RICOH | IBM

InfoPrint ProcessDirector for AIX

Planning and Installation

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InfoPrint Solutions Company

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Note:

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

Third edition (March 2008)

This edition applies to InfoPrint ProcessDirector for AIX, Version 1 Release 3 Modification 1 (Program Number 5765-G74) with PTF US00104, and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces G550-1045-01.

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Contents

About this publication

This publication provides planning and installation information about the InfoPrint® ProcessDirector for AIX®, Version 1 Release 3.1 licensed program (Program Number 5765-G74) with PTF US00104. InfoPrint ProcessDirector runs on an AIX server and is accessed from a Web-based user interface. Additional secondary servers can run on AIX, Linux®, and Microsoft® Windows servers.

Who should read this publication

This publication is for system administrators who need to plan for and install InfoPrint ProcessDirector.

Related information

For information about InfoPrint products, see these Web pages:

http://www.infoprint.com
http://www.infoprint.com/infocenter

For information about using InfoPrint ProcessDirector, see the information center and the online help, which you can access from the Web-based user interface.

For information about products used with InfoPrint ProcessDirector, see these publications:

- *IBM AFP Fonts: Font Summary for AFP Font Collection*, S544-5633
- *IBM Infoprint Fonts: Font Summary*, G544-5846
- *InfoPrint Manager for AIX: Getting Started*, G544-5817
- *InfoPrint Manager for AIX: Introduction and Planning*, G544-5833
- *InfoPrint Manager: PSF and Server Messages*, G550-1053
- *InfoPrint Manager: Reference*, S550-1052
- *InfoPrint Transform Manager for Linux: Installation and User's Guide*, G550-1048
- *InfoPrint Transform Manager for Linux: afp2pdf Transform Installation and User's Guide*, G550-0538
- *InfoPrint XT for AIX: Installation and User's Guide*, GLD0-0024
- *InfoPrint XT for Windows: Installation and User's Guide*, GLD0-0025
- *Print Services Facility for z/OS: AFP Conversion and Indexing Facility User's Guide*, S550-0436
- *Print Services Facility for z/OS: AFP Download Plus*, S550-0433
- *Print Services Facility for z/OS: Download for z/OS*, S550-0429

Chapter 1. Overview of InfoPrint ProcessDirector

InfoPrint ProcessDirector is a product that lets you manage all aspects of your printing processes from a comprehensive Web-based user interface. InfoPrint ProcessDirector supports job submission from z/OS® host systems using Download for z/OS and AFP™ Download Plus and from other systems using file copying methods. You can copy or move jobs into directories that you specify (*hot folders*), and you can configure InfoPrint ProcessDirector so that it continually monitors the directories and automatically processes jobs as they arrive. You can also submit jobs from any system that uses the line printer daemon (LPD) protocol for file transmission.

InfoPrint ProcessDirector incorporates IBM® DB2® technology for database management. The extensive database that InfoPrint ProcessDirector uses provides detailed audit information about your printing workload and tasks.

You can access InfoPrint ProcessDirector from a supported Web browser on the Microsoft® Windows, AIX, and Linux workstations in your network. You do not need to install InfoPrint ProcessDirector on the workstations that you use to access the user interface; you only need to install InfoPrint ProcessDirector on the server that is managing your workflow.

Components

InfoPrint ProcessDirector is made up of these components:

InfoPrint ProcessDirector server

The InfoPrint ProcessDirector server manages all job activities, including input devices that create the jobs and printers that print the jobs. The server also processes jobs through a series of steps, some of which include other programs. It controls both the flow of jobs and the IBM DB2 tables that store system information.

The InfoPrint ProcessDirector server is installed on a pSeries® machine with the AIX operating system. InfoPrint ProcessDirector can support more than one server; that is, a primary server and a secondary server.

Secondary servers can be defined with the primary server on the same system, or installed on a separate AIX, Linux, or Windows system. Secondary servers on all the platforms can be used to do additional or special types of processing. A secondary AIX or Linux server can be used for processing steps and for managing printers or input devices. A secondary Windows server can be used for processing steps.

The InfoPrint ProcessDirector server contains these programs:

Print Services Facility™

Print Services Facility (PSF) is a print-driver program that manages and controls data transmitted to Advanced Function Presentation™ (AFP) printers that are TCP/IP-attached. The PSF program is installed on the same machine as the primary InfoPrint ProcessDirector server. It is also installed on secondary AIX or Linux servers, but not on Windows servers.

DB2 IBM DB2 tables contain InfoPrint ProcessDirector properties and their corresponding values. The DB2 program supplied with the

InfoPrint ProcessDirector product is a special version of DB2 that you must install before you install the InfoPrint ProcessDirector program; you cannot use any other version of DB2 with InfoPrint ProcessDirector. In addition, you cannot use the InfoPrint ProcessDirector version of DB2 for any other purpose.

The DB2 program is installed on the same machine as the primary InfoPrint ProcessDirector server; it is not installed on secondary servers.

InfoPrint ProcessDirector user interface

The InfoPrint ProcessDirector user interface is a Web-based interface that lets you manage the printing process. Users can access the user interface from a supported Web browser on a Windows, AIX, or Linux workstation as long as they have an InfoPrint ProcessDirector user ID. The workstation must have one of these Web browsers installed:

AIX   Mozilla

Linux SLES 9.0
    Mozilla

Linux SLES 10.0
    Mozilla Firefox

Windows
    Microsoft Internet Explorer, Mozilla, or Mozilla Firefox

The user interface program is installed on the same machine as the primary InfoPrint ProcessDirector server.

The user interface contains field-level help and an information center for InfoPrint ProcessDirector. The information center displays administrative and operational topics that help users learn about the InfoPrint ProcessDirector product. It also includes procedures that describe how to use the product.

The user interface also has a Web-based file viewer that uses the Adobe® Acrobat Reader to display AFP files so you can select pages to reprint.

InfoPrint ProcessDirector features

You can add features to the InfoPrint ProcessDirector base product. The features are:

Table 1. Features for InfoPrint ProcessDirector

Description	One-time charge feature number	CD-ROM medium
Secondary server	0002	5849
Low-speed printer engine	0003	5839
Medium-speed printer engine	0004	5829
High-speed printer engine	0005	5819

InfoPrint ProcessDirector Extensions

The modular design of InfoPrint ProcessDirector lets you add Extensions to the base product so that you can add product functions as your business needs change.

InfoPrint ProcessDirector Extensions are customizable software components that you can purchase from your InfoPrint Solutions Company representative. The representative installs the Extensions on the existing InfoPrint ProcessDirector primary server. The Extensions are integrated seamlessly into the user interface.

Some examples of InfoPrint ProcessDirector Extensions and the functions they provide are:

- **AFP Editor**

  The AFP Editor Extension lets you create bar codes and hide areas in AFP files. You can create bar codes that contain index values, job properties, and static text. For example, if the ZIP codes in an AFP file are index values, you can create bar codes that contain the ZIP codes. You can hide areas in AFP files so that no one can see the data in the hidden areas and so that the data does not print. For example, you can hide areas that contain existing bar codes that you want to replace.

  The AFP Editor supports these types of bar codes:
  - Code 39
  - DataMatrix
  - Interleaved 2-of-5
  - PDF417
  - US Postnet
  - USPS Four-State (Intelligent Mail Barcode)

- **AFP Indexer**

  The AFP Indexer Extension lets you create page groups and indexes in AFP files. When you view an AFP print file that contains page groups and indexes in InfoPrint ProcessDirector, you can navigate in the file to find pages containing specific index values. You can also use the indexing provided by AFP Indexer to reprint all the pages in one or more page groups.

- **Reports**

  The Reports Extension lets InfoPrint ProcessDirector collect data about job events, user actions, and printer activity. Then, you can generate reports based on the data. You can use the reports for capacity planning, production efficiency measurement and optimization, and problem determination.

- **Service Level Agreement (SLA)**

  The Service Level Agreement Extension lets you manage your progress towards meeting your performance objectives. If you have service level agreements in place with your customers, this Extension can help you make sure that their print jobs are on schedule to be completed on time.

- **Document Pool**

  The Document Pool Extension expands the concept of a print workflow beyond the control and tracking of print data files to encompass the control and tracking of individual documents in a print file. For example, you can separate an input file into individual documents and then assemble the documents into a new print file with a new sorting order; or you can commingle the documents in multiple jobs into a different combination of jobs. This Extension lets you manage the workflow of individual documents and groups of documents more precisely so you can optimize efficiency and reduce printing costs.

Compatible products

As an option, you can use these products with InfoPrint ProcessDirector:

AFP Download Plus
AFP Download Plus is a separately ordered feature of Print Services
Facility for z/OS (IBM Program Number 5655-M32) that transforms line
data to Mixed Object Document Content Architecture™ for Presentation
(MO:DCA-P) data and then transmits the print job with all required
resources to InfoPrint ProcessDirector.

Download for z/OS
Download for z/OS is a separately ordered feature of PSF for z/OS (IBM
Program Number 5655-M32) and is used to submit jobs to InfoPrint
ProcessDirector. Download for z/OS automatically transmits output across
the TCP/IP network from the host system to InfoPrint ProcessDirector for
printing or archiving.

InfoPrint Manager for AIX
InfoPrint Manager for AIX (Program Number 5765-F68) is a print server
that handles the scheduling, archiving, retrieving, and assembly of a print
job and its related resource files.

InfoPrint Transform Manager for Linux
InfoPrint Transform Manager for Linux (Program Number 5639-P51)
receives print jobs from InfoPrint ProcessDirector, transforms them to AFP,
and returns them to InfoPrint ProcessDirector for printing.

If you purchase the InfoPrint Transform Manager for Linux: afp2pdf
Transform i-listed PRPQ (Program Number 5799-TWL) with InfoPrint
Transform Manager, you can use the afp2pdf transform to convert Mixed
Object Document Content Architecture (MO:DCA-P) documents, also called
AFP documents, into Adobe Portable Document Format (PDF) documents.

InfoPrint XT™ for AIX
InfoPrint XT for AIX (Program Number 5799-GTF) transforms Xerox
metacode and line conditioned data stream (LCDS) jobs to AFP.

InfoPrint XT for Windows
InfoPrint XT for Windows (Program Number 5799-RZA) transforms Xerox
metacode and line conditioned data stream (LCDS) jobs to AFP.

Infoprint Fonts for Multiplatforms
Infoprint Fonts for Multiplatforms (IBM Program Number 5648-E77)
contains AFP outline fonts and TrueType and OpenType fonts.

AFP Font Collection
AFP Font Collection (IBM Program Number 5648-B45) contains a wide
selection of core interchange outline and raster AFP fonts.

Supported printers

InfoPrint ProcessDirector supports these printer models:
- InfoPrint 2090ES
- InfoPrint 2105ES
- InfoPrint 2190
- InfoPrint 2210
- InfoPrint 2235
- InfoPrint 4000
- InfoPrint 4100
- InfoPrint 5000

System configurations

You can install InfoPrint ProcessDirector with various system configurations, depending on whether you use secondary servers. The hardware configurations can include:

- Primary server
- Primary server with one or more secondary servers on the same system or on different systems
- Primary server with one or more secondary AIX, Linux, or Windows servers

Figure 1 shows a configuration with a primary server, a secondary Linux server on a separate system, a secondary AIX server, and a secondary Windows server. It also shows InfoPrint ProcessDirector components and the optional products you might use with InfoPrint ProcessDirector, including Download for z/OS, AFP Download Plus, InfoPrint Transform Manager for Linux, and InfoPrint Manager for AIX.
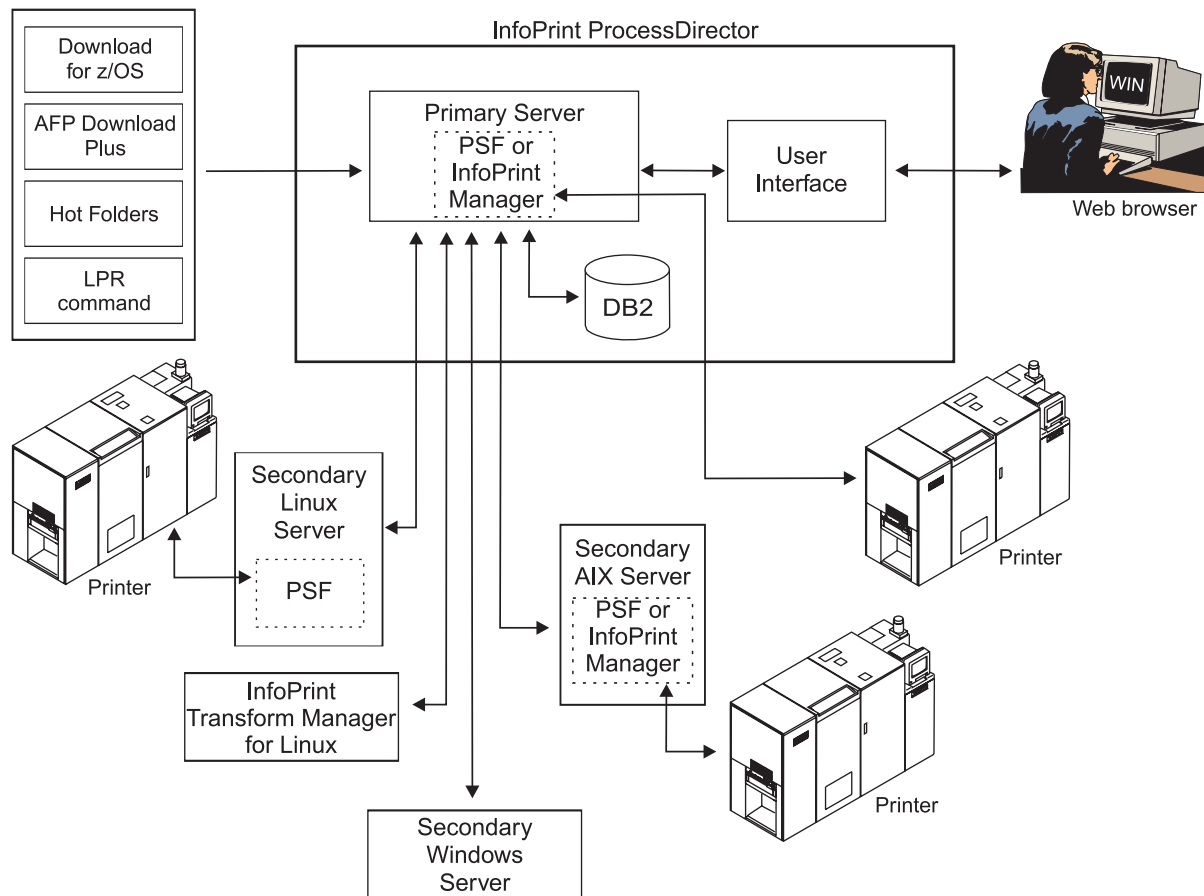
Figure 1. Example of an InfoPrint ProcessDirector system configuration

InfoPrint ProcessDirector publications

The InfoPrint ProcessDirector publications CD-ROM includes the InfoPrint ProcessDirector publications in several languages. You can access the CD on AIX or Windows, but not on Linux.

The publications are:

- *InfoPrint ProcessDirector for AIX: Planning and Installation* (this book) in PDF format.
- The InfoPrint ProcessDirector information center. The information center is installed as online help when you install InfoPrint ProcessDirector. You can read the copy on the CD-ROM before installation.
- The InfoPrint ProcessDirector readme file (readme.txt), which tells you how to access the other publications.
- If there is no download Web page for a release of InfoPrint ProcessDirector, the release notes are included on the publications CD-ROM. If there is a download Web page, the release notes are there. The release notes are available only in English.

Accessing the publications CD-ROM on AIX

To access the InfoPrint ProcessDirector publications CD on AIX:

1. Make sure that the cdrom daemon (**cdromd**) is running. Enter:

   ```
   ps -ef | grep cdromd
   ```

   If there are no daemon sessions running, enter:

   ```
   cdromd
   ```

2. Insert the CD in the CD-ROM drive. The CD is mounted automatically.
3. Navigate to the CD-ROM drive (/cdrom/cd0).
4. To launch the InfoPrint ProcessDirector information center, open readme.txt and follow the instructions.

Accessing the publications CD-ROM on Windows

To access the InfoPrint ProcessDirector publications CD on Windows:

1. Insert the CD in the CD-ROM drive. If the Windows system is configured to autorun CDs, Windows Explorer opens automatically to show the contents of the CD.
2. If Windows Explorer does not start automatically, open it and navigate to the CD-ROM drive.
3. To launch the InfoPrint ProcessDirector information center, open readme.txt and follow the instructions.

Chapter 2. Planning for installation

Before you can install InfoPrint ProcessDirector, you must do these planning tasks:

- Obtain required hardware.
- Determine your file system setup.
- Install required software.
- Install optional software.

You can use the checklist in Table 19 on page 55 to help you keep track of the planning tasks you have completed.

Hardware requirements

The system hardware requirements for InfoPrint ProcessDirector are:

- One or more 1.9 GHz or faster RISC processors
- 200 GB free hard-drive space for the primary server
- 200 GB free hard-drive space for each Linux or AIX secondary server
- 150 MB free hard-drive space for each Windows secondary server
- CD-ROM drive
- Minimum of 4 GB RAM for the primary server
- Minimum of 1 GB RAM for each secondary server
- Minimum of 1024 × 768 display resolution

    Note: A higher display resolution, 1280 × 1024 or greater, is recommended if you have unique layout requirements; for example, you need to display a larger number of printers or input devices in the user interface.

The performance of InfoPrint ProcessDirector and its attached printers depends on the availability and efficiency of memory, processors, disk space, and network resources in the system configuration. Performance also depends on the content of the print data streams being processed and the overall load on the system. For example, complex print jobs, such as those containing images or bar codes, require more resources than those containing plain text. For help determining which hardware configuration meets your print requirements, contact your InfoPrint Solutions Company representative.

Primary server

The hardware required to install the primary InfoPrint ProcessDirector server is a pSeries system that runs this operating system: AIX 5L™ Version 5.3, Technology Level 5, Service Pack 4 or later.

Secondary servers

You can install InfoPrint ProcessDirector on AIX, Linux, or Windows systems that have a minimum of 1 GB RAM:

- AIX secondary servers require a pSeries system that runs AIX 5L Version 5.3, Technology Level 5, Service Pack 4 or later.

- Linux secondary servers require an xSeries® system with SUSE Linux Enterprise Server (SLES) 9.0 with Service Pack 3 (SP3) for x86 or SLES 10.0 with Service Pack 1 (SP1) for x86.
- Windows secondary servers require an xSeries system running one of these operating systems: Windows XP Professional with Service Pack 2 or later, or Windows 2003 Server with Service Pack 1 or later. In addition, the Windows system must have Microsoft Windows Services for UNIX (SFU) Version 3.5 or later.

Planning for file systems

You can set up your file system as partitions or as a mounted file system from other storage units.

- On AIX primary or secondary servers, you need to set up file systems and mount the file systems on your system before you install InfoPrint ProcessDirector.
- On Linux secondary servers:
  - A single partition is the simplest file system setup. The InfoPrint ProcessDirector installer can create file systems in a single partition automatically.
  - Multiple partitions let the system continue functioning when it runs out of space in one partition. If you want to set up file systems in multiple partitions, you need to create the file systems and mount the file systems on your system before you install InfoPrint ProcessDirector.
  - When setting up partitions of the Linux system for InfoPrint ProcessDirector, do not use Logical Volume Manager (LVM). Use only Hardware RAID or separate partitions. Hardware RAID 0 provides the best performance.
- On Windows secondary servers, you do not have to set up file systems before installation.

When you determine the size and location of file systems, consider these factors:
- Storage and backup needs
- Failure recovery

Primary server file systems

You must create the file systems listed in Table 2 before you install InfoPrint ProcessDirector.

Table 2. File systems to create for a primary InfoPrint ProcessDirector AIX server

File system	Recommended size	Minimum size	Description
/aiw	80+ GB	20 GB	File system for InfoPrint ProcessDirector print jobs, resources, backup files, and trace files. This file system is shared by the secondary servers as a mounted file system.
/aiw/aiw1/db2	20 GB	10 GB	File system for DB2 tables.
/aiw/aiw1/db2_logs	2 GB	2 GB	File system for DB2 logs.
/var/aiw	5 GB	5 GB	File system for debug information from InfoPrint ProcessDirector.

Table 3 shows the file systems that you must create if InfoPrint Manager for AIX is not installed on the same server. If InfoPrint Manager for AIX is already installed, these file systems have been created. Increase their size if necessary to accommodate both products.

Table 3. File systems that InfoPrint Manager for AIX also uses

File system	Recommended size	Minimum size	Description
/var/psf	5 GB	5 GB	File system for PSF configuration and temporary files.
/var/psf/segments	45 GB	10 GB	File system used to improve performance. This file system must be bigger than your biggest job. It requires enough space to store data for concurrent jobs on multiple printers. The recommended minimum size is 45 GB for five printers. Increase the size by 10 GB for each additional printer.

Table 4 shows the file systems that you create when you install the AIX operating system. You might need to increase the size of these file systems before you install InfoPrint ProcessDirector.

Table 4. Existing file systems that the primary InfoPrint ProcessDirector AIX server uses

File system	Recommended size	Minimum size	Description
/var/spool/lpd	Varies	Set as an operating system default	File system used to spool jobs received by LPD protocol. This file system must be large enough to hold all of the print files that you receive at one time with the LPD protocol.
/opt	1.2 GB free space	1.2 GB free space	File system for InfoPrint ProcessDirector code.
/tmp	250 MB free space	250 MB free space	Temporary space used by the InfoPrint ProcessDirector installation program.

For the file systems that InfoPrint ProcessDirector manages, ownership and permission must be set as shown in Table 5.

Table 5. Ownership and permissions for AIX primary server file systems

File system	Owner	Group	Permissions
/var/aiw	root	system	777 - drwxrwxrwx
/var/psf (See **Note 1**.)	root	printq	2775 - drwxrwsr-x
/var/psf/segments (See **Note 1**.)	root	printq	2777 - drwxrwsrwx
/aiw/aiw1/db2 (See **Note 2**.)	root	system	755 - drwxr-xr-x
/aiw/aiw1/db2_logs (See **Note 2**.)	root	system	755 - drwxr-xr-x
/aiw	root	system	755 - drwxr-xr-x

Table 5. Ownership and permissions for AIX primary server file systems (continued)

File system	Owner	Group	Permissions
Notes:			
1. If InfoPrint Manager for AIX is already installed, do not change any settings for this file system.			
2. The InfoPrint ProcessDirector installation program changes the ownership to **aiw1** and group to **aiwgrp1** after it creates the **aiw1** user and the **aiwgrp1** group.			

AIX secondary server file systems

Table 6 shows the file system that you must create for an AIX secondary server.

Table 6. File system to create for a secondary InfoPrint ProcessDirector AIX server

File system	Recommended size	Minimum size	Description
/var/aiw	5 GB	5 GB	File system for debug information from InfoPrint ProcessDirector.

Table 7 shows the file systems that you must create if InfoPrint Manager for AIX is not installed on the secondary server. If InfoPrint Manager for AIX is already installed, these file systems have been created. Increase their size if necessary to accommodate both products.

Table 7. File systems that InfoPrint Manager for AIX also uses

File system	Recommended size	Minimum size	Description
/var/psf	5 GB	5 GB	File system for PSF configuration and temporary files.
/var/psf/segments	45 GB	10 GB	File system used to improve performance. This file system must be bigger than your biggest job. It requires enough space to store data for concurrent jobs on multiple printers. The recommended minimum size is 45 GB for five printers. Increase the size by 10 GB for each additional printer.

Table 8 shows the file systems that you create when you install the AIX operating system. You might need to increase the size of these file systems before you install InfoPrint ProcessDirector.

Table 8. Existing file systems that the secondary InfoPrint ProcessDirector AIX server uses

File system	Recommended size	Minimum size	Description
/var/spool/lpd	Varies	Set as an operating system default	File system used to spool jobs received by LPD protocol. This file system must be large enough to hold all of the print files that you receive at one time with the LPD protocol.
/opt	1.2 GB free space	1.2 GB free space	File system for InfoPrint ProcessDirector code.
/tmp	250 MB free space	250 MB free space	Temporary space used by the InfoPrint ProcessDirector installation program.

For the file systems that InfoPrint ProcessDirector manages, ownership and permission must be set as shown in Table 9.

Table 9. Ownership and permissions for AIX secondary server file systems

File system	Owner	Group	Permissions
/var/aiw	root	system	777 - drwxrwxrwx
/var/psf (See **Note**.)	root	printq	2775 - drwxrwsr-x
/var/psf/segments (See **Note**.)	root	printq	2777 - drwxrwsrwx
Note: If InfoPrint Manager for AIX is installed on the secondary server, do not change any settings for this file system.			

Linux secondary server file systems

You can let the InfoPrint ProcessDirector installer create the file systems listed in Table 10, or you can create them before you install InfoPrint ProcessDirector. If you want to use multiple partitions, you must create the file systems manually.

Table 10. File systems for a secondary InfoPrint ProcessDirector Linux server

File system	Recommended size	Minimum size	Description
/var/psf	50 GB	15 GB	File system for PSF files. This file system must be bigger than your biggest job. It requires enough space to store data for concurrent jobs on multiple printers. The recommended size is 45 GB for five printers. Increase the size by 10 GB for each additional printer.
/var/aiw	5 GB	5 GB	File system for debug information from InfoPrint ProcessDirector.

For the file systems that InfoPrint ProcessDirector manages, ownership and permission must be set as shown in Table 11. If the InfoPrint ProcessDirector installer creates the file systems, it sets the correct ownership and permissions automatically.

Table 11. Ownership and permissions for Linux secondary server file systems

File system	Owner	Group	Permissions
/var/aiw	root	sys	777 - drwxrwxrwx
/var/psf	root	sys	2775 - drwxrwsr-x

Installing required software

InfoPrint ProcessDirector requires that the operating system you install supports running 32-bit applications. You can install this level of the operating system, depending on the hardware it is installed on:

pSeries system (for AIX secondary):
AIX 5L Version 5.3, Technology Level 5, Service Pack 4 or later

xSeries system (for Linux secondary):
　　One of these:
- SUSE Linux Enterprise Server (SLES) 9.0 with Service Pack 3 for x86
- SUSE Linux Enterprise Server (SLES) 10.0 with Service Pack 1 for x86

xSeries system (for Windows secondary):
　　One of these:
- Windows XP Professional with Service Pack 2 or later
- Windows 2003 Server with Service Pack 1 or later

Note: To run the Windows secondary server, you must install Windows Services for UNIX (SFU) Version 3.5 or later. SFU includes all the facilities needed to mount and export network file systems and to map user names.

Installing the AIX operating system

To install the AIX operating system:

1. See the AIX documentation to install AIX 5L Version 5.3, Technology Level 5, Service Pack 4 or later. Make sure that these components are installed:
   - **Required on both primary and secondary servers:**
     - Perl interpreter (Perl.rte 5.8.2.50).
     - A UTF-8 language environment: EN_US, IT_IT, ES_ES, JA_JP, FR_FR, or DE_DE. Use `smit lang` to add a language environment.
     - The Java™ runtime environment installed on the server must be 1.4 or later.
   - **Required on primary server only:** If you plan to install Windows secondary servers, you must install the Network Information Service (NIS) server 5.3.0.50 on the AIX primary server.
   - **Required on primary server, optional on secondary servers:**
     - Adobe Acrobat 7.0 with plug-in for Mozilla
     - Mozilla 1.7.13
2. Run these commands and look for the expected results to verify that you have all the prerequisites installed:

Table 12. AIX commands and expected results

Command	Expected result
`cd /usr/lpp/Adobe` `ls -l`	Adobe Acrobat 7.0
`lslpp -l all | grep Mozilla`	Mozilla 1.7.13
`lslpp -l all | grep perl`	Perl.rte 5.8.2.50
`locale -a`	EN_US, IT_IT, ES_ES, JA_JP, FR_FR, or DE_DE
`java -version`	JRE 1.4

3. Create partitions and file systems. See "Planning for file systems" on page 8.
4. If your system has 4 GB of memory, set the paging space to 5440 MB. If your system has other than 4 GB of memory, use this formula to determine the amount of paging space to set: total paging space = 512 MB + (memory size - 256 MB) * 1.25.
   - To check your available memory, use the **vmstat (mem=)** command.
   - To check your paging space, use the **lsps -a** command.

5. Verify date, time, and time zone settings through System Management Interface Tool (SMIT) and correct if necessary:

   Click **System Environments** → **Change/show date and time**.

6. Set up networking based on system networking information. InfoPrint ProcessDirector requires access to a Domain Name System (DNS) server. The DNS server must have correct entries for the host name and IP address of each InfoPrint ProcessDirector primary and secondary server on the network.

   Important: If you change the host name of the primary server after InfoPrint ProcessDirector is installed, you must uninstall and then reinstall InfoPrint ProcessDirector.

7. Verify network connectivity:

   a. From the system where you will access the InfoPrint ProcessDirector user interface, use both the host name and the IP address to ping the primary InfoPrint ProcessDirector server.

   b. From the secondary server (if any), ping the primary InfoPrint ProcessDirector server.

   c. From the primary server, ping the secondary server (if any).

   d. Contact the network administrator if you are not successful with any of these verifications.

8. For optimum performance, your network administrator might recommend speed, duplexing, and autonegotiation settings for the Ethernet card. To display and change these settings:

   a. Log in as the root user.

   b. Enter `lsattr -E -l ent0 -a media_speed` to display the value of the **media_speed** attribute.

   c. If necessary, use the **chdev** command to change the value. For example, this command sets full-duplex mode at a speed of 100 Mb per second with autonegotiation off:

      ```
      chdev -P -l ent0 -a media_speed=100_Full_Duplex
      ```

      This command sets autonegotiation on:

      ```
      chdev -P -l ent0 -a media_speed=Auto_Negotiation
      ```

Installing the SLES 9.0 operating system

1. See the SLES documentation to install SLES 9.0 with Service Pack 3 for x86. Select 32-bit mode, even if your hardware supports 64-bit mode as well. Make sure that these components are installed:

   - **Required:**
     - libredcarpet-python 2.0.2
     - Japanese installations only:
       - kochi-substitute Version 20030809 or later (font substitutes for Japanese Kochi TrueType fonts)
       - xfntjp Version 20020904 (Japanese fixed fonts for X11)
     - The Java runtime environment installed on the machine must be the IBM Runtime Environment for Linux Java 2 Technology Edition. This version (IBMJAVA2-JRE) is contained in the SLES distribution that is a prerequisite for InfoPrint ProcessDirector; however, multiple versions of Java are included on the SLES compact disks, so be sure you pick this one.

     Note: The latest levels of some of the required components are only available with Service Pack 3 (SP3).

- **Optional:**
  - Adobe Acrobat Reader 7 PDF viewer
  - Mozilla 1.7.13 Web browser

2. Create Linux partitions and file systems. See "Planning for file systems" on page 8 for recommendations and considerations.

3. Run these commands and look for the expected results to verify that you installed SLES correctly:

Table 13. SLES commands and expected results

Command	Expected result

`rpm -qa	grep suse`	`susehelp_en-2004.04.05-3.1`
		`susehelp-2004.04.05-3.1`
		`suse-build-key-1.0-662.10 (for SP3)`

`uname -rv`	One of these:
	• `2.6.5-7.244-smp #1 SMP Tue Nov 8`
	`20:19:28 UTC 2005`
	• `2.6.5-7.236-bigsmp #1 SMP Mon Dec 12`
	`18:32:25 UTC 2005`
	Note: `smp` and `bigsmp` might be replaced by `default`.

`getconf GNU_LIBPTHREAD_VERSION`	`NPTL 2.3.5`

If the command results are not as you expect, use YaST (Yet Another Setup Tool) to make sure you have installed the required components (see Step 1). In YaST, click **Software –> Install/Remove Software**.

4. Verify date, time, and time zone settings through YaST, and correct if necessary:

   Click **System –> Date and Time –> Clock and Time Zone Configuration**.

5. Set up networking based on system networking information. InfoPrint ProcessDirector requires access to a Domain Name System (DNS) server. The DNS server must have correct entries for the host name and IP address of each InfoPrint ProcessDirector primary and secondary server on the network.

6. Verify network connectivity:

   a. From the secondary server, ping the primary InfoPrint ProcessDirector server.

   b. From the primary server, ping the secondary server.

   c. Contact the network administrator if you are not successful with any of these verifications.

Installing the SLES 10.0 operating system

1. See the SLES documentation to install SLES 10.0 with Service Pack 1 for x86. Select 32-bit mode, even if your hardware supports 64-bit mode as well.

   a. Make sure that these required components are installed:

      - Korn shell. The Korn shell is installed automatically in a new installation; but you must select it if you are migrating from SLES 9.0

      - The Java runtime environment installed on the machine must be the IBM Runtime Environment for Linux Java 2 Technology Edition. This version (IBMJAVA2-JRE) is contained in the SLES distribution that is a prerequisite for InfoPrint ProcessDirector; however, multiple versions of Java are included on the SLES compact disks, so be sure you pick this one.

> **Note:** The latest levels of some of the required components are only available with Service Pack 1 (SP1).

   b. If you are migrating from an InfoPrint ProcessDirector installation on SLES 9.0, do not delete Print Services Facility (PSF).

2. Create Linux partitions and file systems. See "Planning for file systems" on page 8 for recommendations and considerations.

3. Run these commands and look for the expected results to verify that you installed SLES correctly:

Table 14. SLES commands and expected results

Command	Expected result

`rpm -qa	grep suse`	`susehelp_en-2006.06.20-1.2`
		`suseRegister-1.2-9.26`
		`susehelp-2006.06.20-1.2`
		`suse-build-key-1.0-685.6`

`rpm -qsh`	`ksh-93r-12.28`
`uname -rv`	`2.6.16.46-0.12-bigsmp #1 SMP Thu May 17 14:00:09 UTC 2007` **Note:** `smp` and `bigsmp` might be replaced by `default`.
`getconf GNU_LIBPTHREAD_VERSION`	`NPTL 2.4`

   If the command results are not as you expect, use YaST (Yet Another Setup Tool) to make sure you have installed the required components (see Step 1). In YaST, click **Software –> Install/Remove Software**.

4. Verify date, time, and time zone settings through YaST, and correct if necessary:

   Click **System –> Date and Time –> Clock and Time Zone Configuration**.

5. Set up networking based on system networking information. InfoPrint ProcessDirector requires access to a Domain Name System (DNS) server. The DNS server must have correct entries for the host name and IP address of each InfoPrint ProcessDirector primary and secondary server on the network.

6. Verify network connectivity:

   a. From the secondary server, ping the primary InfoPrint ProcessDirector server.

   b. From the primary server, ping the secondary server.

   c. Contact the network administrator if you are not successful with any of these verifications.

Installing the Windows operating system

When you use a secondary server on a Windows operating system, you must install the Windows operating system and Windows Services for UNIX (SFU) Version 3.5 or later.

To install the Windows operating system, see the Windows documentation to install Windows XP Professional with Service Pack 2 or Windows 2003 Server with Service Pack 1 or later.

Note: When installing the Windows operating system, select 32-bit mode, even if your hardware supports 64-bit mode.

For information about installing SFU, see "Installing Windows Services for UNIX (SFU) on Windows" on page 34.

Installing a Web browser

InfoPrint ProcessDirector requires a Web browser to access and display its user interface. You can access the user interface from the same system where the primary server is installed or from another system. One of these browsers must be installed and configured on the system where you access the user interface:

Table 15. Web browser requirements for the user interface

On system:	Install browser:	Obtain from:
AIX	Mozilla 1.7.13	One of these: • `http://www.ibm.com`. Enter `mozilla 1.7 AIX` in the search field and follow the links. • *Mozilla for AIX* CD, which you can order with the AIX operating system.
SLES Linux 9.0	Mozilla 1.7.13	The SLES 9.0 operating system. The browser is not installed by default when you install the operating system.
SLES Linux 10.0	Mozilla Firefox 2.0.0.9	The SLES 10.0 operating system. The browser is installed by default when you install the operating system.
Windows	One of these: • Microsoft Internet Explorer 6.*x* (Windows XP only) • Microsoft Internet Explorer 7 • Mozilla 1.7.13 • Mozilla Firefox 2.0.0.9	One of these: • Internet Explorer: the Windows operating system or `http://www.microsoft.com` • Mozilla and Firefox: `http://www.mozilla.org`

The user interface has a Web-based file viewer that requires the Adobe Reader to display AFP files so you can select pages to reprint. To view print files, these supported versions of Adobe Reader must be installed on the AIX, Linux, or Windows system where you are accessing the user interface:

Table 16. Adobe Reader requirements for the AFP file viewer

On system:	Software required:	Obtain from:

AIX	Adobe Reader 7.0 and Mozilla plugin	`http://www.adobe.com`
		
		Select **Get Adobe Reader** on the main page, then click **Different language or operating system?**. In the **Select an operating system** field, select **AIX**. In the **Select an Installer** field, select **AIX (.tar.gz)**. You are prompted to download the Mozilla plugin after Adobe 7 has been downloaded.
		
		If Adobe 7 is already installed, you can copy the plugin from the Adobe installation directory to the Mozilla `plugins` directory. Enter this command (assuming a default installation directory) to install the plugin:
		
		`cp /usr/lpp/Adobe/Acrobat7.0/Browser/ rs600aix/nppdf.so usr/mozilla/base/ plugins`

Table 16. Adobe Reader requirements for the AFP file viewer (continued)

On system:	Software required:	Obtain from:
SLES Linux 9.0	Adobe Reader 7.0	The SLES 9.0 operating system. You might need to make the Adobe Reader available to the Web browser after InfoPrint ProcessDirector is installed. See "Making the Adobe Reader available to the Web browser" on page 19.
SLES Linux 10.0	Adobe Reader 7.0 or later	`http://www.adobe.com` Select **Get Adobe Reader** on the main page, then click **Different language or operating system?**. In the **Select an operating system** field, select **Linux**. In the **Select an Installer** field, select **Linux (x86—.rpm)**. You might need to make the Adobe Reader available to the Web browser after InfoPrint ProcessDirector is installed. See "Making the Adobe Reader available to the Web browser" on page 19.
Windows	Adobe Reader 7.0	`http://www.adobe.com` To obtain Adobe Reader in your preferred language, select **Get Adobe Reader** on the main page, then click **Different language or operating system?**.

To view jobs that use double-byte fonts in InfoPrint ProcessDirector, be sure that the Japanese Language Support Package for the Adobe Reader is installed on your system. This package is available from Adobe:

`http://www.adobe.com/products/acrobat/acrrasianfontpack.html`

Configuring Mozilla

To access the InfoPrint ProcessDirector user interface with the Mozilla Web browser, configure the browser with these settings:

1. Click **Edit → Preferences**.
2. To change the language for text used in the user interface and for most of the messages that InfoPrint ProcessDirector issues, click **Navigator → Languages** in the **Category** pane. Add your language to the top of the list, and then click **OK**. InfoPrint ProcessDirector supports these languages and locales:
   - English (en_US)
   - French (fr_FR)
   - German (de_DE)
   - Italian (it_IT)
   - Japanese (ja_JP)
   - Spanish (es_ES)
3. In the **Category** pane, click **Privacy & Security → Cookies**.
4. Click **Allow all cookies**.
5. In the **Category** pane, click **Advanced → Scripts & Plugins**.
6. Under **Enable JavaScript for**, click **Navigator**.
7. In the **Category** pane, click **Advanced → Cache**.

8. Under **Compare the page in the cache to the page on the network**, click **Every time I view this page**.

9. Click **OK**.

Configuring Mozilla Firefox

To access the InfoPrint ProcessDirector user interface with the Mozilla Firefox Web browser, configure the browser with these settings:

1. Click **Tools → Options**.

2. Click **Content**. Verify that the **Enable JavaScript** option is selected.

3. Click **Privacy**. In the **Cookies** area, select to accept cookies from sites.

4. To change the language that InfoPrint ProcessDirector uses for the user interface text and most of the messages that it issues, click **Advanced**. In the **General** tab **Languages** area, click **Choose** and follow the instructions to add your language to the top of the list. InfoPrint ProcessDirector supports these languages and locales:

   - English (en_US)
   - French (fr_FR)
   - German (de_DE)
   - Italian (it_IT)
   - Japanese (ja_JP)
   - Spanish (es_ES)

5. Click **OK**.

Configuring Internet Explorer

To access the InfoPrint ProcessDirector user interface with the Internet Explorer Web browser, configure the browser with these settings:

1. Click **Tools → Internet Options**.

2. On the **General** tab, click **Settings**.

3. Under **Check for newer versions of stored pages**, select **Every time I visit the webpage** and click **OK**.

4. To change the language that InfoPrint ProcessDirector uses for the user interface text and most of the messages that it issues, click **Languages**. Then, click **Add** to add your language to the list. Move your language up so that it is the first entry in the list. Click **OK**. InfoPrint ProcessDirector supports these languages and locales:

   - English (en_US)
   - French (fr_FR)
   - German (de_DE)
   - Italian (it_IT)
   - Japanese (ja_JP)
   - Spanish (es_ES)

5. Click the **Security** tab.

6. With the Internet zone selected, click **Custom Level**.

7. Make sure that **Enable** is selected for **Allow META REFRESH**.

8. Make sure that **Enable** is selected for **Active scripting** in the **Scripting** section.

9. Click **OK**.

Making the Adobe Reader available to the Web browser

You might need to make Adobe Reader available to the Mozilla or Firefox Web browser on the Linux system after you install it. This might be necessary even on SLES 9.0, where Adobe Reader 7.0 is available at installation. If so, do this procedure:

1. Enter `/usr/local/Adobe/Acrobat`*n.n*`/Browser/install_browser_plugin` at the command prompt. If the command is not found, enter `/usr/X11R6/lib/ Acrobat`*n*`/Browser/install_browser_plugin`.

   - On SLES 9.0, *n.n* is 7.0 and *n* is 7.
   - On SLES 10.0, the values of *n.n* and *n* depend on the version and release of Adobe Reader that is installed.

2. Press Enter to install the Web browser plug-in.
3. Click the option for the user-specific installation.
4. Close any open Web browsers.
5. Open a new browser.
6. To check that the plug-in installed correctly:

   - In Mozilla, click **Help** → **About Plug-ins**.
   - In Firefox, type `about:plugins` in the location bar and press Enter.

   You should see Adobe Acrobat.

7. In Firefox, you must also make sure that the plugin is enabled for PDF files:

   a. Click **Tools** → **Options** → **Content**.
   b. In the File Types area, click **Manage**.
   c. Select **PDF** in the list of file extensions. Click **Change Action**, then select **Use this Plugin: (Adobe Acrobat)**.

Planning for optional software

You can install optional software to be used with InfoPrint ProcessDirector. The categories of optional software are:

- Job submission
- Data transforms
- InfoPrint Manager for AIX
- Fonts

Job submission

InfoPrint ProcessDirector can receive jobs for processing from the Job Entry Subsystem (JES) spool on a z/OS host from any system that can send jobs to hot folders or to the primary server using the LPD protocol. Jobs are submitted to input devices that you define in InfoPrint ProcessDirector. Input devices receive the jobs and then initiate job processing. The supported job submission methods are:

AFP Download Plus
    Converts line data to AFP data and transmits the print job with all required resources across the TCP/IP network from the host system to InfoPrint ProcessDirector for printing.

Download for z/OS
    Automatically transmits output across the TCP/IP network from the host system to InfoPrint ProcessDirector for printing or archiving.

Hot folders
    Receives print files through File Transfer Protocol (FTP) or your preferred

file copying method. When you copy or move a print file to the hot folder directory, the input device that is associated with the hot folder automatically receives the job and initiates job processing.

LPD Receives jobs that are submitted using the line printer daemon (LPD) protocol. Users can use the `lpr` command or another command that uses the LPD protocol to submit jobs to an InfoPrint ProcessDirector LPD input device. The input device automatically receives the job and initiates job processing.

Download for z/OS and AFP Download Plus are separately ordered features of PSF for z/OS. For information about PSF for z/OS and its features, see:

`http://www.infoprint.com/psf_ZOS`

In addition to deciding which job submission methods to use, you need to determine the naming convention for the job submission directories on the primary server where you want the input files to be. You must specify these directories when you create an input device:

Folder location directory
The name of the directory that an input device monitors for incoming jobs. For example, `/aiw/aiw1/System/dl` for Download for z/OS or AFP Download Plus jobs, `/aiw/aiw1/System/hf` for hot folder jobs, or `/aiw/aiw1/System/LPD` for LPD jobs.

Staging location directory
The name of the directory where the job submission method places the input file. Consider creating a subdirectory of the folder location directory. For example, `/aiw/aiw1/System/dl/AFP/Staged` for AFP input files received from Download for z/OS or AFP Download Plus, or `/aiw/aiw1/System/hf/LineData/Staged` for line data input files received from hot folders.

Each directory must provide read and write access to a group that the `aiw1` user ID is a member of so that InfoPrint ProcessDirector can read and modify the input files. The default group is `aiwgrp1`. For more information about the `aiwgrp1` group, see "Completing post-installation tasks" on page 36.

Before you use Download for z/OS or AFP Download Plus with InfoPrint ProcessDirector, you must configure the software to communicate with InfoPrint ProcessDirector. Some of the configuration tasks include:

* Define a JES initialization statement for a functional subsystem application (FSA).
* Create a startup procedure to identify program name, region size, and printing defaults for the FSA.
* Create a routing control data set that points to the port number and IP address of the InfoPrint ProcessDirector server. You only do this in Download for z/OS.
* Use installation exits, if necessary, for modifications to software functions. Both Download for z/OS and AFP Download Plus can use installation Exit 15, which transmits additional print parameters to InfoPrint ProcessDirector.
* If you want a Download input device whose parent is an AIX primary or secondary server to reuse a port that you have already defined for use with InfoPrint Manager, use the **kill** command to stop the MVS™ daemon process on the parent server before you connect the Download input device.

For information about:

- Configuring Download for z/OS and AFP Download Plus with InfoPrint ProcessDirector, see the InfoPrint ProcessDirector information center in the user interface
- Configuring Download for z/OS and AFP Download Plus, see *PSF for z/OS: Download for z/OS* and *PSF for z/OS: AFP Download Plus*
- Copying files to hot folders or sending files using the LPD protocol, see the InfoPrint ProcessDirector information center in the user interface

Data transforms

InfoPrint Transform Manager receives print jobs from InfoPrint ProcessDirector and transforms the data so that it can be printed.

InfoPrint Transform Manager can transform these data streams to AFP:
- GIF, JPEG, and TIFF
- PCL
- PDF and PostScript

InfoPrint ProcessDirector supports InfoPrint Transform Manager 1.2 with Service Pack 4 or later.

If you have the InfoPrint Transform Manager: afp2pdf Transform i-listed PRPQ (Program Number 5799-TWL) installed, InfoPrint Transform Manager can transform AFP data to PDF. For information about InfoPrint Transform Manager, see *InfoPrint Transform Manager for Linux* or this Web page:

`http://www.infoprint.com/iptranman/linux`

For information about the **afp2pdf** transform, see *InfoPrint Transform Manager for Linux: afp2pdf Transform Installation and User's Guide*.

You can also use InfoPrint XT for AIX or Windows to transform Xerox metacode and LCDS jobs to AFP.

For information about InfoPrint XT for AIX, see *InfoPrint XT for AIX: Installation and User's Guide* or this Web page:

`http://www.infoprint.com/ipxt/aix`

For information about InfoPrint XT for Windows, see *InfoPrint XT for Windows: Installation and User's Guide* or this Web page:

`http://www.infoprint.com/ipxt/win`

If InfoPrint Manager for AIX or InfoPrint Manager for Windows is installed on the same computer as an InfoPrint ProcessDirector primary or secondary server, you can use any of the transforms supplied with InfoPrint Manager. For information about using an external step in a job type to use the InfoPrint Manager transforms, see the InfoPrint ProcessDirector information center in the user interface.

InfoPrint Manager for AIX

You can install InfoPrint ProcessDirector and InfoPrint Manager for AIX on the same AIX system if InfoPrint Manager Version 4 Release 2 is installed with PTF U811589.

Important:
- If you want to install both InfoPrint ProcessDirector and InfoPrint Manager on the same server, install InfoPrint Manager first.

- If you have both InfoPrint Manager and InfoPrint ProcessDirector installed on the same system and want to uninstall InfoPrint Manager, InfoPrint ProcessDirector will not work until you reinstall it. Follow the steps described in "Uninstalling InfoPrint Manager from an InfoPrint ProcessDirector server" on page 45.

For information about InfoPrint Manager for AIX, see the InfoPrint Manager publications or this Web page:

`http://www.infoprint.com/ipm/aix_new`

Fonts

InfoPrint ProcessDirector provides a basic set of 240-pel and 300-pel fonts (compatibility fonts) with the product. For a more robust font set, you should install additional AFP fonts on your primary server. IBM Infoprint Fonts for Multiplatforms (IBM Program Number 5648-E77) contains AFP outline fonts and TrueType and OpenType fonts. Table 17 lists the AFP outline font features of Infoprint Fonts that you can order and install on your workstation.

Table 17. Infoprint Fonts for AIX, Linux, and Windows

Font library name	IBM Program number	Feature number
General Font Library	5648-E77	5957
Japanese Font Library	5648-E77	5849
Korean Font Library	5648-E77	5889
Simplified Chinese Font Library	5648-E77	5879
Traditional Chinese Font Library	5648-E77	5809

For more information about Infoprint Fonts for Multiplatforms, see this Web page:

`http://www.infoprint.com/ipfonts`

If your AFP files require additional raster fonts for printing, you might need fonts from the IBM AFP Font Collection (IBM Program Number 5648-B45). Table 18 lists the AFP Font Collection features you can order.

Table 18. AFP Font Collection

Font collection name	IBM Program number	Feature number
Fonts for AIX, OS/2®, Windows NT®, and Windows 2000	5648-B45	5970
Japanese Fonts for AIX, Windows NT, and Windows 2000	5648-B45	5809
Korean Fonts for AIX, Windows NT, and Windows 2000	5648-B45	5819
Simplified Chinese Fonts for AIX, Windows NT, and Windows 2000	5648-B45	5829
Traditional Chinese Fonts for AIX, Windows NT, and Windows 2000	5648-B45	5839

The AFP Font Collection does not provide an installation program. To use the AFP Font Collection on your server, copy the fonts from the AFPFONTS directory on the AFP Font Collection CD-ROM to the /usr/lpp/afpfonts directory on your workstation. Be sure to copy all files from the subdirectories in the AFPFONTS

directory to /usr/lpp/afpfonts. Do not maintain the subdirectory structure from the AFPFONTS directory, but do make sure that the uppercase file names are preserved.

For more information about AFP Font Collection, see this Web page:

`http://www.infoprint.com/afpfonts`

Chapter 3. Installing InfoPrint ProcessDirector on AIX

This section contains instructions for a new installation of InfoPrint ProcessDirector. If you already have InfoPrint ProcessDirector installed and you want to apply a service update, see Chapter 5, "Backing up data, applying service, and adding features," on page 47.

The InfoPrint ProcessDirector installation package consists of several CDs. After the InfoPrint ProcessDirector program is installed, you can install any features and any of the InfoPrint ProcessDirector Extensions.

On secondary servers, you install only the InfoPrint ProcessDirector Secondary Server feature.

Important:

1. Before you install a secondary server on a Linux SLES 10.0 system, download the latest PTF from `http://www.infoprint.com` or get it from your InfoPrint Solutions Company service representative. You must apply a service update as part of the initial installation on SLES 10.0.

2. The installation program requires this unallocated space:

   Primary server
   > 8 GB in any volume group

   AIX secondary server
   > 2 GB in any volume group

   Linux secondary server
   > 2 GB

3. The installation instructions describe the installation with the InstallShield Wizard graphical display. If you cannot run the InstallShield Wizard in graphical mode, append the `-console` option at the end of a setup command to install with a text-based installation program.

4. To see which attributes you can use with the `setup` command, append the `-h` option at the end of the `setup` command.

5. During the installation of any InfoPrint ProcessDirector program, the program files are copied to the system. However, the installation is not complete until you click **Activate now**. If you skip the activation step and click **Activate later** (for example, to view the publications CD), you must insert any software CD, start its installation program, and click **Activate now** before using InfoPrint ProcessDirector. If you install any new InfoPrint ProcessDirector software, such as extensions, after the initial installation, you must activate again.

6. If the system where you plan to install a primary server already has an InfoPrint ProcessDirector secondary server installed, you must uninstall the secondary server before you install the primary server.

Installing InfoPrint ProcessDirector on the primary server

Important: You must install the same code level of InfoPrint ProcessDirector on the primary server and all secondary servers. To determine the level of code that is installed on the primary server or on an AIX or Linux secondary server, enter this command:

```
rpm —qa | grep aiw-server
```

If you have any servers on SLES 10.0, you must install InfoPrint ProcessDirector 1.3.1.25 (PTF US00104) on all servers.

Notes:

- In addition to InfoPrint ProcessDirector, this software will be installed or upgraded if it is not already present on the AIX system:
  - Bash 3.0-1
  - RPM installp package (Rpm.rte 3.0.5.39)
- During the installation, the InfoPrint ProcessDirector license files are copied to the /opt/IBM/aiw/V1.0/license directory.

To install InfoPrint ProcessDirector on the primary server:

1. Make sure the planning checklist is complete and the required hardware and software is available and installed. See Chapter 2, "Planning for installation," on page 7.
2. Download the latest PTF from `http://www.infoprint.com` or get it from your InfoPrint Solutions Company service representative.
3. Log in as the root user.
4. If InfoPrint Manager is installed on the same system, make sure that PTF U811589 has been applied. Enter:
   ```
   lslpp -l ipr.base.rte
   ```

   You should see that InfoPrint Manager is at level 4.2.0.200 or higher.
5. Make sure that DB2 is not installed on the system. Enter:
   ```
   lslpp -l "db2*"
   ```

   You should see a message similar to `lslpp 0504-132 fileset db2 not installed`.
6. Enter this command to make sure you are in the root directory:
   ```
   cd /
   ```
7. Make sure that only one session of the cdrom daemon (**cdromd**) is running. Enter:
   ```
   ps -ef | grep cdromd
   ```
   - If there is more than one session of the daemon running, make note of the process ID of each daemon and use the **kill** command to stop all except one session.
   - If there are no daemon sessions running, enter:
     ```
     cdromd
     ```
8. If you have an InfoPrint ProcessDirector service pack CD, insert it in the CD-ROM drive. If not, insert the first InfoPrint ProcessDirector product CD.
9. Enter this command to start the installation:
   ```
   /cdrom/cd0/setup
   ```
10. If you see a prompt, select **Primary**.
11. If you are installing a service pack, the setup program copies the update files and installers to the hard drive. When it completes, it prompts you to insert the first InfoPrint ProcessDirector CD.
12. For each program that is installed:

    a. Select the appropriate language for the InstallShield Wizard, and then click **OK**. You see a welcome window for the InstallShield Wizard.

    b. Reply to the prompts as the InstallShield Wizard steps you through the installation.

13. When you see a window that displays the default user ID (UID) and group ID (GID) values, select the defaults or use the numeric values you established during installation planning for use on all the servers (see Chapter 6, "Installation planning checklist," on page 55).

14. The installation program asks you to select the language for the InfoPrint ProcessDirector server. Make sure you select a language if you want one different from the language used during the installation. The language in which the InfoPrint ProcessDirector server is installed determines the language for some messages and object descriptions, even if you set the browser for the user interface to a different language.

15. When you see a message that all your files have been copied to your system, click **Activate later** if you have additional software to install. Otherwise, click **Activate now**.

    The final window displays the URL for accessing the user interface in this format, where *hostname* is the host name of the primary server:

    `http://hostname:15080/aiw`

16. Click **Finish** to complete the installation.

17. You might see a prompt asking if you have additional software to install. To install features or Extensions from any additional InfoPrint ProcessDirector CDs, click **Yes** and reply to any prompts. Be sure to click **Activate now** during the final installation.

18. If you see error messages, view the installation logs in the /opt/IBM/aiw/V1.0/logs directory.

19. Verify the installation through the Web browser:

    a. The Web browser on your workstation automatically launches the InfoPrint ProcessDirector login page.

       Note: If the InfoPrint ProcessDirector login page does not automatically launch, manually launch the browser and enter this URL, replacing *hostname* with the host name of the primary server:

       `http://hostname:15080/aiw`

    b. If you see a message that the browser cannot connect to the primary server:

       1) Log in to the primary server as the InfoPrint ProcessDirector user. The default user ID is `aiw1` and the default password is `aiwpass1`.

          Note: InfoPrint ProcessDirector sets up the aiw1 user ID with environment variables and paths that permit all of the administrative functions for InfoPrint ProcessDirector. If you use the `su` command to switch from another login to aiw1, use the - (minus) flag (`su - aiw1`) to make sure that you inherit the environment that was set up for the aiw1 user.

       2) Enter `startaiw` at the command prompt.

       3) To verify that the InfoPrint ProcessDirector server is running, enter this command on the command line:

          `ps -ef | grep Instance`

          You should see an instance statement such as:

```
                                     java com.ibm.aiw.instance.PrimaryInstance hostname
```

    4) Enter `http://hostname:15080/aiw` from the Web browser.

    5) If you still see the message, view the installation logs in the /opt/IBM/aiw/V1.0/logs directory.

  c. On the InfoPrint ProcessDirector login page, type the default administrator user ID `aiw` and the default password `aiw` and then click **Log in**. You are prompted to change the password before you can log in to the user interface. Make note of your new password on the Chapter 6, "Installation planning checklist," on page 55.

InfoPrint ProcessDirector is now running on your primary server. See "Completing post-installation tasks" on page 36 to verify the installation by printing a test job.

Installing InfoPrint ProcessDirector on secondary servers

After successfully installing InfoPrint ProcessDirector on a primary server, you can install InfoPrint ProcessDirector secondary servers on separate AIX, Linux, and Windows systems.

For any type of secondary server, do these tasks on the primary server before you do installation tasks on the secondary server:

1. Set up the primary server to export the InfoPrint ProcessDirector shared file system to the secondary server. The secondary server uses the /aiw file system on the primary server.

  a. Log in as the root user.

  b. Use SMIT to configure the NFS server on the primary system to start both now and when the system restarts:

    1) Enter `smitty nfs`.

    2) Select **Network File System (NFS)** and press Enter.

    3) Select **Configure NFS on This System** and press Enter.

    4) Select **Start NFS** and press Enter.

    5) In the **Set Start NFS now, on system restart or both** field, select **both** and press Enter.

    6) Press Enter.

    7) Press F10 to exit SMIT.

  c. Use SMIT to add /aiw to the exports list and to specify which systems to allow access:

    1) Enter `smitty nfs`.

    2) Select **Network File System (NFS)** and press Enter.

    3) If this is the *first* secondary server you are setting up, add /aiw to the exports list:

      a) Select **Add a Directory to Exports List**.

      b) Type or select values in these fields. The **bold** entries in the example below show changes that you must make. Type the host name of the secondary server where *new-secondary* appears and press Enter.

```
Type or select values in entry fields.          [Entry Fields]
Press Enter AFTER making all changes
* Pathname of directory to export               [/aiw]
  Anonymous UID                                 [-2]
  Public filesystem?                            [no]
* Export directory now, system restart or both   both
  Pathname of alternate exports file            []
  Allow access by NFS versions                  []
  External name of directory (NFS V4 access only)  []
  Referral locations (NFS V4 access only)       []
  Replica locations                             []
  Ensure primary hostname in replica list        yes
  Allow delegations?                             no
* Security method 1                             [sys]
*     Mode to export directory                   read-write
      Hostname list. If exported read-mostly    []
      Hosts & netgroups allowed client access   [new-secondary]
      Hosts allowed root access                 [new-secondary]
```

      c) Press F10 to exit SMIT.

    4) If *another* secondary server is already set up under this primary server, add /aiw to the exports list:

      a) Select **Change/Show Attributes of an Exported Directory** and press Enter.

      b) In the **Set Pathname of exported directory** field, type /aiw and press Enter.

      c) Add the host name of the new secondary server to the same fields where the other secondary servers are already named. In the example below, *old-secondary* is the host name of an existing secondary server and *new-secondary* is the host name of the new secondary server. Press Enter.

```
Press Enter AFTER making all changes          [Entry Fields]

   Hosts & netgroups allowed client access   [old-secondary,new-secondary]
   Hosts allowed root access                 [old-secondary,new-secondary]
```

      d) Press F10 to exit SMIT.

2. For Windows secondary servers, you must install the Network Information Service (NIS) server software on the primary server if you did not install it with the AIX operating system:

    a. Insert the first AIX 5.3 product CD in the CD-ROM drive.

    b. Select **Software Installation and Maintenance** → **Install and Update Software** → **Install software**.

    c. In the **Input device/ directory for software** field, select **/dev/cd0**.

    d. In the **SOFTWARE to install** field, select **5.3.0.50 Network Information Service Server** and press Enter.

    e. Reply to the installer prompts.

3. For Windows secondary servers, you must use SMIT to configure the NIS server on the primary server:

    a. Enter smitty nfs.

    b. Select **Network Information Service (NIS)** → **Configure / Modify NIS** → **Change NIS Domain Name of this Host**.

    c. In the **Domain Name of this Host** field, type the domain name of your network and press Enter.

d. Press F3 to return to the Configure / Modify NIS panel.

e. Select **Configure this Host as a NIS Master Server** and press Enter.

f. In the **HOSTS that will be slave servers** field, type the name of the Windows secondary server and press Enter.

4. Use the InfoPrint ProcessDirector user interface to add and enable the secondary server:

a. Enter `http://hostname:15080/aiw` from the Web browser, replacing *hostname* with the host name of the primary server.

b. Log in as an administrator. The default user name is `aiw`.

c. On the Main page, click the **Administration** tab.

d. From the shortcuts list, click **Add a Secondary Server**.

e. Specify a server name and the IP address or host name for the secondary server. As an option, specify a description and values for the other properties of the server.

f. For an AIX or Linux secondary server, you can specify either **Yes** or **No** for **In general server pool**. Servers in the general server pool can run any step defined in any job type. If you want the secondary server to only run specific steps, specify **No** in this field and then use the **Tune** function for each step template that you want to allow to run on the secondary server. For a Windows secondary server, specify **No** for **In general server pool**.

Note: If any external steps send jobs to the Windows secondary server, you must tune the step template appropriately. For information about how to tune the step template, click **Help** from the top task bar of the InfoPrint ProcessDirector user interface to see the information center.

g. Click **OK**.

h. In the left pane, click **System → Servers**.

i. Select the server and then click **Enable**.

5. Continue with the appropriate installation task for your secondary server.

Installing on Linux servers

You can install an InfoPrint ProcessDirector secondary server on a Linux system in your network.

Important: You must install the same code level of InfoPrint ProcessDirector on the secondary server as on the primary server. To determine the level of code that is installed on either server, enter this command:

```
rpm –qa | grep aiw-server
```

If you have any servers on SLES 10.0, you must install InfoPrint ProcessDirector 1.3.1.25 (PTF US00104) on all servers.

To install InfoPrint ProcessDirector on a secondary Linux system:

1. Log in as the root user.

2. If you have an InfoPrint ProcessDirector service pack CD, insert it in the CD-ROM drive. If not, insert the InfoPrint ProcessDirector Secondary Server CD.

3. To determine the name of the CD mount point, enter:

```
ls /media/*
```

On some systems where the CD is mounted automatically, the name of the mount point is the same as the name of the CD.

4. Mount the CD, if necessary. Enter:

   ```
   mount /media/mount_point
   ```

5. Enter this command to start the installation:

   ```
   /media/mount_point/setup
   ```

6. If you see a prompt, select **Secondary**.

7. If you are installing a service pack, the setup program copies the update files and installers to the hard drive. When it completes, it prompts you to insert the InfoPrint ProcessDirector Secondary Server CD.

8. For each program that is installed:

   a. Select the appropriate language and then click **OK**. You see a welcome window for the InstallShield Wizard.

   b. Reply to the prompts as the InstallShield Wizard steps you through the installation.

9. When you see a window that displays the default user ID (UID) and group ID (GID) values, specify the same numeric values that you specified for the primary server.

10. You see a message that all your files have been copied to your system. Click **Activate now**. The final window displays the URL for accessing the user interface in this format, where *hostname* is the host name of the primary server:

    ```
    http://hostname:15080/aiw
    ```

11. Click **Finish** to complete the installation.

12. To verify that the InfoPrint ProcessDirector server is running, enter this command on the command line:

    ```
    ps -ef | grep Instance
    ```

    You should see an instance statement such as:

    ```
    java com.ibm.aiw.instance.SecondaryInstance hostname
    ```

    If the server is not running, view the installation logs in the /opt/IBM/aiw/V1.0/logs directory. If this does not solve the problem, contact customer support.

13. To make sure that the secondary server is connected to the primary server, log in to the InfoPrint ProcessDirector user interface and click **Administration** → **System** → **Servers** to verify that the **CStatus** column contains **Connected**.

After your server is running, you must determine how this server is used and change the properties of some objects accordingly. For example:

- What printers and input devices do you want the server to manage?

  Create or modify those devices so this server is listed as their **Parent server**.

- What step templates can run on this server?

  Tune those step templates so that they can run on this server.

- What external programs on this server can be accessed using an external step?

  Set up the external program and configure a step based on the **RunExternalProgram** step template so it uses that program.

Installing on AIX servers

You can install an InfoPrint ProcessDirector secondary server on an AIX system in your network.

Important: You must install the same code level of InfoPrint ProcessDirector on the secondary server as on the primary server. To determine the level of code that is installed on either server, enter this command:

```
rpm –qa | grep aiw-server
```

If you have any servers on SLES 10.0, you must install InfoPrint ProcessDirector 1.3.1.25 (PTF US00104) on all servers.

Note: In addition to InfoPrint ProcessDirector, this software will be installed or upgraded if it is not already present on the AIX system:
- Bash 3.0-1
- RPM installp package (Rpm.rte 3.0.5.39)

To install InfoPrint ProcessDirector on a secondary AIX server:
1. Log in as the root user.
2. If InfoPrint Manager is installed on the same system, make sure that PTF U811589 has been applied. Enter:

   ```
   lslpp -l ipr.base.rte
   ```

   You should see that InfoPrint Manager is at level 4.2.0.200 or higher.
3. Make sure that the Java runtime environment installed on the server is 1.4 or later.
4. Enter this command to make sure you are in the root directory:

   ```
   cd /
   ```
5. Make sure that only one session of the cdrom daemon (**cdromd**) is running. Enter:

   ```
   ps -ef | grep cdromd
   ```
   - If there is more than one session of the daemon running, make note of the process ID of each daemon and use the **kill** command to stop all except one session.
   - If there are no daemon sessions running, enter:

     ```
     cdromd
     ```
6. If you have an InfoPrint ProcessDirector service pack CD, insert it in the CD-ROM drive. If not, insert the InfoPrint ProcessDirector Secondary Server CD.
7. Enter this command:

   ```
   /cdrom/cd0/setup
   ```
8. If you see a prompt, select **Secondary**.
9. If you are installing a service pack, the setup program copies the update files and installers to the hard drive. When it completes, it prompts you to insert the InfoPrint ProcessDirector Secondary Server CD.
10. For each program that is installed:
    a. Select the appropriate language and then click **OK**. You see a welcome window for the InstallShield Wizard.
    b. Reply to the prompts as the InstallShield Wizard steps you through the installation.
11. When you see a window that displays the default user ID (UID) and group ID (GID) values, specify the same numeric values that you specified for the primary server.

12. You see a message that all your files have been copied to your system. Click **Activate now**. The final window displays the URL for accessing the user interface in this format, where *hostname* is the host name of the primary server:

   ```
   http://hostname:15080/aiw
   ```

13. Click **Finish** to complete the installation.

14. To verify that the InfoPrint ProcessDirector server is running, enter this command on the command line:

   ```
   ps -ef | grep Instance
   ```

   You should see an instance statement such as:

   ```
   java com.ibm.aiw.instance.SecondaryInstance hostname
   ```

   If the server is not running, view the installation logs in the /opt/IBM/aiw/V1.0/logs directory. If this does not solve the problem, contact customer support.

15. To make sure that the secondary server is connected to the primary server, log in to the InfoPrint ProcessDirector user interface and click **Administration** → **System** → **Servers** to verify that the **CStatus** column contains **Connected**.

After your server is running, you must determine how this server is used and change the properties of some objects accordingly. For example:

- What printers and input devices do you want the server to manage?

  Create or modify those devices so this server is listed as their **Parent server**.

- What external programs on this server can be accessed using an external step?

  Set up the external program and configure a step based on the **RunExternalProgram** step template so it uses that program.

Installing on Windows servers

The InfoPrint ProcessDirector Windows secondary server runs as a Windows service, with the permissions of the Windows user ID specified during installation. Like all secondary servers, the Windows secondary server uses the NFS protocol to access the exported /aiw file system on the primary server. To enable this access, you must configure both the primary and secondary servers.

This section shows an example configuration, using the Windows NFS client and the User Name Mapping service provided with SFU. Be aware that your network environment might require a different configuration than the one described here.

To install a Windows secondary server, you must do these tasks:

1. To facilitate the use of the User Name Mapping service, you must make sure that a Network Information Service (NIS) server is installed on your InfoPrint ProcessDirector primary system.

2. Configure and run the NIS server on your InfoPrint ProcessDirector primary system if you have not done so already. See "Installing InfoPrint ProcessDirector on secondary servers" on page 28 for instructions.

3. On the Windows system, install Microsoft Windows Services for UNIX® (SFU) if it is not installed already. The NFS protocol requires SFU, primarily for the use of the bundled NFS client. See "Installing Windows Services for UNIX (SFU) on Windows" on page 34 for instructions.

4. To create an association between AIX and Windows user names, configure the User Name Mapping service on Windows. See "Configuring User Name Mapping on Windows" on page 34 for instructions.

5. Test the connection from Windows to the NFS server. See "Testing the connection to the NFS server" on page 35 for instructions.
6. Finally, do the actual installation. See "Installing InfoPrint ProcessDirector on Windows secondary servers" on page 36 for instructions.

Installing Windows Services for UNIX (SFU) on Windows

After you install the Windows operating system, you must install SFU Version 3.5 or later on your Windows system. SFU includes all the facilities needed to mount network file systems, including the NFS client and User Name Mapping Service.

Note: Determine the NIS domain name on the InfoPrint ProcessDirector primary server before you begin this procedure. You can enter `hostname -d` on the primary server to obtain this information.

To install SFU:

1. Download the latest version of Windows Services for UNIX (SFU) from this Web site:
   `http://www.microsoft.com/technet/interopmigration/unix/sfu/default.mspx`
   The downloaded version of SFU is a self-extracting executable with a name similar to SFU35SEL_EN.exe.
2. Double-click the .exe file to unzip the files and begin the installation.
   a. In the Customer Information window, type your customer information and click **Next**.
   b. In the License and Support Information window, read the information. Click **I accept the agreement** and then click **Next**.
3. In the Installation Options window, click **Custom Installation** and click **Next**.
4. Under Authentication tools for NFS, click **User Name Mapping** and then click **Will be installed on local hard drive**.
5. Click **Next**.
6. In the Security Settings window, accept the defaults and click **Next**.
7. In the User Name Mapping window under the Configure the User Name Mapping server subtitle, make sure that **Local User Name Mapping Server** and **Network Information Service (NIS)** are selected, and then click **Next**.
8. In the User Name Mapping window under the Configure local User Name Mapping using NIS subtitle, type the NIS domain name that you specified previously in"Installing InfoPrint ProcessDirector on secondary servers" on page 28, specify the NIS Server host name (the host name of the primary), and then click **Next**.
9. Click **Next** until you see the window that shows the **Finish** button, and then click **Finish**.
10. When prompted, restart your computer.

Configuring User Name Mapping on Windows

The User Name Mapping service creates an association between AIX and Windows user names. This lets users connect to NFS resources without having to log on to AIX and Windows systems separately.

The User Name Mapping service also allows control over the AIX file permissions that individual Windows users have. For more information, see the User Name Mapping section in the documentation provided with SFU.

To configure user name mapping on Windows:

1. Access the Control Panel and click **Administrative Tools**.

2. Click **Services for UNIX Administration**.

3. If you see the Welcome to Services for UNIX on local computer window, click **Services for UNIX [local]**. Verify that **Computer name** is set to the name of the Windows computer that you are configuring, then minimize the window.

4. In the left pane of the Microsoft Welcome to Services for UNIX on local computer window, click **User Name Mapping**.

5. In the User Name Mapping on local computer window, make sure that **Use Network Information Services (NIS)** is selected.

6. Click the **Maps** tab and clear the **Simple maps** check box.

7. Make sure the **NIS Domain Name** and **NIS Server Name** fields are filled in correctly.

8. Click **Show User Maps** under Advanced maps. You might need to scroll down to see the Advanced maps section. If you see an error message when you click **Show User Maps**, stop and restart the User Name Mapping service by right-clicking **User Name Mapping** in the left navigation pane, and then clicking **Stop** and then **Start**.

9. Click **List Windows Users**, which fills in all the user IDs from your Windows system.

10. Click **List UNIX Users**, which fills in all the UNIX users on your primary server system.

11. Select the Windows user that you want your secondary server to run as, then select **aiw1** from the UNIX users list, and click **Add** to map the users.

12. Click **Show Group Maps**. You might need to scroll up or down to see the Advanced maps section.

13. Click **List Windows groups**, which fills in all the Windows groups from your Windows system. Select the Windows group that the previous user ID belongs to.

14. Click **List UNIX groups**, which fills in all the groups on your primary server system. Select **aiwgrp1**, which is the group that the `aiw1` user is in on the primary server.

15. Click **Add** to map the groups.

16. On the User Name Mapping on local computer window, click **Apply** in the upper right corner.

17. Close SFU.

Testing the connection to the NFS server

To test the connection to the NFS server:

1. Click **My Computer**. In the address bar, type *hostname of primary server*, such as \\`base.penn.boulder.ibm.com` or an IP address, such as \\`9.99.183.294`. You see the \`aiw` directory in the right pane.

2. If you can open the aiw folder, the connection to the NFS server is successful.

3. If you cannot open the aiw folder, see the "Windows secondary server will not connect" troubleshooting topic in the InfoPrint ProcessDirector information center. Click **Help** from the top task bar of the InfoPrint ProcessDirector user interface to see the information center.

Note: If your environment uses firewalls for security, contact your network administrator to make sure that the firewall is not preventing access to the primary server.

Installing InfoPrint ProcessDirector on Windows secondary servers

After you have completed the prerequisite steps, you can install an InfoPrint ProcessDirector secondary server on a Windows system in your network.

Important: You must install the same code level of InfoPrint ProcessDirector on the secondary server as on the primary server. To determine the level of code that is installed on the primary server, enter this command:

```
rpm -qa | grep aiw-server
```

If you have any servers on SLES 10.0, you must install InfoPrint ProcessDirector 1.3.1.25 (PTF US00104) on all servers.

To install InfoPrint ProcessDirector on a Windows secondary server:

1. Log in as an administrator.
2. Insert the InfoPrint ProcessDirector Secondary Server CD in the CD-ROM drive. The InfoPrint ProcessDirector InstallShield Wizard runs automatically from the CD if the Windows system is configured to autorun CDs.
3. If the installation wizard does not run automatically:
   a. Change to the drive where you inserted the CD.
   b. Change to the win directory.
   c. Double-click **setup.exe**.
4. For each program that is installed:
   a. Select the appropriate language and then click **OK**. You see a welcome window for the InstallShield Wizard.
   b. Reply to the prompts as the InstallShield Wizard steps you through the installation.
5. Click **Finish** to complete the installation.
6. If you have a service pack CD, repeat steps 2 through 5 to install it.
7. To make sure that the Windows secondary server is connected to the primary server, log in to the InfoPrint ProcessDirector user interface and click **Administration** → **System** → **Servers** to verify that the **CStatus** column contains **Connected**.
8. If the Windows secondary server is not connected to the primary server, see the "Windows secondary server will not connect" troubleshooting topic in the InfoPrint ProcessDirector information center. Click **Help** from the top task bar of the InfoPrint ProcessDirector user interface to see the information center.

After your server is running, you must determine how this server is used and change the properties of some objects accordingly. For example:

- What external programs on this server can be accessed using an external step?

  Set up the external program and configure a step based on the **RunExternalProgram** step template so it uses that program.

Completing post-installation tasks

After you finish installing InfoPrint ProcessDirector, you complete post-installation tasks to:

- Verify the installation.
- Configure InfoPrint ProcessDirector.

Note: During installation, InfoPrint ProcessDirector creates files with a default group ownership set to `aiwgrp1`. Any user who is in the `aiwgrp1` group can access files that InfoPrint ProcessDirector creates:

- If you have users with AIX system user IDs who need to work directly with InfoPrint ProcessDirector files or submit files to hot folders, you must add their user IDs to the `aiwgrp1` group. Be sure to use the `aiwgrp1` group name as an additional group for your users, not as their default group.
- If you create another group to own directories that InfoPrint ProcessDirector input devices use, you must add the `aiw1` user ID to the new group.

Verifying the installation

If you have just finished installing InfoPrint ProcessDirector and want to test the system, do the steps in this procedure to define an AFP printer, submit a test job, and then print the job:

1. Log in to the primary server as the InfoPrint ProcessDirector user. The default user ID is `aiw1` and the default password is `aiwpass1`.
2. Enter `http://`*hostname*`:15080/aiw` from the Web browser. The host name of the primary server is *hostname*.
3. Type an administrator user name and password and then click **Log in** to log in to the user interface. The default user name is `aiw` and the default password is `aiw`.
4. On the Main page, click the **Administration** tab.
5. From the shortcuts list, click **Add an AFP Printer**.
6. Specify the printer name, TCP/IP address or host name, TCP/IP port number, and language for the printer you want to send a test job to.

   Note: On most systems, the port number is 5001.
7. Click **OK**.
8. Click the **Main** tab.
9. In the Printers portlet, select the printer you just created and then click **Enable**.

10. In the **Input Devices** portlet, click the **Restore** (⬚) icon.
11. Select the **HotFolderAFP** input device and then click **Connect**.
12. Select the **HotFolderAFP** input device and then click **Enable**.
13. On the command line, enter this command to copy a test file into the hot folder that the HotFolderAFP input device monitors:

    `cp /aiw/aiw1/testfiles/Demo.afp /aiw/aiw1/System/hf/AFP`
14. After a few minutes, refresh the InfoPrint ProcessDirector user interface. You should see a job in the Jobs table on the Main page.

    If you do not see a job, see the "Job not appearing in Jobs table" troubleshooting topic in the InfoPrint ProcessDirector information center. Click **Help** from the top task bar of the InfoPrint ProcessDirector user interface to see the information center.
15. Pick up your test job at the printer.

This verifies that InfoPrint ProcessDirector is installed correctly.

Configuring InfoPrint ProcessDirector

You use the user interface to complete configuration tasks for InfoPrint ProcessDirector, such as setting up job processing, defining input devices for job

submission, defining your printer hardware to InfoPrint ProcessDirector, and adding users. The InfoPrint ProcessDirector information center describes these configuration tasks.

To access the InfoPrint ProcessDirector information center to learn about configuration tasks:

1. Enter `http://hostname:15080/aiw` from the Web browser on a workstation. The host name of the primary server is *hostname*.
2. Click **Help** from the top task bar. You see the InfoPrint ProcessDirector information center.
3. From Contents in the left pane, click **Configuring**. You see a list of configuration tasks in the right pane.
4. Select the configuration tasks that apply to your installation.

Chapter 4. Starting, stopping, and uninstalling InfoPrint ProcessDirector on AIX

You can start and stop InfoPrint ProcessDirector servers. You can also uninstall InfoPrint ProcessDirector.

Starting primary and secondary servers on AIX

InfoPrint ProcessDirector primary and secondary servers start automatically when the AIX systems on which they are installed start. However, you might need to start the primary server or a secondary server without restarting the entire operating system.

To start the primary and secondary servers on an AIX system:
1. Log in to the AIX system as the InfoPrint ProcessDirector user (**aiw1**).
2. Access the command line.
3. Enter this command:

   ```
   startaiw
   ```

   For the primary server, InfoPrint ProcessDirector starts DB2, the Web server and user interface program, and the primary server. For a secondary server, the InfoPrint ProcessDirector secondary server starts and connects to the primary server.

Deactivating the autostart script on AIX

If you do not want the InfoPrint ProcessDirector primary or secondary servers to start automatically when you restart the system on which they are installed, you can deactivate the autostart script. The InfoPrint ProcessDirector system can be running when you deactivate the script.

To deactivate the autostart script:
1. Log in as the root user.
2. Access the command line.
3. Enter this command:

   ```
   /opt/IBM/aiw/V1.0/workflowsystem/rmInittabEntry.ksh
   ```

Activating the autostart script on AIX

If you previously deactivated the autostart script on your system, you can reactivate it. Reactivating the autostart script causes the InfoPrint ProcessDirector primary server or secondary server to start automatically when the system starts.

Note: When you install InfoPrint ProcessDirector, the default is that it activates the autostart script. If you have not deactivated it, you do not have to do this procedure.

To activate the autostart script:
1. Log in as the root user.

2. Access the command line.
3. Enter this command:

```
/opt/IBM/aiw/V1.0/workflowsystem/mkInittabEntry.ksh
```

Starting secondary servers on Linux

InfoPrint ProcessDirector secondary servers are configured to start automatically when the Linux system on which they are installed starts. However, you might need to start the secondary server without restarting the entire operating system.

To start an InfoPrint ProcessDirector secondary server on a Linux system:
1. Log in to the Linux system as the InfoPrint ProcessDirector user (**aiw1**).
2. Access the command line.
3. Enter this command:

```
startaiw
```

The InfoPrint ProcessDirector secondary server starts and connects to the primary server.

Deactivating the autostart script on Linux

If you do not want an InfoPrint ProcessDirector secondary server to start automatically when you restart the system on which it is installed, you can deactivate the autostart script. You remove two symbolic links from the script to deactivate it. The InfoPrint ProcessDirector system can be running when you deactivate the script.

To deactivate the autostart script:
1. Log in as the root user.
2. Access the command line.
3. Enter these commands:

```
rm /etc/init.d/rc5.d/S15aiwserv
rm /etc/init.d/rc3.dS15aiwserv
```

Activating the autostart script on Linux

If you previously deactivated the autostart script on your system, you can reactivate it. Reactivating the autostart script causes the InfoPrint ProcessDirector secondary server to start automatically when the system starts. You add two symbolic links from the script to activate it.

Note: When you install InfoPrint ProcessDirector, the default is that it activates the autostart script. If you have not deactivated it, you do not have to do this procedure.

To activate the autostart script:
1. Log in as the root user.
2. Access the command line.
3. Enter these commands:

```
ln -s /etc/init.d/aiwserv /etc/init.d/rc5.d/S15aiwserv
ln -s /etc/init.d/aiwserv /etc/init.d/rc3.d/S15aiwserv
```

Starting the Windows secondary server service

When a Windows secondary server is installed, it is configured to start running automatically as a Windows service when the Windows system starts. If you stopped the secondary server or disabled the automatic start, you can start it manually.

To manually start the Windows secondary server service:
1. Log in to the Windows system as an administrator.
2. From the Windows Control Panel, click **Administrative Tools** ⇒ **Services**.
3. Right-click **InfoPrint ProcessDirector Secondary Server** and then click **Start**.

Disabling automatic start of the Windows secondary server service

You can disable the automatic start function of the Windows secondary service by configuring the Windows system.

To disable the automatic start of the Windows secondary server service:
1. Log in as an administrator.
2. From the Windows Control panel, click **Administrative Tools** ⇒ **Services**.
3. Right-click **InfoPrint ProcessDirector Secondary Server** and then click **Properties**.
4. On the **General** tab, set the **Startup type** to **Manual**.
5. Click **OK**. The Windows secondary server no longer starts when the Windows system starts. You can manually start the secondary server through the Windows interface.

Automatically starting the Windows secondary server service

If you previously disabled the automatic start of the Windows secondary server service on the Windows system, you can enable the automatic start again. Enabling the automatic start of the service causes the InfoPrint ProcessDirector secondary server to automatically start when the Windows system starts.

Note: When you install InfoPrint ProcessDirector, it enables the automatic start of the service. If you have not disabled the service, you do not have to do this procedure.

To automatically start the Windows secondary server service:
1. Log in to the Windows system as an administrator.
2. From the Windows Control Panel, click **Administrative Tools** ⇒ **Services**.
3. Right-click **InfoPrint ProcessDirector Secondary Server** and then click **Properties**.
4. On the **General** tab, set the **Startup type** to **Automatic**.
5. Click **OK**.

Stopping primary and secondary servers on AIX

When you stop the InfoPrint ProcessDirector primary server or a secondary server, you can stop the system with or without waiting for job-processing steps to complete.

To stop the system immediately without waiting for steps to complete, use the stopaiw command. Any steps that were in a processing state will move to an error state when you restart the system. To stop the system after the currently processing steps are complete, use the stopaiw -q command.

To minimize the impact of shutting down the system on processes that are currently running, you can disable the input devices associated with the server before you stop it.

To stop the primary and secondary servers on an AIX system:
1. Log in to the AIX system as the InfoPrint ProcessDirector user (**aiw1**).
2. Access the command line.
3. Enter one of these commands to stop the primary or secondary server:

   ```
   stopaiw
   or
   stopaiw -q
   ```

   For the primary server, InfoPrint ProcessDirector shuts down DB2, the Web server and user interface program, and the primary server. For a secondary server, InfoPrint ProcessDirector disconnects from the primary server and stops the secondary server. If the same AIX system has both a primary and a secondary server defined, these commands stop both of them.

Stopping secondary servers on Linux

When you stop an InfoPrint ProcessDirector secondary server running on Linux, you can stop the server with or without waiting for job-processing steps to complete.

To stop the Linux secondary server immediately without waiting for steps to complete, use the stopaiw command. Any steps that were in a processing state will move to an error state when you restart the system. To stop the secondary server after the currently processing steps are complete, use the stopaiw -q command.

To minimize the impact of shutting down the system on processes that are currently running, you can disable the input devices associated with the server before you stop it.

To stop a secondary server on a Linux system:
1. Log in to the Linux system as the InfoPrint ProcessDirector user (**aiw1**).
2. Access the command line.
3. Enter one of these commands to stop the secondary server:

   ```
   stopaiw
   or
   stopaiw -q
   ```

InfoPrint ProcessDirector disconnects the secondary server from the primary server and stops the secondary server.

Stopping the Windows secondary server service

You can stop the Windows secondary server service through the Windows user interface. Stopping the service prevents InfoPrint ProcessDirector from accessing any external programs on the Windows system through external steps in job types.

To stop the Windows secondary server service:

1. Log in to the Windows system as an administrator.
2. From the Windows Control Panel, click **Administrative Tools** → **Services**.
3. Right-click **InfoPrint ProcessDirector Secondary Server** and then click **Stop**.

Uninstalling InfoPrint ProcessDirector

You might need to uninstall InfoPrint ProcessDirector (for example, if you need to restore to a previous level). This section explains how to uninstall InfoPrint ProcessDirector from the primary and secondary servers. Keep in mind that your primary and secondary servers must be at the same InfoPrint ProcessDirector level. Therefore, if you uninstall InfoPrint ProcessDirector from your primary server and install a previous level, you must also uninstall InfoPrint ProcessDirector from all your secondary servers and install the same level.

Note: The instructions in this section describe uninstalling with the InstallShield Wizard graphical display. If you cannot run the InstallShield Wizard in graphical mode, use -console at the end of an uninstallation command to uninstall with a text-based program; for example:

```
./uninstall -console
```

Uninstalling from the primary server

If you need to uninstall the InfoPrint ProcessDirector programs from the primary server, you use one command that uninstalls the various programs in the correct order. You use separate InstallShield Wizards to uninstall each program.

To uninstall from the primary server:

1. Log in as the root user.
2. Enter these commands:

   ```
   cd /opt/IBM/aiw/V1.0/_uninst
   ./uninstall
   ```

   You see a welcome window.
3. For each program, reply to the prompts as the InstallShield Wizard steps you through the uninstallation. You see numerous processing messages that give the status of the uninstallation. When the uninstallation is complete, you see either a message that the uninstallation was successful or a message that there were errors and the location of the error log file.
4. Click **Finish.**
5. To completely remove all files that InfoPrint ProcessDirector installed, remove any file systems that were created as part of the installation:

   /aiw/aiw1/db2
   /aiw/aiw1/db2_logs
   /aiw

```
/var/psf/segments
/var/psf
/var/aiw
```

Important: Do not remove the /var/psf/segments and /var/psf directories if InfoPrint Manager is installed on the server you are using.

Uninstalling the AIX or Linux secondary servers

If you need to uninstall the InfoPrint ProcessDirector programs from the AIX or Linux secondary servers, you use one command that uninstalls the various programs in the correct order. You use separate InstallShield Wizards to uninstall each program.

Note: If you have both InfoPrint Manager and InfoPrint ProcessDirector installed on the same system and want to uninstall InfoPrint Manager, InfoPrint ProcessDirector will not work until you reinstall it. Follow the steps described in "Uninstalling InfoPrint Manager from an InfoPrint ProcessDirector server" on page 45.

To uninstall the AIX or Linux secondary servers:

1. Log in as the root user.
2. Enter these commands:
   ```
   cd /opt/IBM/aiw/V1.0/_uninst
   ./uninstall
   ```
   You see a welcome window.
3. For each program, reply to the prompts as the InstallShield Wizard steps you through the uninstallation. You see processing messages that give the status of the uninstallation. When the uninstallation is complete, you see either a message that the uninstallation was successful or a message that there were errors and the location of the error log file.
4. Click **Finish.**
5. To completely remove all files installed by InfoPrint ProcessDirector, delete these file systems and directories:

   ```
   /aiw
   /var/psf/segments
   /var/psf
   /var/aiw
   ```

   Note: Do not remove the /var/psf/segments and /var/psf directories if InfoPrint Manager is installed on the server you are using.

Uninstalling the Windows secondary server

To uninstall the Windows secondary server:

1. Log in as the administrator.
2. From the Windows Control Panel, click **Add or Remove Programs**.
3. Scroll down the list until you find **InfoPrint ProcessDirector secondary server on Windows** and select it.
4. Follow all instructions as directed.
5. Click **Finish**.

Uninstalling InfoPrint Manager from an InfoPrint ProcessDirector server

You can uninstall InfoPrint Manager from an InfoPrint ProcessDirector server.

If you have both InfoPrint Manager for AIX and InfoPrint ProcessDirector installed on the same system and want to uninstall InfoPrint Manager and keep the InfoPrint ProcessDirector primary server installed, you must do these steps. However, if the InfoPrint Manager server is a secondary InfoPrint ProcessDirector server, you only have to do these steps if the parent server of any of your InfoPrint ProcessDirector printers is the InfoPrint Manager server.

To uninstall InfoPrint Manager from an InfoPrint ProcessDirector server:
1. Back up InfoPrint ProcessDirector. See "Backing up data" on page 47.
2. Uninstall InfoPrint Manager. See the InfoPrint Manager documentation for AIX.
3. Uninstall InfoPrint ProcessDirector. See "Uninstalling InfoPrint ProcessDirector" on page 43.
4. Install InfoPrint ProcessDirector. See "Installing InfoPrint ProcessDirector on the primary server" on page 25.
5. Restore InfoPrint ProcessDirector. See "Restoring data" on page 48.

Chapter 5. Backing up data, applying service, and adding features

If you already have InfoPrint ProcessDirector installed on your system and you want to apply a service update or add feature software, you can do so without uninstalling InfoPrint ProcessDirector. The installation update program migrates your InfoPrint ProcessDirector objects, such as printers and input devices, to the updated level.

Keep in mind: Your primary and secondary servers must be at the same InfoPrint ProcessDirector level. Therefore, if you install a service update on your primary server, you must also install the service update on all your secondary servers.

Before installing any service updates or adding feature software, you must stop the primary server and all secondary servers. The activation step restarts the primary server. Apply service updates or features as necessary on the secondary servers and then restart the secondary servers by entering `startaiw` on the secondary system. For more information, see Chapter 4, "Starting, stopping, and uninstalling InfoPrint ProcessDirector on AIX," on page 39.

Back up your system data *before* you install an update and periodically for failure recovery. Then, if you need to reinstall InfoPrint ProcessDirector (for example, to remove an update you installed), you can run a restore program to recover your data.

Backing up and restoring InfoPrint ProcessDirector data

To prevent loss of data from a system failure or to recover data (for example, if you want to return your system to a previously installed level with all the settings and objects restored), InfoPrint ProcessDirector provides backup and restore programs.

The backup program saves this data:
- System data, such as job types, step templates, users, input devices, and printers stored in the database
- Control files, such as those used for header sheets
- User data, such as job files in the spool directory

Then, if you need to reinstall InfoPrint ProcessDirector, you can run a restore program to recover your data. System data and control files are always backed up and restored; as an option, you can back up and restore user data.

Note: You cannot use the backup and restore programs to copy or move InfoPrint ProcessDirector from one server to another unless the two servers have the same host name and the same InfoPrint ProcessDirector service level.

Backing up data

You can use a backup script to archive a copy of your InfoPrint ProcessDirector system configuration.

To back up InfoPrint ProcessDirector data:

1. Stop all secondary servers. See "Stopping primary and secondary servers on AIX" on page 42, "Stopping secondary servers on Linux" on page 42, and "Stopping the Windows secondary server service" on page 43.
2. On the primary server, log in as the InfoPrint ProcessDirector user. The default user ID is aiw1 and the default password is aiwpass1.
3. Enter aiwbackup.pl with any of these options:

   -f *filename*
   > Back up data to a directory and file name other than the default, which is /tmp/aiw_backup_data.[*timestamp*].tar.gz.

   -r Job files and input files are saved by default. A backup with the **-r** option does not save job files or input files, but it does save jobs. System data and control files are always saved.

   > **Important:** The **-r** option is slightly different on the **aiwbackup.pl** and **aiwrestore.pl** commands:
   > - On **aiwbackup.pl**, the **-r** option removes only job files and input files from the saved system. It does *not* delete the jobs from the system.
   > - On **aiwrestore.pl**, the **-r** option removes jobs, job files, and input files from the restored system.

   > If you use the **-r** option when you back up InfoPrint ProcessDirector, you should also use it when you restore the system to avoid restoring jobs whose files have not been saved.

   -h or -?
   > Display help for the **aiwbackup.pl** command.

   You see a message that all servers will be stopped, whether jobs and input files will be backed up, and the location of the backed up files.
4. Enter Y to proceed with the backup. When the backup is complete, you see a message that the backup was successful.
5. To continue using this level of InfoPrint ProcessDirector, see "Starting primary and secondary servers on AIX" on page 39. To update InfoPrint ProcessDirector to a new level, see "Applying service updates and adding feature or Extension software on the primary server" on page 49.

Restoring data

You can use an InfoPrint ProcessDirector restore script to return your system to the configuration that you stored in a backup archive.

To restore InfoPrint ProcessDirector to a previous level, including any service updates, you must back up your data *before* you install an update of InfoPrint ProcessDirector.

Keep these considerations in mind when restoring an InfoPrint ProcessDirector level:
- All existing jobs and input files from the current InfoPrint ProcessDirector level are removed when you restore to a previous level.
- If you used a new level of InfoPrint ProcessDirector and then restored to a previous level, or if you installed and used the previous level before you restored the backup files, any changes you made to system data, control files, or user data is lost. Therefore, if you need to restore your backup files, do it as soon as possible to reduce the amount of lost data.

To restore InfoPrint ProcessDirector data:

1. Stop all primary and secondary servers (see "Stopping primary and secondary servers on AIX" on page 42, "Stopping secondary servers on Linux" on page 42, and "Stopping the Windows secondary server service" on page 43).
2. Uninstall InfoPrint ProcessDirector on all servers (see "Uninstalling InfoPrint ProcessDirector" on page 43).
3. On the primary and secondary servers, install the same level of InfoPrint ProcessDirector as the backup you previously created (see Chapter 3, "Installing InfoPrint ProcessDirector on AIX," on page 25).
4. On the primary server, log in as the root user.
5. Enter /opt/IBM/aiw/V1.0/bin/aiwrestore.pl with any of these options:

   -f *filename*
   Restore data from a directory and file name other than the default, which is /tmp/aiw_backup_data.[*timestamp*].tar.gz.

   -r Jobs, job files, and input files are restored by default. A backup with the **-r** option does not restore jobs, job files, or input files. System data and control files are always restored.

   Important: The **-r** option is slightly different on the **aiwbackup.pl** and **aiwrestore.pl** commands:
   - On **aiwbackup.pl**, the **-r** option removes only job files and input files from the saved system. It does *not* delete the jobs from the system.
   - On **aiwrestore.pl**, the **-r** option removes jobs, job files, and input files from the restored system.

   If you used the **-r** option when you backed up InfoPrint ProcessDirector, you should also use it when you restore the system to avoid restoring jobs whose files have not been saved.

   -h or -?
   Display help for the **aiwrestore.pl** command.

   You see a message that all servers will be stopped and the location the files are restored from.
6. Enter Y to proceed with the restore.
7. When you see a database warning message, enter Y. When the restore is complete, you see a message that the restore was successful.
8. Start the servers to use the restored level of InfoPrint ProcessDirector. See "Starting primary and secondary servers on AIX" on page 39.

Applying service updates and adding feature or Extension software on the primary server

You or your service representative might want to apply a service update for InfoPrint ProcessDirector to address issues or add new functions. If you receive a service update or purchase an additional feature or Extension for InfoPrint ProcessDirector, you can install them without uninstalling the system.

Before installing a service update of InfoPrint ProcessDirector, back up your data in case you need to reinstall the level of InfoPrint ProcessDirector you removed with the update. See "Backing up data" on page 47.

To apply a service update or add feature software on the primary server:

1. Delete as many jobs as possible from the system to minimize time and storage requirements.

2. Stop all primary and secondary servers. See "Stopping primary and secondary servers on AIX" on page 42, "Stopping secondary servers on Linux" on page 42, and "Stopping the Windows secondary server service" on page 43.

3. Log in as the root user.

4. Enter this command to make sure that you are in the root directory:

   `cd /`

5. Make sure that only one session of the cdrom daemon (**cdromd**) is running. Enter:

   `ps -ef | grep cdromd`

   - If there is more than one session of the daemon running, make note of the process ID of each daemon and use the **kill** command to stop all except one session.

   - If there are no daemon sessions running, enter:

     `cdromd`

6. Insert the CD for the service update, or for the feature or Extension software, in the CD-ROM drive.

7. Enter this command to start the installation:

   `/cdrom/cd0/setup`

8. If you see a prompt, select **Primary**.

9. Select the appropriate language for the wizard to use and then click **OK**. You see a welcome window for the InstallShield Wizard.

10. Reply to any prompts as the InstallShield Wizard steps you through the installation.

    Note: During the installation on the primary server, the contents of the InfoPrint ProcessDirector database are copied to migration directories to preserve the data. Objects such as users, printers, input devices, and job types are restored in the update. This process might take a long time.

11. When you see a message that all your files have been copied to your system, click **Activate later** if you have additional software to install. Otherwise, click **Activate now**. The final window displays the URL for accessing the user interface in this format, where *hostname* is the host name of the primary server:

    `http://hostname:15080/aiw`

12. Click **Finish** to complete the installation. A prompt asks if you have additional software to install.

13. If you have additional feature or Extension software to install, click **Yes** and reply to any prompts. Be sure to click **Activate now** during the final installation.

14. The primary server restarts as part of the activation, but you might need to restart your secondary servers. For information about restarting the secondary servers, see "Starting secondary servers on Linux" on page 40 and "Starting the Windows secondary server service" on page 41.

15. Restore any files that you have customized for your installation.

    Files that you might have customized for your installation are copied to migration directories during the update, but they are not restored automatically. For example, you might have customized the control files for job audit information, banner pages, external programs, Passthrough printers, and rules files. These control files are initially installed in directories under the

| /aiw/aiw1/control_files directory. When you install an update to InfoPrint
| ProcessDirector, all the control files in those directories are copied to the
| /tmp/aiwsave directory. The installation program overwrites the files in the
| aiw/aiw1/control_files directory, so if you have customized those files, you
| must move your customized versions from the /tmp/aiwsave directory back
| into their original location under the /aiw/aiw1/control_files directory.

16. See "Completing post-installation tasks" on page 36.

After you run the update for several days and are satisfied with its operation, you
can delete the migration directories that contain copies of the database contents.
Enter these commands:

```
cd /opt/IBM/aiw/V1.0/bin
clean_migrate_files.pl
```

Applying service updates on Linux secondary servers

You or your service representative might want to apply a service update for
InfoPrint ProcessDirector Linux secondary servers to address issues or add new
functions. If you install a service update on your primary server, you must also
install it on your Linux secondary servers.

The Linux secondary server should have been stopped when you applied the
update on the primary server.

To apply a service update on a Linux secondary server:

1. Log in as the root user.
2. Insert the CD for the service update in the CD-ROM drive.
3. To determine the name of the CD mount point, enter:

   ```
   ls /media/*
   ```

   On some systems where the CD is mounted automatically, the name of the
   mount point is the same as the name of the CD.
4. Mount the CD, if necessary. Enter:

   ```
   mount /media/mount_point
   ```
5. Enter this command to start the installation:

   ```
   /media/mount_point/setup
   ```
6. Select the appropriate language for the wizard to use and then click **OK**. You
   see a welcome window for the InstallShield Wizard.
7. Reply to any prompts as the InstallShield Wizard steps you through the
   installation.
8. When you see a message that all your files have been copied to your system,
   click **Activate now**.
9. Click **Finish** to complete the installation.
10. A prompt asks if you have additional software to install. Select **No** or **Exit**,
    then remove the CD from the CD-ROM drive.
11. Restart your secondary servers (see "Starting primary and secondary servers
    on AIX" on page 39 for information).
12. See "Completing post-installation tasks" on page 36.

Applying service updates on AIX secondary servers

You or your service representative might want to apply a service update for InfoPrint ProcessDirector AIX secondary servers to address issues or add new functions. If you receive a service update for your AIX secondary servers, you can install them without uninstalling the system. If you install a service update on your primary server, you must also install it on your AIX secondary servers.

To apply a service update on an AIX secondary server:

1. Log in as the root user.
2. Enter this command to make sure you are in the root directory:

   `cd /`

3. Make sure that only one session of the cdrom daemon (**cdromd**) is running. Enter:

   `ps -ef | grep cdromd`

   - If there is more than one session of the daemon running, make note of the process ID of each daemon and use the **kill** command to stop all except one session.
   - If there are no daemon sessions running, enter:

     `cdromd`

4. Insert the CD for the service update in the CD-ROM drive.
5. Enter this command to start the installation:

   `/cdrom/cd0/setup`

6. Select the appropriate language for the wizard to use and then click **OK**. You see a welcome window for the InstallShield Wizard.
7. When you see a message that all your files have been copied to your system, click **Activate now**.
8. Click **Finish** to complete the installation.
9. A prompt asks if you have additional software to install. Select **No** or **Exit**, then remove the CD from the CD-ROM drive.
10. To verify that the InfoPrint ProcessDirector server is running, enter this command on the command line:

    `ps -ef | grep Instance`

    You should see an instance statement such as:

    `java com.ibm.aiw.instance.SecondaryInstance hostname`

    If the server is not running, contact customer support.

Applying service updates on Windows secondary servers

You or your service representative might want to apply a service update for InfoPrint ProcessDirector Windows secondary servers to address issues or add new functions. If you receive a service update for your Windows secondary servers, you can install them without uninstalling the system. If you install a service update on your primary server, you must also install it on your Windows secondary servers.

To apply a service update to a Windows secondary server:

1. Insert the CD for the service update in the CD-ROM drive. The InstallShield Wizard starts automatically.

2. Select the appropriate language for the wizard to use, then click **OK**. You see a welcome window for the InstallShield Wizard.
3. Follow the instructions on the installation screens to install the update. The destination directory and other necessary settings are obtained automatically based on your initial installation.
4. If a prompt asks if you have additional software to install, select **No** or **Exit**.

Chapter 6. Installation planning checklist

This checklist contains tasks that can help you plan for your InfoPrint ProcessDirector installation.

Table 19. Installation planning checklist. Check each item as you complete the task.

	Task	Notes
	Determine your system configuration (see "System configurations" on page 5 for an example of a configuration). Keep in mind your requirements for file sharing (such as Shark, FAST, RAID, or NFS) and a failure recovery system. If you need help setting up a failure recovery system, contact your customer representative to discuss a custom solution.	
	Estimate your current and future storage and backup needs. Consider production volumes, print resource management, and failure recovery.	
	Make sure that you have adequate network capacity.	
	Determine which printers you want to include in the InfoPrint ProcessDirector workflow. See "Supported printers" on page 4 for the printers that InfoPrint ProcessDirector supports. When you define printers to InfoPrint ProcessDirector, you need this information: • Printer name • TCP/IP port number • TCP/IP address or host name You should also decide on the language for the printer driver component to use when it returns messages to InfoPrint ProcessDirector.	
	Obtain the required hardware for your configuration that meets your storage and backup requirements (see "Hardware requirements" on page 7).	
	Decide whether to set up your file system as partitions or as mounted file systems from other storage units. See "Planning for file systems" on page 8.	

Table 19. Installation planning checklist (continued). Check each item as you complete the task.

	Task	Notes
	Determine whether to use the default system group ID (GID) for InfoPrint ProcessDirector or your own numeric value. Keep in mind that the GID must be the same across all servers; therefore, if you choose your own, make sure the value is large enough to avoid conflicts. The default system GID value is 32458, which has a name of `aiwgrp1`.	
	Determine whether to use the default system user ID (UID) for InfoPrint ProcessDirector or your own numeric value. Keep in mind that the UID must be the same across all servers; therefore, if you choose your own, make sure the value is large enough to avoid conflicts. The default system UID value is 32457, which has a name of `aiw1` and a password of `aiwpass1`. If you create directories for InfoPrint ProcessDirector input devices to use, this UID must be a member of the group that owns these directories.	
	Establish a host name and IP address for each server. InfoPrint ProcessDirector supports IPv4 addresses. **Note:** Be sure to choose a host name you want to keep. If you change the host name after InfoPrint ProcessDirector is installed, you must uninstall and then install InfoPrint ProcessDirector again.	
	Determine which password to use when you log in to InfoPrint ProcessDirector with the `aiw` user name. The first time you log in to InfoPrint ProcessDirector with the default user name of `aiw` and the default password of `aiw`, you are prompted to change the password. The password must be 8 to 32 alphanumeric characters.	
	Determine how many user IDs you want to create and which authority you want each ID to have, such as monitor, operator, supervisor, or administrator.	
	Consider which job submission method you are going to use to send jobs to InfoPrint ProcessDirector. You can use Download for z/OS, AFP Download Plus, copy or ftp files into hot folders, or send files using the LPD protocol. The job submission method you use depends on the system you are sending the jobs from. For more information, see "Job submission" on page 19.	
	Determine which resources must be available for InfoPrint ProcessDirector to use (such as standard and non-standard AFP fonts). Then, consider how you want to share your AFP resources so they are available to InfoPrint ProcessDirector (for example, NFS or Samba). Also, keep in mind that you must do post-installation configuration so InfoPrint ProcessDirector can use the resources (such as updating the font mapping files for the file viewer). For information about AFP resource directories, see the InfoPrint ProcessDirector information center.	

Table 19. Installation planning checklist (continued). Check each item as you complete the task.

	Task	Notes
	Install the required software for your configuration (see "Installing required software" on page 11).	
	Download the latest PTF from `http://www.infoprint.com` or get it from your InfoPrint Solutions Company service representative.	
	Install any optional software, such as Download for z/OS, AFP Download Plus, or InfoPrint Transform Manager (see "Planning for optional software" on page 19).	
	Change the language for the server, if required: **AIX** In SMIT, click **System Environments → Manage Language Environment**. **Linux** In YaST: • Click **System → Choose Language**. • Click **System → Select Keyboard Layout**. In the KDE Control Center, click **Regional & Accessibility → Country/Region & Language**. **Windows** Click **Control Panel → Regional and Language Options**.	

Chapter 7. Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, use software products successfully. The major accessibility features in InfoPrint ProcessDirector let users:

- Use assistive technologies such as screen-readers and screen magnifier software.
- Operate specific or equivalent features using only the keyboard.
- Customize display attributes such as color, contrast, and font size.

Using assistive technologies

Assistive technology products, such as screen-readers, function with the user interfaces found in InfoPrint ProcessDirector.

To enable assistive technology support in the InstallShield Wizard, specify the console option at the end of the setup command. For example, to enable assistive technology on AIX servers, enter:

```
cd/
```

```
/cdrom/cd0/setup -console
```

Assistive technology runs with the text-based installation program instead of the graphical display. Consult the assistive technology documentation for specific information when using it to access InfoPrint ProcessDirector.

Keyboard navigation of the user interface

The InfoPrint ProcessDirector user interface complies with the accessibility guidelines for HTML. Users can use keyboard shortcuts or function keys (PF keys) in the Web browser to access the InfoPrint ProcessDirector user interface. For example, Tab lets you move forward through the items on a page, the Address bar, and the Links bar. See your browser documentation for keyboard shortcuts and default settings for the PF keys and for explanations about how to modify their functions.

InfoPrint ProcessDirector viewer shortcut keys

When the file viewer is displayed, you can use these shortcut keys:

Table 20. Viewer shortcut keys

Description	Alt + key
Go to first tag value	1 (number one)
Go to previous tag value	u
Go to next tag value	s
Go to last tag value	l (small-letter L)
Display first page with selected tag value	j
Find next	n
Find previous	p

Table 20. Viewer shortcut keys (continued)

Description	Alt + key
Cancel	x
Find string	i
Search overlays and page segments	o
Rotate clockwise	r
Rotate counterclockwise	c

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Glossary

This glossary defines technical terms and abbreviations used in InfoPrint ProcessDirector.

access control

In computer security, the methods and facilities used to ensure that a computer system and the data, system software, and application programs stored in it can be accessed only by authorized users in authorized ways.

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 display data on a variety of display devices. AFP also includes creating, formatting, archiving, retrieving, viewing, and distributing information.

AFP

See Advanced Function Presentation.

AIX

Advanced Interactive Executive operating system. A UNIX operating system developed by IBM that is runs on POWER microprocessor-based hardware such as servers, workstations, and blades.

client

In a distributed file system environment, a system that is dependent on a server to provide it with programs or access to programs.

client/server

In communications, the model of interaction in distributed data processing in which a program at one site sends a request to a program at another site and awaits a response. The requesting program is called a client; the answering program is called a server.

command

A request from a terminal or a specification in a batch-processing print file for the performance of an operation or the running of a particular program.

compatibility fonts

A group of AFP fonts that emulate the uniformly spaced and fixed-pitch fonts used with line printers. Compatibility fonts include 240-pel and 300-pel fonts.

File Transfer Protocol (FTP)

In the Internet suite of protocols, an application layer protocol that uses TCP and Telnet services to transfer bulk-data files between machines or hosts.

GIF

Graphics interchange format for images.

host name

The network name for a print server or transform server. The host name is the fully qualified domain name or a specific subname of a fully qualified domain name. For example, if printserver1.boulder.ibm.com is the fully qualified domain name, either printserver1.boulder.ibm.com or printserver1 can be the host name. See also IP address.

hot folder

A directory that receives input files that are submitted to InfoPrint ProcessDirector.

InfoPrint Manager for AIX

A print server that 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.

IP address

In the Internet suite of protocols, the 32-bit address of a print server or transform server, expressed in dotted decimal notation. For example: 9.99.9.143. See also host name.

JPEG

Joint Photographic Experts Group image format.

Linux

An open source implementation of the UNIX system.

line printer daemon (LPD)

The receiving portion, or target, of a file transfer that receives the spooled file that was sent and places the file on a local output queue.

mount

To make a file system accessible.

OpenType font

An extension of the TrueType font format that adds support for PostScript outlines and more support for international character sets and advanced typographic control.

outline font

A font whose graphic character shapes are defined by mathematical equations rather than by raster patterns.

PDF

See Portable Document Format.

Portable Document Format (PDF)

A universal file format that preserves the fonts, images, graphics, and layout of any source document so it can be viewed and printed on a variety of platforms.

PostScript (PS)

A page description language with graphics capabilities that was developed by Adobe Systems, Incorporated.

print server

A computer to which one or more printers are connected or the process that manages those printers.

PS

See PostScript.

raster font

A font in which the characters are defined directly by the raster bitmap.

root

The user name for the system user with the most authority.

server

On a network, the computer that contains the data or provides the facilities to be accessed by other computers on the network.

spool

The system function of putting files or jobs into disk storage for later processing or printing.

transform server

The process that manages data and image transforms.

TIFF

Tagged image file format.

TrueType font

A font format based on scalable outline technology in which the graphic character shapes are based on quadratic curves. The font is described with a set of tables contained in a TrueType font file.

Web browser

A client program that initiates requests to a Web server and displays the information that the server returns.

Web server

The program that is capable of servicing Hypertext Transfer Protocol (HTTP) requests for display in a Web browser.

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