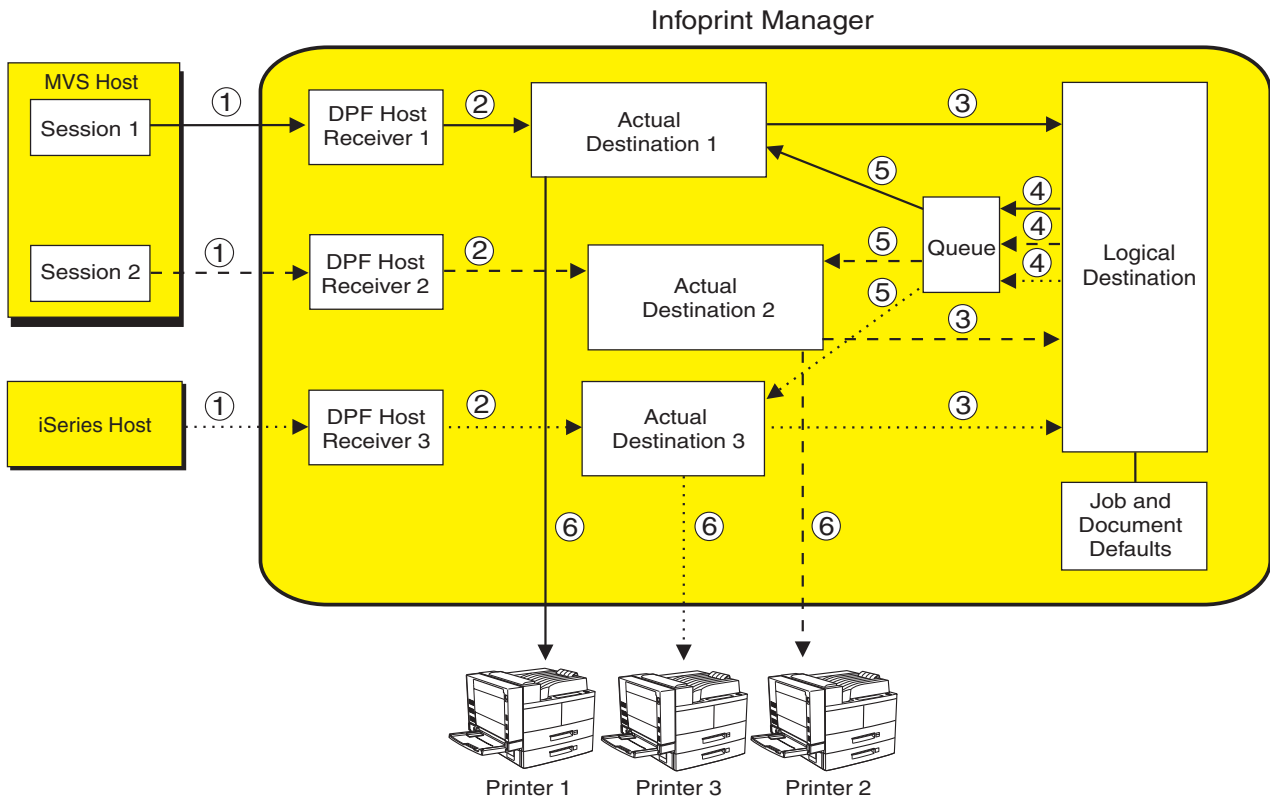
Infoprint Manager

Path that DPF jobs from MVS session 1 follow.

Path that DPF jobs from MVS session 2 follow.

Path that DPF jobs from iSeries host follow.

Figure 10. InfoPrint Manager print flow using the default model with multiple DPF host receivers

Again, you can use any of the configuration models with DPF. The most important points to remember when you consider different configurations are:

- The DPF host receiver must submit jobs to the AD, not to the LD.
- Multiple host receivers can point to the same AD. (So multiple host systems can submit jobs to the same AD.)
- An AD can only forward jobs to one LD.
- Multiple ADs *can* send jobs to the same printer. However, this configuration is only really applicable in specific environments. If you think you need to create multiple ADs for one printer, consult with your InfoPrint Service representative for additional information.

Interfaces

In InfoPrint Manager, you use the Management Console to create and monitor DPF host receivers and the DPF Resources database. You use the InfoPrint Manager Administration GUI and the InfoPrint Manager Operations GUI to manage actual destinations, queues, and jobs (once the host receiver has submitted them).

IPDS support

DPF in InfoPrint Manager will support the same level of IPDS that DPF in PSF for OS/2 supported. As a result, the following IPDS functions will **not** be available if you print using DPF:

- Media source selection in LCC
- Logical page and object area coloring
- All finishing operations
- All presentation fidelity control
- Saved pages
- Select medium modifications
- Set media size
- End Persistent Nack mode
- Local date and time stamps on AR command (save resources)
- Outline fonts (LF1 or LF3)
- Symbol sets (resident or downloaded)
- N-up
- Cut sheet emulation
- Extended overlays (~32K active)
- Extended page segments (~32k active)
- Microfilm devices (Anacomp)
- All object containers (Color mapping tables, InfoPrint 2000 setup files, TIFF, EPS, e-mail and fax setup files)
- Printer setup IDs
- Output bin selection
- Page scaling
- Multiple printer resolution (for example, Auto printer resolution mode)
- Manage IPDS dialog

Collecting Information from your PSF for OS/2 system

Preparing your PSF for OS/2 system

Before you start to collect information and move resources to your Windows NT or Windows 2000 system, it is recommended that you apply the most recent CSD and the latest ALL20 (interim CSD) to your PSF for OS/2 system. Applying this service level makes your AFP resources more accessible, which helps to make the process of changing over to InfoPrint Manager for Windows easier. To download the latest service, go to:

`ftp://ftp.software.ibm.com/printers/products/psfos2/service`

In the list that appears, find the most recent CSD and its readme file, and the latest ALL20. Apply these updates to all of your PSF for OS/2 systems.

Note: If you only use PSF Direct in PSF for OS/2, are planning to only use the PSF Direct function of InfoPrint Manager, and you never used the OS/2 spools for printing, you do not need to apply these updates.

Moving AFP resources

Any AFP resources that you used with PSF for OS/2 can be used with InfoPrint Manager for Windows. If you have AFP resources that you would like to continue to use in your InfoPrint Manager environment, use this procedure to move those files.

Note: If you currently use Distributed Print Facility (DPF), your jobs use IPDS versions of your resources, not AFP versions. If you plan to use the DPF function in InfoPrint Manager, you do not have to move those resources. Your host system will download them to InfoPrint Manager with your print jobs.

1. Make a list of your AFP resource files and where they are stored.
   a. Navigate to the **PSF2\SYSTEM** directory on your OS/2 system.
   b. Find all of the files that end in .GRP.

      These files are flat text files that list all of your resources and information about them. You can open these files in a text editor or print them to see the contents. When you open or print any of the files, you will see six columns of data. From left to right, the columns list:
      - Resource name
      - Group that the resource belongs to
      - Type of resource
      - Date of the resource
      - Time of the resource
      - Path and file name of the resource
   c. Print all of the files that end in .GRP so you can refer to them later.

      You will need to move all of the resources that are listed to your Windows system.

2. If you have any resources defined outside of the resource library (for example, if any of your PSF for OS/2 device definitions include explicit paths to resources), add those resource files to your list. Follow these steps to find these resources:
   a. Open the PSF for OS/2 Control Panel.
   b. Highlight a printer.
   c. Select **Profile → Change → Default Options**.
   d. Look at the entry in the **Default Search Order** field.

      If there is a directory path listed, there are resources in that directory and they are all used. Make note of that directory path; you will need to move all of the resources in that directory to your Windows system.
   e. Close the dialog.
   f. Repeat this process for each of your printers.

3. On the Windows system that your InfoPrint Manager server is installed on, create a directory to store your AFP resource files in.

   Important: Do not create this directory as a subdirectory of your InfoPrint Manager `<install path>` directory. If you place them in the `<install path>` directory and you ever have to uninstall InfoPrint Manager, your resources might be removed during the uninstall process. It is safer to store your resources outside of the install path. The default `<install path>` directory is: C:\Program Files\IBM Printing Systems.

4. Copy all of the resource files that you found into the directory you just created on your Windows system.

   You can move the files however you like, but the easiest way is to use the File Transfer Protocol (FTP).

   Important: When you FTP your resources from your OS/2 system to your Windows system, be sure to send it as *binary* data, not as *ASCII* data.

5. Create a resource context object that points to this directory. For instructions on completing this task, refer to "Creating a new resource-context object" in *InfoPrint Manager for Windows: Procedures*.

6. Once you have created InfoPrint *actual destinations* to replace your PSF for OS/2 *printers*, start the InfoPrint Manager Administration GUI and open the properties notebook for one of your actual destinations. Click the **PSF Resources** tab and type the path to the directory you created in step 3 on page 54 in the **Location of Resources** field. Click **OK** to close the properties notebook. Refer to the online help for additional information.

Mapping PSF for OS/2 printer definitions to InfoPrint Manager destination types

When you created printer devices in PSF for OS/2, you chose from six attachment types: Communication, Parallel, TCP/IP, Channel, PSA, and None. In InfoPrint Manager, some of these attachment types have equivalents and some do not. To recreate your print environment in InfoPrint Manager, you will need to:

1. Print the printer summary for each of your PSF for OS/2 printer devices so you can use that information when you create new destinations in InfoPrint Manager.

2. Determine which InfoPrint Manager destination types you want to replace your PSF for OS/2 printer devices with.

Once you have completed these steps, refer to the *InfoPrint Manager for Windows: Getting Started* for additional information about InfoPrint Manager destination types and instructions for creating them.

Printing printer summaries
1. Open the PSF for OS/2 Control Panel.
2. Highlight a printer.
3. Select **Profile → Summary**.
4. In the dialog that opens, click **Print**.
5. Close the dialog.
6. Repeat this process for each of your printers.

Determining which InfoPrint Manager destination types to replace your PSF for OS/2 printer devices with

Descriptions of the six PSF for OS/2 printer device types are provided below. If there is an equivalent or near-equivalent destination type in InfoPrint Manager, it is listed. If there is no equivalent, refer to the *InfoPrint Manager for Windows: Getting Started*, and the *InfoPrint Manager for Windows: Procedures* to select a destination type that will fit your needs.

Communication: The communication attachment type allowed you to communicate with printers on a Synchronous Data Link Control (SDLC) or SNA 6.2 network using IBM Communications Manager for OS/2 or IBM Communications Server for OS/2. This attachment type has no equivalent in InfoPrint Manager.

Parallel: The parallel attachment type allowed you to attach printers directly to a parallel or serial port on a PC. In InfoPrint Manager, the closest equivalents are PSF Other-driver printers and PSF command printers.

TCP/IP: TCP/IP-attached printers in PSF for OS/2 received data over the TCP/IP network. You can replace them with TCP/IP-attached PSF printers in InfoPrint Manager.

Note: There are two ways to create PSF TCP/IP printers in InfoPrint Manager. If you will be using PSF Direct in your InfoPrint environment, and you will **only** be using PSF Direct to submit jobs to a particular destination, use the Management Console to create a PSF Direct only (TCP/IP) destination. In any other case (for example, if the destination will be receiving jobs from both PSF Direct and your LAN), use the InfoPrint Manager Administration GUI to create a PSF TCP/IP printer.

Channel: Channel-attached printers in PSF for OS/2 allowed you to send jobs to printers through the S/370 Channel Emulator/A adapter (a microchannel adapter). The server systems that InfoPrint Manager for Windows runs on do not support this adapter card. However, InfoPrint Manager does support channel-attached printing using the IBM 4159 Model 001 S/390 Parallel Channel Emulator Card (a PCI adapter). Contact your customer service representative to obtain this card.

Once you have the card, you can find instructions for installing it in the *InfoPrint Manager for Windows: Getting Started*. Then, you can create a channel-attached PSF printer in InfoPrint Manager to replace your channel device.

Note: There are two ways to create PSF channel printers in InfoPrint Manager. If you will be using PSF Direct in your InfoPrint environment, and you will **only** be using PSF Direct to submit jobs to a particular destination, use the Management Console to create a PSF Direct only (channel) destination. In any other case (for example, if the destination will be receiving jobs from both PSF Direct and your LAN), use the InfoPrint Manager Administration GUI to create a PSF channel printer.

PSA: The PSA attachment type in PSF for OS/2 could be used to attach a number of printers through an IBM Micro Channel® Print Service Adapter. Because no support is currently available for this adapter under Windows, these printers must be attached to the InfoPrint Manager server in a different way.

It is recommended that you change all of your PSA printers to be PSF TCP/IP-attached printers in InfoPrint Manager. To make this change, you must purchase an i-data 7913 IPDS Printer LAN Attachment, a device that is assigned a TCP/IP address on your network and is connected to the printer itself using a coaxial cable.

None: The None attachment type has no equivalent in InfoPrint Manager. You can use the Configurable Transform Subsystem in InfoPrint Manager to simulate many of the tasks that you used the None attachment type for, such as terminating transforms. InfoPrint Manager does not, however, allow you to redirect IPDS output to fax software as you could using the AIN3DNOP secondary in PSF for OS/2.

Preparing for host-to-server communication

Using PSF Direct

If you are currently using PSF Direct for your host printing and plan to continue to use PSF Direct in InfoPrint Manager, you will not need to change any of the configuration on your host system. You will, however, have to install IBM

Communications Server for Windows NT and Windows 2000 version 6.01 or higher and all of its APARs (JR13453, JR13599, and JR14098), and then configure it to match the IBM Communications Manager for OS/2 or IBM Communications Server for OS/2 on your existing PSF for OS/2 system.

Note: IBM Communications Server for Windows NT and Windows 2000 version 6.01 does not run on Windows 2000. If you are running your InfoPrint Manager server on a Windows 2000 system, IBM Communications Server for Windows NT and Windows 2000 version 6.1 is recommended.

In addition, you will have to create new PSF Direct host receivers in InfoPrint Manager that match the host receiver configurations on your existing PSF for OS/2 system. You can collect the information you need from the system that you have PSF for OS/2 installed on.

Collecting Communications Manager/Communications Server configuration information:

When you created your PSF for OS/2 configuration on your OS/2 system, a file with the suffix .NDF was created and stored in the CMLIB subdirectory where Communications Manager/Communications Server was installed. This file contains the configuration information for Communications Manager/Communications Server. It is usually named BASIC.NDF, but the name might have been changed.

One .NDF file is created for each configuration; you are interested in the one that corresponds to the current active configuration. If you are not sure what your current active configuration is, follow these steps to find out:

1. Find the Communications Manager or Communications Server folder on your OS/2 system.
2. Double-click the Setup icon.
3. Make note of the configuration listed in the default file; it is the current active configuration.
4. Close Setup.

Once you know your current active configuration, find all of the files that end in .NDF in your CMLIB directory, and print the one that corresponds to the current active configuration.

The .NDF file is roughly equivalent to the .acg file that is created on your Windows NT/Windows 2000 system when you install and configure SecureWay Communications Server. The .acg file is stored in `<comm server install directory>\ibmcs\private` on your Windows system, where `<comm server install directory>` is the directory that you installed SecureWay Communications Server in. Once you have installed SecureWay Communications Server, it is a good idea to locate the .acg file on your Windows system and compare it to the .NDF from your OS/2 system. If there are discrepancies, you can go back and fix the configuration.

Collecting PSF Direct host receiver configuration information:

You will need to collect the following information about each of your PSF Direct host receivers:
- LU alias name
- Inactivity timer value
- Device busy timer value

- Device name

Follow the procedure below to find the infomation you need. Since there is no way to print the information, you will need to write it down to use when you set up your InfoPrint Manager system. "Planning for host receivers" on page 43 provides worksheets that you can use to record the information you find.

1. Open your PSF/2 folder.
2. Double-click the **PSF/2 PSF Direct** icon.
3. In the dialog that opens, highlight a receiver.
4. On the menu bar, select **Receiver → Change**.
5. Make note of the configuration information listed in the dialog.
6. Repeat from step 3 for each receiver.

Using DPF

If you are currently using DPF for your host printing and plan to continue to use DPF in InfoPrint Manager, you will need to create new DPF host receivers in InfoPrint Manager that match the host receiver configurations on your existing PSF for OS/2 system. You can collect the information you need from the system that you have PSF for OS/2 installed on.

Collecting DPF receiver configuration information:

Use the following procedure to collect the configuration information you will need for your DPF host receivers. Since there is no way to print the information, you will need to write it down to use when you set up your InfoPrint Manager system. "Planning for host receivers" on page 43 provides worksheets that you can use to record the information you find.

1. Open your PSF/2 folder.
2. Double-click the **PSF/2 Distributed Print Function** icon.
3. In the **DPF Spool Manager** window, highlight a receiver.
4. With the receiver highlighted, select **Spool → Setup queue**.
5. Make note of the **Logical unit alias** and the value of the **Inactivity timer**

   Note: When you re-create this receiver in InfoPrint Manager, you won't need to use the LU alias, because the connection between the host and the server is TCP/IP instead of SNA. However, the LU alias might help you determine where the connection was coming from on the host. When you reconfigure the host system to use TCP/IP instead of SNA, you will need to know which connection corresponds to which DPF Host Receiver so that you can complete the configuration correctly.

6. If **Save resources** or **Obtain printer characteristics at start up** is selected, make note of that too.
7. Close the window.
8. With the same receiver highlighted, select **Receiver → Set up**.
9. Write down which **Device**, **Classes**, and **Forms** that are highlighted.
10. In the **PSF/2 system pages** box, note which boxes are checked, if any.
11. In the **Class set up** box, you will need to select each class and see if any of the defaults have changed, and write them down. The default values for all of the classes are:
    - **Copies:** 1
    - **Start page:** 1

- **Disposition:** Print

  The defaults are the same in InfoPrint Manager.
12. Close the dialog.
13. Repeat this process for each DPF receiver.

Migrating custom transform exits

Note: You cannot use the InfoPrint Manager transforms or any transform exits with DPF print jobs.

The ability to create and use custom transforms to modify an output stream is a powerful feature of PSF for OS/2. InfoPrint Manager provides powerful PostScript and PCL transforms to automatically perform many tasks that custom transform exit programs performed under PSF for OS/2. However, there still might be occasions when customized processing is needed.

To allow this type of customization, the InfoPrint Manager server supports *transform objects*. One or more transform objects can be associated with an actual destination. Each transform object is associated with a dynamic link library (DLL) that performs the transform.

To make the creation of transform objects easier, InfoPrint Manager ships with the InfoPrint Command Line Transform, a DLL roughly equivalent to the XFMFLTR feature that shipped with PSF for OS/2. Using the InfoPrint Command Line Transform frees you from having to implement a complete DLL yourself. Instead, you implement your transform as batch files, scripts, or executables. Arguments to this underlying code are passed using control sequences similar to those used in PSF for OS/2 with XFMFLTR.

The process of migrating your PSF for OS/2 custom transform exits should be straightforward. You probably used XFMFLTR with PSF for OS/2. In this case, you should simply modify your OS/2 batch files, scripts, and executables to run under Windows NT. Then use the InfoPrint Command Line Transform to access these migrated programs through a transform object. If you used a customized DLL under PSF for OS/2, migrate the DLL to a standalone executable. Access this executable through the InfoPrint Command Line Transform.

Note: InfoPrint Manager does not support customized Windows DLLs for transform exit functions. To apply custom transform exits, use the InfoPrint Command Line Transform.

Use the InfoPrint Manager Administration GUI to create transform objects and associate them with actual destinations.

For additional information on creating and customizing transforms, refer to these Administration procedures in the *InfoPrint Manager for Windows: Procedures:*
- "Understanding transforms and the configurable transform subsystem"
- "Working with transforms"
- "Configuring transform sequences"

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- Definitions from *Portable Operating System Interface (POSIX) System Administration Interface/Printing Standards Project* are identified by (P).

- Definitions from *Information technology—Document printing application (DPA)—Part 1: Abstract-service definition and procedures* are identified by (D).

- Definitions from *AIX Version 4.1 Topic Index and Glossary* are identified by (X).

- Definitions from *IBM Dictionary of Computing*.

- Definitions that are specific to certain products are so labeled, for example, "In InfoPrint", or "In DCE".

This glossary uses the following cross-references:

Contrast with
> This refers to a term that has an opposed or substantively different meaning.

Synonym for
> This indicates that the term has the same

meaning as a preferred term, which is defined in its proper place in the glossary.

Synonymous with
> This is a backward reference from a defined term to all other terms that have the same meaning.

See This refers you to multiple-word terms that have the same last word.

See also
> This refers you to terms that have a related, but not synonymous, meaning.

Special Characters

.Guidefaults file
> A file created by InfoPrint in the home directory of a person using the InfoPrint GUI. InfoPrint uses this file to save and reference information about the servers you are monitoring and the windows you are working in.

A

Access Control List (ACL)
> In computer security, a collection of all access rights for one object.
>
> In DCE, a list associated with each object in the namespace that specifies the access authorization level for each user or user group.

ACL Access Control List.

acl editor
> A command line interface that allows you to view, add, update, and delete access authorization records in an ACL.

action In the InfoPrint GUI, an icon that represents an operation that you can perform on an InfoPrint object. You drag and drop the action onto an object to initiate the operation for that object. For example, using the **Enable** action to enable a disabled actual destination.

actual destination
> In InfoPrint, an object that represents the output device that performs the printing or transmission function. See *email*

65

destination, *fax destination*; see also *physical printer*, *printer device*; contrast with *logical destination*.

additive color system

A system that reproduces an image by mixing (adding) appropriate quantities of red, green, and blue light (the additive primary colors) to create all other colors of light, either direct or transmitted. When the additive primaries are superimposed on one another, they create white light. Contrast with *subtractive color system*.

administrator

In InfoPrint, the person who creates and manages one or more components of a printing system, such as servers and actual destinations. By default, InfoPrint gives administrators authorization to perform some InfoPrint operations and to access certain information that is not available to the operators or job submitters.

Adobe Acrobat

An Adobe software program that provides instant access to documents in their original format, independent of computer platform. With the Adobe Reader, you can view, navigate, print, and present any Portable Document Format (.pdf) file.

Adobe PageMaker

A desktop publishing program that produces PostScript documents.

Adobe PostScript Raster to Image Transform (RIP)   See *raster image processor (RIP)*.

ADSM/6000

Advanced Distributed Storage Manager.

Advanced Distributed Storage Manager (ADSM/6000)

A program that provides storage management for archived files.

Advanced Function Common Control Unit (AFCCU™)

An IBM RISC-based control unit with code common to all printers that use the AFCCU.

Advanced Function Presentation (AFP)

A set of licensed programs, together with user applications, that use the all-points-addressable concept to print

data on a wide variety of printers or to display data on a wide variety of display devices. AFP includes creating, formatting, archiving, retrieving, viewing, distributing, and printing information.

Advanced Function Presentation data stream (AFP data stream)

The printer data stream used for printing AFP data. The AFP data stream includes composed text, page segments, electronic overlays, form definitions, and fonts downloaded from the operating system to the printer.

A presentation data stream that is processed in AFP environments. The AFP data stream includes MO:DCA-P-based data streams.

Advanced Interactive Executive (AIX)

An operating system used with RS/6000 computers. The AIX operating system is IBM's implementation of the UNIX® operating system.

AFCCU

Advanced Function Common Control Unit.

AFP   Advanced Function Presentation.

AFP data stream

Advanced Function Presentation data stream.

ainbe   The printer input/output backend program used by the PSF DSS to send jobs to printer devices. Depending on the incoming data stream of the job, the PSF DSS might have transformed the data stream of the job prior to the backend program sending it to the printer device.

AIX   Advanced Interactive Executive.

AIX-attached printer

A printer device, attached to an RS/6000 through the network or through a serial or parallel port, that receives jobs from an AIX print queue.

In InfoPrint, a PSF physical printer that represents an AIX-attached printer device. See also *channel-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

AIX destination support system

In InfoPrint, the destination support

system that communicates with the standard AIX print backend (**piobe**), or with certain variations of the **rembak** print backend, to print jobs.

AIX physical printer
In InfoPrint, the object representing a printer device that uses the AIX destination support system.

aliasing
In a digitized image, the creation of diagonal lines by combining short horizontal and vertical line segments that approximate the path of the desired line.

all-points-addressability (APA)
The capability to address, reference, and position text, overlays, and images at any defined point of the printable area of the paper or display medium.

alphameric
Synonym for *alphanumeric*.

alphanumeric
Pertaining to a character set containing letters, digits, and other symbols such as punctuation marks. Synonymous with *alphameric*.

AMPV
Average monthly print volume.

analog
Pertaining to a continuous variable sampling of information between two points that achieves an even, smooth transition of photographic material.

analog color proof
An off-press color proof made from separation films.

anti-aliasing
The rendering of hard-edged objects so that they blend smoothly into the background. PhotoShop offers anti-aliasing when rasterizing an EPS file.

Removing the jagged "stairstep" quality in diagonal lines produced on a computer screen by aliasing. This removal is effected by creating less densely shaded fields parallel to the diagonal line.

APA All-points-addressability.

API Application Program Interface.

Application Program Interface (API)
The call interface between a client

program and the procedures that implement the printing system, as defined by the specification. Clients use the API to access servers. (P)

architecture
The set of rules and conventions that govern the creation and control of data types such as text, image, graphics, font, fax, color, audio, bar code, and multimedia.

archiving
The transfer of digital information from an online system onto magnetic tape, floppy disk, compact disc, or other media for offline storage. The original copy is deleted from the online system. See also *retrieval*.

array inkjet
An ordered collection of multiple print heads used in an inkjet printer.

ASCII American National Standard Code for Information Exchange. The standard code, using a coded character set consisting of 7–bit coded characters (8 bits including a parity check). The ASCII code is used for information exchange among data processing systems, data communications systems, and associated equipment. The ASCII character set includes control charactes and graphic characters.

asynchronous
Pertaining to two or more processes that do not depend upon the occurrence of specific events, such as common timing signals. (T)

In InfoPrint, occurring without a regular or predictable time relationship to a specified action. Contrast with *synchronous*.

attachment type
Defines the method by which a printer device is attached to the AIX system from which it receives data. See *AIX-attached printer*, *channel-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*, and *upload-TCP/IP-attached printer*.

attribute
A defined characteristic of an object, such as the number of copies required of a job, or the document formats accepted by an actual destination.

attribute name
A string that identifies an attribute. Typically, in InfoPrint attribute names consist of two or more words separated by hyphens.

attribute value
The element of an attribute that specifies the characteristics relating to the attribute.

authorization
In computer security, verification of the eligibility of a user to access an object.

authorized user
A person with the appropriate permissions to access an object or to issue a command.

automatic recovery
A function of printer logic that permits the printer to reprint a job if the job is misprinted or damaged or if a component has failed.

auxiliary sheet
In InfoPrint, an object that represents a particular sheet of paper, blank or otherwise, that can precede a job, separate documents within a job, or follow a job.

auxiliary-sheet selections
A particular combination of start, separator, and end sheets that print with jobs on a particular printer device.

B

backend
In AIX, the program that is invoked by the **qdaemon** process to run a print or batch job. Synonymous with *backend program*.

backend program
Synonym for *backend*.

backlog
In InfoPrint, the amount of time calculated by InfoPrint that is required to print all of the jobs currently in a queue.

backspace
In InfoPrint, the action used to back up and reprint pages in a job.

bar code
A code representing characters by sets of parallel bars of varying thickness and separation that are read optically by transverse scanning.

An array of parallel rectangular bars and spaces that together represent data elements or characters in a particular symbology. The bars and spaces are arranged in a predetermined pattern following unambiguous rules defined by the symbology.

BCOCA
Bar code object content architecture.

Bezier curves
A method of defining curves using anchor points, control handles, and tangent lines. The PostScript path passes through anchor points. Its approach direction is along the tangent lines that are controlled by the control handles. Many personal computer programs use this drawing method. Type 1 PostScript fonts are defined using Bezier curves.

binding
The cover and materials that hold a book together. See *edition binding*, *perfect binding*, *spiral binding*, *wire-o binding*.

The process of applying the binding to a book.

In InfoPrint, assigning a job to an actual destination. See *early binding*, *late binding*.

In DCE, pointers stored in a DCE cell that are used to connect clients to servers.

bitmapped
Pertaining to an image formed by a rectangular grid of pixels. Each pixel is assigned a value to denote its color. One-bit images are black and white; 8–bit images have 256 colors (or grays); 24–bit images have full color. CMYK images have 32–bits per pixel to encode 256 levels in each of four channels. Bitmapped images are also called raster images.

bleed
An extra amount of printed image that extends beyond the trim edge of the sheet. Bleed ensures that no white gap appears at the edge of the sheet.

boot
To prepare a computer for operating by loading an operating system.

BSD
Berkeley Software Distribution.

BSD destination support system
In InfoPrint, the destination support system that generates a print command string that the shell runs to print jobs.

BSD physical printer
In InfoPrint, the object representing a printer device that uses the BSD destination support system.

burn In platemaking, an exposure. Burn is named because of the extremely bright ultraviolet lamps used to transfer images from film to plate.

In photography, to lengthen the final exposure time to increase the final density of print.

C

cathode ray tube (CRT)
A vacuum tube in which a beam of electrons can be moved to draw lines or form characters or symbols on its luminescent (phosphor-coated) screen. CRTs are the heart of all modern computer display screens. Black and white displays have only one phosphor scanned by one electron beam, while color displays have RGB phosphors scanned by three beams.

CDE Common Desktop Environment.

cell Synonym for *DCE cell*.

Cell Directory Service
A DCE component that manages a database of information about resources within a cell.

child See *parent/child relationship*.

choke In color printing, an area whose dimensions have been reduced to avoid overlapping another color. Contrast with *spread*.

class Synonym for *object class*.

clean In InfoPrint, an action used to remove all the jobs from specified servers, actual destinations, or queues, or to remove all the jobs submitted to specified logical destinations.

CLI Command Line Interface.

client In InfoPrint, the component of the print system that assembles a print request and submits the request to a server. The client generates the local ID numbers for each job, submits the jobs to the servers, and keeps track of where each user's jobs have been submitted.

CMY Cyan, magenta, yellow.

CMYK
Cyan, magenta, yellow, black.

collator
In some printers a special-purpose hard drive disk array used to store RIPped files and later transfer them to the LED print heads for imaging.

color balance
The relative levels of cyan, magenta, and yellow channels in an image to produce accurate color rendition of an original image.

color correction
The adjustment of the color balance in an image to produce accurate color rendition of an original image. Color correction is used for two- or three-spot-color jobs.

color key
A color proof similar to Cromalin, but typically not laminated and not necessarily accurate in color. Color keys are used to verify that breaks or color assignments and traps have been made accurately.

Command Line Interface (CLI)
A type of user interface where commands are specified on the command line. Contrast with *Graphical User Interface*.

Common Desktop Environment (CDE)
A graphical user interface running on a UNIX operating system.

complex attribute
In InfoPrint, an attribute that can have multiple values with each value containing multiple components.

constant data
Data that does not change between copies of a document and that is merged with variable data to produce personalized documents. For example, a form letter (constant data) can be merged with a customer's name and address (variable data).

contextual help
A type of online help that provides specific information about each selectable object, menu choice, notebook tab, field, control, and pushbutton in a window.

control strip
A strip of information that can be attached to a print job and used to measure registration and density.

Cromalin
The Dupont color proofing system. Four layers (CMYK) of light-sensitive material are exposed through final halftone negative films, then laminated together on an opaque backing to produce a color- and trap-accurate final proof showing actual halftone dot structure. Cromalin is sometimes called an analog proof.

crop To remove unwanted areas of an image, usually indicated by crop marks on the original.

CRT Cathode ray tube.

CTS Cutter-trimmer-stacker.

cutter-trimmer-stacker (CTS)
A post-processing device attached to a printer device and used for paper handling.

cyan, magenta, yellow (CMY)
The subtractive primary colors.

cyan, magenta, yellow, black (CMYK)
The four basic colors used in offset printing, as opposed to the three basic colors of light: red, green, and blue. Magenta, yellow, and cyan are the subtractive primaries. Black is added to provide better density and to produce a true black.

D

daemon
A program that runs unattended to perform a standard service. Some daemons are triggered automatically to perform their tasks; others operate periodically. Daemon processes generally provide a service that must be available at all times to more than one task or user, such as sending data to a printer.

DAT Digital audio tape.

data stream
All information (data and control commands) sent over a data link.

A continuous stream of data that has a defined format.

In InfoPrint, pertaining to the incoming format of the job and the output format required by the printer device. InfoPrint transforms the incoming format into the output format, as required. See also *document format*.

DB2*/6000
DataBase 2/6000.

DCE Distributed Computing Environment.

DCE authority
The permission granted by DCE to access an object.

DCE cell
The basic unit of operation and administration in DCE. A group of DCE machines that work together and are administered as a unit. A cell represents a group of users, systems, and resources that typically have a common purpose and share common DCE services.

DCE login ID
The identifier of a person logging into DCE. DCE uses this ID to determine a user's authenticity and authorization levels for accessing and modifying data in the DCE cell.

DCE ticket
The time-limited DCE authority granted whenever a user logs into DCE. When the DCE ticket expires, the user must log into DCE again in order to access objects protected by DCE.

deadline
In InfoPrint, a queuing technique where the next job assigned to the first position in the queue is the one whose deadline is closest. Contrast with *FIFO (first-in-first-out)*, *job-priority*, *longest-job-first*, and *shortest-job-first*.

default document
In InfoPrint, an object that represents default attribute values for a document within a job. Synonymous with *initial value document*.

default job
In InfoPrint, an object that represents default attribute values for a job. Synonymous with *initial value job*.

default object
In InfoPrint, a general term that refers

either to a *default document* or a *default job*. Synonymous with *initial value object*.

default value
 A value stored in the system that is used when no other value is specified.

delete In InfoPrint, an action used to delete default objects, jobs, logical destinations, actual destinations, or queues from the server.

desktop publishing
 Performing print-related activities on a personal computer, including but not limited to layout, design, photo manipulation, creating fonts, editing text, color separation, scanning, and animation.

destination
 See *actual destination*, *logical destination*.

destination support system (DSS)
 In InfoPrint, the programs that an actual destination uses to communicate with the output device. Synonymous with *device support system*. See *AIX destination support system*, *BSD destination support system*, *email destination support system*, *Generalized Fax destination support system*, and *PSF destination support system*.

device An individual piece of equipment (hardware) that attaches to a computer, such as a printer device.

device address
 The identification of an input or output device by its channel and unit number.

device driver
 A file that communicates with a specific device such as a printer, disk drive, or display. An application that sends output to a device controls the actions of the device through the device driver. See *printer driver*.

device support system (DSS)
 Synonym for *destination support system*.

DFS™ Distributed File Service.

digital Pertaining to data represented by digits, sometimes with special characters and the space character.

digital audio tape (DAT)
 A high-capacity, low-cost bulk storage system used for archiving, copying (for backup purposes), and transferring large files. Typical DAT units store 1.3 GB on inexpensive cassette tapes.

digital color proof
 An off-press color proof made from a color printer attached to a computer.

digital printing
 A filmless and plateless printing process in which digital data for each page is transferred directly to a light-sensitive drum and then to paper for a final image.

direct-attached printer
 A printer device, attached to an RS/6000 through the network or through a serial or parallel port.

 In InfoPrint, a PSF physical printer that represents a direct-attached printer device. See also *AIX-attached printer*, *channel-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*, and *upload-TCP/IP-attached printer*.

disable
 In InfoPrint, an action used to stop the acceptance of jobs on destinations, queues, or servers, or to stop writing information to logs.

Distributed Computing Environment (DCE)
 A software system from the Open Software Foundation (OSF). DCE provides the services that allow a distributed application to interact with a collection of possibly heterogeneous computers, operating systems, and networks as if they were a single system.

Distributed File System (DFS)
 A DCE component consisting of a single, integrated file system that is shared among all DCE users and host computers in a DCE cell. DFS allows users to access and share files stored in a network, without having to know the physical location of the files. It also prevents users from simultaneously modifying the same information.

distributed print system
 A computer system with the ability to interchange print data and controls among different computing environments with the intent of printing the data on a different system from the one where the print request was generated. For example, in host-to-LAN distributed printing, data

that resides on the host is printed on printers attached to a local area network.

dithering

A technique of filling the gap between two pixels with another pixel having an average value of the two to minimize the difference or to add detail in order to smooth the result.

document

In InfoPrint, an object representing a grouping of data within a job. A job can contain one or more documents. The documents in a job can differ from each other in some ways. For example, they can contain different data and can have different document formats. A document within a job can contain printable data or a resource that is not printable by itself. See *file-reference document*, *printable document*, and *resource document*.

document element

A portion of a document at least a single page in size.

document format

In InfoPrint, a document format describes the type of the data and control characters in the document, such as line data or PostScript. The format of the data determines which printer devices are capable of printing the document and whether InfoPrint must transform the format.

document identifier

A string that identifies a document within a job. It consists of a job ID followed by a period (.) and a document sequence number. For example, 12.2. Document sequence numbers are integers starting at 1.

Document Printing Application (DPA)

An ISO/IEC 10175 standard that addresses those aspects of document processing that enable users in a distributed open systems environment to send electronic documents to shared, possibly geographically-dispersed printers. InfoPrint supports the DPA standard.

document transfer method

In InfoPrint, the transfer method describes how documents are transferred to, or acquired by, servers. See *pipe-pull* and *with-request*.

document type

In InfoPrint, the document type describes the kind of data in the document. A *printable document* can only contain printable data. A *resource document* can only contain data such as fonts or form definitions that are not printable. A *file reference document* can only contain names of files entered on separate lines.

dot The individual elements of a halftone.

dot gain

An increase in the size of a halftone dot during printing, caused by ink spreading. Generally, this value is known precisely, and the scanning and filming production process is calibrated to compensate for it. The Cromalin proofing system simulates this effect.

dots per inch (dpi)

A measure of data density per unit distance. Typical values for desktop publishing range from 200 to 300 dpi.

DPA Document Printing Application.

dpi Dots per inch.

drag and drop

In graphical user interfaces, a procedure by which you perform actions and tasks. Using the mouse, you drag (move) an action or object icon to a new position where you want the action or task to occur.

DSS Destination support system.

dummy

A rough paste-up or hand-drawn representation of the anticipated finished product. A dummy is used for basic design and pagination.

duplex printing

Printing on both sides of the paper. Contrast with *simplex printing (1)*.

Printing on both sides of the paper, placing output images on the media in a head-to-head format, so that the top of one image is at the same edge as the top of the next image. Contrast with *tumble duplex printing*; see also *simplex printing (2)*.

E

early binding

In InfoPrint, assigning a job to an actual destination as soon as it is accepted. Early binding permits InfoPrint to estimate the time when the job will be completed. Contrast with *late binding*.

edition binding

A type of book binding in which printed sheets are folded into 16- or 32-page signatures. Four-page endleaves are pasted on the outside of the first and last signature. The signatures are then collated by machine and sewn together using special sewing machines. Contrast with *perfect binding*, *spiral binding*, and *wire-o binding*.

electronic document

A document stored in a computer instead of printed on paper.

electronic mail

Correspondence in the form of messages transmitted between workstations over a network. Synonymous with *email*.

electrophotographic

Pertaining to a type of printer technology that creates an image on paper by uniformly charging the photoconductor, creating an electrostatic image on the photoconductor, attracting negatively charged toner to the discharged areas of the photoconductor, and transferring and fusing the toner to paper.

em   In composition, a unit of measurement exactly as wide and as high as the point size of the font being set. The name is derived from the fact that the letter M in early typefaces was usually cast on a square body.

email   Electronic mail.

email destination

In InfoPrint, an actual destination representing an electronic mailing system.

email destination support system

In InfoPrint, the destination support system that supports email destinations.

embellishments

Variable data added to all copies of assembled pages to make the unit appear like a whole; for example, headers, footers, a table of contents, and chapter separations.

en   In composition, exactly one-half an em.

enable

In InfoPrint, the action that makes a destination, queue, or server able to accept jobs, or a log able to accept information.

end sheet

The sheet of paper, blank or otherwise, that can follow a job. See also *auxiliary sheet*.

Enhanced X-Windows

A tool designed to permit multiple application processes to operate within multiple windows displayed on a virtual terminal. See *X-Windows*.

environment variable

Any one of a number of variables that describe the way an operating system runs and the devices it recognizes.

error log

A data set or file in a product or system where error information is stored for later access.

estimate

The professional cost analysis made by a print shop in response to a customer's request for a price quotation on a print job.

event   In InfoPrint, an occurrence in the printing system during an operation; for example, the completion of a command.

event log

In InfoPrint, a collection of messages about events that have occurred.

event notification

The notification that is sent by InfoPrint for an event.

extensions

An IBM program-provided software component that enables users to incorporate variable data into fixed-text documents to produce personalized or customized documents.

F

fax destination
In InfoPrint, an actual destination representing a fax device.

FIFO (first-in-first-out)
In InfoPrint, a queuing technique where the next job assigned to the first position in the queue is the job that has been in the queue for the longest time. InfoPrint processes jobs in the order in which they are received. Contrast with *deadline*, *job-priority*, *longest-job-first*, and *shortest-job-first*.

file-reference document
In InfoPrint, a file containing the names of other files, each entered on a separate line. Job submitters can specify this file for printing when they specify a document type of **file-reference**; InfoPrint prints each file listed in the reference document.

File Transfer Protocol (FTP)
In TCP/IP, the application protocol that makes it possible to transfer data to and from host computers and to use foreign hosts indirectly.

finisher
A hardware device attached to a printer that performs such operations as folding or stapling the printed pages.

finishing
In a print shop, the final operations on a printed product, such as stapling, trimming, drilling, folding, embossing, varnishing, gluing, shrink wrapping, perforating, laminating, collating, and so on.

flag
A modifier of a command that specifies the action of the command. A dash usually precedes a flag. Synonymous with *option*. See also *keyword*.

FOCA
Font object content architecture.

folder
In the InfoPrint GUI, an object that represents a container for a collection of similar objects. For example, the Retained Jobs folder contains retained jobs.

font
A family of characters of a given size and style; for example, 9-point Helvetica.

One size and one typeface in a particular type family, including letters, numerals, punctuation marks, special characters, and ligatures.

A paired character set and code page that can be used together for printing a string of text characters. A double-byte font can consist of multiple pairs of character sets and code pages.

form definition
A resource object used by InfoPrint that defines the characteristics of the form or printed media, which include: overlays to be used, the paper source (for cut-sheet printers), duplex printing, text suppression, and the position of composed-text data on the form.

forward space
In InfoPrint, the action used to move ahead and skip the printing of a specified number of pages in a job.

FPO
Low-quality (sometimes photographic) images placed in a dummy to represent final images. Desktop publishing software produces images as display-screen resolution FPOs.

front panel
In the CDE, a workspace area containing controls that represent various tasks you can perform and workspace switches.

FTP
File Transfer Protocol.

G

GCR
Gray component replacement.

Generalized Fax destination support system
In InfoPrint, the destination support system that supports generalized fax destinations.

GIF
Graphics Interchange Format.

global change
In the InfoPrint GUI, an action used to make changes to one or more attributes of several objects at once. You can also perform the same action on several objects of the same object class at the same time; for example, disabling two or more actual destinations at the same time.

global character
A character or set of characters used to specify an unknown number or set of

characters in a search string. In InfoPrint, a global character is represented by an asterisk (*).

global ID
Global job identifier.

global job identifier
An unambiguous job identifier. In InfoPrint, it is represented as the name of the server managing the job followed by a colon (:) and a generated integer. This ID uniquely identifies the job within the InfoPrint server.

glyph An image, usually of a character, in a font.

GOCA
Graphics object content architecture.

graphic character
A visual representation of a character, other than a control character, that is normally produced by writing, printing, or displaying.

Graphical User Interface (GUI)
A type of user interface that takes advantage of a high-resolution monitor and includes a combination of graphics to implement an object-action paradigm, the use of pointing devices, menu bars, overlapping windows, and icons. Contrast with *Command Line Interface*.

Graphics Interchange Format (GIF)
A compressed graphics format widely used on the Internet.

gray component replacement (GCR)
Synonym for *under color removal (UCR)*.

gray scale
A strip of standard gray tones, ranging from white to black, placed at the side of the original copy during photography to measure the tonal range and contrast obtained.

GUI Graphical User Interface.

gutter The blank area or inner margin from the printing area to the binding.

H

halftone
A printing method that simulates continuous-tone shading using dots of varying sizes laid out on a rectangular grid. Larger dots simulate darker tones

and smaller dots simulate lighter tones. Typical grid spacings are 85 lines per inch (lpi) (newspaper), 133 lpi (low end), 150 lpi (midrange), and 175+ lpi (high quality).

help In the InfoPrint GUI, an action used to display the online help for a specific template, object, action, button, control, or area in an application window.

The name of a button used to access the online help.

hold An indication determined by the **job-hold** attribute that is used to keep a job in the queue and prevent InfoPrint from scheduling it.

hostname
The name given to an AIX system.

hot folder
A workstation directory where users copy jobs to submit them to print.

hypertext
A way of presenting information online with connections between one piece of information and another. These connections are called hypertext links. See also *hypertext link*.

hypertext link
A connection between one piece of information and another. Selecting a link displays the target piece of information.

I

icon A graphic symbol displayed on a screen that a user can select to invoke a function or software application.

image Toned and untoned pels arranged in a pattern.

image data
Rectangular arrays of raster information that define an image.

imagesetter
A high resolution (1270–3600+ dpi) printer that uses an Argon (green) laser to write to film using digital imput. Imagesetting is the step before Cromalin proofing and platemaking.

imposition
The process of arranging pages on a press sheet to ensure the correct order during final cutting, folding, and binding.

Electronic imposition builds press sheets automatically during the RIP and outputs film formatted for immediate use in platemaking.

InfoPrint

A solution of software and hardware products that can supplement or replace the offset presses and copiers in print shops with high-quality, non-impact, black and white or process color printers. InfoPrint takes documents from creation to the published, kitted, and shipped product.

In InfoPrint software publications, InfoPrint Manager for AIX or any of its components.

InfoPrint Manager for AIX

The software component of InfoPrint. InfoPrint Manager for AIX handles the scheduling, archiving, retrieving, and assembly of a print job and its related resource files. It also tracks the finishing and packaging of the printed product.

InfoPrint Manager for AIX is based on Palladium technology developed at MIT/Project Athena. It conforms to the ISO DPA and POSIX standards.

InfoPrint Network

The local area network running TCP/IP protocol that InfoPrint uses to communicate among servers, clients, and output devices.

InfoPrint Select

The component of InfoPrint Manager for AIX that allows users to submit jobs from an OS/2 or Windows workstation.

InfoPrint Submit Express

The component of InfoPrint Manager that allows users to submit jobs with a job ticket from a Windows or Macintosh workstation.

InfoPrint 20

A black and white, large-format, cut-sheet, workgroup laser printer with optional duplexing and 600-dpi resolution.

InfoPrint 60

A duplex, black and white, cut-sheet printer with 600-dpi resolution.

InfoPrint 62

A non-impact, continuous-forms printer that runs at a maximum of 62

impressions-per-minute (depending on forms size), and is factory set to run at either 240 or 300 dpi on a maximum paper size of 370.8 mm (14.6 in.).

InfoPrint 4000

A duplex, black and white, continuous-forms printer with 600-dpi resolution.

initial value document

Synonym for *default document*.

initial value job

Synonym for *default job*.

initial value object

Synonym for *default object*.

initially settable attribute

An attribute whose value can be established when an object is created but cannot be subsequently set or modified. See also *resettable attribute*; contrast with *non-settable attribute*.

input focus

The area of a window where user interaction is possible from either the keyboard or the mouse.

input tray

For a printer device, the container that holds the medium upon which the printer prints its output.

Intelligent Printer Data Stream (IPDS)

An all-points-addressable data stream that enables users to position text, images, and graphics at any defined point on a printed page.

Information that the host sends to IPDS printers. This information generally contains basic formatting, error recovery, and character data and enables the printers to make decisions.

An architected host-to-printer data stream that contains both data (text, image, graphics, and bar codes) and controls defining how the data is to be presented. IPDS provides a device-independent interface for controlling and managing all-points-addressable (APA) printers.

International Organization for Standardization (ISO) An organization of national standards bodies from various countries established to promote development standards to facilitate international exchange of goods

and services, and develop cooperation in intellectual, scientific, technological, and economic activity.

Internet
A wide area network connecting thousands of disparate networks in industry, education, government, and research. The Internet network uses TCP/IP as the protocol for transmitting information.

Internet Protocol
The set of rules that determines how to route data from its source to its destination in an internet environment.

intervening jobs
In InfoPrint, the number of jobs in a queue that are scheduled to print before the job in question.

IOCA Image object content architecture.

IP address
The Internet Protocol address of the server in a dotted decimal format where each node is an integer. (For example, `9.99.9.143`).

IPDS Intelligent Printer Data Stream.

ISO International Organization for Standardization.

J

job In InfoPrint, an object that represents a request to print or transmit one or more documents together in a single session. A job includes the data to be printed or transmitted and resources such as fonts, images, and overlays. Depending on how it was submitted, it can also include a job ticket. Synonymous with *job bundle* and *print job*.

job bundle
Synonym for *job*.

job data
The page descriptions, merge data, and embellishments that compose a document in a job, either directly or by reference.

job ID
A local or a global identifier that identifies a job to a job submitter, administrator, operator, or InfoPrint. See *local job identifier*, *global job identifier*.

job-priority
In InfoPrint, a queuing technique where the next job assigned to the first position in the queue is the one with the highest priority. Contrast with *deadline*, *FIFO (first-in-first-out)*, *longest-job-first*, and *shortest-job-first*.

job submitter
In InfoPrint, the person who submits jobs for printing. Often, this person is an application programmer who maintains applications that generate data to be printed.

job ticket
The customer's hardcopy or electronic instructions listing all the variables describing a print job, either directly or by reference. The print shop can add specifications to the job ticket and can print the job ticket.

Joint Photographic Experts Group (JPEG)
A compressed graphics format widely used on the Internet.

JPEG Joint Photographic Experts Group.

K

kerning
In typesetting, adjusting the relative spacing of two characters to improve their appearance and readability. Kerning pairs are specific sets of characters with built-in relative spacing. Some typefaces have as many as 100 kerning pairs.

keyword
A name or symbol that identifies a parameter.

Part of a command operand that consists of a specific character string, such as **DSNAME=**.

kitting
In a print shop, packaging the completed published work with attendant binders, tabs, diskettes, and other equipment or information, before shipping the finished product.

L

LAN Local Area Network.

laser (light amplification by stimulated emission of radiation)
In InfoPrint printers, a device that emits a

beam of coherent light that forms the image on the photoconductor that is subsequently transferred to the paper.

late binding

In InfoPrint, waiting to assign a job to an actual destination until it is about to be processed. Late binding permits InfoPrint to route a job to the first suitable actual destination that becomes available. Contrast with *early binding*.

LED Light-emitting diode.

light-emitting diode (LED)

The imaging device element for electrophotographic print units.

lines per inch (lpi)

A measure of the density of the grid used to space halftone dots. Typical grid spacings are 85 lpi (newspaper), 133 lpi (low end), 150 lpi (midrange), and 175+ lpi (high quality).

Local Area Network (LAN)

A computer network at one location that consisting of devices connected to one another and communicating. This network can also be connected to a larger network.

local ID

Local job identifier.

local job identifier

In InfoPrint, a job identifier automatically generated by the server, identifying the job to the person who submitted it. InfoPrint maps a local job ID to a global job ID.

locale The human language and character set of information presented to a user.

In InfoPrint, the language InfoPrint uses when sending notification and error messages or displaying the InfoPrint graphical user interfaces.

log A collection of messages or message segments added to a file for accounting or data collection purposes.

To record messages in a file.

logical destination

In InfoPrint, an object to which users submit their jobs. The logical destination routes jobs to one or more actual destinations representing output devices such as printers, electronic mail systems,

or fax machines. See also *logical printer*; contrast with *actual destination*.

logical printer

In InfoPrint, a type of logical destination. The logical printer routes jobs to one or more physical printers representing printing devices.

logical unit (LU)

A type of network accessible unit that enables end users to gain access to network resources and communicate with each other.

logical unit (LU) 6.2

A type of logical unit that supports general communication between programs in a distributed processing environment. LU 6.2 is characterized by (a) a peer relationship between session partners, (b) efficient utilization of a session for multiple transactions, (c) comprehensive end-to-end error processing, and (d) a generic application program interface (API) consisting of structured verbs that are mapped into a product implementation.

longest-job-first

In InfoPrint, a queuing technique where the next job assigned to the first position in the queue is the longest job in the queue. Contrast with *deadline*, *FIFO (first-in-first-out)*, *job-priority*, and *shortest-job-first*.

lpi Lines per inch.

LU Logical unit.

M

magnetic ink character recognition (MICR)

Identification of characters printed with ink that contains particles of magnetic material.

mainframe processor

A functional unit that interprets and executes instructions in a large computer to which other computers are connected so that they can share the facilities the mainframe provides.

makeready

All the setup work involved in preparing a press for a print run.

manage

In the InfoPrint GUI, the action used to

put an object into a mode where its icon reflects changes of status.

mechanical
A camera-ready layout. The mechanical can consist of multiple sheets or overlays for each spot or process color used. Final images, if not stripped in later, should be at final size, cropped and screened to the correct line frequency.

medium
In InfoPrint, an object representing the physical material upon which a job is printed.

merge data
Data that is unique to each copy of a document and that customizes the document; for example, serial numbers or mailing information. Merge data is typically a small percentage of the total data in the document.

message catalog
A file of all the possible messages than can display during the processing of an application.

MICR Magnetic ink character recognition.

Mixed Object Document Content Architecture™ **(MO:DCA**™**)**
An architected, device-independent data stream for interchanging documents.

MO:DCA-P
Mixed Object Document Content Architecture Presentation.

modify
In InfoPrint, an action used to modify the values of attributes within the object attributes notebook.

moire Undesirable interference patterns caused by two overprinting halftone screens with incorrect halftone dot angles.

monospaced
In typesetting, pertaining to a typeface in which all the characters have equal widths. Monospaced typefaces are useful for tabulating figures.

Multiple Virtual Storage (MVS)
An operating system developed by IBM. The design of MVS incorporates an addressing architecture that provides a unique address space to each job in the system.

MVS Multiple Virtual Storage.

N

N_UP Pertaining to the number of forms placed together in a layout. Typical layouts are 2_UP, 4_UP, 8_UP, 16_UP, and so on. N_UP printing is done to use the maximum area of the print sheet.

name service
The DCE service that administers the namespace and provides the network binding information that a client requires to access the server.

namespace
A global name repository available to all utilities and API procedures. The namespace contains mappings of object names to other related objects. For example, the namespace provides the mapping of a logical destination to the server in which it resides.

Network File System (NFS)
A protocol developed by Sun Microsystems that uses Internet Protocol to allow a set of cooperating computers to access each other's file systems as if they were local.

newline options
The different ways in which the printer determines how lines are delimited in a document data stream.

NFS Network File System.

non-process-runout (NPRO)
A printer function that moves the last printed sheet to the stacker of the printer device.

non-settable attribute
An attribute that is neither initially settable nor resettable. The values for these attributes are controlled by InfoPrint. Contrast with *initially settable attribute* and *resettable attribute*.

notification
The act of reporting the occurrence of events.

In InfoPrint, notification of events appears as messages in event logs or messages sent to administrators, operators, and job submitters. In the InfoPrint GUI, notification of events also appears as changes to the appearance of icons.

notification-profile
In InfoPrint, an attribute associated with an object that contains information designating the people to whom InfoPrint sends notification about events for that object, which event information it sends, and how it sends the information.

NPRO Non-process-runout.

O

object A collection of attributes that represent a physical or logical entity in the print system. For example, a specific printer device is represented by an actual destination (physical printer) object. An object is identified by its object name. Objects are grouped into classes. See also *object class*.

object class
A group of objects that share a common definition and therefore share common properties, operations, and behavior as defined by their attributes. For example, all InfoPrint queue objects are in the same object class and each queue has the same set of queue attributes. However, the values for those attributes can differ for each queue within the queue object class.

Object Identifier (OID)
In architecture, a notation that assigns a globally unambiguous identifier to an object or a document component. The notation is defined in international standard ISO.IEC 8824(E).

object name
The alphanumeric term that identifies an object.

object state
The state of an object indicates its availability and readiness for performing its functions. An object can be in one of a number of states such as ready, busy, or unknown.

OCR Optical character recognition.

octet A byte that consists of eight binary digits (bits).

offset stacking
In certain printer devices, a function that allows the printer to offset the printed output pages for easy separation of the jobs.

OID Object Identifier.

open destinations window
In the InfoPrint GUI, the action used to open a new application window displaying the logical and actual destinations associated with a queue.

Open Prepress Interface (OPI)
An industry standard for replacing low-resolution images in review documents with high-resolution images needed for high-quality final output.

Open Software Foundation (OSF)
A nonprofit research and development organization created by a consortium of companies that work together to develop software in the open systems market. OSF developed the Distributed Computing Environment (DCE).

OpenType font (OTF)
An extension of the TrueType font format that adds:
- Support for PostScript outlines
- Better support for international character sets
- Broader support for advanced typographic control

open window
In the InfoPrint GUI, the action used to open a new application window representing one or more objects displayed in the currently open application window.

operation
An action performed on one or more data items.

operator
In InfoPrint, the person responsible for printer devices. Also, this person performs a subset of tasks for InfoPrint queues and actual destinations and performs some job-related tasks.

OPI Open Prepress Interface.

optical character recognition (OCR)
Conversion of scanned text to editable ASCII characters.

option A modifier of a command that specifies the action of the command. A dash usually precedes an option. Synonymous with *flag*. See also *keyword*.

orphan logical destination
In the InfoPrint GUI, an object that represents a logical destination that is not associated with an existing queue.

orphan logical printer
In the InfoPrint GUI, an object that represents a logical printer that is not associated with an existing queue.

OSF Open Software Foundation.

overlay
A collection of constant data, such as lines, shading, text, boxes, or logos, that is electronically composed in the host processor and stored in a library, and that can be merged with variable data during printing.

OTF OpenType font.

P

PAC Privilege Attribute Certificate.

page definition
A resource that contains the formatting controls for line data.

In InfoPrint, a resource that defines the rules of transforming line data into composed pages and text controls.

page segment
A resource that contains composed text and images, which are prepared before formatting and included during printing.

Palladium
A distributed print system developed at MIT/Project Athena with participation from Digital Equipment Corporation (DEC), International Business Machines (IBM), and Hewlett-Packard (HP). It is a reference implementation for the OSI Document Printing Architecture (DPA) standard, ISO/IEC 10175. Palladium was selected in 1990 as the DCE distributed printing technology. InfoPrint was designed using Palladium concepts.

pane In the Work Area of the InfoPrint Manager Administration GUI, an area containing a group of objects of a specific type, such as an actual destinations pane.

parent/child relationship
In InfoPrint, servers, queues, and destinations are related to one another in a parent/child relationship. For example,

a server is the parent of all the queues that reside in that server, and these queues are its children.

pass through
In InfoPrint, referring to options submitted with a job that are used by the device driver, but not InfoPrint. InfoPrint does not process or validate this information; it passes it along to the device driver. See *printer driver*.

path The route used to locate files; the storage location of a file. A fully qualified path lists the drive identifier (if any), directory name, subdirectory name (if any), and file name with the associated extension.

pause In InfoPrint, the action used to temporarily halt the printing or transmission of jobs on actual destinations or the distribution of jobs from servers or queues.

pdcrcds
In InfoPrint, a utility used to create directories within the DCE namespace.

pdcreate
In InfoPrint, the command used to create a new object and set its attributes to specified values.

PDF Portable Document Format.

Printer description file.

pdmsg
In InfoPrint, a utility used to display information about a message.

pdpr In InfoPrint, the command used to create and submit a job, consisting of one or more documents, to a server for printing or transmission.

perfect binding
A type of book binding in which the pages are held together with flexible adhesive. Contrast with *edition binding*, *spiral binding*, and *wire-o binding*.

permissions
In AIX, codes that determine who can access a file and what operations they can perform on the file.

physical printer
In InfoPrint, a type of actual destination that represents a printer device. See also *printer device*.

piobe The standard printer input/output backend program used by AIX for printing. See also *ainbe*.

pipe-pull
In InfoPrint, a document transfer method where InfoPrint saves the documents in a file and transfers the address of the file to the server. InfoPrint transfers the file to the server upon the request from the server. This is an efficient transfer method for large jobs and is the default transfer method at job submission. Contrast with *with-request*.

plex A document or actual destination attribute used to define the placement of output images on the page. See the plex values *simplex* and *tumble*.

plug-ins
A component of Adobe PageMaker that enables users to incorporate variable data into fixed-text documents to produce personalized or customized documents.

Portable Document Format (PDF)
An Adobe PostScript data format that can be viewed or printed.

Portable Operating System Interface for Computer Environments (POSIX)
An Institute of Electrical and Electronics Engineers (IEEE) standard for computer operating systems.

POSIX
Portable Operating System Interface for Computer Environments.

PostScript
Adobe's page description language. PostScript has become a standard for graphic design and layout software. PostScript files can contain both vector and raster data. Fonts are described using PostScript coding. Many desktop publishing systems produce PostScript data as their output data stream.

PostScript printer description (PPD)
A file that contains options for printing PostScript data on various printer devices.

PPD PostScript printer description.

preflight
To assess all resources for a job before the actual print run.

prepress
Work done in the print shop before printing a job, such as preparing data and art, page imposition, color retouching, electronic editing, and page layout.

print database
The set of files on disk that provide a permanent repository for the attributes of all print objects, such as logical destinations, queues, and actual destinations.

print job
Synonym for *job*.

Print Quality Enhancement (PQE)
A printer facility that provides edge smoothing along diagonal lines, fine fidelity protection, and independent boldness control.

Print Services Facility (PSF)
Any of several programs, including PSF for AIX, PSF/MVS, PSF/VM, and PSF/VSE, that produce printer commands from the data sent to them.

print system
A group of one or more print servers and one or more printing devices, which might or might not be located in the same geographical area. The components of a print system are assumed to be interconnected in some manner, providing at least one network interface to print clients, and acting synergistically to supply the defined document print service. (D)

printable document
In InfoPrint, an object that represents text or data to be printed by a job. Contrast with *resource document*.

printer description file (PDF)
A file that contains options for printing PostScript data on a specific printer device.

printer device
The physical output device that performs the printing function. See also *physical printer*.

printer driver
A file that describes the physical characteristics of a printer or other peripheral device. This file is used to convert graphics and text into

device-specific data at the time of printing or plotting. Synonymous with *device driver*.

priority

In InfoPrint, a number assigned to a job that determines its precedence in being printed. Jobs with higher priority numbers are handled before jobs with lower priority numbers.

Privilege Attribute Certificate (PAC)

In DCE, a certified set of access privileges that can be presented by a user or administrator to establish access rights to objects.

process color

Color made up of CMYK links simulating a specified color. This is the traditional method of reproducing continuous tone color images (color separations). Because of the nature of color inks, certain inks do not reproduce well.

processor

In a computer, a functional unit that interprets and executes instructions. A processor consists of at least an instruction control unit and an arithmetic and logic unit. (T)

promote

In InfoPrint, the action used to move a job to the beginning of the queue so that it will print on the next available printer that can handle that job.

protocol

A set of semantic and syntactic rules that determines the behavior of functional units in achieving communication.

PSF Print Services Facility.

PSF destination support system

In InfoPrint, the destination support system that communicates with PSF for AIX to print jobs.

PSF physical printer

In InfoPrint, the object representing a printer device that uses the PSF destination support system.

Q

QuarkXpress

A desktop publishing system produced by Quark, Incorporated.

queue In InfoPrint, an object that manages a collection of jobs that are waiting to print. A queue receives jobs from one or more logical destinations and sends jobs to one or more actual destinations.

A line or list formed by items waiting for processing.

R

raster A pattern of dots defined at varying data depths. Black and white images are one-bit (on/off); grayscale images are 8-bit (256 levels); RGB images are 24-bit; CMYK images are 32-bit.

raster image processor (RIP)

A processor in which a PostScript data stream is converted into dot patterns that are transferred to the final print medium. InfoPrint uses an Adobe RIP to convert PostScript to IPDS for such printers as the InfoPrint 4000 and InfoPrint 60.

rc.pd In InfoPrint, a utility used to start the InfoPrint servers listed in the **/etc/pd.servers** file.

read-only

In InfoPrint, describes an attribute value that cannot be set by the user but can change based on other activity.

ready A state in which an object is ready and able to perform tasks.

An available resource, such as a value of the **media-ready** attribute. Contrast with *supported*.

red, green, blue (RGB)

The colors of CRT display phosphors. RGB images are for screen display only. They must be converted to CMYK images before printing.

registration

The accuracy of printing on paper relative to the edges of the paper.

The accuracy of printing a single color (cyan, magenta, or yellow) relative to black.

The accuracy of printing on one side of a page relative to printing on the reverse side of the page.

Remote Procedure Call (RPC)

A DCE component that manages communication between clients and

servers in a DCE environment. It allows requests from a client program to access a procedure anywhere in the network.

reprographics
The process of copying or duplicating documents or information.

requested
In InfoPrint, pertaining to the specific values of attributes requested by a job when it is submitted. The requested attribute values of a job are validated against supported attribute values for an actual destination to determine if the printer can handle that job. Contrast with *supported*.

resettable attribute
An attribute whose value can be set or modified after an object has been created, assuming the object is in an appropriate state to be modified. See also *initially settable attribute*; contrast with *non-settable attribute*.

resource
In AFP, a file containing a collection of printing instructions used when printing a job. Resources include fonts, overlays, form definitions, page definitions, and page segments.

resource context
In InfoPrint, an object that contains directory path information that helps the print system locate resources needed for printing a job. The resources include fonts, overlays, form definitions, page definitions, and page segments.

resource document
In InfoPrint, an object that represents a resource, such as graphics or fonts, used by a job to print a printable document. Contrast with *printable document*.

resubmit
In InfoPrint, an action used to reroute pending or retained jobs to a different logical destination than the one through which the job was originally submitted.

resume
In InfoPrint, the action used to resume the printing of paused jobs or resume the distribution of jobs from paused servers or queues.

retained job
In InfoPrint, an object that represents a job that is being stored in the print system for a specified amount of time, normally after the completion of printing the job. A retained job does not reside in a queue.

retention
The process of storing data after completion of a process for a certain length of time.

retrieval
The process of bringing digital archived data out of storage and into online memory for reuse. See also *archiving*.

RGB   Red, green, blue.

RIP   Raster image processor.

To convert data to dot patterns using a raster image processor.

root user
In the AIX environment, the system user with the most authority who can log in and execute restricted commands, shut down the system, and edit or delete protected files. Synonymous with *superuser*.

RPC   Remote Procedure Call.

RS/6000
A family of workstations and servers based on IBM's POWER™ architecture. They are primarily designed for running multi-user numerical computing applications that use the AIX operating system.

S

scanner
A device that converts hardcopy source data into digital format (halftone dots) to avoid retyping the data.

scheduler
In InfoPrint, the scheduling method that the queue uses when assigning a job to an actual destination.

separator sheet
The sheet of paper, blank or otherwise, that separates documents within a job. See also *auxiliary sheet*.

server In InfoPrint, the object that accepts configuration, management, and printing

requests, performs the requested operations, and sends responses back as a result of the operation.

settable attribute
> See *initially settable attribute*, *resettable attribute*.

severity
> An indication of how serious an error condition is.

shell   In the AIX operating system, a command interpreter that acts as an interface between the user and the operating system. In InfoPrint documentation, all shell examples use the Korn shell.

shift-out, shift-in code
> Control characters used to indicate the beginning and end of a string of double-byte, ideographic characters.

shortest-job-first
> In InfoPrint, a queuing technique where the next job assigned to the first position in the queue is the shortest job in the queue. Contrast with *deadline*, *FIFO (first-in-first-out)*, *job-priority*, and *longest-job-first*.

shut down
> In InfoPrint, the action used to halt all server or actual destination processes without deleting the server or actual destination.

signature
> A group of pages that are printed, folded, cut, and bound together. Manual placement of pages in the signature is determined using a folding dummy.

simplex
> In InfoPrint, the value of the document or actual destination **plex** attribute indicating that output images are placed on the media in a head-to-head format, so that the top of one image is at the same edge as the top of the next image. Depending on the value of the document or actual destination **sides** attribute, the document can be printed on one or both sides of the paper. Contrast with *tumble*; see also *simplex printing* and *duplex printing*.

simplex printing
> Printing on only one side of the paper. Contrast with *duplex printing (1)*.

Printing on one or both sides of the paper, placing output images on the media in a head-to-head format, so that the top of one image is at the same edge as the top of the next image. Contrast with *tumble duplex printing*; see also *duplex printing (2)*.

SMIT   System Management Interface Tool.

SNA   Systems Network Architecture.

spiral binding
> A type of book binding in which wire or plastic coils are threaded through a series of holes or slots in the binding edge. Contrast with *edition binding*, *perfect binding*, and *wire-o binding*.

spot color
> Individual colored inks formulated to exactly match a specified color. Spot color is used when CMYK process color is unable to produce a reasonable facsimile of the color or when vivid color is needed. Spot color is also used when fluorescent or metallic colors are needed.

spread
> In color printing, an area whose dimensions have been enlarged to eliminate white space between it and another color. Contrast with *choke*.

start sheet
> The sheet of paper, blank or otherwise, that can precede a job. See also *auxiliary sheet*.

state   Synonym for *object state*.

stripping
> The process of mechanically assembling film into plate layouts. Page imposition takes place during stripping.

subnet mask
> A bit template indicating which part of an IP address represents the network. A 1 in the subnet mask means that the corresponding bit in the IP address is part of the network address; a 0 means that it is not. For example, if the IP address is `9.99.12.137` and the subnet mask is `255.255.255.0`, the network address is `9.99.12.0`.

subnetwork
> Any group of nodes that have a set of common characteristics, such as the same network ID.

In the AIX operating system, one of a group of multiple logical divisions of another network, such as can be created by TCP/IP.

subtractive color system
A system that reproduces an image by mixing (adding) appropriate quantities of cyan, magenta, and yellow paints on white paper. These paints reflect certain colors and absorb—or subtract—others. Contrast with *additive color system*.

superuser
Synonym for *root user*.

supported
In InfoPrint, pertaining to the specific job attribute values that the actual destination can accept during job validation. InfoPrint validates the requested attribute values of the job against the supported attribute values of the actual destination to determine whether the actual destination can handle that job. Contrast with *requested*.

synchronous
Occurring with a regular or predictable time relationship to a specified action. Contrast with *asynchronous*.

system administrator
Synonym for *administrator*.

System Management Interface Tool (SMIT)
In the AIX operating system, an interface tool for installation, maintenance, configuration, and diagnostic tasks. SMIT allows you to perform tasks without entering any commands.

Systems Network Architecture (SNA)
The description of IBM's logical structure, formats, protocols, and operational sequences for transmitting units through, and controlling the configuration and operation of, networks.

T

table reference character (TRC)
An optional control character in a print data set. The TRC identifies the font used to print the record and can be used to select a font during printing.

Tagged Image File Format (TIFF)
A digital format for storing scanned images. TIFF files are also referred to as

raster format files (as opposed to vector format files). When used in desktop publishing, TIFF files produce only a low-resolution FPO image; the high-resolution data remains on the hard disk.

task help
A type of online help that provides a list of tasks that can be completed with a selected object. When you select a task, the help provides step-by-step information about how to complete the task.

TCP/IP
Transmission Control Protocol/Internet Protocol.

TCP/IP-attached printer
A printer device attached to an RS/6000 through telecommunication lines using the TCP/IP protocol.

In InfoPrint, a PSF physical printer that represents a TCP/IP-attached printer device. See also *AIX-attached printer*, *channel-attached printer*, *direct-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

template
In the InfoPrint Manager Administration GUI, an object that represents a set of default attribute values that has been defined for creating a particular type of object, such as an actual destination.

ticket See *job ticket* and *DCE ticket*.

TIFF Tagged Image File Format.

Transmission Control Protocol/Internet Protocol (TCP/IP)
A set of communication rules used in the Internet and in any network that follows the U.S. Department of Defense standards for inter-network protocol. TCP provides a reliable host-to-host protocol between hosts in packet-switched communications networks and in interconnected systems of such networks. It assumes that the Internet Protocol (IP) is the underlying protocol. See also *Internet Protocol*.

trapping
In desktop publishing, the amount of overlap in overprinting colors. Trapping prevents white paper showing through gaps caused by normal errors in

registration. On sheet-fed presses, trapping is usually 0.25 point. See also *choke* and *spread*.

TRC Table Reference Character.

TrueType font (TTF)
A font format based on scalable outline technology with flexible hinting. Glyph shapes are based on quadratic curves. The font is described with a set of tables contained in a TrueType Font File.

TTF TrueType font.

tumble
In InfoPrint, the value of the document or actual destination **plex** attribute indicating that output images are placed on the media in a head-to-toe format, so that the top of one image is at the same edge as the bottom of the next image. The document must be printed on both sides of the paper. Contrast with *simplex*.

tumble duplex printing
Printing on both sides of the paper, placing output images on the media in a head-to-toe format, so that the top of one image is at the same edge as the bottom of the next image. Contrast with *simplex printing (2)*, *duplex printing (2)*.

U

UCR Under color removal.

under color removal (UCR)
Conversion of neutral color areas to black ink that reduces use of CMY inks, improves trapping, and reduces setup time. Generally, UCR is performed during image scanning, but some RIPs perform it during processing. Synonymous with *gray component replacement (GCR)*.

unmanage
In the InfoPrint Manager Administration GUI, the action used to put an object into a mode where its icon does not reflect the changes of status for the object.

upload printer
See *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

upload-SNA-attached printer
In InfoPrint, a PSF physical printer that represents a printer device attached through an MVS system and managed by PSF/MVS. InfoPrint communicates with

the MVS system through the SNA network. See also *AIX-attached printer*, *channel-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-TCP/IP-attached printer*.

upload-TCP/IP-attached printer
In InfoPrint, a PSF physical printer that represents a printer device attached through an MVS system and managed by PSF/MVS. InfoPrint communicates with the MVS system through the TCP/IP network. See also *AIX-attached printer*, *channel-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, and *upload-SNA-attached printer*.

V

validate
In InfoPrint, to compare the attribute values requested by a job with the supported attribute values of the actual destinations in the system and to determine whether there is an actual destination capable of printing or transmitting the job.

value A specific characteristic of an attribute.

variable
A name used to represent a data item whose value can change while the program is running.

variable data
Data that can be changed between copies of a document. For example, a form letter (constant data) can be merged with variable data, such as a customer's name and address to produce personalized documents.

varnish
A protective layer applied to a finished sheet, usually for photos, but sometimes used as a design element because of its reflective qualities. Varnishes can be tinted.

vector An absolute coordinate point and line in space. PostScript files can contain vector artwork. Vector files are converted to rasters during the RIP process.

velox A black and white photographic print made from a halftone negative, to be used as a proof copy.

vignette
An image with soft, fade-away edges.

Virtual Machine (VM)
An IBM licensed product that manages the resources of a single computer so that multiple computing systems appear to exist.

A virtual data processing system that appears to be at the exclusive disposal of a particular user, but whose functions are accomplished by sharing the resources of a real data processing system. (T)

Virtual Storage Extended (VSE)
An IBM licensed program whose full name is the Virtual Storage Extended/Advanced Function. It is a software operating system controlling the execution of programs.

Visual Systems Management (VSM)
In AIX, a type of graphical user interface that allows system management through the direct manipulation of objects.

VM Virtual Machine.

VSE Virtual Storage Extended.

VSM Visual Systems Management.

W

web A roll of paper used in web or rotary printing.

well In the InfoPrint Manager Administration GUI, an area within a pane that contains a group of objects related to the objects in the pane; for example, a queues well within a servers pane.

what you see is what you get (WYSIWYG)
Refers to the fact that the composite image displayed on the screen at a computer workstation has the appearance of the final printed image.

window
A rectangular area of the screen that you can move about, place on top of, or pull under other windows, or reduce to an icon.

wire-o binding
A continuous double series of wire loops run through punched slots along the binding side of a booklet. Contrast with *edition binding*, *perfect binding*, and *spiral binding*.

with-request
In InfoPrint, a document transfer method where the client transfers the documents directly to the server. Contrast with *pipe-pull*.

workstation
A terminal or microcomputer, usually one that is connected to a mainframe or to a network, at which a user can use applications.

write access
A level of authorization that grants the ability to modify data.

WYSIWYG
What you see is what you get.

X

X-Windows
A network-transparent windowing system developed by MIT. It is the basis for Enhanced X-Windows, which runs on the AIX Operating System.

xerography
A dry printing process using corona-charged photoconductive surfaces to hold latent images that are developed with a dry toner and then transferred to paper and fused with heat.

Xstation
A terminal that is connected through a network to an RS/6000 system, from which a user can perform command-line functions and run X-Windows based applications.

Xtensions
A UNIX-provided software component that enables users to incorporate variable data into fixed-text documents to produce personalized or customized documents.

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