

Printing Systems Division



Infoprint Manager for AIX: Introduction and Planning Guide

Version 4 Release 1

Printing Systems Division



Infoprint Manager for AIX: Introduction and Planning Guide

Version 4 Release 1

Note

Before using this information and the product it supports, be sure to read the information in "Notices" on page 77.

Second Edition (November 2002)

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

Order publications through your IBM representative or the IBM branch office serving your locality. Publications are not stocked at the address given below.

IBM Printing Systems welcomes your comments. For your convenience, a form for reader's comments is provided at the back of this publication. If the form has been removed, you may send your comments to the following address:

INFORMATION DEVELOPMENT
IBM PRINTING SYSTEMS
DEPARTMENT H7FE BUILDING 004M
PO BOX 1900
BOULDER CO 80301-9191

If you prefer to send comments electronically, use one of the following methods:

- Internet/Email: printpub@us.ibm.com
- Fax: 1-800-524-1519 (within U.S.) or 1-303-924-6873 (outside U.S.)

Internet

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

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© Copyright International Business Machines Corporation 1998, 2002. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Figures	v
Tables	vii
Chapter 1. Introducing Infoprint Manager for AIX	1
Optimizing your print resources	1
Understanding the Infoprint Manager server	2
Understanding server configuration options	7
Infoprint Manager interfaces	8
Comparing Infoprint Manager on different platforms	8
Supported printers	11
Supported data streams	13
About this publication	13
Chapter 2. Planning for configuration	17
Default model	17
Desktop destination configuration model	18
Pool destination configuration model	19
Funnel destination configuration model	19
Hourglass destination configuration model	20
Recommended distributed configuration model	21
Chapter 3. Planning to print with host systems	23
Comparing PSF Direct and MVS Download	24
Print shop scenarios	25
Managing resources with MVS Download	25
Managing resources with AFP Upload	26
Chapter 4. Using AFP resources.	27
Chapter 5. Planning to share printers	29
Methods for sharing printers	29
Sharing printers between host and LAN applications	31
Chapter 6. Verifying prerequisites	35
Understanding hardware requirements	35
Understanding AIX software requirements	38
Client software prerequisites	42
Chapter 7. Migrating to Infoprint Manager for AIX Version 4.1.0	45
Preparing to migrate to Infoprint Manager for AIX Version 4.1.0	45
Chapter 8. Collecting required information for the install	47
Configuration options you select during the install	47
The invoice shipped with your software	47
Communications worksheet	47
Planning for printers	48
Chapter 9. Reviewing software components.	49
Glossary	53
Sources and References	53

Notices	77
Trademarks	79
EuroReady	79
Index	81

Figures

1.	Infoprint Manager print flow. Job B is submitted directly to a logical destination, while Job A is submitted to an actual destination	3
2.	Default destination configuration model	18
3.	Desktop destination configuration model.	18
4.	Pool destination configuration model	19
5.	Funnel destination configuration model	20
6.	Hourglass destination configuration model	20
7.	Distributed configuration model	21
8.	Sharing printers	29

Tables

1.	Comparing PSF Direct and MVS Download.	24
2.	Contents of the Common Clients CD-ROM shipped with Infoprint Manager Server	49
3.	Separately-priced features available with Infoprint Manager Server	50
4.	PRPQs available for use with Infoprint Manager for AIX	52

Chapter 1. Introducing Infoprint Manager for AIX

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

Optimizing your print resources

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

- | • Manage your printer devices and distribute your printing workload
|
| Many print environments have a significant investment in printer devices and a
| significant printing workload. Infoprint Manager gives you the ability to manage
| all of your printer hardware centrally. You can establish a configuration that lets
| you route jobs with common requirements to a particular printer or set of
| printers that support those types of jobs. This allows you to mitigate situations
| where some printers are idle while others have a backlog of jobs waiting to
| print. By optimizing the use of each printer, you can distribute your print
| demands among all available printers.
- | • Balance the use of AIX operating systems
|
| By balancing the printing work load, you can also optimize the use of your AIX
| systems that support printing. These systems may use a significant amount of
| their resources to accept, schedule, and process jobs, and to manage the printers
| they control. System usage includes processing time, memory, and fixed disk
| capacity. If you use several Infoprint Manager servers running on several AIX
| systems or Windows NT /Windows 2000 systems, you distribute the printing
| demands of your organization and produce output more efficiently.
- | • Control print jobs
|
| Infoprint Manager provides you with flexibility in specifying defaults for your
| print jobs. You may want to use different job defaults for specific output devices
| or for specific types of jobs. When you configure your system, you should
| consider when and how you plan to use defaults, and how to use them most
| effectively. Effective use of defaults may influence other configuration decisions
| you make.
- | • See significant events when they happen
|
| Infoprint Manager supports event notification to inform job submitters,
| operators, and administrators of conditions that require their attention. For
| example, Infoprint Manager can notify operators when queues have a backlog of
| jobs or when the printers they operate are out of paper. Your job submitters can
| receive notification if Infoprint Manager cannot schedule their jobs at the
| requested destination. Notifications include event messages to help your
| personnel diagnose and isolate the cause of the problem. When you configure
| Infoprint Manager, you select the types of notification you want to ensure that
| the appropriate people are alerted when significant events occur. The most

common form of notification is that a job has completed successfully. For example, when a set of payroll checks has finished printing, someone in the Payroll department 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 contains a number of “objects” that are used to control the processing of submitted jobs. Objects include queues, logical destinations, actual destinations, and any defaults for job and document characteristics. The server administrator creates, deletes, and modifies these software objects to optimize the management and performance of the Infoprint Manager environment.

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

Basic print flow

You can submit print jobs to the Infoprint Manager server in a variety of ways. Various print submission methods are described in Chapter 3, “Planning to print with host systems” on page 23 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.

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

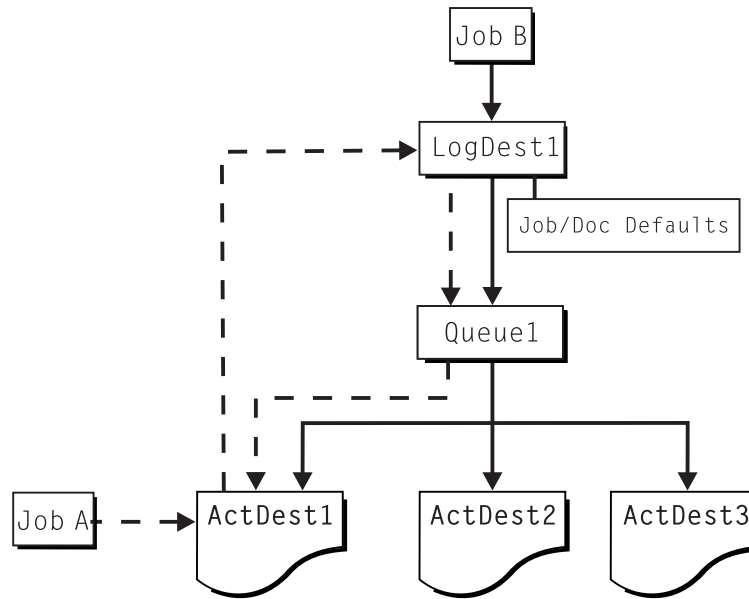


Figure 1. Infoprint Manager print flow. Job B is submitted directly to a logical destination, while Job A is submitted to an actual destination

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

Logical destinations

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

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

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

Queues

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

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

Actual destinations

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

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

Host receivers

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

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

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

Refer to Chapter 3, “Planning to print with host systems” on page 23 for additional information about host printing.

Documents and jobs

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

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

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

Auxiliary sheets

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

- At the beginning
- At the end
- Between sections

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

Media

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

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

Resource contexts

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

Transforms

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

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

Sizing your Infoprint Manager environment

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

- Processor speed
- Number of processors
- Available RAM

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

The output devices that Infoprint Manager drives are also important:

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

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

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

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

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

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

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

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

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

Understanding server configuration options

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

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

Standard server environment

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

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

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

Basic server option

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

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

change your position is to physically move to another line (much like manually moving a job from one print queue to another).

Notes:

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

Infoprint Manager interfaces

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

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

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

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

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

Infoprint SMIT Operator's GUI

Comparing Infoprint Manager on different platforms

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

Understanding common features

The following Infoprint Manager features are available on both platforms:

- Fully functional non-DCE (Distributed Computing Environment) version of the Infoprint Manager server
- Interoperability with other non-DCE Infoprint Manager servers (AIX or Windows NT/Windows 2000)
- BSD and PSF device support systems
- Support for the following input document formats:
 - AFP
 - ASCII
 - DBCS ASCII
 - GIF
 - JPEG
 - Line data (EBCDIC)
 - PCL (PCL6 and below)
 - PDF Version 1.4
 - PostScript (level 2 or 3)
 - TIFF
 - SAP ABAP and OTF
- Adobe PostScript transform
- PCL transform
- Full event notification
- Infoprint Manager Notifications to enable client systems to receive messages from Infoprint Manager Server systems
- The Infoprint Manager Administration GUI for performing most administrative tasks
- The Infoprint Manager Operations GUI for performing operator tasks
- Infoprint Select client for job submission
- A powerful command-line interface to all Infoprint Manager features
- Simple Network Management Protocol (SNMP) support
- PSF Direct for job submission from mainframe (AS/400, MVS™, VM, VSE, z/OS, OS/390®) host systems
- MVS Download for job submission from z/OS, OS/390, and MVS host systems
- IBM Page Printer Formatting Aid (PPFA)
- The **pdaccount** command, which you can use to generate comma-delimited reports of print server data to be fed into spreadsheets
- Configurable transform support (through transform objects)
- Infoprint SAP Print Feature, which includes the SAP Output Management Support (OMS) and the **sap2afp** transform.

Understanding Infoprint Manager for AIX features

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

- A DCE version of the Infoprint Manager server for improved security and scalability
- Separate features for print-on-demand customers include the following:

- A simplified “basic” version of the Infoprint Manager server that defaults to one-to-one mapping of logical and actual destinations.
- Variable data support
- Impositioning support
- Infoprint Submit client support
- Support for the following input document formats:
 - DITROFF
 - PPML
- Infoprint E-Mail output support
- Infoprint Fax input and output support
- 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
- InfoColor 70 support
- Infoprint Color 100 support
- Infoprint Color 130 Plus support
- AFP Upload:
 - Upload-SNA
 - Upload-TCP/IP
- SMIT interface for performing tasks not supported by the Infoprint Manager Administration GUI, including PPO and security administration
- Tape input

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

Understanding Infoprint Manager for Windows features

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

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

Supported printers

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

PCL printers

Infoprint Manager for AIX supports all compatible printers capable of interpreting the Hewlett-Packard Printer Control Languages (PCL 4, PCL 5, PCL 5c, PCL 5e, PCL XL, and PCL 6). Infoprint Manager is capable of converting all kinds of datastreams to PCL 4, PCL 5, PCL 5c, or passing through any version of PCL to your PCL printer.

PostScript printers

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

PPDS printers

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

IBM printers

The following provides information about supported IBM printers:

- IBM Infoprint Color 8
- IBM Infoprint 20 Printer
- IBM Infoprint 21 Printer
- IBM Infoprint 32 Printer
- IBM Infoprint 40 Printer
- IBM Infoprint 45 Printer
- IBM Infoprint 60 Printer. Infoprint Manager for AIX also supports the Finisher Feature (4640 or 4641) of the Infoprint 60. The Finisher is a multifunctional, intelligent output device with the following enhanced finishing options:
 - Stapled set with multiple stapling positions
 - Saddle stitched sets
 - Page inserting
 - Z-folded sheets
- IBM Infoprint 62 Printer
- IBM Infoprint 70
- IBM InfoColor 70 Color Printer with Infoprint Manager Enablement RPQ 8B4443, and optionally, Offline RIP RPQ 8B4444
- IBM Infoprint Color 100
- IBM Infoprint 1116 Printer
- IBM Infoprint 1120, 1125, 1130, 1140, and 1145 Printers
- IBM Infoprint Color 130 Plus
- IBM Infoprint Color 1220 and 1228 Printers
- IBM Infoprint 2000 Printer SCS and AFP Models

- IBM Infoprint 2085 and 2105 Printers
- IBM Infoprint 3000 Advanced Function Printers with Feature 4140
- IBM Infoprint 3112 and 3116 Advanced Function Printers with Feature 4140
- IBM 3130 Advanced Function Printer with Feature 4120, 4161, 4162, or 4163
- IBM 3160 Advanced Function Printer with Feature 4120, 4161, 4162, or 4163
- IBM 3816 Page Printer Models 01D and 01S with Feature 7653 or 7654
- IBM 3825 Page Printer
- IBM 3827 Page Printer
- IBM 3828 Advanced Function MICR Printer
- IBM 3829 Advanced Function Printer
- IBM 3831 Page Printer Model 001 in 3835 compatibility mode (available only in Japan)
- IBM 3835 Page Printer Model 002 in 3835 (including support for the 3835 MICR Printing Interface RPQ and for the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers)
- IBM 3900 Advanced Function Printer Models 001, D01, D02, 0W1, 0W3, DW1, and DW2 (including support for the MICR Post-Processing Interface Feature, the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers, and the Interface Feature 4720)
- IBM Infoprint 3900 Model DR1/DR2 Printer
- IBM 3912 Page Printer Models AS0, AS1, NS0, and NS1
- IBM 3916 Page Printer Models AS1 and NS1
- IBM 3930 Page Printer Models 02D and 02S with Feature 9217 or 9476
- IBM 3930 Page Printer Models 03D and 03S
- IBM 3935 Advanced Function Printer with Feature 4020, 4121, 4161, 4162, or 4163
- IBM Infoprint 4000 Model ID1/ID2 Printer
- IBM Infoprint 4000 Model ID3/ID4 Printer
- IBM Infoprint 4000 Model ID5/ID6 Printer
- IBM Infoprint 4000 Model IR1/IR2 Printer
- IBM Infoprint 4000 Model IR3/IR4 Printer
- IBM Infoprint 4000 Model IS1 and IS2 Printers
- IBM Infoprint 4005 HC2 Hi-Lite Color Printer
- IBM LaserPrinter 4019, all models
- IBM LaserPrinter 4028 Models AS1 and NS1 (including support for the 4028 with MICR, RPQ S02177)
- IBM 4100 Model HD1/HD2 Printer
- IBM 4100 Model HD3/HD4 Printer
- IBM 4100 Model HS1 Printer
- IBM 4100 Model HS2 Printer
- IBM 4100 Model PD1/PD2 Printer
- IBM 4100 Model PS1 Printer
- IBM 4312 Network Printer 12. OS Code Release Level 2.23 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- IBM 4317 Network Printer 17. OS Code Release Level 2.23 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.

- IBM 4324 Network Printer 24. OS Code Release Level 2.35 or above is required. For IPDS printing, the IPDS feature with IPDS Code Level 1.25 or above is required.
- IBM 4400 Thermal Printer
- IBM 6400 Printer with IPDS coax feature V3R1 or higher
- IBM 6408 Model CTA Printer with IPDS coax feature V3R1 or higher
- IBM 6412 Model CTA Printer with IPDS coax feature V3R1 or higher

Supported data streams

Infoprint Manager for AIX is capable of converting the following datastreams to IPDS, PCL 4, PCL 5, PCL 5c, or PPDS:

- Advanced Function Presentation™ (AFP)
- ASCII
- DBCS ASCII
- CompuServe Graphics Interchange format (GIF)
- Device-independent troff (ditroff)
- EBCDIC
- Joint Photographic Experts Group image (JPEG)
- PCL (PCL 6 and below)
- PDF (1.4 and below)
- PostScript (level 3 and below)
- SAP ABAP and OTF (with purchase of the Infoprint Manager: SAP Print Feature)
- S/370 line data, also known as line data
- Tagged Image File Format (TIFF)
- Personalized Print Markup Language (PPML) (with purchase of the optional Infoprint Manager: Print-on-Demand Feature)

In addition, Infoprint Manager will pass through any datastream including PostScript, PPDS, PCL 5e, PCL XL, PCL 6 (which is a combination of PCL 5e and PCL XL), and PPDS.

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.

About this publication

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

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

Organization of this publication

This publication contains the following chapters and appendix:

- Chapter 1, “Introducing Infoprint Manager for AIX” on page 1
- Chapter 2, “Planning for configuration” on page 17
- Chapter 3, “Planning to print with host systems” on page 23
- Chapter 4, “Using AFP resources” on page 27
- Chapter 5, “Planning to share printers” on page 29
- Chapter 6, “Verifying prerequisites” on page 35
- Chapter 7, “Migrating to Infoprint Manager for AIX Version 4.1.0” on page 45
- Chapter 8, “Collecting required information for the install” on page 47
- Chapter 9, “Reviewing software components” on page 49

Most recent information

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

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

The Infoprint publication library

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

Infoprint Manager for AIX publication library

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

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

Notes:

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

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

- *IBM Infoprint Manager for AIX: Introduction and Planning Guide*, G544-5833. This publication gives an overview of Infoprint Manager for AIX, introduces its concepts, and helps you prepare to use it. It addresses migration from previous versions of the product. Finally, this publication explains the differences between the AIX and Windows versions of Infoprint.
- *IBM Infoprint Manager for AIX: Getting Started*, G544-5817. This publication helps you install and configure IBM Infoprint Manager for AIX. It focuses primarily on server and client system software configuration.
- *Guidelines for Installing Infoprint Manager for AIX 4.1 in an HACMP Configuration*, G544-5818. This publication helps you install and configure HACMP with IBM Infoprint Manager for AIX. It also tells you how to use HACMP with IBM Infoprint Manager for AIX.

- *IBM Infoprint Manager for AIX: Procedures*, G544-5815. This publication describes the primary tasks necessary for setting up an Infoprint environment, submitting print jobs, scheduling jobs, and managing the print environment. This publication contains all the IBM Infoprint Manager for AIX procedures that are available as topics on the web in book format, including an index and table of contents for ease of retrievability.
- *IBM Infoprint Manager: Reference*, S544-5475. For print administrators, operators, and application programmers with the need to perform command-line functions, this publication describes the commands, utilities, transforms, attributes, and attribute values associated with Infoprint.
- *PSF Direct Network Configuration Guide for System/370*, S544-5486. For system administrators or network specialists responsible for configuring a system for Print Services Facility (PSF) Direct. PSF Direct is a function of IBM Infoprint Manager for AIX that allows a PSF program (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.
- *IBM PSF for AIX: AFP Upload Configuration Guide Using SNA Server/6000*, S544-5422. For system administrators, this publication describes how to configure AFP Upload on both AIX (client) and MVS (server) to send files to the JES spool on the MVS server, using a SNA LU 6.2 protocol.
- *IBM PSF for AIX: AFP Upload Configuration Guide Using TCP/IP*, S544-5423. For system administrators, this publication describes how to configure AFP Upload on both AIX (client) and MVS (server) to send files to the JES spool on the MVS server, using a TCP/IP protocol.

For information on the use of SAP R/3 with Infoprint Manager for AIX, visit the Product Library page for Infoprint Manager for AIX at:

<http://www.printers.ibm.com/R5PSC.NSF/Web/ipmrefinfo41>.

Infoprint Manager for Windows publication library

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

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

Notes:

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

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

- *IBM Infoprint Manager for Windows: Introduction and Planning Guide*, G544-5716. This publication gives an overview of Infoprint Manager for Windows, introduces its concepts, and helps you prepare to use it. It describes features of this product and compares its functions to those of IBM Print Services Facility for OS/2 (PSF for OS/2). It addresses migration from PSF for OS/2 at a high level. Finally, this publication explains the differences between the AIX and Windows versions of Infoprint.
- *IBM Infoprint Manager for Windows: Getting Started*, G544-5717. This publication helps you install and configure Infoprint Manager for Windows. It focuses primarily on server and client system software configuration, but it also includes information for the IBM 4159 Model 001 S/390 Parallel Channel Emulator Card.

- *IBM Infoprint Manager for Windows: Procedures*, G544-5814. This publication contains all the Infoprint Manager for Windows procedures that are available as topics on the web in book format, including an index and table of contents for ease of retrievability.
- *IBM Infoprint Manager: Reference*, S544-5475. For print administrators, operators, and application programmers with the need to perform command-line functions, this publication describes the commands, utilities, transforms, attributes, and attribute values associated with Infoprint.

| For information on the use of either PSF Direct or SAP R/3 with Infoprint
| Manager for Windows, visit the Product Library page for Infoprint Manager for
| Windows at <http://www.printers.ibm.com/R5PSC.NSF/Web/ipmtref21>.

Chapter 2. Planning for configuration

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

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

Default model

The default model has a one-to-many relationship between a logical destination and two or more actual destinations. It also allows you to submit jobs directly to properly configured actual destinations. (In this way, the default model is similar to the “Desktop destination configuration model” on page 18, but it requires you to create and manage fewer objects.) To support direct submission to actual destinations, the default model requires the actual destination to be associated with a logical destination. A job submitted to an actual destination is rerouted to the associated logical destination. At the logical destination, the job derives its job and document defaults. The job is then routed through the associated queue and back to the actual destination.

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

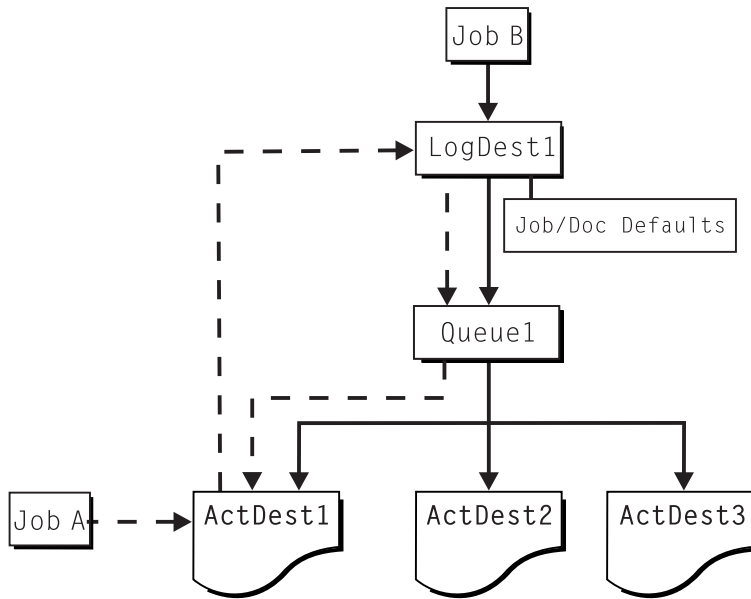


Figure 2. Default destination configuration model. Job A (submitted to an actual destination) prints on that actual destination. Job B (submitted to the logical destination) prints on the first actual destination that can support it.

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

Desktop destination configuration model

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

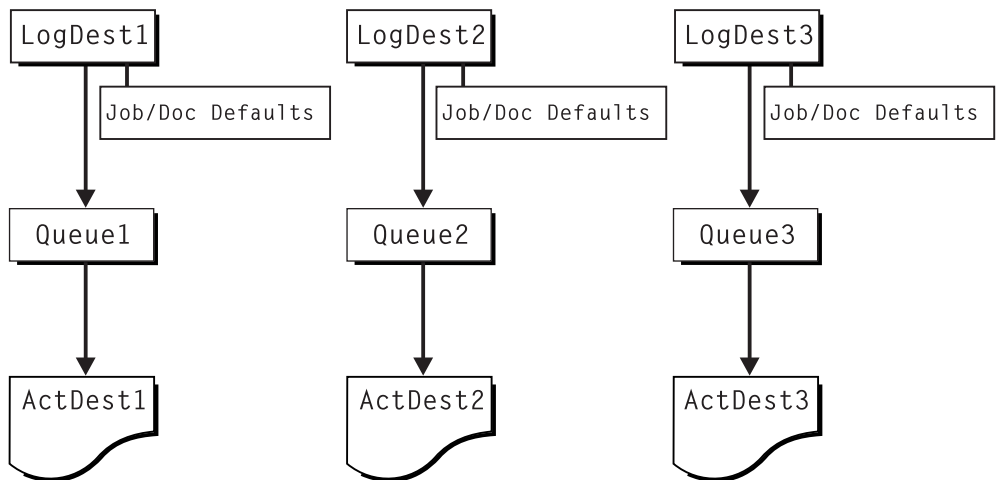


Figure 3. Desktop destination configuration model

Pool destination configuration model

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

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

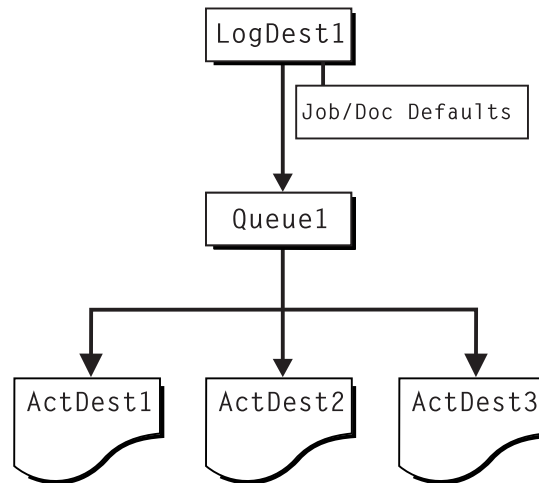


Figure 4. Pool destination configuration model

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

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

Funnel destination configuration model

The funnel destination configuration model has a many-to-one relationship between two or more logical destinations and one actual destination. Figure 5 on page 20 shows the funnel configuration.

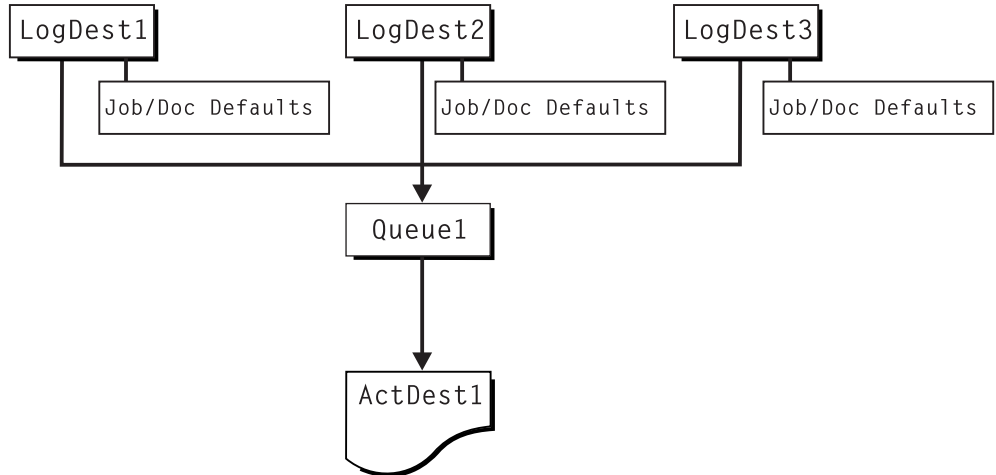


Figure 5. Funnel destination configuration model

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

Hourglass destination configuration model

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

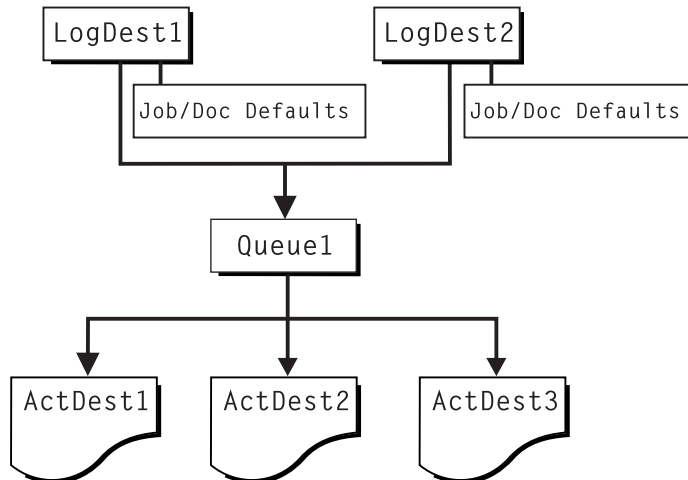


Figure 6. Hourglass destination configuration model

Recommended distributed configuration model

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

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

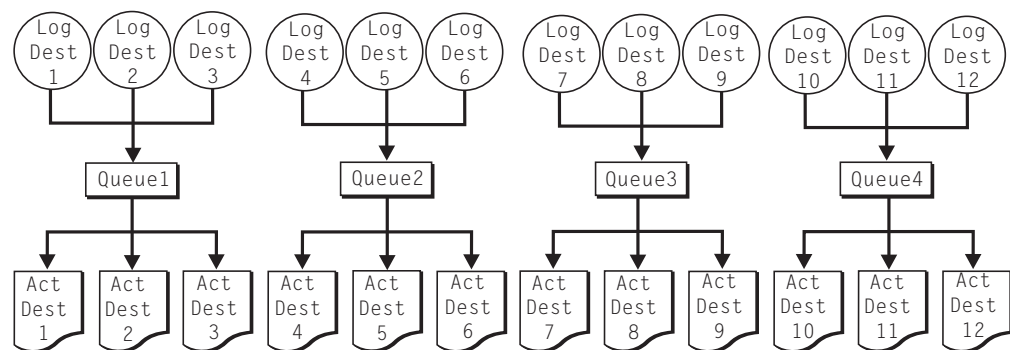


Figure 7. Distributed configuration model. With this model, you can have different actual destinations associated with different logical destinations through the job and document defaults you specify.

Chapter 3. Planning to print with host systems

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

- **PSF Direct**

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

- **MVS Download**

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

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

- **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. 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.

- **LPR**

Remote systems that support LPR (RFC 1179) can also submit output to Infoprint Manager for AIX through its LPD gateway using the TCP/IP protocol. The AIX line printer daemon (**LPD**) works with the Infoprint LPD Gateway to route incoming jobs from remote clients to Infoprint destinations. Some LPR clients, such as the AIX LPR or the **lprafp** utility supplied with Infoprint Manager for AIX, can pass print parameters to Infoprint Manager (using the **-o** flag). However, not all LPR clients support optional parameters.

- **AFP Upload**

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

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

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

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

Comparing PSF Direct and MVS Download

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

Table 1. Comparing PSF Direct and MVS Download

PSF Direct	MVS Download
Infoprint Manager for AIX acts as an intermediary passthrough point for Intelligent Printer Data Stream (IPDS) input, or converting from IPDS™ to the PCL or PPDS data stream.	Infoprint Manager for AIX acts as a full print spool system. OS/390 provides the mechanism for transferring jobs from the JES spool to the Infoprint Manager spool.
Use this feature with PSF for OS/390, PSF/MVS, PSF/VM, PSF/VSE, and PSF/400.	Use this feature with PSF for OS/390 or PSF/MVS only.
Communicates through SNA from the PSF host to AIX.	Communicates through TCP/IP from the PSF host to AIX.
Resource management is performed at the PSF host.	Resource management is performed at Infoprint Manager: all print resources must either reside on the Infoprint Manager server where the job prints or be transmitted inline in an Advanced Function Presentation (AFP) job. Refer to “Managing resources with MVS Download” on page 25 for additional information.
Both the printer and the print spool are managed on the host PSF system.	The host print spool is managed on the host PSF system; the Infoprint Manager spool and printer are managed from Infoprint Manager. The job is managed on the host until it is downloaded, then from Infoprint Manager.
Supports all printers supported by the host PSF, as well as PCL and PPDS devices that are not supported on the host.	Supports all printers supported by Infoprint Manager for AIX.
Requires no additional disk space on Infoprint Manager system.	Requires additional Infoprint Manager disk space to spool jobs.
Prints job as it is received by Infoprint Manager (if the printer is not busy).	Prints job only after the entire job has been received by Infoprint Manager and scheduled to print by the Infoprint Manager spool.
Uses host (for example SMF/6) accounting records.	Uses Infoprint Manager accounting information.
Provides printer sharing through host systems, the PSF Direct feature, the host printer support, and Infoprint Manager (as long as only one PSF Direct Host Receiver attempts access at a time).	Provides printer sharing and printer support through Infoprint Manager.
Supports printing of multi-data set jobs as a single print job.	Supports printing of multi-data set jobs as single or multiple print jobs.
Does not support spooling of jobs on Infoprint Manager for printing later.	Supports the downloading of AFP or line data from the JES spool to Infoprint Manager for printing later.

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

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

Print shop scenarios

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

A black box shop

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

Printing from the LAN and the host

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

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

Distributed print shop using remote spooling

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

Managing resources with MVS Download

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

- Download these resources to Infoprint Manager through a standard file transfer protocol (FTP) in binary format. This method works best when resources do not

| change often. You can also move resources from the host to Infoprint Manager
| for AIX using tape, but you must have a compatible tape drive on your pSeries
| server.

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

Managing resources with AFP Upload

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

Chapter 4. Using AFP resources

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

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

Data object resources

Data object resources are a type of AFP resource; they can be an 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 may also purchase additional resources or even create your own custom resources. To create page definitions and form definitions, you can purchase the Page Printer Formatting Aid (PPFA) for AIX, which is an optional feature of Infoprint Manager for AIX (see Table 3 on page 50).

Infoprint Manager provides several methods for accessing AFP resources. If the only AFP resources available are those that shipped with Infoprint Manager, they are accessed automatically when a job needs them. If, however, you are using other AFP resources, you must specify the location of these resources. There are also ways to specify resource locations through job submission parameters and environment variables. Finally, each document within a job can specify the path to each of the AFP resource types it requires. You may elect to handle these specifications with a 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 an AIX command prompt) to create a resource-context object. You then reference this object when you create or modify a PSF actual destination in the Infoprint Manager Administration GUI. Jobs can also reference resource-context objects through their contained documents. Both the actual destination and the resource-context objects that are referenced must reside in the same Infoprint Manager server.

Chapter 5. Planning to share printers

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

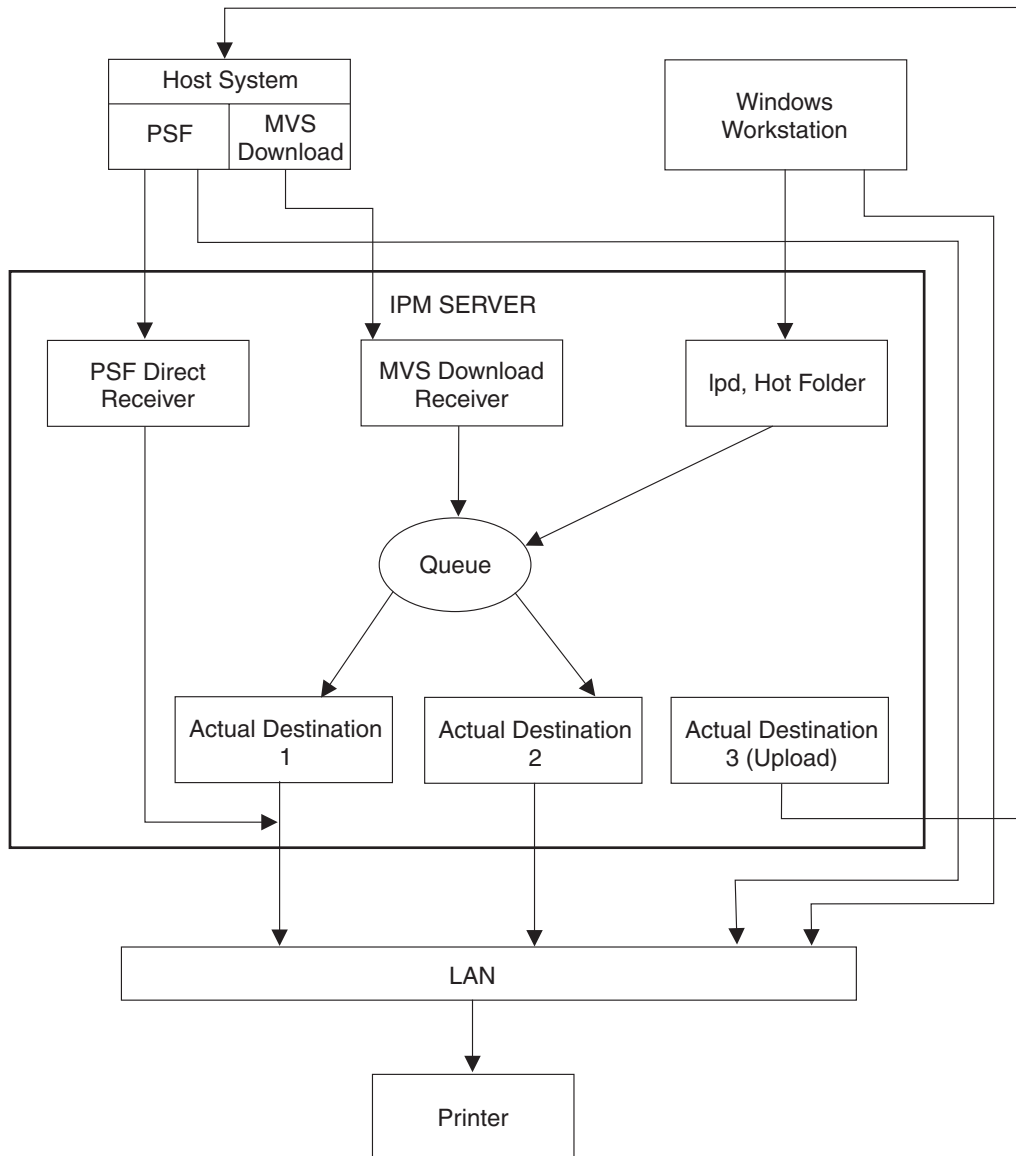


Figure 8. Sharing printers

Methods for sharing printers

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

Sharing the communication link with IPDS printers

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

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

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

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

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

When you configure the print drivers, the following apply:

- There is no single point of control and auditing for all jobs 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.

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

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

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

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

Submitting jobs to the same print queue

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

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

Using an Infoprint Manager actual destination

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

- MVS Download Receivers when jobs are received from Host MVS Download drivers
- LPD when jobs are received from LPR clients on any platform
- Hot Folder when jobs are received from a mapped network directory
- Infoprint Manager Select or Submit Client when jobs are received directly from the Windows client
- Command line using a **pdpr** command

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

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

Using a PSF for z/OS or OS/390 defined printer

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

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

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

Sharing printers between host and LAN applications

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

Printing from existing host applications

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

- Host PSF sends jobs to a PSF Direct Receiver.
- MVS Download sends jobs to an MVS Download Receiver.
- 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. 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 23.

Printing from existing LAN applications

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

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

Using Infoprint Select

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

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

If you apply Infoprint Manager for AIX Program Temporary Fix (PTF) U484268 (available in November 2002), 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 provided with the PTF U484268 level of Infoprint Select.

Using Infoprint Submit

To use Infoprint Submit (available for Windows NT, Windows 2000, and Mac 10.1 or higher), you must install and configure Infoprint Submit on the workstation.

The Infoprint Submit clients and installation instructions are available with the Infoprint Manager for AIX: Print-on-Demand Feature.

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

Using Infoprint Manager hot folders

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

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

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

Chapter 6. Verifying prerequisites

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

Understanding hardware requirements

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

AIX hardware requirements for print load light

Minimum configuration:

- IBM pSeries or RS/6000 server
- 128 MB of memory (256 MB if using the Infoprint Manager Administration GUI or the Infoprint Manager Operations GUI from the Infoprint Manager Server)
- 2 GB of DASD
- CD-ROM
- 17-inch graphical display

AIX hardware requirements for print load heavy

- IBM pSeries or RS/6000 server
- 512 MB of memory
- Four SCSI disk drives
- CD-ROM drive
- 2-way or 4-way SMP processor
- 1.44 MB 3.5-inch diskette drive (DASD)
- Appropriate printer and LAN attachments
- 4-mm tape drive
- 21-inch graphical display

AIX hardware requirements for print load high performance

- 1 GB of memory
- 5 Ultra3 SCSI disk drives or 2 SCSI and 5 SSA disk drives
- CD-ROM drive
- 2-way or 4-way SMP processor
- 1.44 MB 3.5-inch diskette drive
- Appropriate printer and LAN attachments
- 4-mm tape drive
- 21-inch graphical display

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

Client hardware requirements

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

- 300 MHz Pentium® processor or higher
- 128 MB RAM or more
- CD-ROM drive
- 3.5-inch diskette drive

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

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

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

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

Printer attachment requirements

RS/6000 requirements

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

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

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

TCP/IP-attached printer requirements

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

- IBM Infoprint 20 Printer
- IBM Infoprint 21 Printer
- IBM Infoprint 32 Printer
- IBM Infoprint 40 Printer
- IBM Infoprint 45 Printer
- IBM Infoprint 60 Printer
- IBM Infoprint 70 Printer

- IBM InfoColor 70 Color Printer with Infoprint Manager Enablement RPQ 8B4443, and optionally, Offline RIP RPQ 8B4444
- IBM Infoprint Color 100
- IBM Infoprint Color 130 Plus
- IBM Infoprint 2000 Printer Model NP1
- IBM 3130 Advanced Function Printer with Feature 4120, 4161, 4162, or 4163
- IBM 3160 Advanced Function Printer with Feature 4120, 4161, 4162, or 4163
- IBM 3900 Advanced Function Printer Models D02 (with RPQ 8B3940 or 8B3943), 0W1 (including the sixteen-inch version, RPQ 8B3939), 0W3, and DW2 (including support for the MICR Post-Processing Interface Feature, the Set Media Modifications command to drive post-processing devices, such as Beste Bunch spot color printers, and the Interface Feature 4720)
- IBM Infoprint 3900 Model DR1/DR2 Printer
- IBM 3935 Advanced Function Printer with Feature 4020, 4121, 4161, 4162, or 4163
- IBM Infoprint 4000 Model IS1 and IS2 Printers
- IBM 4100 Model HD1/HD2 Printer
- IBM 4100 Model HD3/HD4 Printer
- IBM 4100 Model HS1 Printer
- IBM 4100 Model HS2 Printer
- IBM 4100 Model PD1/PD2 Printer
- IBM 4100 Model PS1 Printer

Channel-attached requirements

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

- IBM 3825 Page Printer
- IBM 3827 Page Printer
- IBM 3828 Advanced Function MICR Printer
- IBM 3829 Advanced Function Printer
- IBM 3831 Page Printer Model 001 in 3835 compatibility mode (available only in Japan)
- IBM 3835 Page Printer Model 001
- IBM 3835 Page Printer Model 002
- IBM 3900 Advanced Function Printer Model 001 (manufactured after December 1992)

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

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

Other printer considerations

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

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

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

AFIG is standard for the following printers:

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

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

- IBM Infoprint 3112 and 3116 Advanced Function Printers with Feature 4140
- IBM 3912 Page Printer Models AS0, AS1, NS0, and NS1
- IBM 3916 Page Printer Models AS1 and NS1
- IBM LaserPrinter 4028 Models AS1 and NS1

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

Note: For more information IBM printers, refer to *IBM Printing Systems: Printer Information*, S544-5750.

Understanding AIX software requirements

Infoprint Manager for AIX requires the AIX operating system to be installed at Version 4.3.3 or later.

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

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

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

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

Infoprint Manager supports running on the Version 5.1 or Version 5.2 operating system in a 32-bit and 64-bit kernel environment.

Notes:

1. Existing Infoprint Manager for AIX customers who want to migrate to Version 4.1.0 must be at AIX Version 4.3.3 or higher.
2. AIX Version 5.1 and 5.2 offer two different print spoolers: the legacy AIX PowerPC print subsystem and the System V print subsystem. Infoprint Manager for AIX requires the use of the legacy AIX PowerPC print subsystem. Infoprint Manager does not support the System V print subsystem.
3. Infoprint Manager Version 4.1.0 requires no fileset updates to install on an AIX Version 5.1 operating system.
4. With Infoprint Manager Version 4.1.0 and AIX Version 4.3.3, we require Maintenance Level 09 or higher.
5. The default kornshell for AIX Version 5.1 and 5.2 is Kornshell 88.

Note: Do not use Kornshell 93 with Infoprint Manager for AIX.

Verifying AIX filesets for Version 4.1.0

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

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

Verifying requirements for all Infoprint Manager installations

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

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

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

The following will be installed automatically by the Infoprint installer:

- xlc.rte 5.0.2.0 (C Set ++ for AIX Application Runtime)

- ibmcxx.rte 3.6.6
- Java131.rte.bin 1.3.1.2 (Java Runtime)
- Java131.rte.lib 1.3.1.2 (Java Runtime)

Verifying additional requirements for DCE version

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

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

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

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

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

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

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

Verifying additional requirements for the SAP print feature

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

Displaying currently installed AIX filesets

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

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

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

Locating missing required filesets

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

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

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

Installing required filesets

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

1. Log into the AIX system as **root**.
2. Insert the appropriate AIX operating system CD-ROM into the CD-ROM reader. (See "Locating missing required filesets" on page 40 for details on fileset locations.)
3. Open a terminal window. If you are using CDE, you may open a terminal window by clicking on the terminal icon contained in the task bar that appears at the bottom of the screen. By default, the terminal icon is contained in a popup menu above the text editor icon that appears on the task bar.
4. Type the following on the command line:

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

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

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

Infoprint Manager for AIX Version 4.1.0 requires no fileset updates to install on an AIX Version 5.1 or Version 5.2 operating system.

Verifying filesets updated by the Infoprint installer

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

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

If you are having problems with Infoprint Manager, you may verify that installer has correctly updated these filesets by following the procedure in "Displaying currently installed AIX filesets" on page 40.

Verifying recommended DCE filesets

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

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

Notes:

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

You may verify the levels of your DCE software filesets by following the procedure in “Verifying additional requirements for DCE version” on page 40.

Client software prerequisites

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

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

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

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

- Windows 98
- Windows NT Workstation 4.0 (Service Pack 6a or later)

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

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

Chapter 7. Migrating to Infoprint Manager for AIX Version 4.1.0

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

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

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

Notes:

1. Refer to the product readme for detailed instructions on backing up your Infoprint Manager for AIX Version 3.2 system and restoring configuration files after the migration. The Infoprint Manager for AIX readme ([aix41rme.pdf](#)) can be found at <http://www.printers.ibm.com/R5PSC.NSF/Web/ipmrefinfo41>.
2. Any optional features of Infoprint Manager for AIX Version 3.2 or previous that are installed on the system will be removed when the base server software is migrated to Version 4.1. This is done because optional features at Version 3.2 may be incompatible with the Version 4.1 server.

Preparing to migrate to Infoprint Manager for AIX Version 4.1.0

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

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

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

During the process of installing the Infoprint software, your AIX software may be updated to ensure that Infoprint will function properly. For more details on the service-level prerequisites of Infoprint Manager, see “Verifying updates to AIX filesets for Infoprint Manager for AIX Version 4.1.0” on page 41. If you are missing any required AIX filesets for Version 4.1.0, the installer will direct you to install them from your AIX product CD.

Chapter 8. Collecting required information for the install

The Infoprint installer helps you load and configure Infoprint Manager on your AIX system. If you have an AIX system with Version 4.3.3, Version 5.1, or Version 5.2 prerequisites, you can use your Infoprint CD to install Infoprint on your system. When you use the Infoprint installer, you may accept the default setup values provided for you or enter your own values. If you accept the default values, very little configuration information is required from you.

Before you install Infoprint 4.1.0, you should back up your system. You should check that you have all prerequisite software installed by following the procedure in “Verifying AIX filesets for Version 4.1.0” on page 39. You may need to contact IBM support to obtain missing prerequisites.

You will need the following information:

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

Configuration options you select during the install

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

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

The invoice shipped with your software

You will need the following information from your invoice:

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

Communications worksheet

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

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

Describe your local area network:

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

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

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

Planning for printers

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

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

Chapter 9. Reviewing software components

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

The IBM Infoprint Manager for AIX Base Server CD (LCD4-1916) contains all software for installing an Infoprint Manager server on an AIX system. This CD also contains the License Use Management system (LUM), the Infoprint Installer, and an Enrollment Certificate File (ECF) for storing the features purchased for a particular installation. 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 2 lists the components that are included on the Infoprint Manager: Common Clients CD (LCD4-1917). Each client has its own installer and must be installed separately. All of the components can be installed on multiple systems.

Table 3 on page 50 lists the separately installable features that are available with Infoprint Manager for AIX Version 4.1.0. Table 4 on page 52 lists the PRPQs that are available with Infoprint Manager for AIX Version 4.1.0.

Table 2. 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.

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

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 AIX, Java 2 Technology Edition, Version 1.3.1.
IBM 32-bit Runtime Environment for AIX, Java 2 Technology Edition, Version 1.3.1	The IBM 32-bit Runtime Environment for AIX, Java 2 Technology Edition, Version 1.3.1, is used with the Infoprint Manager Administration and Operation GUIs and with Infoprint Manager Notifications.
Infoprint Manager Notifications	Infoprint Manager Notifications enables remote systems to receive messages generated by an AIX or Windows Infoprint Manager Server. Infoprint Manager Notifications requires the IBM 32-bit Runtime Environment for AIX, Java 2 Technology Edition, Version 1.3.1.
SAP Clients (AIX and Windows)	The SAP Client resides on a SAP system on either AIX or Windows so you can use the Infoprint Manager SAP Print Feature on either an Infoprint Manager AIX server or an Infoprint Manager Windows server. See the <i>SAP R/3 Printing and Configuration Guide</i> on the IBM Printing Systems site (http://www.ibm.com/printers). From the Printing Systems homepage: <ol style="list-style-type: none"> 1. Under Resources For click Infoprint Manager. 2. Under Products in the right hand navigation bar click Infoprint Manager for AIX or Infoprint Manager for Windows. 3. Under Product Resources click Product Library. 4. Click on the appropriate Infoprint Manager publication.
AIX Client	The AIX Client allows users to enter Infoprint Manager commands, such as pdpr , for AIX systems where Infoprint Manager for AIX has not been installed. The AIX Client also allows users to enter the Infoprint Manager commands and the lp , lpr , and qprt AIX print commands on the AIX command line to a remote Infoprint Manager server (AIX or Windows).
HP-UX Client	The HP-UX Client installs Infoprint Manager commands on an HP-UX system.
Sun Client	The Sun Client installs Infoprint Manager commands on an Sun Solaris system.
colorRipd for Infoprint Manager for AIX	colorRipd for Infoprint Manager for AIX allows you to manage the color rasterized image processing (RIP) for the InfoColor 70 and the Infoprint Color 100 printers.

Table 3. Separately-priced features available with Infoprint Manager Server

Infoprint Manager Features	Description
----------------------------	-------------

Table 3. Separately-priced features available with Infoprint Manager Server (continued)

<p>Print-On-Demand Feature (LCD4-1918)</p>	<p>Print-On-Demand is the commercial print option available with Infoprint Manager for AIX. With this support you can obtain:</p> <ul style="list-style-type: none"> • Infoprint's Impositioning assist feature • Mergedoc application for merging variable data into PostScript documents • Personalized Print Markup Language (PPML) transform, which is an emerging XML-based data stream that can include PDF, PostScript, TIFF, and JPEG objects. The PPML transform converts PPML data into AFP data for printing on the Infoprint Color 130 Plus printer. • Infoprint Manager Server (Basic). • Infoprint Submit for Macintosh. • Infoprint Submit Express for Windows. • Infoprint Submit for Windows.
<p>Advanced Security/Scalability Feature (LCD4-1920)</p>	<p>This feature allows Infoprint Manager for AIX users to implement Distributed Computing Environment (DCE) Version 3 Release 1, which provides enhanced security and scalability for your Infoprint Manager distributed application on your AIX system.</p>
<p>SAP Print Feature (LCD4-1921)</p>	<p>A business enterprise that uses SAP can use this 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, the SAP OMS (Output Management Support) Callback support for obtaining enhanced status from print jobs, and the SAPconnect support for both sending and receiving faxes on a SAP R/3 system.</p>
<p>Page Printer Formatting Aid (PPFA) Feature (LCD4-5575)</p>	<p>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.</p>
<p>Infoprint DBCS Font Downloader Feature (LCD4-5584)</p>	<p>The Infoprint DBCS Font Downloader is a utility for downloading double-byte PostScript fonts from a Macintosh system to Infoprint Manager.</p>
<p>Japanese PostScript Feature (LCD4-5576)</p>	<p>This feature allows users of Infoprint Manager to print the Kanji fonts required by PostScript.</p>
<p>Fax Line Feature (LCD4-5577)</p>	<p>Infoprint Fax can support from one to fifteen additional fax lines. Note: This feature can only be used on an AIX 4.3.3 operating system.</p>
<p>Workgroup Printer Engine (LCD4-5579)</p>	<p>Required to install and use Infoprint-driven printers that print within a range of 0 to 49 pages per minute.</p>
<p>Low Speed Printer Engine (LCD4-5580)</p>	<p>Required to install and use Infoprint-driven printers that print within a range of 50 to 89 pages per minute.</p>

Table 3. Separately-priced features available with Infoprint Manager Server (continued)

Medium Speed Printer Engine (LCD4-5581)	Required to install and use Infoprint-driven printers that print within a range of 90 to 116 pages per minute.
High Speed Printer Engine (LCD4-5582)	Required to install and use Infoprint-driven printers that print 117 pages per minute or faster.

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

PRPQ	Description
Infoprint Scan Client (PRPQ 5799-GTG)	Infoprint Scan is an application program you can use to scan hardcopy pages and assemble the pages into documents that can be viewed, enhanced, and submitted for printing. Image enhancement functions include deskew, despeckle, auto-crop, rotation, and image inversion. Functions for zoning, page alignment, adding text, erasing, and resizing are also provided.
Infoprint XT for AIX (PRPQ 5799-GTF)	Infoprint XT for AIX allows users of AIX OnDemand to gain the centralized benefits of Infoprint Manager for AIX while retaining their current OnDemand interfaces. This feature contains the xerox2afp transform to convert Xerox jobs into AFP for printing on either IBM printers or other printers through Infoprint Manager.

Glossary

This glossary provides definitions of specialized terms used by Infoprint. This glossary does not define terms that are defined in non-technical dictionaries or that have no special meaning in information processing.

Sources and References

This glossary includes definitions from the following sources:

- Definitions from the *American National Standard Dictionary for Information Systems*, ANSI X3.172–1990, copyright 1990 by the American National Standards Institute (ANSI), are identified by the symbol (A) following the definition.
- Definitions reprinted from working documents, draft proposals, or draft international standards of ISO Technical Committee 97, Subcommittee 1 (Vocabulary) are identified by (T), indicating that final agreement has not yet been reached among its participating members.
- Definitions from *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 *IBM Dictionary of Computing*.
- Definitions that are specific to IBM products are so labeled, for example, “In Infoprint,” or “In DCE.”

This glossary uses the following cross-references:

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

Synonym for. This indicates that the term has the same meaning as a preferred term, which is defined in its proper place in the glossary.

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

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

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

Special Characters

- | **.profile file.** In AIX, a file that sets environment variables for all sessions for a given user. The user can override these values for a single session. Contrast with */etc/environment file*.
- | **/etc/environment file.** In AIX, a file that sets environment variables for all sessions for all users. Each user can override these values in his or her *.profile file*. Contrast with *.profile file*.

Numerics

3170 destination support system. The destination support system used by the IBM InfoColor® 70 to print jobs.

3170 physical printer. A physical printer representing an IBM InfoColor 70 printer device.

A

- | **ABAP.** Advanced Business Application Programming.
- | **Access Control List (ACL).** (1) In computer security, a collection of all access rights for one object. (2) In DCE, a list associated with each object in the namespace that specifies the access authorization level for each user or user group.
- | **ACIF.** AFP Conversion and Indexing Facility.

ACL. Access Control List.

actual destination. In Infoprint, an object that represents the output device that performs the printing or transmission function. See *email destination*, *fax destination*; see also *physical printer*, *printer device*; contrast with *logical destination*.

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

administrator. In Infoprint, the person who creates and manages one or more components of a printing system, such as servers and actual destinations. By default, Infoprint gives administrators authorization to

perform some Infoprint operations and to access certain information that is not available to the operators or job submitters.

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

Adobe PageMaker. A desktop publishing program that produces PostScript documents.

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

ADSM/6000. Advanced Distributed Storage Manager.

| **advanced Administration GUI.** In Infoprint, the
| standard interface used to perform administrator tasks
| for the advanced server option. See also *advanced*
| *Operations GUI*.

| **Advanced Business Application Programming**
| **(ABAP).** An SAP data stream. See also *Output Text*
| *Format (OTF)*.

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, AFPDS).** (1) 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. (2) 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.

| **advanced Operations GUI.** In Infoprint, the standard
| interface used to perform operator tasks for the
| advanced server option. See also *advanced*
| *Administration GUI*.

| **Advanced Scan client.** The PRPQ that provides IBM
| Infoprint Scan.

| **Advanced Security/Scalability.** A feature of Infoprint
| Manager for AIX that allows users to implement DCE
| 3.1 to maintain the security and scalability of their
| Infoprint Manager environment.

| **advanced server option.** The standard version of the
| Infoprint Manager server that allows one-to-one,
| one-to-many, many-to-one, or many-to-many mapping
| of logical and actual destinations and assigns jobs to
| printers through late binding. Contrast with *basic server*
| *option*.

AFCCU. Advanced Function Common Control Unit.

AFP. Advanced Function Presentation.

| **AFP Conversion and Indexing Facility (ACIF).** A
| component of MVS, OS/390, or z/OS™ that converts
| jobs to the AFP data stream.

AFP data stream. Advanced Function Presentation
data stream.

| **AFP Printer Driver for Windows.** An Infoprint
| Manager client that allows you to create a Windows
| printer that generates AFP output.

| **AFP upload.** A function of Infoprint Manager for AIX
| that enables AIX users to submit jobs in AFP format (or
| that can be converted to AFP format) to printers
| attached to an MVS, OS/390, or z/OS host.

| **AFPDS.** Advanced Function Presentation data stream.

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

AIX. Advanced Interactive Executive.

AIX-attached printer. (1) 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. (2) 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.

| **AIXwindows mode.** In AIX, a graphic display mode.
| Contrast with *ASCII mode*.

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*.

| **American National Standards Institute (ANSI).** An organization consisting of producers, consumers, and general interest groups, that establishes the procedures by which accredited organizations create and maintain voluntary industry standards in the United States. (A)

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. (1) The rendering of hard-edged objects so that they blend smoothly into the background. PhotoShop offers anti-aliasing when rasterizing an EPS file. (2) 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.

| **ANSI.** American National Standards Institute.

| **ANSI carriage control.** In line data, an ASCII or EBCDIC character prefixed to each line that positions the paper before the line is printed. Contrast with *machine carriage control*.

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 characters and graphic characters.

| **ASCII mode.** In AIX, a text-only display mode.
| Contrast with *AIXwindows mode*.

asynchronous. (1) Pertaining to two or more processes that do not depend upon the occurrence of specific events, such as common timing signals. (T) (2) In Infoprint, occurring without a regular or predictable time relationship to a specified action. Contrast with *synchronous*.

attachment type. The method by which a printer device is attached to the 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 map.** The conversion of Infoprint attributes
| into options for BSD printer commands.

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.

| **attributes file.** A file that contains a set of attributes
| and values to be used in processing jobs.

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.

| **autostart.** A facility that automatically starts a
| program when the system is started.

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. See *end sheet*, *separator sheet*, *start sheet*.

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, to back up and reprint pages in a job.

bar code. (1) A code representing characters by sets of parallel bars of varying thickness and separation that are read optically by transverse scanning. (2) 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.

Bar Code Object Content Architecture (BCOCA). An architected collection of constructs used to interchange and present bar code data.

basic Administration GUI. In Infoprint, the simplified interface used to perform administrator tasks for the basic server option. See also *basic Operations GUI*.

basic Operations GUI. In Infoprint, the simplified interface used to perform operator tasks for the basic server option. See also *basic Administration GUI*.

basic server option. A simplified version of the Infoprint Manager server that defaults to one-to-one mapping of logical and actual destinations and assigns jobs to printers through early binding. The basic server option is not available in Infoprint Manager for Windows. Contrast with *advanced server option*.

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. (1) The cover and materials that hold a book together. (2) The process of applying the binding to a book. (3) In Infoprint, assigning a job to an actual destination. See *early binding*, *late binding*. (4) 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. (1) In platemaking, an exposure. Burn is named because of the extremely bright ultraviolet lamps used to transfer images from film to plate. (2) In photography, to lengthen the final exposure time to increase the final density of print.

C

callback support. Synonym for *SAP callback support*.

carriage control. In line data, a character or binary value in each line that controls print spacing. See *ANSI carriage control*, *machine carriage control*.

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.

CE. IBM Customer Engineer.

cell. Synonym for *DCE cell*.

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

channel-attached printer. (1) A printer attached to an RS/6000 by cables, rather than through telecommunication lines. (2) In Infoprint, a PSF physical printer that represents a channel-attached printer device. See also *AIX-attached printer*, *direct-attached printer*, *TCP/IP-attached printer*, *upload-SNA-attached printer*, *upload-TCP/IP-attached printer*.

character set. A finite set of different characters that is complete for a given purpose. For example, the character set in ISO Standard 646, *7-bit Coded Character Set for Information Processing Interchange*. (T) See *graphic character set*; see also *font character set*.

check box. In graphical user interfaces, a square box with associated text that represents a choice. If multiple check boxes are present, more than one can be selected. A check mark (✓) appears in the box when the choice is selected. Contrast with *radio button*.

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*.

CLI. Command line interface.

client. (1) 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. When you install an Infoprint server on AIX, you install a client on the same system. You can also install clients on AIX systems where there is no server, on HP-UX and Sun Solaris systems, and on SAP systems running on either Windows or AIX. IBM Infoprint Submit, IBM Infoprint Submit Express, and the Print-on-Demand feature include workstation clients; and you can install IBM Infoprint Select clients on workstations. (2) Any program that sends requests to a server program on another system. Infoprint clients in this sense include the Infoprint Manager GUIs, Notifications client, AFP Printer Driver for Windows, and colorRipd.

CMY. Cyan, magenta, yellow.

CMYK. Cyan, magenta, yellow, black.

code page. A particular assignment of hexadecimal identifiers to graphic characters.

code page global identifier (CPGID). A unique code page identifier that can be expressed as either a two-byte binary or a five-byte decimal value.

coded font. A paired font 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 font character sets and code pages.

collator. In some printers, for example, the IBM InfoColor 70, a special-purpose hard drive disk array used to store RIPPed files and later transfer them to the LED print heads for imaging.

colon file. In AIX, a file that contains attributes that describe a printer or printer data stream.

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.

colorRipd. An Infoprint Manager for AIX client that manages color rasterized image processing for the InfoColor 70 and the Infoprint Color 100 printers.

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.

configuration model. Synonym for *destination configuration model*.

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. See also *gray scale*.

| **cover sheet.** A sheet transmitted at the beginning of a
| fax job.

| **CPGID.** Code page global identifier.

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. (1) All information (data and control commands) sent over a data link. (2) A continuous stream of data that has a defined format. (3) 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*.

| **DBCS.** Double-byte character set.

| **DBCS ASCII .** An encoding for Traditional Chinese,
| Japanese, and Korean characters in which each
| character is two bytes. Contrast with *Extended UNIX*
| *Code (EUC)*.

| **DBCS Font Downloader.** A feature of Infoprint
| Manager that allows users to download double-byte
| PostScript fonts from a Macintosh system to Infoprint
| Manager.

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.

| **DCF.** Destination control file.

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 destination configuration model.** A
| destination configuration model with a one-to-many
| relationship between a logical destination and two or
| more actual destinations. Job submission directly to an
| actual destination is permitted. Synonymous with
| *default model*. See also *pool destination configuration model*;
| contrast with *desktop destination configuration model*,
| *funnel destination configuration model*, and *hourglass*
| *destination configuration model*.

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 model.** Synonym for *default destination*
| *configuration model*.

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, to delete default objects, jobs,
| logical destinations, actual destinations, or queues from
| the server.

| **desktop destination configuration model.** A
| destination configuration model with a one-to-one
| relationship between a logical destination and an actual
| destination. Contrast with *default destination*
| *configuration model*, *funnel destination configuration model*,
| *hourglass destination configuration model*, and *pool*
| *destination configuration model*.

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 configuration model.** In Infoprint, the
| relationship among logical destinations, job- and
| document-attribute defaults, queues, and actual
| destinations. Synonymous with *configuration model*. See
| *default destination configuration model*, *desktop destination*
| *configuration model*, *funnel destination configuration model*,
| *hourglass destination configuration model*, and *pool*
| *destination configuration model*.

| **destination control file (DCF).** In MVS Download, a
| file that supplies default values for JCL parameters,
| maps JCL parameters to Infoprint Manager attributes,
| and sets global values for Infoprint Manager.

| **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 *3170 destination support*
| *system*, *AIX destination support system*, *BSD destination*
| *support system*, *email destination support system*, *fax*
| *destination support system*, *Infoprint 2000 destination*
| *support system*, *print optimizer destination support system*,
| *PSF destination support system*, and *SAPconnect*
| *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. (1) A printer device, attached
to an RS/6000 through the network or through a serial
or parallel port. (2) 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, 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 destination configuration model.** An
| hourglass destination configuration model with
| multiple queues, recommended for use in a distributed
| print environment.

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 Function (DPF).** A feature of PSF
| for OS/2® that enables users to submit AFP print jobs
| from host systems to PSF. Users migrating from PSF to
| Infoprint Manager should use MVS Download to
| replace DPF.

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.

| **DNS.** Domain Name Service.

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.

| **Domain Name Service (DNS).** A centralized service that converts hostnames to IP addresses.

| **double-byte character set (DBCS).** A set of characters in which each character is represented by 2 bytes. Languages such as Japanese, Chinese, and Korean, which contain more characters than can be represented by 256 code points, require double-byte character sets.

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. Values for printing with the IBM InfoColor 70 range as high as 600 dpi.

DPA. Document Printing Application.

dpi. Dots per inch.

| **DPF.** Distributed Print Function.

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. (1) Printing on both sides of the paper. Contrast with *simplex printing* (1). (2) 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*.

| **EBCDIC.** Extended binary-coded decimal interchange code. A coded character set of 256 8-bit characters.

| **edge stitch.** A type of document finishing in which printed sheets are stapled on one edge of the paper. Contrast with *saddle stitch*.

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.

| **emulator card.** An electronic circuit board that, with its associated software, enables a system or device to operate as if it were a different system or device.

en. In composition, exactly one-half an em.

| **enable.** In Infoprint, to make 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. Synonymous with *trailer page*. 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*.

| **Enterprise Resource Planning (ERP).** A group of IBM applications for creating and managing internal business processes.

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

| **eof.** End of file.

| **ERP.** Enterprise Resource Planning.

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.

| **EUC.** Extended UNIX Code.

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.

| **Extended UNIX Code (EUC).** An encoding for Traditional Chinese, Japanese, and Korean characters in which each character may be two, three, or four bytes. Contrast with *DBCS ASCII*.

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

F

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

fax destination support system. In Infoprint, the destination support system that supports fax destinations.

| **Fax Line.** A feature of Infoprint Manager for AIX that allows users to obtain lines for both the sending and receiving of faxes through Infoprint Manager.

| **FGID.** Font typeface global identifier.

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.

| **Files and Sockets Transport (FST).** The program that provides security in Infoprint installations that do not use DCE.

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. One size and one typeface in a particular type family (for example, 9-point Helvetica), including letters, numerals, punctuation marks, special characters, and ligatures. See also *coded font*.

font character set. A FOCA resource containing descriptive information, font metrics, and the digital representation of character shapes for a specified graphic character set.

Font Object Content Architecture (FOCA). An architected collection of constructs used to describe fonts and to interchange those font descriptions.

font typeface global identifier (FGID). A unique font identifier that can be expressed as either a two-byte binary or a five-byte decimal value. The FGID is used to identify a type style and the following characteristics: posture, weight, and width.

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. Synonymous with *formdef*.

formdef. Synonym for *form definition*.

forward space. In Infoprint, 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.

FST. Files and Sockets Transport.

FTP. File Transfer Protocol.

funnel desktop destination configuration model. A destination configuration model with a many-to-one relationship between two or more logical destinations and an actual destination. Contrast with *default destination configuration model*, *desktop destination configuration model*, *hourglass destination configuration model*, and *pool destination configuration model*.

G

gateway. A connection between two hosts or networks with different architectures.

GCR. Gray component replacement.

GCSGID. Graphic character set global identifier.

GIF. Graphics Interchange Format.

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.

global resource identifier (GRID). An eight-byte identifier that identifies a coded font resource. A GRID contains the following fields in the order shown:

- GCSGID of a minimum set of graphic characters required for presentation. It can be a character set that is associated with the code page, or with the font character set, or with both.
- CPGID of the associated code page.
- FGID of the associated font character set.
- Font width in 1440ths of an inch.

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.

graphic character set. A character set composed of graphic characters.

graphic character set global identifier (GCSGID). A unique graphic character set identifier that can be expressed as either a two-byte binary or a five-digit decimal value.

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.

| **Graphics Object Content Architecture (GOCA).** An
| architected collection of constructs used to interchange
| and present graphics data.

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. See also *control strip*.

| **gray-scale image data.** A pattern of bits that
| represents, for each pixel of an image, several levels of
| luminescence ranging from black to white; for example,
| an 8-bit byte associated with a pixel can represent
| black, white, and 254 shades of gray.

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).

| **header page.** Synonym for *start sheet*.

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

| **high-speed printer.** A printer capable of printing at
| least 117 pages per minute. See also *low-speed printer*,
| *medium-speed printer*, *workgroup printer*.

| **High-Speed Printer Engine Attachment.** A feature of
| Infoprint Manager that is required to install and use
| high-speed printers.

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.** In TCP/IP, the name given to a computer
| in a network.

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

| **hourglass desktop destination configuration model.**
| A destination configuration model with a
| many-to-many relationship between two or more
| logical destinations and two or more actual
| destinations. Contrast with *default destination*
| *configuration model*, *desktop destination configuration*

| *model*, *funnel destination configuration model*, and *pool*
| *destination configuration model*.

| **HP.** Hewlett-Packard Company.

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

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

I

| **IBM Customer Engineer (CE).** An IBM service
| representative who performs maintenance services for
| IBM hardware. See also *IBM Systems Engineering*
| *Operations Specialist (SE)*.

| **IBM Developer Kit for Windows, Java 2, Version**
| **1.3.1.** Synonym for *IBM Runtime Environment for*
| *Windows, Java 2, Version 1.3.1*.

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

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

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

| **IBM Infoprint Manager for AIX.** The version of IBM
| Infoprint Manager whose server is installed on an AIX
| system.

| **IBM Infoprint Manager for Windows.** The version of
| IBM Infoprint Manager whose server is installed on a
| Windows NT or Windows 2000 system.

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

| **IBM Infoprint Scan.** A client program for IBM
| Infoprint Manager for AIX that allows users to scan
| images as TIFF files to be included in jobs submitted by
| Infoprint Submit from a Windows or Macintosh
| workstation.

| **IBM Infoprint Select.** The component of IBM Infoprint Manager that allows users to submit jobs from an OS/2 or Windows workstation.

IBM Infoprint Submit. The component of IBM Infoprint Manager for AIX that allows users to submit jobs with a job ticket from a Windows or Macintosh workstation.

| **IBM Infoprint Submit Express.** The Java-based component of IBM Infoprint Manager for AIX that allows users to submit jobs with a job ticket from a Windows workstation.

| **IBM RISC System/6000® (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.

| **IBM Runtime Environment for Windows, Java 2, Version 1.3.1.** The Java runtime environment that is a prerequisite for many Infoprint components. Synonymous with *IBM Developer Kit for Windows, Java 2, Version 1.3.1.*

| **IBM Systems Engineering Operations Specialist (SE).** An IBM service representative who performs maintenance services for IBM software in the field. See also *IBM Customer Engineer (CE).*

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

| **iconv.** A command on both AIX and Windows that converts a file from one code page to another.

| **IEEE.** Institute of Electrical and Electronics Engineers.

image. Toned and untoned pels arranged in a pattern.

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

| **Image Object Content Architecture (IOCA).** An architected collection of constructs used to interchange and present images.

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

imposition. The process of arranging pages on a press sheet to ensure the correct order during final cutting, folding, and binding. Electronic imposition builds press sheets automatically during the RIP and outputs film formatted for immediate use in platemaking.

InfoPrint. (1) IBM Infoprint. (2) In IBM Infoprint software publications, IBM Infoprint Manager or any of its components.

| **Infoprint 2000 destination support system.** The destination support system that Infoprint uses to send jobs and communicate with Infoprint 2000 printers that do not use the AFCCU Channel Driver (non-IPDS printers).

| **Infoprint Manager Management Console.** In Infoprint Manager for Windows, an interface for performing administrative tasks. Synonymous with *Management Console.*

| **Infoprint Manager Notifications client.** A client that enables remote systems to receive messages from the Infoprint Manager server. Synonymous with *Notifications client.*

| **Infoprint XT™ for AIX.** A PRPQ that allows users of AIX OnDemand to gain the centralized benefits of Infoprint Manager for AIX, while retaining their current OnDemand interfaces. Infoprint XT for AIX includes a transform to convert the Xerox data stream to AFP.

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). (1) An all-points-addressable data stream that enables users to position text, images, and graphics at any defined point on a printed page. (2) Information that the host sends to IBM IPDS printers. This information generally contains basic formatting, error recovery, and character data and enables the printers to make decisions. (3) 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.

| **Internet Printing Protocol (IPP).** The subset of the Internet Protocol that applies to printing.

| **interoperating environment.** An environment in which two or more Infoprint Manager servers share the same namespace.

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).

| **IP Printway.** In MVS, OS/390, and z/OS, a program that transmits output data sets from the JES spool to printers in a TCP/IP network.

IPDS. Intelligent Printer Data Stream.

IPM. Infoprint Manager.

| **IPP.** Internet Printing Protocol.

ISO. International Organization for Standardization.

J

| **Japanese PostScript Fonts feature.** A feature of Infoprint Manager for AIX that allows Japanese users of Infoprint to print the Kanji double-byte fonts required by PostScript.

| **JCL.** Job Control Language.

| **JES.** Job Entry Subsystem.

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 may also include a job ticket. Synonymous with *job bundle* and *print job*.

job bundle. Synonym for *job*.

| **job class.** In MVS, OS/390, and z/OS, any one of a number of categories that can be defined by the print administrator.

| **Job Control Language (JCL).** In MVS, OS/390, and z/OS, a control language used to identify a job to the operating system and to describe the job's requirements.

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

| **Job Entry Subsystem (JES).** In MVS, OS/390, and z/OS, either JES2 or JES3. Both JES2 and JES3 are subsystems that receive jobs into the system, convert them to internal format, select them for processing, process their output, and purge them from the system.

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

| **Kanji.** The system of ideographic characters used to write Japanese.

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. (1) A name or symbol that identifies a parameter. (2) 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.

| **landscape.** The arrangement of text on a page so that
| it is oriented for normal reading when its width is
| greater than its length. Contrast with *portrait*.

laser (light amplification by stimulated emission of radiation). In IBM 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.

| **line data.** Data prepared for printing on a line printer.

| **line printer.** A device that prints a line of characters
| as a unit.

| **line printer daemon (LPD).** An AIX subsystem that
| allows jobs to be submitted from other operating
| systems to IBM Infoprint Manager for AIX.

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. (1) The human language and character set of information presented to a user. (2) In Infoprint, the language Infoprint uses when sending notification and error messages or displaying the Infoprint graphical user interfaces.

log. (1) A collection of messages or message segments added to a file for accounting or data collection purposes. (2) 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*.

| **Lotus Notes®.** A collaborative environment that
| provides electronic mail, calendaring, scheduling, and
| data management. Lotus Notes is an example of a
| program that can use Infoprint to print files.

| **low-speed printer.** A printer capable of printing 50 to
| 89 pages per minute. See also *high-speed printer*,
| *medium-speed printer*, *workgroup printer*.

| **Low-Speed Printer Engine Attachment.** A feature of
| Infoprint Manager that is required to install and use
| low-speed printers.

| **LPD.** Line printer daemon.

lpi. Lines per inch.

| **LPR.** Line printer.

LU. Logical unit.

| **LUM.** License use and management.

M

| **machine carriage control.** In line data, a binary value
| in each line that positions the paper after the line is
| printed. Contrast with *ANSI carriage control*.

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.

| **Management Console.** Synonym for *Infoprint Manager Management Console*.

| **management information base (MIB).** In SNMP, the specification of a collection of remote devices that are managed by SNMP.

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.

| **medium-speed printer.** A printer capable of printing 90 to 116 pages per minute. See also *high-speed printer*, *low-speed printer*, *workgroup printer*.

| **Medium-Speed Printer Engine Attachment.** A feature of Infoprint Manager that is required to install and use medium-speed printers.

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.

| **MIB.** Management information base.

MICR. Magnetic ink character recognition.

| **MIT.** Massachusetts Institute of Technology.

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

| **Mixed Object Document Content Architecture Presentation (MO:DCA-P).** The subset of MO:DCA that defines presentation documents.

| **MO:DCA.** Mixed Object Document Content Architecture.

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

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.

| **MVS Download.** A function of Infoprint Manager that enables users of PSF/MVS or PSF for OS/390 to submit jobs to Infoprint Manager. Infoprint Manager performs resource management. Contrast with *PSF Direct*.

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.

| **namespace server.** In an interoperating environment, the server where the namespace resides. Contrast with *non-namespace server*.

| **NBT.** NetBIOS over TCP/IP.

| **NetBIOS.** Network Basic Input/Output System.

| **Network Basic Input/Output System (NetBIOS).** An operating system interface for application programs used on personal computers in a token-ring network or LAN.

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.

| **Network Implementation and Support (NIS).** A centralized service that converts hostnames to IP addresses.

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

NFS. Network File System.

| **NIS.** Network implementation and support.

| **non-namespace server.** In an interoperating
| environment, a server that does not have its own
| namespace, but has permission to use the namespace
| that resides on the namespace server. Contrast with
| *namespace server*.

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. (1) The act of reporting the occurrence of events. (2) 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.

| **Notifications client.** Synonym for *Infoprint Manager Notifications client*.

| **NPM.** IBM Network Printer Manager.

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.

| **OMS.** Output Management System.

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).

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 file.** In MVS Download, a file that remains in the Windows file system after a job fails.

| **orphan logical destination.** In Infoprint, a logical destination that is not associated with an existing queue. Synonymous with *orphan logical printer*.

| **orphan logical printer.** Synonym for *orphan logical destination*

| **OS/390.** An IBM operating system that integrates the capabilities previously supplied by MVS and separate software products.

OSF. Open Software Foundation.

| **OTF.** Output Text Format.

| **Output Management System (OMS).** A program that is integrated with SAP R/3 to manage printing or other output. Infoprint Manager provides OMS support.

| **Output Text Format (OTF).** An SAP data stream. See also *Advanced Business Application Programming (ABAP)*.

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

P

PAC. Privilege Attribute Certificate.

| **page definition.** (1) A resource that contains the formatting controls for line data. (2) In Infoprint, a resource that defines the rules of transforming line data into composed pages and text controls. Synonymous with *pagedef*.

| **Page Printer Formatting Aid (PPFA).** An IBM program that enables users to create page definitions and form definitions.

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

| **pagedef.** Synonym for *page definition*.

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.

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.

| **passthrough.** 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, to temporarily halt the printing or transmission of jobs on actual destinations or the distribution of jobs from servers or queues.

| **PCI.** Program controlled interruption.

| **PCL.** Printer Command Language.

pdcrcls. 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. (1) Portable Document Format. (2) 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.

| **pel.** Picture element.

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*.

| **picture element (pel, pixel).** (1) In computer graphics, the smallest element of a display surface that can be independently assigned color and intensity. (T) (2) The area of the finest detail that can be reproduced effectively on the recording medium.

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*.

| **pixel.** Picture element.

| **PJL.** Printer Job Language.

PJTF. Portable Job Ticket Format.

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.

| **polling.** Interrogation of devices for such purposes as
| to avoid contention, to determine operational status, or
| to determine readiness to send or receive data. (A)

| **pool destination configuration model.** A destination
| configuration model with a one-to-many relationship
| between a logical destination and two or more actual
| destinations. See also *default destination configuration*
| *model*; contrast with *desktop destination configuration*
| *model*, *funnel destination configuration model*, and *hourglass*
| *destination configuration model*.

| **port.** A specific communications end point within a
| host. A port is identified by a port number.

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

Portable Job Ticket Format (PJTF). Adobe Portable
Job Ticket Format, used with Print Optimizer and
Impositioning for the Infoprint 4100.

**Portable Operating System Interface for Computer
Environments (POSIX).** An IEEE standard for
computer operating systems.

| **portrait.** The arrangement of text on a page so that it
| is oriented for normal reading when its length is
| greater than its width. Contrast with *landscape*.

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.

| **PPDS.** Page printer data stream.

| **PPFA.** Page Printer Formatting Aid.

| **Page Printer Formatting Aid (PPFA).** A feature of
| Infoprint Manager for AIX that enables users to create
| page definitions and form definitions.

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.

| **Presentation Text Object Content Architecture**
| **(PTOCA).** An architected collection of constructs used
| to interchange and present presentation text data.

| **primary server.** The first server installed in an
| Infoprint Manager configuration.

| **primary system.** The system where a primary server is
| installed.

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-on-Demand.** A feature of Infoprint Manager for
| AIX that includes the basic server option and support
| for variable data, imposition, the Infoprint Submit
| client, and the ditroff data stream.

| **print optimizer destination support system.** The
| destination support system that Infoprint uses to
| support imposition.

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

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

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

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

| **Printer Command Language (PCL).** Hewlett-Packard's
| standard page description language.

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*.

| **Printer Job Language (PJM).** A Hewlett-Packard page
| description language that provides greater control than
| PCL.

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)

program temporary fix (PTF). A temporary solution or bypass of a problem diagnosed by IBM as resulting from a defect in a current unaltered release of the program.

Programming Request for Price Quotation (PRPQ). A customer request for a price quotation on alterations or additions to the functional capabilities of system control programming or licensed programs.

promote. In Infoprint, 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.

PRPQ. Programming Request for Price Quotation.

PSF. Print Services Facility.

PSF destination support system. In Infoprint, the destination support system that communicates with PSF to print jobs.

PSF Direct. A function of Infoprint Manager that enables users of PSF for OS/390, PSF/MVS, PSF/VM, PSF/VSE, or PSF/400 to submit jobs to Infoprint Manager. The PSF host performs resource management. Contrast with *MVS Download*.

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

PTF. Program temporary fix.

PTOCA. Presentation Text Object Content Architecture.

pull. To install a program from a remote system to a local system. Contrast with *push*.

push. To install a program from a local system to a remote system. Contrast with *pull*.

Q

QuarkXpress. A desktop publishing system produced by Quark, Incorporated.

queue. (1) 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. (2) A line or list formed by items waiting for processing.

R

radio button. In graphical user interfaces, a circle with text beside it. Radio buttons are combined to show a user a fixed set of choices from which only one can be selected. The circle is partially filled when a choice is selected. Contrast with *check box*.

raster. A pattern of dots defined at varying data depths. Black and white images are one-bit (on or 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 may change based on other activity.

ready. (1) A state in which an object is ready and able to perform tasks. (2) 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. (1) The accuracy of printing on paper relative to the edges of the paper. (2) The accuracy of printing a single color (cyan, magenta, or yellow) relative to black. (3) The accuracy of printing on one side of a page relative to printing on the reverse side of the page.

release. In Infoprint, to remove a hold on a job so that it can be scheduled to print.

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, to reroute pending or retained jobs to a different logical destination than the one through which the job was originally submitted.

| **resume.** In Infoprint, 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. (1) Raster image processor. (2) To convert data to dot patterns using a raster image processor.

| **RISC.** Reduced Instruction Set Computer. See *IBM RISC System/6000*.

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.** IBM RISC System/6000.

| **running person.** The status indicator for SMIT in AIXwindows mode, in the shape of a human figure. The running person runs while a job is in process. If the job completes successfully, he stops and raises his arms. If the job fails, he falls down.

| **runtime environment.** In some programming languages, a logical grouping of one or more program objects that must be connected at application time to do some task. See *IBM Runtime Environment for Windows, Java 2, Version 1.3.1*.

S

| **saddle stitch.** A type of document finishing in which printed sheets are folded and stapled on the fold. Contrast with *edge stitch*.

| **SAP.** Systems, Applications, Products in Data Processing.

| **SAP callback support.** The facility of the SAP Print feature that allows SAP R/3 users to submit PCL and PostScript jobs to Infoprint Manager and to receive job and device status on their SAP systems. Synonymous with *callback support*.

| **SAP Print.** A feature of Infoprint Manager that allows SAP R/3 users to submit ABAP, OTF, PCL, and PostScript print jobs to Infoprint Manager, to receive job and device status, and to send and receive faxes. The SAP Print feature includes SAP callback support and SAPconnect support.

| **SAP R/3.** An integrated software product that provides basic business automation. Infoprint Manager combines with SAP R/3 to control printing and faxing.

| **SAPconnect destination support system.** The destination support system that Infoprint Manager for AIX uses to deliver incoming faxes to users of SAP R/3.

| **SAPconnect support.** The facility of the SAP Print feature that allows SAP R/3 users to fax out of SAP and receive faxes into SAP.

| **scalability.** The ability to expand an installation without replacing it.

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.

| **SCSI.** Small Computer Systems Interface.

| **SE.** IBM Systems Engineering Operations Specialist.

| **secondary server.** Any server in an Infoprint Manager configuration installed after the primary server.

| **secondary system.** The system where a secondary server is installed.

| **security group.** A group of users who have the same permissions to access the same objects.

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

server. (1) 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. See *primary server*, *secondary server*. (2) In TCP/IP, a system in a network that handles the requests of another system.

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

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

| **shared printer.** A printer that can receive jobs from more than one system.

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, 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.

| **Simple Network Management Protocol (SNMP).** The industry-standard protocol for managing heterogeneous networks.

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

simplex printing. (1) Printing on only one side of the paper. Contrast with *duplex printing (1)*. (2) 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)*.

| **smart-default.** To set actual destination attributes for an SNMP printer to the values returned in the standard MIB.

SMIT. System Management Interface Tool.

SNA. Systems Network Architecture.

| **SNMP.** Simple Network Management Protocol.

| **space.** In Infoprint, to move from one page in a job to another. See *backspace*, *forward space*.

| **splash screen.** A screen without controls that is displayed for a short time and disappears automatically. Splash screens are frequently used at the start of a program.

| **spool.** Auxiliary storage used as a buffer to reduce processing time when transferring data between peripheral equipment (for example, printers) and the processors of a computer. The term is derived from the expression "simultaneous peripheral operations online." (T)

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. Synonymous with *header page*. 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. (1) Any group of nodes that have a set of common characteristics, such as the same network ID. (2) 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. (1) A printer device attached to a computer through telecommunication lines using the TCP/IP protocol. (2) 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*.

terminating transform. A transform that processes data but does not submit it to print.

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

TIFF. Tagged Image File Format.

transform. In Infoprint, an object that performs data processing, for example, changing a print job from one data format to another. See *terminating transform*.

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*.

trailer page. Synonym for *end sheet*.

TRC. Table Reference Character.

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

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

U

UCR. Under color removal.

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

| **uniform resource indicator (URI).** In the Internet
| Protocol, a string of characters that identifies an
| abstract or physical resource.

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*.

| **user exit.** A point in an IBM-supplied program at
| which a user exit program may be given control.

| **user exit program.** A user-written program that
| receives control at predefined user exit points.

| **URI.** Uniform resource indicator.

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). (1) An IBM licensed product that manages the resources of a single computer so that multiple computing systems appear to exist. (2) 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.

VM. Virtual Machine.

VSE. Virtual Storage Extended.

W

| **web.** (1) A roll of paper used in web or rotary
| printing. (2) The World Wide Web.

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.

| **wildcard.** A special character such as an asterisk (*)
| that can be used to represent one or more characters.
| Any character or set of characters can replace a
| wildcard.

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.

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

| **wizard.** A program that guides a user through a
| specific task. The Infoprint Manager Administration
| GUI includes wizards for creating actual destinations.

| **workgroup printer.** A printer capable of printing up
| 49 pages per minute. See also *high-speed printer*,
| *low-speed printer*, *medium-speed printer*.

| **Workgroup Printer Attachment.** A feature of Infoprint
| Manager that is required to install and use workgroup
| printers.

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

| **World Wide Web.** The global, open-ended hypertext
| information system that runs on the Internet.

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.

Z

| **z/OS.** The IBM operating system that succeeds
| OS/390.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property rights may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785 U.S.A.

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Printing Systems Division
Department H7FE Building 003G
Information Development
PO Box 1900
Boulder CO 80301-9191 USA

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee. The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.
- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine readable documentation.

Trademarks

The following are trademarks or registered trademarks of International Business Machines Corporation:

Advanced Function Printing
AFP
AIX
AS/400
eNetwork
IBM
Infoprint
Intelligent Printer Data Stream
IPDS
Micro Channel
MVS
OS/2
OS/390
OS/400
Print Services Facility
S/390
System/370

The following are trademarks of other companies:

- Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.
- Microsoft, MS-DOS, Windows, Windows NT, Windows 2000, Windows ME, Microsoft Visual Basic, Microsoft Visual C++, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.
- Pentium is a registered trademark of Intel Corporation in the United States, other countries, or both.
- UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, and service names may be trademarks or service marks of others.

EuroReady

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

Index

A

- actual destinations
 - description 4
 - many to one logical destination
 - default configuration model 17
- Add Printer Wizard 32
- Adobe PostScript transform
 - supported on both Windows and AIX 9
- AFP data stream 13
- AFP resources, managing 27
- AFP Upload 26
- AIX
 - compared to Windows 8
 - features not available on Windows 9
- AS/400
 - printing from 23
- ASCII data stream 13
- attachment types
 - upload-SNA
 - supported only on AIX 10
 - upload-TCP/IP
 - supported only on AIX 10
- attributes
 - document 4
 - job 4
- auxiliary sheets
 - description 4

B

- binding
 - early 7
 - late 7
- black box scenario 25
- BSD destination support system (DSS)
 - supported on both Windows and AIX 9

C

- channel-attached printer attachment requirements 37
- command-line interface
 - Infoprint Select 32
 - supported on both Windows and AIX 9
- commands
 - lpr 23
 - LPR 23, 32
 - mount 26
 - pdcreate 28
 - pdpr 4, 32
- communications worksheet 47
- comparing platforms 8
- configuration options 47

D

- data streams
 - input 13
- DBCS ASCII data stream 13
- default destination configuration model 17

- destination configuration models 17
 - default 17
- Device-independent troff (ditroff) data stream 13
- disk space
 - required for client 35
- distributed printing scenario 25
- documents
 - attributes 4
 - description 4
- DPF (Distributed Print Function)
 - compared to other options 24
- DSS (destination support system)
 - BSD
 - supported on both Windows and AIX 9
 - PSF
 - supported on both Windows and AIX 9

E

- early binding 7
- EBCDIC data stream 13

F

- fonts
 - description 27
- form definitions
 - creating with PPFA 27
 - description 27
- FTP (file transfer protocol)
 - downloading print resources to Infoprint Manager 25

G

- glossary 53
- GUIs (graphical user interfaces)
 - Infoprint Manager Administration GUI
 - description 8
 - supported on both Windows and AIX 9
 - Infoprint Manager GUI
 - description 8
 - software prerequisites 42
 - supported on both Windows and AIX 9
 - Infoprint Manager Operations GUI
 - description 8
 - supported on both Windows and AIX 9

H

- hard disk space
 - required for client 35
- hardware prerequisites
 - for client 35
 - for communication across LAN 36
- host systems
 - printing from 23
- hot folder 33
- <http://www.ibm.com/printers> 14

I

- image
 - GIF 13
 - JPEG 13
 - TIFF 13
- Infoprint Manager
 - features
 - AIX only 9
 - common 9
 - Windows only 10
 - monitoring performance 6
 - sizing environment 5
- Infoprint Manager Administration GUI
 - description 8
 - supported on both Windows and AIX 9
- Infoprint Manager for AIX
 - introduction 1
- Infoprint Manager GUI
 - description 8
 - software prerequisites 42
 - supported on both Windows and AIX 9
- Infoprint Manager Management Console
 - supported only on Windows 10
- Infoprint Manager Notifications
 - supported on both Windows and AIX 9
- Infoprint Manager Operations GUI
 - description 8
 - supported on both Windows and AIX 9
- Infoprint Select
 - configuring 32
 - notification 32
 - printing with 32
 - software prerequisites 42
- Infoprint Server on z/OS
 - IP PrintWay component 23, 32
- Infoprint SMIT
 - introduction 8
- Infoprint Submit 32
- input data streams 13
- interfaces
 - command line
 - supported on both Windows and AIX 9
 - command-line interface
 - Infoprint Select 32
 - Infoprint Manager GUI
 - description 8
 - supported on both Windows and AIX 9
- IP PrintWay component
 - Infoprint Server on z/OS 23, 32
- IPP (Internet Print Protocol) Gateway
 - supported only on Windows 10

J

- jobs
 - attributes 4
 - description 4
 - submitting
 - from AS/400 23
 - from host systems 23
 - from LAN applications 32
 - from MVS 23
 - from OS/390 23
 - from OS/400 23
 - from VM 23
 - from VSE 23

- jobs (*continued*)
 - submitting (*continued*)
 - from z/OS 23
 - with Infoprint Select 32
 - validation 4

L

- LAN (local area network)
 - hardware prerequisites 36
- LAN and host printing scenario 25
- LAN applications
 - printing from 32
 - sharing printers 31
- late binding 7
- logical destinations
 - description 3
 - one to many actual destinations
 - default configuration model 17
- LPD utility 23, 32
- lpr command 23
- LPR command 23, 32

M

- managing AFP resources 27
- most recent information 14
- mount command 26
- MVS
 - printing from 23
- MVS Download
 - compared to other options 24
 - customization without programming supported only on Windows 10
 - distributed printing scenario 25
 - resource management 25
 - sharing printers 31
 - supported on both Windows and AIX 9

N

- notices 77
- notification
 - Infoprint Select 32

O

- optimizing print resources 1
- optional features
 - PPFA 27
- OS/390
 - printing from 23
- OS/400
 - printing from 23
- other printer attachment requirements 37
- overlays
 - description 27

P

- page definitions
 - creating with PPFA 27
 - description 27
- Page Printer Formatting Aid 27
- Page Printer Formatting Aid for Windows 9

- page segments
 - description 27
- PCL data stream 13
- PCL transform
 - supported on both Windows and AIX 9
- pdcreate command 28
- PDF data stream 13
- pdpr command 4, 32
- performance
 - improving 6
 - monitoring 6
- platforms
 - AIX 9
 - comparing 8
 - Windows 10
- PostScript data stream 13
- PostScript transform
 - supported on both Windows and AIX 9
- PPFA 9, 27
- PPML data stream 13
- preparing to migrate to Infoprint Manager 4.1 45
- prerequisites
 - hardware
 - for client 35
 - for communication across LAN 36
 - software
 - for client 42
 - for Infoprint Manager GUI 42
 - for Infoprint Manager Management Console 42
 - for Infoprint Select 42
- print resources
 - managing with MVS Download 25
 - optimizing 1
- printer attachment requirements
 - channel-attached printer requirements 37
 - other printer requirements 37
 - RS/6000 requirements 36
 - TCP/IP-attached printer requirements 36
- printer devices
 - number required 6
 - sharing 29
- printing
 - from AS/400 23
 - from host systems 23
 - from LAN applications 32
 - from MVS 23
 - from OS/390 23
 - from OS/400 23
 - from VM 23
 - from VSE 23
 - from z/OS 23
 - with Infoprint Select 32
- printing from host applications 31
- printing Infoprint jobs on the MVS host
 - using AFP Upload 26
- processor
 - required for client 35
- PSF destination support system (DSS)
 - supported on both Windows and AIX 9
- PSF Direct
 - black box scenario 25
 - compared to other options 24
 - sharing printers 31
 - supported on both Windows and AIX 9

Q

- queues
 - description 3

R

- RAM
 - required for client 35
- related publications 14
- resource-context objects
 - description 5, 28
- resources, print
 - managing with MVS Download 25
- restrictions
 - servers 7
- RS/6000 printer attachment requirements 36

S

- SAP data stream
 - ABAP & OTF 13
- scenarios
 - black box 25
 - distributed printing 25
 - printing from LAN and host 25
- servers
 - capacity 6
 - description 2
 - number required 5
 - restrictions 7
- sharing printers 29
 - communication link
 - IPDS printers 30
 - PostScript/PCL/PPDS printers 30
 - same print queue 30
- SNMP
 - supported on both Windows and AIX 9
- software invoice 47
- software prerequisites
 - for client 42
 - for Infoprint Manager GUI 42
 - for Infoprint Select 42
- submitting
 - to hot folder 33
 - to Infoprint Submit 32

T

- TCP/IP-attached printer attachment requirements 36
- terminating
 - transform 5
- TIFF 13
- transform
 - Configurable Transform Subsystem 5
 - terminating 5
- transforms
 - PCL
 - supported on both Windows and AIX 9
 - PostScript
 - supported on both Windows and AIX 9

U

- upload-SNA attachment
 - supported only on AIX 10

upload-TCP/IP attachment
supported only on AIX 10
utility
LPD 23, 32

V

validation
job 4
VM
printing from 23
VSE
printing from 23

W

web address
<http://www.ibm.com/printers> 14
Windows
compared to AIX 8
features not available on AIX 10
Windows gateway printer
supported only on Windows 10
wizards
Add Printer 32

Z

z/OS
printing from 23

Readers' Comments — We'd Like to Hear from You

Printing Systems Division
Infoprint Manager for AIX: Introduction and Planning Guide
Version 4 Release 1

Publication No. G544-5833-01

Overall, how satisfied are you with the information in this book?

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How satisfied are you that the information in this book is:

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Accurate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to find	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Well organized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable to your tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us how we can improve this book:

Thank you for your responses. May we contact you? Yes No

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

Name

Address

Company or Organization

Phone No.



Fold and Tape

Please do not staple

Fold and Tape



NO POSTAGE
NECESSARY
IF MAILED IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

IBM Corporation
Information Development
IBM Printing Systems
Department H7FE Building 004M
Boulder, CO 80301-9817



Fold and Tape

Please do not staple

Fold and Tape



Program Number: 5765-F68

Printed in U.S.A.

G544-5833-01

