IBM Infoprint ProcessDirector for Linux

IBM

Planning and Installation

Version 1, Release 2.1

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> **Note:**
> Before using this information and the product it supports, read the information in "Notices" on page 35.

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Contents

About this publication

This publication provides planning and installation information about the IBM®
Infoprint® ProcessDirector for Linux®, Version 1 Release 2.1 licensed program
(Program Number 5697-N55). Infoprint ProcessDirector runs on a Linux server and
is accessed from a Web-based user interface.

Who should read this publication

This publication is for system administrators who need to plan for and install
Infoprint ProcessDirector on Linux.

Related information

For information about IBM printing products, see these Web pages:

```
http://www.ibm.com/printers
http://publib.boulder.ibm.com/infocenter/printer/index.jsp
```

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 the IBM 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 Guide*, G544-5833
- *Infoprint Manager: PSF and Server Messages*, G550-0524
- *Infoprint Manager: Reference*, S544-5475
- *Infoprint Transform Manager for Linux: Administration*, S550-0391
- *Infoprint XT for AIX Installation and User's Guide*, GLD0-0024
- *PSF for z/OS: AFP Download Plus*, S550-0433
- *PSF for z/OS: Download for z/OS*, S550-0429

Chapter 1. Overview of Infoprint ProcessDirector

IBM 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.

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® and Linux workstations in your network. You do not need to install Infoprint ProcessDirector on the Windows and Linux workstations to access the user interface; you only need to install Infoprint ProcessDirector on the Linux 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 an xSeries® machine with the Linux 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 Linux xSeries system, installed on a separate Linux xSeries system, or installed on an AIX® pSeries® system. A secondary Linux server can be used for processing steps and managing printers or input devices. A secondary AIX server can be used for processing steps and for managing printers when IBM Infoprint Manager for AIX is installed.
>
> 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 Linux xSeries machine as the primary Infoprint ProcessDirector server. It is also installed on secondary Linux servers, but not on secondary AIX 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 Linux xSeries machine
as the primary Infoprint ProcessDirector server; it is not installed
on secondary Linux or AIX 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 or Linux workstation as
> long as they have an Infoprint ProcessDirector user ID. The Windows
> workstation must have either a Microsoft Internet Explorer or a Mozilla
> Web browser installed; the Linux workstation must have a Mozilla Web
> browser installed. The user interface program is installed on the same
> Linux xSeries 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.

Compatible products

As an option, these products can be used with Infoprint ProcessDirector:

AFP Download Plus
> AFP Download Plus is a separately ordered feature of IBM Print Services
> Facility (PSF) for z/OS (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
> (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
> IBM 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
> IBM 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.

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

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

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

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 grow.

Infoprint ProcessDirector Extensions are customizable software components that you can purchase from your IBM Printing Systems 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:

- **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.

- **AFP Indexer**

  The AFP Indexer Extension lets you create an index control file that tells Infoprint ProcessDirector how to define page groups and add index tags to AFP print files. When you view an AFP print file that contains page groups and index tags in Infoprint ProcessDirector, you can navigate in the file to find specific tag values.

- **Service Level Agreements (SLA)**

  The Service Level Agreements Extension lets you configure Infoprint ProcessDirector so you can manage your progress towards meeting your performance objectives. If you have Service Level Agreements (SLAs) in place with your customers, this Extension can help you make sure that their print jobs are on schedule to be completed on time.

Supported printers

Infoprint ProcessDirector supports these IBM printer models:
- Infoprint 4000
- Infoprint 4100
- Infoprint 2090ES
- Infoprint 2105ES

System configurations

You can install Infoprint ProcessDirector with various system configurations, depending on whether you use secondary servers. The hardware configurations can include:
- Primary Linux server

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

The graphic in Figure 1 shows a configuration with a primary Linux server, a secondary Linux server on a separate system, and a secondary AIX server. The graphic 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.
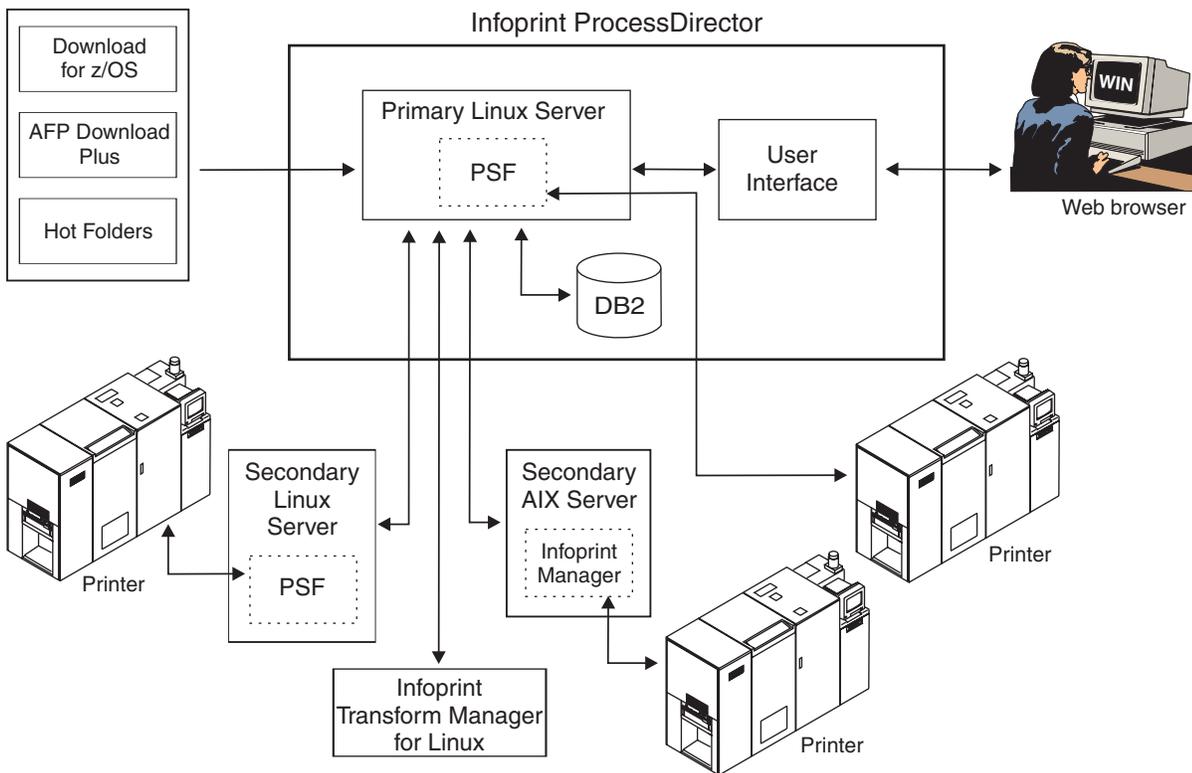
Figure 1. Example of an Infoprint ProcessDirector system configuration

Chapter 2. Planning for installation

Table 5 on page 29 is an installation planning checklist that includes planning considerations and tasks for your Infoprint ProcessDirector installation. You can use the checklist to help you keep track of the planning tasks you have completed.

Before you can install Infoprint ProcessDirector, you must complete the planning tasks listed in the checklist, including those detailed in this chapter:

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

Hardware requirements

The system hardware requirements for Infoprint ProcessDirector are:

- One or more 2.8 GHz or faster processors
- Minimum of 4 GB RAM for the primary server
- Minimum of 1 GB RAM for secondary servers
- Minimum of 1024 x 768 display resolution

> **Note:** A higher display resolution, 1280 x 1024, is recommended if you need to display more 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 what hardware configuration meets your print requirements, contact your IBM Printing Systems representative.

Primary server

The hardware required to install the primary Infoprint ProcessDirector server is an xSeries system that is able to run this operating system: SUSE Linux Enterprise Server (SLES) 9.0 with Service Pack 3 (SP3) for x86.

Novell has a program that certifies the hardware on which you can install the SLES operating system. For example, you can run SLES on an IBM eServer™ xSeries 255 Model 8685-2RX. To determine which hardware is currently certified, see:

```
http://developer.novell.com/yessearch/Search.jsp
```

Make sure you specify SUSE Linux Enterprise Server 9 for x86 as the Novell product when you search for supported hardware.

Secondary system servers

You can install Infoprint ProcessDirector on secondary Linux or AIX system servers that have a minimum of 1 GB RAM. Secondary Linux servers require an xSeries

system with the same operating system requirements as the primary server. Secondary AIX servers require a pSeries system that runs on this operating system: AIX 5L Version 5.2 with Maintenance Level (ML) 7 or later.

Determining your file system setup

You can set up your file system as partitions or as a mounted file system from other storage units. Consider these when making your decision:
- System configuration
- File sharing strategy
- Storage and backup needs
- Production volumes and print resource management
- Network capacity
- Failure recovery

You need to set up partitions and mount the file directories on your system before you install Infoprint ProcessDirector.

Simple partition setup

A single partition is the simplest file system setup. However, a single partition does not allow the system to continue functioning when it runs out of space. Table 1 shows the recommended simple partition setup for the primary Infoprint ProcessDirector server with a 180 GB hard drive and for secondary Linux and AIX servers.

Table 1. Simple partition for primary Infoprint ProcessDirector server (180 GB hard drive) and secondary Linux and AIX servers

File system partition	Size	Description	Server
/	10 GB	Root directory	Primary and secondary
/aiw	80+ GB	Directory for Infoprint ProcessDirector print jobs, resources, backup files, and trace files. This directory is only required for the primary server; it is shared by the secondary servers as a mounted file system.	Primary: required Secondary: shared
/var/psf	50+ GB	To improve performance, this directory must be bigger than your biggest job. It requires enough space to store data for concurrent jobs on multiple printers. This is the recommended minimum size for five printers. Increase the size by 10 GB for each additional printer.	Primary Secondary Linux
/aiw/aiw1/db2	20 GB	Directory for DB2 tables. This directory is only applicable on the primary Infoprint ProcessDirector server.	Primary only
/aiw/aiw1/db2_logs	2 GB	Directory for DB2 logs. This directory is only applicable on the primary Infoprint ProcessDirector server.	Primary only

Installing required software

Infoprint ProcessDirector requires that the operating system you install runs in 32-bit mode. You can install this level of the operating system, depending on the hardware it is installed on:

xSeries system:
SUSE Linux Enterprise Server (SLES) 9.0 with SP3 for x86

Note: In this publication, "SLES" represents this level of SUSE Linux.

pSeries system:
AIX 5L Version 5.2 with ML 7 or later

Install the SLES operating system on the primary and secondary Linux system servers; install the AIX operating system on the secondary AIX system server.

Installing the SLES 9.0 operating system

1. See the SLES documentation to install SLES with these required components:
   - libredcarpet-python 2.0.2
   - Apache-Ant
   - Acroread 7 PDF viewer
   - Mozilla 1.7 Web browser
   - Japanese installations only:
     - kochi-substitute Version 20030809 or later (font substitutes for Japanese Kochi TrueType fonts)
     - xfntjp Version 20020904 (Japanese fixed fonts for X11)

   Note: The latest levels of some of the required components are only available with Service Pack 3 (SP3).
2. Create Linux partitions and file systems. See "Determining your file system setup" on page 6 for recommendations and considerations.
3. Run these commands and look for the expected results to verify that you installed SLES correctly:

Table 2. 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
rpm -q apache-ant	apache-ant-1.6.0-77.1

   If the command results are not as you expect, use Yet Another System Tool (YaST) to make sure you have installed the required components (see Step 1). In YaST, select **Software –> Install/Remove Software**.
4. Verify time zone settings through YaST, and correct if necessary:

   Select **System –> Date and Time –> Clock and Time Zone Configuration**.
5. Set up networking based on system networking information.
6. 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, ping the primary Infoprint ProcessDirector server.

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

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

7. For optimum performance, verify that your Ethernet settings are running full duplex mode with autonegotiation off. For example:

a. Enter **ethtool eth0** to display the Ethernet settings.

b. Enter **ethtool -s eth0 autoneg off** if autonegotiation is set to on.

c. Enter **ethtool -s eth0 duplex full** if duplex is not set to full.

Installing the AIX operating system

1. See the AIX documentation to install AIX 5L Version 5.2 or later.

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

Select **System Environments –> Change/show date and time**.

3. Set up networking based on system networking information.

4. 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.

User interface software

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

Linux system:
Mozilla 1.7, which is provided with the SLES 9.0 operating system; you must choose to install it when you are installing the operating system.

Windows system:
- Mozilla 1.7. For information about obtaining this browser, see: `http://www.mozilla.org`
- Microsoft Internet Explorer 6.x and Internet Explorer 7. For information about obtaining these browsers, see: `http://www.microsoft.com`

    Note: Infoprint ProcessDirector only supports Microsoft Internet Explorer running on Windows XP.

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 Linux or Windows system where you are accessing the user interface:

Linux system:
Adobe Reader 7.0, which is included with SLES. 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 10.

Windows:

Adobe Reader 7.0. For information about obtaining this Adobe Reader, see: `http://www.adobe.com`

To obtain Adobe Reader in your preferred language, go to the Web page and do this:

1. Select **(Change)** in the top right portion of the page.
2. Select a region and language, and then select **Go**.
3. Download Adobe Reader.

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 the page**.
9. 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**. If you are using Internet Explorer 7, click **Settings** in the **Browsing history** section.
3. Under **Check for newer versions of stored pages**, select the **Automatically** radio button and then 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. Then, move your language up so that it is the first entry in the list and 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

The Adobe Reader is available on the Linux system when SLES is installed. However, you might need to make the Adobe Reader available to the Mozilla Web browser on Linux. If so, follow this procedure:

1. Enter **/usr/local/Adobe/Acrobat7.0/Browser/install_browser_plugin** at the command prompt.
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, select **Help –> About Plug-ins**. You should see Adobe Acrobat 7.0.

Planning for optional software

This section explains planning information for installing optional software to be used with Infoprint ProcessDirector.

Job submission

Infoprint ProcessDirector can receive jobs for processing from the Job Entry Subsystem (JES) spool on a z/OS host or from any system that can send jobs to hot folders. 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:

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

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.

Hot folders
> Receives print files from a 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.

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.printers.ibm.com/internet/wwsites.nsf/vwwebpublished/psfhome_z_ww

In addition to deciding what job submission methods to use, you need to determine the naming convention for the job submission directories on the Linux primary server where you want the input files to reside. 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/download` for Download for z/OS or AFP Download Plus jobs, or `/aiw/aiw1/System/hotfolder` for hot folder 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/download/AFP` for AFP input files received from Download for z/OS or AFP Download Plus, or `/aiw/aiw1/System/hotfolder/linedata` for line data input files received from hot folders.

Each directory must provide read and write access to the `aiwgrp1` group so Infoprint ProcessDirector can read and modify the input files. See "Completing post-installation tasks" on page 19 for more information about the `aiwgrp1` group.

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.

See the Infoprint ProcessDirector information center in the user interface for information about configuring Download for z/OS and AFP Download Plus with Infoprint ProcessDirector. For more information about 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*. For information about copying files to hot folders, see the Infoprint ProcessDirector information center in the user interface.

Data transforms

Infoprint Transform Manager for Linux receives print jobs from Infoprint ProcessDirector and transforms the data so it can be printed.

Infoprint Transform Manager for Linux 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 2 or 3.

If you have the AFP2PDF Transform for Linux PRPQ (5799-TWL) installed, Infoprint Transform Manager can transform AFP data to PDF. For information about Infoprint Transform Manager, see *Infoprint Transform Manager for Linux: Administration* or this Web page:

http://www.printers.ibm.com/internet/wwsites.nsf/vwwebpublished/itmhome_l_ww

You can also use Infoprint XT™ for AIX to transform Xerox metacode and LCDS jobs to AFP. For information about Infoprint XT, see *Infoprint XT for AIX Installation and User's Guide* or this Web page:

http://www.printers.ibm.com/internet/wwsites.nsf/vwwebpublished/ipxthome_p_ww

Infoprint Manager for AIX

Infoprint ProcessDirector can send print jobs to printers defined on secondary AIX servers that have Infoprint Manager for AIX, Version 4 Release 2 with PTF U807769 installed. For information about Infoprint Manager for AIX, see the Infoprint Manager publications or see this Web page:

http://www.printers.ibm.com/internet/wwsites.nsf/vwwebpublished/ipmhome_p_ww

Fonts

Infoprint ProcessDirector provides a basic set of 240-pel and 300-pel fonts (IBM compatibility fonts) with the product. For a more robust font set, IBM recommends you install additional AFP fonts on your primary Linux server. IBM Infoprint Fonts for Multiplatforms (Program Number 5648-E77) contains AFP outline fonts and TrueType and OpenType fonts. Table 3 lists the AFP outline font features of Infoprint Fonts that you can order and install on your Linux workstation.

Table 3. Infoprint Fonts for AIX, Linux, and Windows

Font Library Name	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.printers.ibm.com/internet/wwsites.nsf/vwwebpublished/ipfontshome_m_ww

If your AFP files require additional raster fonts for printing, you might need fonts from the AFP Font Collection (Program Number 5648-B45). Table 4 lists the AFP Font Collection features you can order.

Table 4. AFP Font Collection

Font Collection Name	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

Table 4. AFP Font Collection (continued)

Font Collection Name	Program Number	Feature Number
Traditional Chinese Fonts for AIX, Windows NT, and Windows 2000	5648-B45	5839

The AFP Font Collection does not provide an installation program for Linux. To use the AFP Font Collection on your Linux server, copy the fonts from the AFPFONTS directory on the AFP Font Collection CD-ROM to the `/usr/lpp/afpfonts` directory on your Linux 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.printers.ibm.com/internet/wwsites.nsf/vwwebpublished/afpfonthome_m_ww`

Chapter 3. Installing Infoprint ProcessDirector

The Infoprint ProcessDirector installation package consists of several compact discs (CDs), which contain:

- Installation program for DB2
- Installation program for Infoprint ProcessDirector
- Installation programs for feature software (optional)
- Publications

Each program is installed from its own CD. To install Infoprint ProcessDirector on the primary server, you must install the DB2 program first, and then install the Infoprint ProcessDirector program, which installs the base Infoprint ProcessDirector program, the PSF program, and the user interface program. After the Infoprint ProcessDirector program is installed, you can install programs for any of the feature software and any of the Infoprint ProcessDirector Extensions.

On secondary system servers, you do not install the DB2 program; you only install the base Infoprint ProcessDirector program. For Linux secondary servers, the PSF program is also installed.

Important:

1. The installation instructions describe the installation with the InstallShield Wizard graphical display. If you cannot run the InstallShield Wizard in graphical mode, use the console option at the end of a setup command to install with a text-based installation program. For example, enter:

   Linux server

   ```
   ./setup -c
   ```

   AIX server

   ```
   ./setup_aiw_aix.bin -console
   ```

2. To see what attributes you can use with the setup command on Linux servers, enter `./setup -h`.

3. During the installation of any Infoprint ProcessDirector program, the program files are copied to the system. However, the installation is not complete until you select **Activate now**. If you skip the activation step and select **Activate later** (for example, to view the publications CD), you must insert any additional software CD and select **Activate now** before using Infoprint ProcessDirector. If you install any new Infoprint ProcessDirector software, you must activate again.

4. 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 25.

After you finish installing Infoprint ProcessDirector, you do post-installation tasks to verify the installation and configure Infoprint ProcessDirector.

Installing Infoprint ProcessDirector on the primary Linux server

This procedure explains how to install the DB2 and Infoprint ProcessDirector programs on the primary server. Separate InstallShield Wizards are used to install each program.

To install Infoprint ProcessDirector on a primary Linux workstation:

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 5.
2. Make sure that DB2 is not installed on the system.
3. Log in as the root user.
4. Insert the DB2 CD in the CD-ROM drive.
5. Mount the CD, if necessary. For example, enter **mount /media/cdrom** or **mount /media/cdrecorder**.
6. Open a console window and change to the CD directory. For example, enter **cd /media/cdrecorder**.
7. From the Linux console command line, enter **./setup** to start the installation.
8. For each program that is installed:
   a. Select the appropriate language for the InstallShield Wizard, and then select **OK**. The final program that is installed also 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.

      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, 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 29).
10. When you see a message that all your files have been copied to your system, select **Activate later** if you have additional software or a service update to install. Otherwise, select **Activate now**.

    The final window displays the URL for accessing the user interface in the format:

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

    The host name of the primary Linux server is *hostname*.
11. Select **Finish** to complete the installation. You see an installation complete message in the console window, which indicates that all programs have been installed.
12. Remove the Infoprint ProcessDirector CD from the CD-ROM drive.
13. To install software from any additional Infoprint ProcessDirector CDs, including service updates, insert the CD in the CD-ROM drive and do these steps:
    a. Repeat steps 5 and 6.

b. From the Linux console command line, enter **./setup** to start the installation.

c. Reply to any prompts. Be sure to select **Activate now** during the final installation.

14. Verify the installation through the Web browser:

a. The Web browser on your Linux workstation automatically launches the Infoprint ProcessDirector log-in page.

   Note: If the Infoprint ProcessDirector log-in page does not automatically launch, manually launch the browser and enter this URL:

   `http://hostname:15080/aiw`

   The host name of the primary Linux server is *hostname*.

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

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

   2) Enter **stopaiw** at the command prompt.

   3) Enter **startaiw** at the command prompt.

   4) From the Web browser, enter **http://*hostname*:15080/aiw**.

c. Enter the default administrator user ID **aiw** and the default password **aiw** and then select **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 29.

Infoprint ProcessDirector is now running on your primary Linux server. See "Completing post-installation tasks" on page 19 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 on separate secondary Linux and AIX servers. For either type of secondary server, do these common tasks from the primary server and then do the installation tasks specific to your operating system:

1. Set up the primary server to export the Infoprint ProcessDirector shared file system (/aiw) to the secondary server:

   a. Use YaST to verify that the NFS server on the primary system is started:

      1) Select **Networkservices –> NFS Server**.

      2) Verify that `Start NFS Server` is set. If not, select **Start NFS Server** and then select **Next**. You see that `/aiw` is one of the available directories.

      3) Select **Finish**.

   b. Update netgroup to allow access to one or more secondary servers:

      1) Use an editor, such as `vi`, to edit `/etc/netgroup`. For example, enter **vi /etc/netgroup**.

      2) Add this line: **aiwhosts (*server1*,,) (*server2*,,)**. The secondary server host name is *server*.

2. Use the Infoprint ProcessDirector user interface to add and enable the secondary server:

   a. Access the user interface at **http://*hostname*:15080/aiw**. The host name of the primary Linux server is *hostname*.

b. Type an administrator's user name and password and then select **Log in** to log in to the user interface. The default user name is `aiw`.

c. On the Administration page, select **Add a Server**.

d. Specify a server name and the IP address or host name for the secondary server. For an AIX server, specify **In general server pool=No**. As an option, specify a description and values for the other properties of the server.

e. Select **OK**.

f. Choose the server and then select **Enable**.

3. Continue with "Installing on a Linux server" or "Installing on an AIX server" on page 19.

Installing on a Linux server

To install Infoprint ProcessDirector on a secondary Linux system, other than the primary server:

1. Make sure that DB2 is not installed on the system.

2. Log in as the root user.

3. Insert the Infoprint ProcessDirector CD in the CD-ROM drive.

4. Mount the CD, if necessary. For example, enter **mount /media/cdrom** or **mount /media/cdrecorder**.

5. Open a console window and change to the CD directory. For example, enter **cd /media/cdrecorder**.

6. From the Linux console command line, enter **./setup** to start the installation.

7. For each program that is installed:

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

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

8. When you see a window that displays the default user ID (UID) and group ID (GID) values, select the defaults or use the same numeric values you specified for the primary server.

9. You see a message that all your files have been copied to your system. If you are installing a service update in addition to the base product code, select **Activate later**. If you are installing only the base product code, select **Activate now**.

   The final window displays the URL for accessing the user interface in the format:

   `http://hostname:15080/aiw`

   The host name of the primary Linux server is *hostname*.

10. Select **Finish** to complete the installation.

11. Remove the Infoprint ProcessDirector CD from the CD-ROM drive.

12. Apply any service updates needed to keep the Infoprint ProcessDirector secondary server level the same as the primary server level by completing these steps:

    a. Insert the CD for the service update in the CD-ROM drive.

    b. From the Linux console command line, enter **./setup** to start the installation.

    c. Select **Activate now**.

13. Enter **ps -ef | grep Instance** on the console command line to verify that the Infoprint ProcessDirector server is running. You should see an instance statement such as:

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

If the server is not running, contact IBM Software Support.

Infoprint ProcessDirector is now running on your secondary Linux server.

Installing on an AIX server

To install Infoprint ProcessDirector on a secondary AIX workstation:

1. Log in as the root user.
2. Enter **df -k** to verify that the /opt/ibm and /tmp directories are at least 100 MB in size. If not, increase the directory size.
3. Insert the Infoprint ProcessDirector CD in the CD-ROM drive.
4. Mount the CD, if necessary. For example, enter **mount /cdrom**.
5. For a faster installation, copy **setup_aiw_aix.bin** from the aix directory on the CD to a temporary directory on your workstation with at least 100 MB (such as /tmp) and run the installation from that directory. For example, enter **cp /cdrom/aix/setup_aiw_aix.bin /tmp**.
6. From the temporary directory on your workstation, enter **./setup_aiw_aix.bin** to install the Infoprint ProcessDirector program. You see a welcome window for the Infoprint ProcessDirector installation.
7. Reply to the prompts as the InstallShield wizard steps you through the installation.
8. When you see a window that displays the default user ID (UID) and group ID (GID) values, select the defaults or use the same numeric values you specified for the primary server.
9. Select **Finish** to complete the installation.
10. Remove the Infoprint ProcessDirector CD from the CD-ROM drive.
11. Apply any service updates needed to keep the Infoprint ProcessDirector secondary server level the same as the primary server level.

    To apply a service update, see "Applying service updates on AIX" on page 28.
12. Enter **ps -ef | grep Instance** on the console command line to verify that the Infoprint ProcessDirector server is running. You should see an instance statement such as:

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

If the server is not running, contact IBM Software Support.

Infoprint ProcessDirector is now running on your secondary AIX server.

Completing post-installation tasks

After you finish installing Infoprint ProcessDirector, you complete post-installation tasks to verify the installation and 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 created by Infoprint ProcessDirector. If you have users with Linux 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.

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 a printer, submit a test job, and then print the job:

1. Log in to the primary Linux server as the Infoprint ProcessDirector user. The default user ID is `aiw1` and the default password is `aiwpass1`.
2. Access the user interface at **http://*hostname*:15080/aiw**. The host name of the primary Linux server is *hostname*.
3. Type an administrator's user name and password and then select **Log in** to log in to the user interface. The default user name is `aiw`.
4. Click the **Administration** tab to display the Administration page.
5. In the shortcuts list, click **Add a Printer Device**.
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.
7. Click **OK**.
8. In the left pane, click **Printers**.
9. Select the printer you just created and then click **Enable**.
10. In the left pane, click **Input Devices**.
11. Select the `HotFolderLineData` input device and then click **Connect**.
12. Select the `HotFolderLineData` input device and then click **Enable**.
13. On the Linux command line, enter this command to copy a test file into the hot folder that the HotFolderLineData input device monitors:

    cp /aiw/aiw1/testfiles/TestLineData.txt /aiw/aiw1/System/hf/LineData
14. After a few minutes, refresh the Infoprint ProcessDirector user interface. You should see a job in the jobs table on the Main page.
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. From the Web browser on a Linux or Windows workstation, enter **http://*hostname*:15080/aiw**. The host name of the primary Linux server is *hostname*.
2. Select **Help** from the top task bar. You see the Infoprint ProcessDirector information center.
3. From Contents in the left pane, select **IBM Infoprint ProcessDirector** and then select **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

This chapter explains how to start and stop Infoprint ProcessDirector servers. It also explains how to uninstall Infoprint ProcessDirector.

Starting Infoprint ProcessDirector

When the installation process is finished, Infoprint ProcessDirector is automatically started. Whenever you start the system where Infoprint ProcessDirector is installed, Infoprint ProcessDirector also starts automatically. However, you might need to start the primary or secondary servers without rebooting the hardware system.

When you start a primary server, all Infoprint ProcessDirector programs start, including DB2, the Web server for the user interface, and any secondary servers installed on the same machine. If you have secondary servers running on different machines, you must log in to each machine to start the secondary servers.

To start a primary or secondary server manually:
1. Log in to the server as the Infoprint ProcessDirector user. The default user ID is `aiw1` and the default password is `aiwpass1`.
2. Enter **startaiw** at the command prompt.

If you only need to start one secondary server, but not the primary server or other secondary servers on the same machine, enter the secondary server name with the start command:

startaiw *secservername*

Stopping Infoprint ProcessDirector

When you stop the primary server, all Infoprint ProcessDirector programs stop, including DB2, the Web server for the user interface, and any secondary servers installed on the same machine. When you stop a secondary server running on a different machine, only the secondary server stops; the rest of the servers in the system continue to run.

To stop the system immediately without waiting for steps to complete, use the **stopaiw** command. Any steps that were in a processing state will be in an error state when the system is restarted. To stop the system after steps are complete, use the **stopaiw -q** command.

To stop a primary or secondary server:
1. Log in to the server as the Infoprint ProcessDirector user. The default user ID is `aiw1` and the default password is `aiwpass1`.
2. Enter **stopaiw** or **stopaiw -q** at the command prompt.

If you only need to stop one secondary server, but not the primary server or other secondary servers on the same machine, enter the secondary server name with the stop command:

stopaiw *secservername* or **stopaiw -q** *secservername*

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:

```
./uninstaller.bin -console
```

Uninstalling from the primary server

This procedure explains how to uninstall, in the correct order, the Infoprint ProcessDirector programs from the primary server. You must remove the base Infoprint ProcessDirector program first, the PSF program or the user interface program next, and the DB2 program last. Separate InstallShield Wizards are used to uninstall each program.

To uninstall Infoprint ProcessDirector:

1. Log in as the root user.
2. Uninstall the base Infoprint ProcessDirector program:
   a. Enter these commands:
      1) **cd /opt/IBM/aiw/V1.0/_uninst/aiw**
      2) **./uninstaller.bin**

      You see a welcome window.
   b. 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.
   c. Select **Finish.**
3. Uninstall the PSF program:
   a. Enter these commands:
      1) **cd /opt/IBM/aiw/V1.0/_uninst/aiw_ipsf**
      2) **./uninstaller.bin**

      You see a welcome window.
   b. 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.
   c. Select **Finish.**
4. Uninstall the user interface program:

a. Enter these commands:

   1) **cd /opt/IBM/aiw/V1.0/_uninst/aiw_ws/**

   2) **./uninstaller.bin**

   You see a welcome window.

b. 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.

c. Select **Finish.**

5. Uninstall the DB2 program:

   a. Enter these commands:

      1) **cd /opt/IBM/db2/db2aiw**

      2) **./uninstalldb2.sh**

      The uninstallation program first runs from the command line. Be patient because this portion of the uninstallation might take 10-15 minutes before it goes to the InstallShield Wizard portion.

      Note: The InstallShield Wizard is displayed in text mode, not graphical mode.

   b. 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.

   c. Select **Finish.**

6. To completely remove all files installed by Infoprint ProcessDirector, remove these working directories and their subdirectories:

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

Uninstalling from secondary servers

This procedure explains how to uninstall, in the correct order, the Infoprint ProcessDirector programs from the secondary servers. You must remove the base Infoprint ProcessDirector program first and, for Linux servers, the PSF program next. Separate InstallShield Wizards are used to uninstall each program.

To uninstall Infoprint ProcessDirector:

1. Log in as the root user.
2. Uninstall the base Infoprint ProcessDirector program:

   a. Enter these commands:

      1) **cd /opt/IBM/aiw/V1.0/_uninst/aiw** to uninstall on Linux servers or **cd /opt/IBM/aiw/V1.0/_uninst/aiw_aix** to uninstall on AIX servers

      2) **./uninstaller.bin**

      You see a welcome window.

   b. 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.

    c. Select **Finish.**

3. Uninstall the PSF program on Linux servers:

    a. Enter these commands:

        1) **cd /opt/IBM/aiw/V1.0/_uninst/aiw_ipsf**

        2) **./uninstaller.bin**

    You see a welcome window.

    b. 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.

    c. Select **Finish.**

    d. To completely remove all files installed by Infoprint ProcessDirector, remove the /var/psf working directory and its subdirectories.

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.

IBM recommends that you 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.

This section explains how to back up and restore data, how to apply a service update, and how to add feature software to Infoprint ProcessDirector.

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.

Backing up data

To back up Infoprint ProcessDirector data:

1. Stop all secondary servers. See "Stopping Infoprint ProcessDirector" on page 21.
2. On the primary Linux 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 optional options:

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

   -r
   > Jobs and input files in addition to system data and control files are saved by default. A backup with the `-r` option requests that jobs and input files are not saved.

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

You see a message that all servers will be stopped, whether job or 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 Infoprint ProcessDirector" on page 21. To update Infoprint ProcessDirector to a new level, see "Applying service updates and adding feature software on Linux" on page 27.

Restoring data

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 (see "Backing up data" on page 25). 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 Infoprint ProcessDirector" on page 21.

2. Uninstall Infoprint ProcessDirector on all servers (see "Uninstalling Infoprint ProcessDirector" on page 22).

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 page 15).

4. On the primary Linux server, log in as the Infoprint ProcessDirector user. The default user ID is `aiw1` and the default password is `aiwpass1`.

5. Enter **aiwrestore.pl** with any of these optional options:

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

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

    You see a message that all servers will be stopped, whether job or input files will be restored, 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 Infoprint ProcessDirector" on page 21.

Applying service updates and adding feature software on Linux

Before installing a service update of Infoprint ProcessDirector, you should 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 25.

To update or add feature software to Infoprint ProcessDirector:

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 Infoprint ProcessDirector" on page 21.
3. Log in as the root user.
4. Insert the CD for the service update or feature software in the CD-ROM drive.
5. Mount the CD, if necessary. For example, enter **mount /media/cdrom** or **mount /media/cdrecorder**.
6. Open a console window and change to the CD directory. For example, enter **cd /media/cdrecorder**.
7. From the Linux console command line, enter **./setup** to start the installation.
8. Select the appropriate language and then select **OK**. You see a welcome window for the InstallShield Wizard.
9. Reply to any prompts as the InstallShield Wizard steps you through the installation.

   On the primary server, Infoprint ProcessDirector runs a migration script at the beginning of the installation. The migration script uses a list of configuration files that you might have customized for your installation and copies all files in the list to the migration directory, /tmp/aiwsave. The installation program then saves the updated configuration files in their original directories. You can compare the modified files in /tmp/aiwsave with the new updated versions to identify which files need customized settings added.

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

10. When you see a message that all your files have been copied to your system, select **Activate later** if you have additional software or a service update to install. Otherwise, select **Activate now**.

    The final window displays the URL for accessing the user interface in the format:

    `http://hostname:15080/aiw`

    The host name of the primary Linux server is *hostname*.
11. Select **Finish** to complete the installation.
12. Remove the CD from the CD-ROM drive.
13. If you have additional feature software or a service update to install, insert the CD in the CD-ROM drive and repeat steps 7 through 12.
14. See "Completing post-installation tasks" on page 19.
15. 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:
    a. **cd /opt/IBM/aiw/V1.0/bin**
    b. **clean_migrate_files.pl**

Applying service updates on AIX

To apply a service update to Infoprint ProcessDirector:

1. Log in as the root user.
2. Enter **df -k** to verify that the /opt/ibm and /tmp directories are at least 100 MB in size. If not, increase the directory size.
3. Insert the CD for the service update in the CD-ROM drive.
4. Mount the CD, if necessary. For example, enter **mount /cdrom**.
5. For a faster installation, copy **setup_aiw_aix.bin** from the aix directory on the CD to a temporary directory on your workstation with at least 100 MB (such as /tmp) and run the installation from that directory. For example, enter **cp /cdrom/aix/setup_aiw_aix.bin /tmp**.
6. From the temporary directory on your workstation, enter **./setup_aiw_aix.bin** to install the Infoprint ProcessDirector program. You see a welcome window for the Infoprint ProcessDirector installation.
7. Reply to the prompts as the InstallShield wizard steps you through the installation.
8. Select **Finish** to complete the installation.
9. Remove the Infoprint ProcessDirector CD from the CD-ROM drive.
10. Enter **ps -ef | grep Instance** on the console command line to verify that the Infoprint ProcessDirector server is running. You should see an instance statement such as:

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

    If the server is not running, contact IBM Software Support.

Chapter 6. Installation planning checklist

The checklist contains tasks that can help you plan for your Infoprint ProcessDirector installation.

Table 5. Installation planning checklist. Check each item as you complete the task.

	Task	Notes
	Determine your system configuration (see "System configurations" on page 3 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 IBM Printing Systems 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 what printers you want to include in the Infoprint ProcessDirector workflow. See "Supported printers" on page 3 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 5).	
	Decide whether to set up your file system as partitions or as mounted file systems from other storage units. See "Determining your file system setup" on page 6 for an example of a simple partition setup. Before installing Infoprint ProcessDirector, make sure the /tmp directory has at least 100 MB of free space.	

Table 5. 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`.	
	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 might have to uninstall and then install Infoprint ProcessDirector again.	
	Determine what 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 can be 8 to 32 alphanumeric characters.	
	Consider what job submission method you are going to use to send jobs to Infoprint ProcessDirector. You can use Download for z/OS, AFP Download Plus, or copy files into hot folders. The job submission method you use depends on the system you are sending the jobs from. For more information, see "Job submission" on page 10.	
	Determine what 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). See the Infoprint ProcessDirector information center for information about AFP resource directories.	
	Install the required software for your configuration (see "Installing required software" on page 6).	

Table 5. Installation planning checklist (continued). Check each item as you complete the task.

	Task	Notes
	Install any optional software, such as Download for z/OS, AFP Download Plus, or Infoprint Transform Manager (see "Planning for optional software" on page 10).	

	Change the language for the Linux or AIX server, if required:
	
	Linux In YaST:
	     • Select **System –> Choose Language**.
	     • Select **System –> Select Keyboard Layout**.
	
	     In the KDE Control Center, select **Regional & Accessibility –> Country/Region & Language**.
	
	AIX With SMIT, select **System Environments –> Manage Language Environment**.	

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 and accessibility options at the end of the setup command. For example, enter `./setup -c -a` to enable assistive technology on Linux servers, or on AIX servers enter `./setup_aiw_aix.bin -console -accessibility`.

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.

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Glossary

This glossary defines technical terms and abbreviations used in Infoprint ProcessDirector documentation. If you do not find the term you are looking for, see *IBM Terminology* at:

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These cross-references are used in this glossary:

- **See.** Refers to multiple-word terms in which this term appears.
- **See also.** Refers to related terms that have similar, but not synonymous, meanings.

A

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.

C

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.

F

file.   (1) A collection of related data that is stored and retrieved by an assigned name. (2) Linear data that can be opened, written, read, and closed. A file can also contain information about the file, such as authorization information. The name used to obtain a file includes the directories in the path to the file.

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.

G

GIF.   Graphics interchange format for images.

H

host name.   (1) 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. (2) See also *IP address*.

hot folder. A directory that receives input files that are submitted to Infoprint ProcessDirector.

I

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

Infoprint Manager for AIX. A software component of IBM Infoprint. IBM Infoprint Manager for AIX is 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. (1) 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. (2) See also *host name*.

J

JPEG. Joint Photographic Experts Group image format.

L

Linux. An open source implementation of the UNIX system.

M

mount. To make a file system accessible.

N

network. A collection of data processing products that are connected by communication lines for information exchange between locations.

O

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.

P

PDF. See *Portable Document Format*.

port. (1) A part of the system unit or remote controller to which cables for external devices (display stations, terminals, or printers) are attached. The port is an access point for data entry or exit. (2) A specific communications endpoint within a host. A port is identified by a port number.

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.

processor. In a computer, a functional unit that interprets and executes instructions. (I) (A)

PS. See *PostScript*.

R

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.

S

server. (1) On a network, the computer that contains the data or provides the facilities to be accessed by other computers on the network. (2) A program that handles protocol, queuing, routing, and other tasks necessary for data transfer between devices in a computer system.

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

T

trace. A record of the execution of a computer program. It exhibits the sequences in which the instructions were executed. (A)

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.

U

user interface. Any of the actions or items that let a user interact with and perform operations on a computer, including graphical displays, components such as buttons or dials, or operating system commands.

W

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.

Windows. Pertaining to a Microsoft Corporation program that provides a graphical user interface for DOS.

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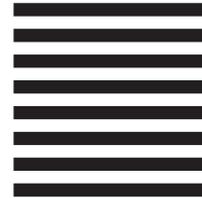Fold and Tape   **Please do not staple**   Fold and Tape

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