



## AFP2PDF Transform Feature: Installing and Using

Version 4.15.1

Introducing the afp2pdf transform

1

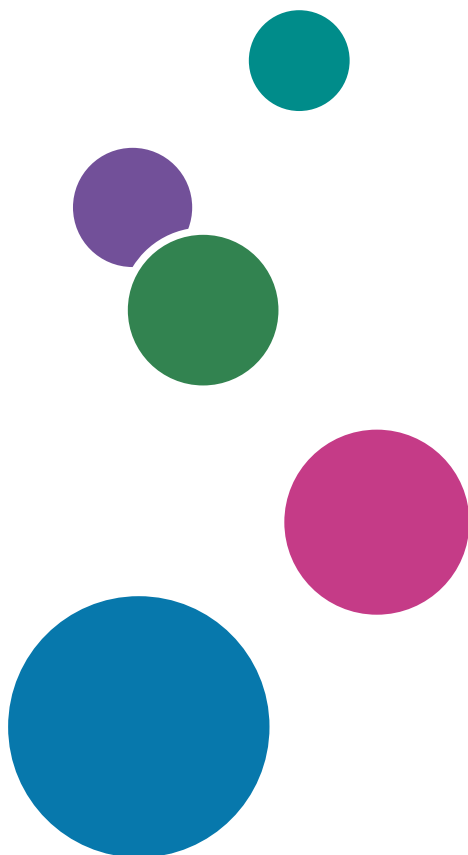
Installing the afp2pdf transform

2

Transform AFP data to PDF

3

For information not in this manual, refer to the Help System in your product.





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## Glossary

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## Introduction

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### Important

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this product, losses of documents or data, or the use or non-use of this product and operation manuals provided with it.

Make sure that you always copy or have backups of important documents or data. Documents or data might be erased due to your operational errors or malfunctions of the software. Also, you are responsible for taking protective measures against computer viruses, worms, and other harmful software.

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### Cautions regarding this guide

- Some illustrations or explanations in this guide could differ from your product due to improvement or change in the product.
- The contents of this document are subject to change without notice.
- No part of this document may be duplicated, replicated, reproduced in any form, modified, or quoted without prior consent of the supplier.
- Throughout this publication, references to directory paths indicate the default paths only. If you install RICOH InfoPrint Manager™ or any of its components in a different location, including a different drive, you must adjust the paths accordingly.  
For example, if you install InfoPrint Manager on the D: drive of a computer running a Windows® operating system, replace C: with D: in the directory paths.

### Guides for this application

This publication provides information about RICOH InfoPrint Manager™ for AIX, Linux, and Windows, Version 4.15 (Program Number 5648-F40).

This publication includes an overview of InfoPrint Manager and installation and configuration information about the product.

### Instruction manuals

These instruction manuals are included:

For information about InfoPrint Manager, see these documents:

- *RICOH InfoPrint Manager for Windows: Planning Guide, G550-1071*
- *RICOH InfoPrint Manager for Windows: Getting Started, G550-1072*
- *RICOH InfoPrint Manager for Windows: Procedures, G550-1073*
- *RICOH InfoPrint Manager for Linux: Planning Guide, G550-20262*
- *RICOH InfoPrint Manager for Linux: Getting Started, G550-20263*
- *RICOH InfoPrint Manager for Linux: Procedures, G550-20264*
- *RICOH InfoPrint Manager for AIX and Linux: Configuring and Tuning Guide, S550-1062*

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- *RICOH InfoPrint Manager for AIX: Planning Guide, G550-1060*
  - *RICOH InfoPrint Manager for AIX: Getting Started, G550-1061*
  - *RICOH InfoPrint Manager for AIX: Procedures, G550-1066*
  - *RICOH InfoPrint Manager: High Availability Guidelines, G550-20261*
  - *RICOH InfoPrint Manager: Reference, S550-1052*
  - *RICOH InfoPrint Manager: PSF, Server, and Transform Messages, G550-1053*
  - *RICOH InfoPrint Manager: Secure Print: Installing and Configuring, G550-20129*
  - *RICOH InfoPrint Manager: SAP Planning and Configuring Guide, S550-1051*
  - *RICOH InfoPrint Manager: Dictionary of Keywords, S550-1188*
  - *AFP Conversion and Indexing Facility: User's Guide, G550-1342*
  - *Page Printer Formatting Aid for Windows: User's Guide and Reference, S550-0801*
  - *RICOH InfoPrint Manager AFP2PDF Transform Feature: Installing and Using, G550-1057*
  - *RICOH InfoPrint Manager: Installing InfoPrint Manager Transform Feature, G550-20160*

## Help

Property help is available on many screens to provide information for specific tasks and settings.

In addition, the **Help** menu provides access to the HTML version of the instruction manual directly from the user interface.

### Note

- A PDF reader, such as Adobe® Acrobat® Reader®, must be installed to view the PDF documentation.

For more information about RICOH printing products, see:

RICOH Commercial and Industrial Printing website at <https://www.ricoh-usa.com/en/products/commercial-industrial-printing>.

RICOH Software Information Center at <https://help.ricohsoftware.com/swinfocenter>.

## How to read the documentation

### Displaying the instruction manual


---

Use this procedure to view the instruction manuals.

#### Displaying the instruction manual in PDF format

- InfoPrint Manager includes publications in PDF format on the DVD-ROM supplied with the product.


#### Displaying the instruction manual in HTML format

- The HTML version of the instruction manual is available directly from the user interface. Start the application, and then click  button at the right of the banner and select **Help**.

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## Displaying property help

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Click the  button next to a property on the user interface to display the property help for that item.

## Symbols

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The following symbols are used in this manual to help you to identify content quickly.

### Important

- This symbol indicates points to pay attention to when using the product. Be sure to read these explanations.

### Note

- This symbol indicates helpful supplementary information that is not essential to completing a task.

## Bold

**Bold type** indicates the names of dialogs, menus, menu items, settings, field labels, buttons, and keys.

## *Italic*

*Italic type* indicates the titles of manuals and variables that you must replace with your own information.

## Monospace

Monospace type indicates computer input and output.

## Abbreviations

### ACIF

AFP Conversion and Indexing Facility

### AFP

Advanced Function Presentation

### AIX®

Advanced Interactive Executive

### ANSI®

American National Standards Institute

### ASCII

American Standard Code for Information Interchange

### BCOCA

Bar Code Object Content Architecture

### CCSID

coded character set identifier

### CMR

---

color management resource

**EBCDIC**

Extended Binary Coded Decimal Interchange Code

**FOCA**

Font Object Content Architecture

**GIF**

Graphical Interchange Format

**GOCA**

Graphics Object Content Architecture

**IOCA**

Image Object Content Architecture

**IP**

Internet Protocol

**IPDS**

Intelligent Printer Data Stream

**JCL**

job control language

**JES**

Job Entry Subsystem

**JPEG**

Joint Photographic Experts Group

**MO:DCA**

Mixed Object Document Content Architecture

**MO:DCA-P**

Mixed Object Document Content Architecture for Presentation

**MVS™**

Multiple Virtual Storage

**PCL**

Printer Command Language

**PDF**

Portable Document Format

**PTOCA**

Presentation Text Object Content Architecture

**RAT**

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resource access table

**TIFF**

Tagged Image File Format

**XML**

Extensible Markup Language

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- POWER®
- PowerHA®
- PowerVM®
- S/390®
- Semeru Runtime®
- Tivoli®
- z/OS®

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# 1. Introducing the afp2pdf transform

## • Limitations of the afp2pdf transform

The **afp2pdf** transform converts Mixed Object Document Content Architecture (MO:DCA-P) documents, also called AFP documents, to Adobe Portable Document Format (PDF) documents to be viewed, archived, e-mailed, or printed.

The **afp2pdf** transform can be invoked from the command line. You can also configure the InfoPrint Manager transform subsystem to invoke the **afp2pdf** transform.

The **afp2pdf** transform includes this support:

### TrueType font support

You can convert an AFP document with TrueType fonts, and the TrueType fonts are embedded in the resulting PDF document.

You can also map your TrueType fonts to create a much smaller PDF file. By adding your TrueType Fonts to the `ttdef.fnt` file with settings for the familyname, style, weight appropriately, the **afp2pdf** transform maps the TrueType fonts.

You can map your DBCS TrueType fonts to Type0 fonts.

TrueType fonts are either embedded as internal resources, or they can be referenced as external resources and mapped. In either case, the font may be defined through the coded font name or with a character set/code page pair.

### Outline FOCA support

The **afp2pdf** transform now supports Outline Font Object Content Architecture (FOCA). The addition of FOCA support improves character placement for AFP raster fonts and provides 100% font fidelity for AFP outline fonts.

Outline fonts are either embedded as internal resources, or they can be referenced as external resources and mapped. In either case, the font may be defined through the coded font name or with a character set/code page pair.

AFP FOCA Fonts support:

- SBCS Outline
- SBCS Raster
- DBCS Outline
- DBCS Raster, composed from several SBCS Raster fonts and defined by coded font files that contain several character sets- coded page pairs

### Outline IOCA support

The **afp2pdf** transform now supports Outline Image Object Content Architecture (FOCA) for the following output image types:

- FS10
- FS40
- FS42
- FS45

### Outline GOCA support

The **afp2pdf** transform now supports Outline Graphics Object Content Architecture (FOCA).

## CMR support

The **afp2pdf** transform now supports Color management resources (CMR).

## JFIF and GIF support

JFIF or GIF images defined in an AFP document are displayed in the PDF file.

## Inline Medium Map

The **afp2pdf** transform now processes the correct medium map for Inline Medium Maps.

## Bar code support

These bar codes are supported by the **afp2pdf** transform:

- AIM USS-39
- AIM USS-128
- AIM USS-Codabar
- AIM USS-I 2/5
- Australia Post Four State
- Codabar 2 of 7
- Code 39
- Code 93
- Code 128
- Container Barcode
- Data Matrix
- Data Matrix Structured Append
- Dutch KIX
- EAN Five-Digit Supplemental
- EAN Two-Digit Supplemental
- EAN/JAN-8
- EAN/JAN-13
- GS1 DataBar
- GS1-128
- Industrial 2 of 5
- Intelligent Mail Barcode
- ITF-14
- Japan Postal Bar Code
- Macro PDF 417
- Matrix 2 of 5
- MaxiCode (2D bar code)
- MSI

- PDF417 (2D bar code)
- Planet
- Postnet
- QR Code (2D bar code)
- RM4SCC
- Royal Mail RED TAG
- UCC EAN 128 (modifiers x'03' and x'04')
- UPC Five-Digit Supplemental
- UPC Two-Digit Supplemental
- UPC/CGPC-A
- UPC/CGPC-E
- USPS four-state

### Metadata support

The afp2pdf transform supports Metadata information as defined in MODCA 9 and MOCA Specification First Edition (July 2014).

## Limitations of the afp2pdf transform

Limitations associated with the **afp2pdf** transform include:

### Text fidelity

The **afp2pdf** transform uses font substitutions to convert MO:DCA-P and PTOCA, which means that text fidelity will most likely **not** match if displayed views of PDF are compared with printed views of IPDS on paper. Outline fonts in the MO:DCA-P are converted to Type1 fonts. However, when fonts are provided for the transform, the **afp2pdf** transform can produce text fidelity.

### Image quality

The transformed image data might not match if a user compares the printed output on paper with the PDF data viewed on a display. Several factors that contribute to the differences are:

- **Color differences** between displayed image and printed output. For example, a monitor used with Microsoft Windows typically uses RGB color while a printer typically uses another color model like CMYK or halftoned black and white.
- **Resolution differences** between displayed image and printed output. For example, a monitor typically uses 72 or 96 dpi while a printer uses much greater resolution like 240, 300, 600, and so forth.
- **Anomalies** if resolution changes occur. The algorithms used to convert images from AFP to PDF use a brute force algorithm to eliminate pixels that sometimes create horizontal or vertical lines in the image strips.

### Text support

Since the **afp2pdf** transform converts all AFP fonts to a single PDF encoding, not all glyphs can be represented properly. However, if the fonts used to display the text are not mapped fonts, the **afp2pdf** transform can create custom encoding in the PDF file, and it can display glyphs from different languages.

### **Enhanced n-up is not supported**

The **afp2pdf** transform does not support enhanced n-up. The transform acknowledges each logical page as a physical page.

### **CMR (Color Management Resource) is not supported**

When CMR is used, it is ignored.

### **Medium Copy Count limit**

Medium Copy Count is limited to 1.

### **Compressed Metadata**

The EXI (Efficient XML Interchange) compression is not supported for metadata objects.

## 2. Installing the afp2pdf transform

Use these procedures to install the **afp2pdf** transform:

### For AIX:

1. Insert the *RICOH InfoPrint Manager for AIX: Base Server* DVD-ROM, LCD4-5654, into your DVD-ROM drive.
2. Type this command on the command line:

```
mount /cdrom
```

3. To view a help statement showing a variety of install options, enter:

```
/cdrom/setup -h
```

4. Make sure that you are not in the `/cdrom` directory:

```
cd /
```

5. Install the product by executing this command:

```
/cdrom/setup
```

### For Linux:

1. Insert the *RICOH InfoPrint Manager for Linux: Base Server* DVD-ROM, LCD2-20035, into your DVD-ROM drive.
2. Type this command on the command line:

```
mount /dev/cdrom /media/<mount_point>
```

3. To view a help statement showing a variety of install options, enter:

```
/media/<mount_point>/setup -h
```

4. Install the product by executing this command:

```
/media/<mount_point>/setup
```

### For Windows:

1. Insert the *InfoPrint Manager: afp2pdf Transform* DVD-ROM, LCD4-5659, into your DVD-ROM drive. The install program starts automatically.  
If the install program does not start automatically, navigate to the **win** folder on the DVD-ROM and double-click **Infoprint AFP2PDF.exe** to install the **afp2pdf** transform.
2. Follow the instructions on the installation panels to install the program.

#### ★ Important

If you uninstall InfoPrint Manager after you installed the **afp2pdf** transform, you need to repair the **afp2pdf** transform. To repair the **afp2pdf** transform, reinstall the **afp2pdf** transform on Windows and select **Repair** in the **Maintenance Welcome Dialog**.



## 3. Transform AFP data to PDF

- Syntax
- Flags and values
- The `afp2pdf` transform configuration file
- Using the `afp2pdf` tracing and logging facility
- Using AFP resources
- Embedding Type 1 Fonts
- Mapping AFP fonts
- Using TrueType fonts
- Using Outline fonts
- Using raster fonts
- Generating PDF/A compliant documents
- Examples

3

This section describes the **AFP to PDF** transform and includes its syntax, options, and values.

### Syntax

```
-pragma {aligntext={0 | 90 | 180 | 270} | fdef = form definition}  
-v  
afpfile
```

### Flags and values

This section describes the `afp2pdf` transform flags.

**-pragma {aligntext={0 | 90 | 180 | 270} | fdef = *form definition*}**

Use **aligntext** to specify the rotation value to use when transforming the file. Valid values are **0**, **90**, **180**, or **270** (clockwise). Some AFP files have already been formatted with a rotated orientation. If this occurs, text is aligned with the vertical axis of the paper rather than the horizontal axis. To correct this, you must use this parameter to align the text as desired.

#### Note

- When you specify **aligntext**, you must specify the = sign. For example, `aligntext=90`.

Use **fdef** to specify the fully qualified file name of the form definition (FORMDEF) resource to be used when transforming the AFP file. For example,

```
-pragma fdef=F1A10110
```

If an inline form definition is associated with the AFP document, then both the **fdef** from the configuration file and the command line are ignored. If **fdef** is not included in the configuration file or specified on the command line, the F1A10110 default form definition is used.

When you specify **-pragma**, you can specify **aligntext** or **fdef**, but not both. If you want to specify both, you need two separate **-pragma** entries.

**-v**

Specifies that verbose information is generated to `stderr`.

*afpfile*

Specifies the AFP input file to be transformed. This parameter is required.

## The **afp2pdf** transform configuration file

Parameters to control settings for the **afp2pdf** transform are specified in a configuration file. By default, the name of this file is `afp2pdf.cfg`. **For AIX or Linux**, the file is located in `/usr/lpp/psf/afp2pdf`. **For Windows**, the file is located in `install_path\afp2pdf`.

The syntax of the configuration file is exactly the same as the command line syntax with these additional rules:

1. Blank lines are ignored.
2. The information after a pound sign (#) is considered a comment and is ignored. The pound sign can occur anywhere on a line.
3. To include a pound sign in parameter data, it must be escaped; that is, it must be preceded by a backwards slash.
4. White space before and after parameter data is removed.
5. Parameter data on successive lines is concatenated with a single space between them.
6. Parameters can span lines as long as they follow rules 1 through 5.

### Note

- Options specified on the command line override options in the configuration file.

The parameters for the **afp2pdf** transform options are:

#### **AFM\_PATH**=<path>

This parameter specifies the path location of the Adobe Font Metrics (AFM) files that the transform uses. An AFM stores font metric data for a Type 1 PostScript font. It contains the master design of a specific font, which defines the way each character of the font looks. If a path is not specified, the default path is:

##### **For AIX or Linux**

```
/usr/lpp/psf/afp2pdf/font/AFM
```

##### **For Windows**

```
install_path\afp2pdf\font\AFM
```

There is no command line flag associated with the **AFM\_PATH** parameter.

#### **CNV\_PATH**=<path>

This parameter specifies the path location of the CNV files that the ICU library uses to convert text from one code page to Unicode and vice versa. If a path is not specified, the default path is:

##### **For AIX or Linux**

```
/usr/lpp/psf/afp2pdf/cnv
```

##### **For Windows**

```
install_path\afp2pdf\cnv
```

There is no command line flag associated with the **CNV\_PATH** parameter.

**DEFAULT\_CPID=<intValue>**

This parameter specifies a default Code Page Identifier (CPID) to be used when transforming AFP or SCS files.

If a **DEFAULT\_CPID** is not specified when transforming AFP files, a default value based on the cpdef file will be used.

If a **DEFAULT\_CPID** is not specified when transforming SCS files, CPID 500 will be used as the default.

There is no command line flag associated with the **DEFAULT\_CPID** parameter.

**DEFAULT\_FGID=<intValue>**

This parameter specifies a default Font Global Identifier (FGID) to be used when transforming AFP or SCS files.

If a **DEFAULT\_FGID** is not specified when transforming AFP files, a default value based on the csdef file will be used.

If a **DEFAULT\_FGID** is not specified when transforming SCS files, FGID 11 (Courier) will be used as the default.

There is no command line flag associated with the **DEFAULT\_FGID** parameter.

**DISABLE\_MEMSTREAM=(TRUE|FALSE)**

When this parameter is set to **TRUE**, it specifies that during the transformation, the content of the PDF document will be written in temporary files created on disk, no matter the size of the AFP document. This parameter is useful if the output PDF document is too large to be kept in memory until the transformation is completed. By default, the PDF document content is kept in memory for an AFP document smaller than 10 MB; otherwise, temporary files are used.

There is no command line flag associated with the **DISABLE\_MEMSTREAM** parameter.

**ENABLE\_AUTO\_FONT\_IMAGE=(TRUE|FALSE)**

When this parameter is set to **TRUE**, it specifies that the output PDF document will contain an image for each character that was written with a raster font in the AFP document. By default, the raster fonts will be replaced with another font, and all characters will be written as text in the PDF document. However, some of the characters might look different from their raster form.

There is no command line flag associated with the **ENABLE\_AUTO\_FONT\_IMAGE** parameter.

**FOCA\_FONT\_PATH=<path>**

This parameter specifies the path where the AFP FOCA fonts are installed. The default path is:

**For AIX**

`/usr/lpp/psf/fontlib`

**For Linux**

`install_path/afp2pdf/reslib`

**For Windows**

`install_path\afp2pdf\reslib`

There is no command line flag associated with the **FOCA\_FONT\_PATH** parameter.

**FONT\_PATH=<path>**

This parameter specifies the path location of the font files that the transform uses when writing the PDF document. If a path is not specified, the default path is:

**For AIX or Linux**

`/usr/lpp/psf/afp2pdf/font`

**For Windows**

`install_path\afp2pdf\font`

There is no command line flag associated with the **FONT\_PATH** parameter.

**MAX\_OBJECTS=<number>**

This parameter specifies the maximum objects that can be listed in the PDF cross-reference table (XREF). If the AFP file contains more objects than this, the additional ones are ignored. This setting is provided for use with the **MAX\_PAGES** setting. For example, if **MAX\_PAGES** is set to a number greater than 1000, the value assigned to **MAX\_OBJECTS** might need to be set to a number greater than 50000.

By default, **MAX\_OBJECTS** and **MAX\_PAGES** are commented out, which does not limit the number of objects or pages.

There is no command line flag associated with the **MAX\_OBJECTS** parameter.

**MAX\_PAGES=<number>**

This parameter specifies the maximum pages to be converted. You can use this parameter to limit the number of pages generated by the transform. For example, if the number of pages in an AFP document is not known and you want to limit disk space usage, you might want to set a limit on the number of pages generated by the transform. Limiting the number of pages can also improve transform performance.

By default, **MAX\_PAGES** and **MAX\_OBJECTS** are commented out, which does not limit the number of pages or objects.

There is no command line flag associated with the **MAX\_PAGES** parameter.

**OUTPUTFILE=<path+filename>**

This parameter specifies the *path* and *filename* of the output PDF file. By default, the output PDF file is placed in the same directory as the input file, and it has the same file name as the input file with the extension changed from `.afp` to `.pdf`. For example, when the PDF is generated from an AFP file named `afpdoc.afp`, an output file named `afpdoc.pdf` is created.

**Note**

- If AFP is not used as the extension, a `.pdf` extension is still added to the output PDF file.

**OVERLAYEXT=<ListOfExtensions>PAGESEGEXT=<ListOfExtensions>FORMDEFEXT=<ListOfExtensions>JFIFext=<ListOfExtensions>GIFEXT=<ListOfExtensions>TIFFEXT=<ListOfExtensions>**

These parameters specify the accepted extension for a resource type. The possible extension are separated by a comma (,). For each extension, a \* (asterisk) will be replaced with the name of the searched resource. Therefore, specifying an \* (asterisk) means no extension.

When searching by name in the **RESOURCE\_DATA\_PATH**, the transform first tries the name with no extension. If it does not succeed, it tries with every extension from the list until the resource is found.

By default, the extension list is an \* (asterisk).

There is no command line flag associated with these parameters.

### **PDF\_FONT\_MAP\_FILE = <path>**

This parameter specifies the path location of the fontmap.lst file that maps the Type 1 Fonts. When specified, it means that the user wants to embed Type 1 Fonts into the PDF document. If a path is not specified, the default path is:

#### **For AIX or Linux**

```
/usr/lpp/psf/afp2pdf/font/fontmap.lst
```

#### **For Windows**

```
install_path\afp2pdf\font\fontmap.lst
```

There is no command line flag associated with the **PDF\_FONT\_MAP\_FILE** parameter.

### **PFMPFB\_DIRECTORY=<path>**

This parameter specifies the path location of the Adobe Type 1 outline font files that the transform uses when embedding fonts inside of the PDF document. When simple font substitution is not acceptable in the PDF output, it is possible to embed a custom Type 1 font inside the PDF for better results. If a path is not specified, the default path is:

#### **For AIX or Linux**

```
/usr/lpp/psf/afp2pdf/font/type1
```

#### **For Windows**

```
install_path\afp2pdf\font\type1
```

#### **Note**

- Placing Type 1 font files in this directory does not mean that they are automatically placed inside of the PDF file. For a font to be embedded, it must be mapped using the transform font definition files. See [Embedding Type 1 Fonts, p. 25](#) for more information.

There is no command line flag associated with the **PFMPFB\_DIRECTORY** parameter.

### **PRAGMA\_FDEF= <filename>**

This parameter specifies the file name of the form definition (FORMDEF) resource to be used when transforming the AFP file. If an inline form definition is associated with the AFP document, then both the **FDEF** from the configuration file and the command line are ignored. If **FDEF** is not included in the configuration file or specified on the command line, the F1A10110 default form definition is used.

### **PRAGMA\_ALIGNTEXT=<angle>**

This parameter specifies the rotation value to use when transforming the file. Valid values are **0**, **90**, **180**, or **270** (clockwise). Some AFP files might have already been formatted with a rotated orientation. If this occurs, text is aligned with the vertical axis of the paper rather than the horizontal axis. To correct this, you must use this parameter to align the text as desired.

### **RESOURCE\_DATA\_PATH =<path>**

This parameter specifies the path location of the resource library. For all the external resources used by the AFP document (formdef, overlay, page segment, jfif, gif, IOCA image), the transform looks for them in this specified path. If a path is not specified, the default path is:

**For AIX or Linux**

```
/usr/lpp/psf/afp2pdf/reslib;/usr/lpp/psf/reslib
```

**For Windows**

```
install_path\afp2pdf\reslib
```

There is no command line flag associated with the **RESOURCE\_DATA\_PATH** parameter.

**TT\_FONT\_PATH=<path>**

This parameter specifies the location of the TrueType font or the TrueType Collection used. If a path is not specified, the default path is:

**For AIX or Linux**

```
/usr/lpp/psf/afp2pdf/font/truetype
```

**For Windows**

```
install_path\afp2pdf\font\truetype
```

**USE\_AFP\_METADATA=<YES|YES\_PAGE|YES\_DOCUMENT|NO>**

This parameter specifies if the metadata is added to the PDF file and if it is on page level or on document level. When the parameter is set to **YES** and **YES\_PAGE**, the same metadata is placed on every page. When the parameter is set to **YES\_DOCUMENT**, the metadata is placed only once for the entire document. The default value is **YES**.

**VERBOSE**

This parameter specifies verbose information will be generated to stderr.

## Using the afp2pdf tracing and logging facility

Parameters to control settings for the tracing and logging facility of **afp2pdf** transform are specified in a configuration file. By default, the name of the file is `tracer.cfg`. The tracing facility can provide a large amount of information about how the transform performed the operations and also how the code was run.

The new tracing/logging facility uses a hierarchical model with nine levels of details:

**OFF**

All traces are not logged.

**SEVERE**

Only severe errors are logged.

**WARNING**

The severe errors and warnings are logged.

**CONFIG**

All above and also the configuration information are logged.

**INFO**

All above and general information messages are logged.

**FINE**

All above and fine debugging messages are logged.

### FINER

All above and finer debugging messages are logged.

### FINEST

All above and finest debugging messages are logged.

### ALL

All messages are logged.

By default, all traces are off and no messages are logged in the trace file. To start the tracer/logger, follow these steps:

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1. The `tracer.cfg` file is located in the same directory as the `afp2pdf.exe`, and it looks like this:

```
; BEGIN OF TRACER.CFG FILE
;
; This file is used for configuring the tracer.
;
; ALL KEYS AND VALUES FROM THIS FILE ARE CASE SENSITIVE!!!
;
; Key name:          TRACE-LEVEL
; Possible values:   OFF,SEVERE,WARNING,CONFIG,INFO,FINE,FINER,FINEST,ALL
; Default value:    OFF
; Description:      Set the level of details that are recorded by the
; tracer. The order of the values is also the level
; of visibility. For example: if the tracer is set
; to level CONFIG, all levels prior to this level
; are recorded (SEVERE, WARNING and CONFIG).
;                   OFF is to shutdown the trace completely
;                   ALL is the most detailed level of tracing
TRACE-LEVEL        = INFO

; Key name:          TRACE-PATH
; Possible values:   A valid location on the disk. If empty then the
; trace will use the current working directory.
; Default value:
; Description:      Specifies where the log files are going to be
; created.
TRACE-PATH         =

; Key name:          TRACE-FILENAME
; Possible values:   A filename that contains the %d or %u inside
; of it.
; Default value:    trace%d.log
; Description:      This is used as template for creating the trace
; filename. The %d or %u is used to specify the
; current number of the trace.
TRACE-FILENAME     = trace%d.log

; Key name:          MAX-BACKUP-TRACE
; Possible values:   A positive number
; Default value:    3
; Description:      This field specifies how many backups of the
; trace should be kept on the disk before
; start deleting them.
MAX-BACKUP-TRACE  = 3
```

```

; Key name:          TRACE-MAX-SIZE
; Possible values:   A positive number for the size of the trace
; file in bytes.
; Default value:    5242880 ~ 5Mb
; Description:      This field specifies how big the trace file
; should be before wrapping the file.
TRACE-MAX-SIZE      = 5242880

; Key name:          OUTPUT-TO-STDERR
; Possible values:   YES,NO
; Default value:    NO
; Description:      This field tells if the trace messages should
; be sent to standard error or not. This parameter
; can be combined with OUTPUT-TO-STDOUT and
; OUTPUT-TO-FILE for writing to multiple locations.
OUTPUT-TO-STDERR    = NO

; Key name:          OUTPUT-TO-STDOUT
; Possible values:   YES,NO
; Default value:    NO
; Description:      This field tells if the trace messages should be
; sent to standard output or
; not
OUTPUT-TO-STDOUT    = NO

; Key name:          OUTPUT-TO-FILE
; Possible values:   YES,NO
; Default value:    YES
; Description:      This field tells if the trace messages should be
; sent to the trace file or not
OUTPUT-TO-FILE      = NO

; END OF TRACER.CFG FILE

```

#### ↓ Note

All keys and values in `tracer.cfg` are case-sensitive.

- Copy the sample `tracer.cfg` file into the `var/afp2pdf` for AIX or Linux or the `install_path\var\afp2pdf` for Windows directory.
- Configure the parameter **OUTPUT-TO-FILE** to **YES**. And specify the location where the trace files should be created by configuring the parameter **TRACE-PATH** to `var/afp2pdf` for AIX or Linux or the `install_path\var\afp2pdf` for Windows.
- On the next launch of the executable, the application will write the traces to the path configured in step 3.

## Using AFP resources

The **afp2pdf** transform uses these AFP resources:

- Page segments
- Overlays
- Form definitions

The **afp2pdf** transform does not process AFP font files. If the program encounters resources of this type, they are ignored. To display text, the transform uses an existing set of predefined fonts. Font definition files that map the standard AFP fonts to Acrobat fonts for PDF are provided. If your AFP document uses

AFP fonts that you have customized or created, you must map these fonts. For information about mapping AFP fonts, see [Mapping AFP fonts, p. 26](#).

The page segment, overlay, and form definition resources can be passed to the transform from these locations:

### Inline resource group

The AFP resources needed by the AFP data file are combined into a logical resource library for the document. This resource group is contained in the AFP file along with the AFP document.

### Resource directories

The **afp2pdf** transform provides a resource directory for external resources. On AIX or Linux, the directory is `/usr/lpp/psf/afp2pdf/reslib`, and on Windows, the directory is `install_path\afp2pdf\reslib`.

If InfoPrint Manager is installed, the **afp2pdf** transform also uses the InfoPrint Manager directory. If InfoPrint Manager for AIX or InfoPrint Manager for Linux is installed, the **afp2pdf** client uses the `/usr/lpp/psf/reslib` resource directory. If InfoPrint Manager for Windows is installed, the **afp2pdf** client uses the `install_path\reslib` resource directory.

For external resources, copy the resources:

#### For AIX or Linux:

```
/usr/lpp/psf/afp2pdf/reslib
```

#### For Windows:

```
install_path\afp2pdf\reslib
```

#### Note

- The InfoPrint Manager resource directories are not used by the **afp2pdf** client when **afp2pdf** communicates with the Transform Feature. These resource directories are used when **afp2pdf** runs natively on InfoPrint Manager for AIX, InfoPrint Manager for Linux, or InfoPrint Manager for Windows.

## Embedding Type 1 Fonts

When a custom AFP font is used in an AFP document, it might be necessary to generate an equivalent Type 1 outline font. You can configure the transform program to embed this Type 1 outline font in the output PDF file for proper display.

The Type 1 font must be in binary (PFB/PFM) format. If a font is in ASCII (AFM/PFA) format, you must convert it before it can be used with the transform. Type 1 fonts typically consist of a printer font binary (PFB) file and a printer font metrics (PFM) file. The PFB file contains the mathematical descriptions (in the PostScript language) for each character. The PFM file contains the font metrics needed for the characters.

For example, assume a Type 1 font is made up of the files `CustFont.pfb` and `CustFont.pfm`. The file extensions of `.pfb` and `.pfm` files must be lowercase for the transform to correctly identify these files. The font file name, `CustFont` must be the same for both the `.pfb` and `.pfm` files.

For the transform to use these files, you must specify:

- Where the files are located.

- When the files should be substituted for a specific AFP font.

## File location

All Type 1 font files that can be used for embedding fonts into the PDF file must be placed into a single directory. This directory is then specified with the **PfmPfb\_Directory** parameter in the transform options file.

See [The afp2pdf transform configuration file, p. 18](#) for more information.

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## Mapping the AFP font to the embedded Type 1 font

Usually, the embedded Type 1 font name is specified in the `alias.fnt` font mapping configuration file.

Under the **FONT** section, a font name and font metric file name are specified for the font:

```
[FONT]
font=font_name,font_metric_name
```

Where:

### FONT

Defines the name by which this font is known and is referred to by the other font configuration files of the transform. For example, **Custom1**.

### font\_name

Specifies the name of the font, such as **CustFont**. This name is case-sensitive and must match the file name of the PFB/PFM files.

### font\_metric-name

Specifies the file name for the font metric information. If it is set to **NULL**, it indicates that extra font metric information is not used.

In this example, if the AFP font is mapped to **Custom1**, the Type 1 font, **CustFont**, is embedded inside the output PDF file and the appropriate text uses this font for the display:

```
[FONT]
Custom1=CustFont,NULL
```

## Mapping AFP fonts

The **afp2pdf** transform needs to map the AFP fonts your document was created with to fonts that can be used in PDF documents.

For the **afp2pdf** transform to map the best matching fonts to display your AFP document, the transform needs to know certain characteristics about the fonts that were used to create your document. Mapping AFP fonts is done with the font definition files installed as part of the **afp2pdf** transform. These files are loaded into the **FONT** subdirectory under `/opt/infoprint/itm/xforms/afp2pdf/` for AIX and Linux and under `TF_install_path\itm\xforms\afp2pdf\` for Windows. **FONT** subdirectory with an **AFM** subdirectory and a **Type1** subdirectory. You can edit them using any text editor. The shipped version of

the font definition files maps the IBM Core Interchange (Latin only), compatibility, coordinated, and Data 1 fonts for you. If your document uses an AFP font that is not listed in the font definition files, you need to add it. If you have generated modified font definition files for viewing AFP files for the AFP Workbench or for the AFP plug-in, some of the same files can be reused for the **afp2pdf** transform. The `icoded.fnt`, `coded.fnt`, `csdef.fnt`, `cpdef.fnt`, and `icudt381_ibm-CPGID_*.cnv`, where CPID is the code page identification number, files can be copied and used for the transform. Do not try to reuse the `ALIAS.fnt` file.

## When you need to map fonts

If you are using fonts that are not defined for the **afp2pdf** transform, if you have modified the IBM AFP fonts, or if you have created your own AFP fonts, you need to define those fonts in the font definition files:

- If you created a new coded font or renamed one, you need to define the coded font in the Coded Font File (`icoded.fnt` or `coded.fnt`).
- If you created a new character set, you must define it in the Character Set Definition File (`csdef.fnt`).
- If you created a new code page, you must define it in the Code Page Definition File (`cpdef.fnt`).
- If you have created a new code page or modified a code page by moving characters, you need to create a new Code Page Map File (`icudt381_ibm-CPGID_*.cnv`).

### Note


- If you have only modified an existing IBM font component, such as by deleting code points in the IBM code page, you might not need to do any of these definitions.

## The afp2pdf transform files supplied for mapping fonts

The next table lists the **afp2pdf** transform font support files and the subdirectories in which they are installed.

### afp2pdf font support files

File	File Name	Subdirectory	Description
Coded Font File	<code>icoded.fnt</code> <code>coded.fnt</code>	FONT	Specifies which AFP code page and AFP font character set make up the coded font.
Character Set Definition File	<code>csdef.fnt</code>	FONT	Defines AFP character set attributes, such as point size. It also maps the font character set to the font global identifier.

File	File Name	Subdirectory	Description
Code Page Definition File	cpdef.fnt	FONT	Maps each AFP code page to a browser character set and indicates which Code Page Map File to use for the <b>afp2pdf</b> transform.
Code Page Map File	icudt341_ibm-CPGID_*.cnv	CNV	The .CNV files for ICU UCONV are used for character conversion.
Alias File	alias.fnt	FONT	Maps the font type families to an associated font metric file; also maps the font family type to be used during the transform.
Font Metric Information File	fontname.AFM	FONT then AFM	Contains the font metric information, which is the dimension of each of the characters.
<p> <b>Note</b></p> <ul style="list-style-type: none"> <li>• coded.fnt is optional and is meant to contain coded fonts you have created.</li> <li>• <i>Character set</i> is similar to the AFP term code page.</li> </ul>			

## Coded Font File

The IBM Coded Font File maps AFP coded fonts to their AFP character sets and AFP code pages. Use these two Coded Font Files with the **afp2pdf** transform:

### icoded.fnt

This file contains definitions for approximately 2500 IBM-supplied coded fonts.

### coded.fnt

You can create this optional file to define a list of any coded fonts you have created and place it in the FONT subdirectory.

If a coded.fnt file exists in the FONT subdirectory, it is searched first for the coded fonts used in an AFP file. Here is an example of the contents of the coded.fnt file:

```
X?A155N2 = C?A155N1, T1DCDCFS
X?AE10 = C?S0Ae10, T1S0AE10
X?GT10 = C?DOGT10, T1D0BASE
X?ST15 = C?DOST15, T1D0BASE
X?A0770C - C?A07700, T1GI0361
X0T0550C = C0T05500, T1DCDCFS
```

**★ Important**

- A question mark (?) can only be used as the wildcard character for the second character in the coded font name and the character set name. With this rule, all the character rotations of the coded fonts can be handled with one entry or searching.

**↓ Note**

- A sequential search is performed for the coded font, and the first match is used, including the wildcard character.

After the coded font name, the character set name must be listed first, followed by the code page name.

The character set and code page must be separated by a comma.

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## Character Set Definition File

The Character Set Definition File (csdef.fnt) specifies the character set attributes and font global identifier of the font. It is split into two sections: one for the character sets (CHARSET) and one for the global identifier (FGID).

### CHARSET Section

This example shows an example of the CHARSET section in the csdef.fnt file:

```
[CHARSET]
;charset = fgid, height, width, strikeover, underline
C?H200A0=2304,110,73,0,0
C?H200D0=2304,140,93,0,0
C?N200B0=2308,120,80,0,0
C?4200B0=416,120,144,0,0
C?DOGT15=230,80,96,0,0
C?A155A0=33207,110,73,0,0
C?A155A0=33227,110,73,0,0
C?T055D0=4407,140,93,0,0
C?T17500=4555,100,67,0,0
C?T17560=4555,60,40,0,0
DEFAULT=2308,80,0
```

The CHARSET section lists each AFP font character set and its corresponding attributes. The next table describes the attributes and values for CHARSET.

**CHARSET section**

Attribute	Values	Shipped Default	Description
<b>fgid</b>	IBM-defined font global identifier (FGID) or your own FGID in one of these ranges: 3840 to 4096 65260 to 65534	2308	A unique value that identifies the type family, typeface, and sometimes the point size of the character set.
<b>height</b>	1 to 990	80	The vertical size of the character set (minimal baseline-to-baseline value) expressed in tenths of a point. For example, a 9-point font would have a height of 90.
<b>width</b>	0 to 99 (currently ignored)	0	The average horizontal size of the characters in 1440th of an inch. Currently, 0 is always used because Windows determines an appropriate font width based on the font height.
<b>strikeover</b>	1 = YES 2 = NO	0	A font whose characters all have a line, parallel to the character baseline, placed over the middle of the character.
<b>underline</b>	1 = YES 2 = NO	0	A font whose characters all have a line, parallel to the character baseline, placed under the character.

**FGID Section**

The next figure shows an example of the FGID section in the `csdef.fnt` file.

**FGID section in csdef.fnt file**

```
[FGID]
;fgid = familyname, style, weight, italic
230=Gothic, MODERN, MED, 0
416=Courier, MODERN, MED, 0
2304=Helvetica, SWISS, MED, 0
2308=TimesNewRoman, ROMAN, MED, 0
```

The FGID section lists each font global identifier and its corresponding attributes. The next figure describes the attributes and values for FGID.

**FGID section**

Attribute	Values	Shipped Default	Description
<b>familyname</b>	Any browser font	Times New Roman	An outline font name or an AFP type family name.
<b>style</b>	SWISS ROMAN SCRIPT MODERN DISPLAY	ROMAN	
<b>weight</b>	LIGHT, MED, BOLD	MED	The degree of boldness of a typeface caused by different thicknesses of the strokes that form a graphic character.
<b>italic</b>	1 = YES 2 = NO	0	A font whose characters slant to the right.

**Note**

1. *familyname* is the same as *type family* in AFP fonts and *typeface name* in Windows.
2. SWISS is a proportionally spaced, sans serif font.
3. ROMAN is a proportionally spaced, serif font.
4. SCRIPT is a fixed-pitch font designed to look like handwriting.
5. MODERN is a fixed-pitch, sans serif or serif font.
6. DISPLAY is a decorative font.

**Rules:**

1. Attributes must be separated by a comma.
2. In the CHARSET section of the file, only **fgid** and **height** are required.
3. In the FGID section of the file, only **familyname** and **style** are required.
4. A question mark (?) can only be used as the wildcard character for the second character in the character set name. With this rule, all the character rotations of the coded fonts can be handled with one entry while searching.

**Note**

- A sequential search is performed for the character set, and the first match is used, including the wildcard character.
5. The CHARSET section must come before the FGIC section in the file.
  6. You can set a default character set. The default character set that is defined in the file must be the last entry in the CHARSET section.

7. If you add your own AFP font character set to the CHARSET section, you must assign it a font global identifier. If the new character set has the same familyname, style, weight, and italic attributes as an existing character set, you can use the same font global identifier; otherwise, you must add a unique font global identifier to the FGID section.

**Note**

- *familyname* is the same as *type family* in AFP fonts and *typeface name* in Windows.
- SWISS is a proportionally spaced, sans serif font.
- ROMAN is a proportionally spaced, serif font.
- SCRIPT is a fixed-pitch font designed to look like handwriting.
- MODERN is a fixed-pitch, sans serif or serif font.
- DISPLAY is a decorative font.

## Code Page Definition File

The Code Page Definition File maps the IBM AFP code page name to its code page global identifier (CPGID) and to a browser character set.

The section header CODEPG is followed by a list of AFP code pages and their attributes. The first attribute in each line is the AFP code page global identifier that maps to a Code Page Map File (see [Code Page Map File, p. 33](#) for more information about mapping code pages). The second attribute is the browser character set that you decide is the best match for your AFP code page. The last line gives the default attribute values to be used when a default is required. The next figure shows an example of the contents of the `cpdef.fnt` file.

### Example of cpdef.fnt

```
[CODEPG]
;codepage = cpgid,wincp
T1DCDCFS=1003,ANSI
T1DEBASE=2058,ANSI
T1DOBASE=2063,ANSI
T1DOGP12=2085,ANSI
T1GI0395=2079,ANSI
T1GPI363=2066,SYMBOL
T1V10037=37,ANSI
T1V10273=273,ANSI
T1000290=290,ANSI
T1000310=310,ANSI
T1000423=423,ANSI
T1000905=905,ANSI
DEFAULT=361,ANSI
```

The next table describes the attributes and values for CODEPG.

## CODEPG section

Attribute	Values	Shipped Default	Description
<b>cpgid</b>	Pre-defined CPGID or your own defined CPGID in the range 65280 to 65534	361	Code page global identifier
<b>wincp</b>	ANSI or SYMBOL	ANSI	Windows character set

### Rules:

1. Attributes must be separated by a comma.
2. Only the first attribute, **cpgid**, is required.
3. You can set a default code page. The default code page that is set in the file must be the last entry in the file.
4. If you create your own code page, you must assign it a unique code page identifier. Leading zeros are not valid. (You can use an IBM code page global identifier, but only if the character-to-hexadecimal code mapping is the same for your code page.)

## Code Page Map File

To add a new code page to the ICU UCONV, you need to obtain or create a source mapping data file, which has a file extension of `.ucm`, corresponding to the desired code page.

A large archive of converter data is maintained by the International Components for Unicode (ICU) website. You can compile the source-mapping data files (`.ucm` files) into binary converter files (`.cnv` files) by using the ICU tool **makeconv** and entering this command:

```
LIBPATH=/usr/lpp/psf/lib64/xforms:/usr/lpp/psf/afp2pdf/cnv
makeconv -p ICUDATA file.ucm
```

Where the *directory* is the output directory and *file.ucm* represents the `.ucm` source file.

### Note

- The source code of **makeconv** can be found on the ICU website.

When the **afp2pdf** transform is installed, a CNV folder is created under the **afp2pdf** transform destination folder. The CNV folder is used as storage for the binary converter `.cnv` files. When the corresponding `.cnv` file is added to the CNV folder, the code page is available to the transform.

## Alias File

The Alias File (`alias.fnt`) lists the font metric file name and the font family name aliases in the FONT section. Font family name aliases let you change all of the requested instances of a font family name (as defined in the Character Set Definition File) to another font family name.

The next figure shows how the `alias.fnt` file is used with the **afp2pdf** transform to change all requests for the Sonoran Serif font to requests for the Times New Roman font.

### Note

- Font family name remapping, especially to TrueType fonts, can cause misalignment of text characters because the display font is not the same as the font used to create the AFP document. Remapping of one font family name to a different font family name with very different characteristics (such as STYLE) might mean a matching font cannot be found. You receive an error message if either font substitute cannot be found.

### Example of how the alias.fnt file is used

```
[FONT]
; ***** Requested font = Type 1 font, TrueType font *****
Book=TNR,Times New Roman
CourierOverstrike=Cou,Courier New
SonoranSerif=TNR,Times New Roman
SonoranSansSerif=TNR,Arial
Text=Cou,Courier New
```

The next figure shows how the `alias.fnt` file is used with the **afp2pdf** transform to change all requests for the SonoranSerif font to requests for the Times font (which is one of the base fonts available in the Adobe Acrobat Viewer).

### Using the alias.fnt file with afp2pdf transform

```
[FONT]
; ***** Requested font = font name,Font metric/AFM filename (or 'NULL' for
not used) *****
SonoranSerif=Times, NULL
```

#### Rules:

- If multiple mappings are listed in the file for the same family name, only the first match is used.
- The Alias File is processed sequentially and is not chained (for example, if "Century Schoolbook" is set equal to "Times", and "Times" is set equal to "Times New Roman", "Century Schoolbook" is not set to "Times New Roman").
- Blanks in family names are treated as characters (for example, "New Century Schlbk" is not the same font as "NewCenturySchlbk").

### Mapping your fonts to the afp2pdf transform

After determining which font files you need to modify, use these steps to map your fonts:

- Gather the information needed to define the fonts in the font definition files.
- Make backup copies of any of these font definition files you plan to modify:

```
csdef.fnt
cpdef.fnt
icoded.fnt
alias.fnt
```

- Substitute any non-matching characters in the Code Page Map File.  
See [Code Page Map File](#), p. 33 for information about Code Page Map Files.

4. Edit the `cpdef.fnt` file and add your code page name, code page identifier, and the best matching browser character set name for the fonts you are using.
5. If you have created a new character set, edit the `csdef.fnt` file and add your character set name in the CHARSET section. Specify the correct attributes for your font in the `csdef.fnt`. Add the appropriate information in the FIGID section of the file if you are naming a new font global identifier.
6. If you have created a coded font, create or edit the `coded.fnt` file and add your coded font.

---

## Mapping fonts with non-Latin encodings

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When you use external fonts that contain glyphs that are not part of the Latin encoding, use this procedure to embed them in the PDF file.

1. Embed the font as described in [Embedding Type 1 Fonts, p. 25](#)
2. When mapping the codepage in the `cpdef.fnt` file, specify the encoding to use:
  - ARABIC
  - GREEK
  - HEBREW
  - LAO
  - LATIN4
  - ORCA
  - ORCB
  - THAI
  - VIETNAMESE
3. Make sure a `.cnv` file is available for the specified code page.

## Using TrueType fonts

The `afp2pdf` transform supports the use of TrueType fonts.

---

## Embedding TrueType fonts

---

With the `afp2pdf` Transform PRPQ Version 1.6, you can convert an AFP document that contains TrueType fonts.

The TrueType fonts are embedded into the resulting PDF document.

By using embedded fonts, the size of the PDF file increases.

## Mapping TrueType fonts

If the AFP document you are converting to PDF contains TrueType fonts, you can create a smaller PDF document by adding the TrueType fonts to the `ttdef.fnt` file.

When you add the TrueType fonts to the `ttdef.fnt` file, you need to include details about the fonts, such as *familyname*, *style*, or *weight*.

Listing TrueType fonts in the `ttdef.fnt` file is especially useful when you have DBCS TrueType fonts that are over 25 megabytes each. The **afp2pdf** transform allows you to map the DBCS TrueType fonts to Type0 fonts. By adding the DBCS TrueType Font to the `ttdef.fnt` file and setting the *familyname* to `JpnSys1` or `JpnSys2`, the **afp2pdf** transform maps the DBCS TrueType font to either `KozGoPro-Medium` or `KozMinPro-Regular`.

The **afp2pdf** transform uses this search order for TrueType fonts:

1. The `ttdef.fnt` file is searched for the code page and character set pair.
2. The **afp2pdf** transform searches the TrueType font in the specified `TT_FONT_PATH`.
3. If the client is unable to locate the TrueType font, a message is issued, the **afp2pdf** transform uses the default font listed with the `DEFAULT =` option in the `ttdef.fnt` file.

## Using the configuration file for TrueType fonts

The **afp2pdf** transform uses a configuration file called `ttdef.fnt` to support TrueType fonts.

The `ttdef.fnt` file is similar to the `csdef.fnt` file. You use the `ttdef.fnt` file to map each TrueType font to a known Type 1 or Type 0 font.

The syntax of the `ttdef.fnt` file uses the same rules that are defined by the `csdef.fnt`, where comments are defined as `';`. The Full Font Name is extracted from the `x'02'` triplet (FQNTType is `x'DE'`) of the Map Data Resource (MDR). The Full Font Name is used to search the `ttdef.fnt` and the resource name when issuing the `open_input_handler` command.

The encoding of the `ttdef.fnt` should be UTF-8 to make sure all font names can be rendered within the file. The *familyname* must convert to ANSI without any characters lost if aliasing for font name is used.

For example:

```
ttdef.fnt
[TRUETYPE]
;full font name = familyname,style,weight,italic
Times New Roman=TimesNewRoman,ROMAN,MED,1
MS Gothic=JpnSys,SWISS,MED,0
MS Mincho=JpnSys2,ROMAN,MED,0
...
DEFAULT=TimesNewRoman,ROMAN,MED,1
```

The `ttdef.fnt` file is located in these directories:

**On AIX or Linux:**

```
/usr/lpp/psf/afp2pdf/font
```

**On Windows:**

```
install_path\afp2pdf\font
```

## Using Outline fonts

The **afp2pdf** transform supports Outline Font Object Content Architecture (FOCA). The addition of FOCA support improves character placement for AFP raster fonts and provides 100% font fidelity for AFP outline fonts.

Outline fonts can be embedded as internal resources, or they can be referenced as external resources and mapped. In either case, the font may be defined through the coded font name or with a character set/code page pair.

The **afp2pdf** transform parses and extracts the outline font character set information it needs when outputting the text and saves the information in these files:

**PFM file**

Contains general information about the outline font obtained from the character set. This file can be external, saved on the hard drive, or kept in memory.

**PFB file**

Contains the data about the outline font. It must be extracted and kept on the hard drive or in memory.

For both cases (embedded or external Outline font) the PFM and PFB files are embedded within the PDF document, and the text is written in the PDF file using the embedded PFM and PFB information.

The **afp2pdf** transformer creates a temporary `.cnv` file to be used by ICU for the conversion of text from Unicode to the specified codepage and for the conversion of text from the code page to Unicode.

---

## Using non-Latin code pages with Outline fonts

---

The **afp2pdf** transform supports non-Latin codepages for AFP Outline fonts.

These non-Latin code pages are supported:

- 259
- 290
- 420
- 423
- 424
- 833
- 836
- 838

870  
 875  
 880  
 892  
 893  
 904  
 1025  
 1026  
 1027  
 1097  
 1112  
 1122  
 1130  
 1132  
 1153  
 1154  
 1155  
 1156  
 1157  
 1158  
 1160  
 1164

When an AFP document contains text written in one of the supported non-Latin code pages, the **afp2pdf** transform uses a corresponding AFP Outline Font. Each code page has a corresponding AFP Outline font. The location of the AFP Outline fonts is specified in the configuration file using the `Foca_Font_Path` option. To display the text written with the non-Latin code-pages within the PDF, the **afp2pdf** transform extracts the PFB file from the AFP Outline Fonts and creates a PFM file. The resulting files are embedded within the PDF stream. When a non-Latin code page does not find the corresponding AFP Outline Font, the **afp2pdf** transform converts the text to a default code-page. This default code page is set in the `cpdef.fnt` file. The default code page is one of the base-14 Standard PDF fonts.

To accommodate the non-Latin code pages, these options have been added to the `afp2pdf.cfg` file. The configuration file (`afp2pdf.cfg`) has these new options:

#### For AIX or Linux

`Foca_Font_Path = /usr/lpp/psf/fontlib` specifies the path for the AFP Outline fonts.

#### For Windows

`Foca_Font_Path = \install_path\fontlib` specified the path for the AFP Outline fonts.

---

**Note**

- If the configuration file does not contain the `Foca_Font_Path` entry, the **afp2pdf** transform searches within `/usr/lpp/psf/fontlib` for AIX or Linux, and `\install_path\fontlib` for Windows.

---

## Mapping outline fonts

---

If the AFP document you are converting to PDF contains Outline fonts, you can create a smaller PDF document by adding the Outline fonts to the `afp2pdf.cfg` file.

You use the `Foca_Font_Path` option in the `afp2pdf.cfg` file to specify the path and name of the coded font. The name can be an actual coded font name or a character set/code page pair that identifies the font.

The **afp2pdf** transform uses this search order for Outline fonts:

1. The font directory specified with the `Foca_Font_Path` value in the `afp2pdf.cfg` is searched.
2. When an Outline font is not found in the `Foca_Font_Path` value in the `afp2pdf.cfg`, the **afp2pdf** transform uses a default font. The default font is a Type1 font, one of the PDF Base 14 Fonts, or one of the virtual DBCS (Type0) fonts. You specify the default font in the `csdef.fnt` file.

## Using raster fonts

The **afp2pdf** transform supports the use of raster fonts. Raster fonts contain a set of bitmaps that represent the character shapes for a certain font.

When you use raster fonts to create a PDF file, the **afp2pdf** transform uses the information received from the FOCA structure fields (character glyphs and widths) to create an Adobe PDF Type3 font. This Adobe PDF Type3 font contains an Encoding dictionary. The text written with this Type3 font is searchable.

Raster fonts can be embedded as internal resources, or they can be referenced as external resources and mapped. In either case, the font may be defined through the coded font name or with a character set/code page pair.

The **afp2pdf** transform parses and extracts the raster font character set information it needs when outputting the text and saves the information in these files:

### PFM file

Contains general information about the raster font obtained from the character set. This file can be external, saved on the hard drive, or kept in memory.

### PFB file

Contains the data about the raster font. It must be extracted and kept on the hard drive or in memory.

For both cases (embedded or external raster fonts), the PFM and PFB files are embedded within the PDF document, and the text is written in the PDF file using the embedded PFM and PFB information.

The **afp2pdf** transformer creates a temporary `.cnv` file to be used by ICU for the conversion of text from Unicode to the specified codepage and for the conversion of text from the code page to Unicode.

## Embedding raster fonts

All raster fonts are transformed to AdobeType3 fonts and embedded within the PDF document.

Using Type3 fonts for raster fonts reduces the size of the PDF file and makes the PDF searchable.

## Mapping raster fonts

3

If the AFP document you are converting to PDF contains raster fonts, you can create a smaller PDF document by accessing the raster fonts outside of the AFP document.

The **afp2pdf** transform uses this search order for raster fonts:

1. The `i coded.fnt` file is searched for the code page and character set pair.
2. The font directory specified with the `Foca_Font_Path` value in the `afp2pdf.cfg` is searched.
3. When a raster font is not found in the `i coded.fnt` file or the `Foca_Font_Path` value in the `afp2pdf.cfg`, the **afp2pdf** transform uses a default font. The default font is a Type1 font, one of the PDF Base 14 Fonts, or one of the virtual DBCS (Type0) fonts. You specify the default font in the `csdef.fnt` file.

## Generating PDF/A compliant documents

To generate PDF/A compliant PDF files, set the **-pragma pdf\_compliance** command line parameter to PDF/A. See [Flags and values, p. 17](#), for more information.

The conditions for a PDF/A compliant document depend on the information that can be found in the input AFP file:

- All fonts must be embedded within the PDF file. The output PDF file is not PDF/A compliant if the AFP file does not have the font resources embedded or if the resources are external and the `afp2pdf` transform is configured to map the fonts.
- All fonts must have Unicode mapping for all characters.

### ↓ Note

- You receive an error message if the PDF cannot be transformed into a PDF/A compliant document.

## Examples

The following examples can be run on a machine with Transform Feature and InfoPrint Manager installed.

1. Use the **-o** flag to specify the output file name:

```
afp2pdf -o sample.pdf example.afp
```

In this example, the **-o** flag indicates that the output will be generated in the current directory using the output file name `sample.pdf`.

2. To specify a custom form definition, use the **-pragma fdef** flag:

```
afp2pdf -pragma fdef="C:\myfdef\reslib\myformdef.fde" -o sample.pdf
example.afp
```

In this example, the **-pragma fdef** flag is assigned the full path to a form definition file named `myformdef.fde`, which will be used to process the `example.afp` input file.

3. To specify the rotation value used to control text alignment with page orientation, use the **-pragma aligntext** flag:

```
afp2pdf -pragma aligntext=180 example.afp
```

This example aligns the text with a paper orientation that is rotated 180 degrees in an `example.pdf` output file.

4. Use the **-C** flag to specify the path and name of a configuration file:

```
afp2pdf -C mycustom.cfg -o sample.pdf example.afp
```

The `mycustom.cfg` configuration file used to transform the `example.afp` input file to the `sample.pdf` output file.



---

## 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 the apf2pdf transform 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 the InfoPrint Manager. Consult the assistive technology documentation for specific information when using it to access the InfoPrint Manager.

## Keyboard navigation of the user interface

The InfoPrint Manager user interface complies with the accessibility guidelines for HTML. Users can use keyboard shortcuts or function keys (PF keys) to access the InfoPrint Manager user interface. For example, Alt+Shift+F2 lets you skip to the main content. See your browser documentation for keyboard shortcuts and default settings for the PF keys and for explanations about how to modify their functions.

## Glossary

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

### Special Characters

#### .Guidefaults file

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

## A

### Access Control List (ACL)

In computer security, a collection of all access rights for one object.

### ACL

Access Control List.

### acl editor

A command line interface that lets you view, add, update, and delete access authorization records in an ACL.

### action

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

---

## **actual destination**

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

## **additive color system**

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

## **administrator**

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

## **Adobe Acrobat**

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

## **Adobe PostScript Raster to Image Transform (RIP)**

See *raster image processor (RIP)*.

## **ADSM/6000**

Advanced Distributed Storage Manager.

## **Advanced Distributed Storage Manager (ADSM/6000)**

A program that provides storage management for archived files.

## **Advanced Function Common Control Unit (AFCCU)**

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

## **Advanced Function Presentation (AFP)**

A set of licensed programs, together with user applications, that use the all-points-addressable concept to print data on a wide variety of printers or to display data on a wide variety of display devices. AFP includes creating, formatting, archiving, retrieving, viewing, distributing, and printing information.

## **Advanced Function Presentation data stream (AFP data stream)**

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

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

## **Advanced Interactive Executive (AIX)**

An operating system used with pSeries computers. The AIX operating system is IBM's implementation of the UNIX operating system.

---

## **AFCCU**

Advanced Function Common Control Unit.

## **AFP**

Advanced Function Presentation.

## **AFP data stream**

Advanced Function Presentation data stream.

## **ainbe**

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

## **AIX**

Advanced Interactive Executive.

## **AIX-attached printer**

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

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

## **AIX destination support system**

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

## **AIX physical printer**

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

## **aliasing**

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

## **all-points-addressability (APA)**

The capability to address, reference, and position text, overlays, and images at any defined point of the printable area of the paper or display medium.

## **alphameric**

Synonym for *alphanumeric*.

## **alphanumeric**

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

## **AMPV**

Average monthly print volume.

## **analog**

---

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

### **analog color proof**

An off-press color proof made from separation films.

### **anti-aliasing**

The rendering of hard-edged objects so that they blend smoothly into the background.

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

### **APA**

All-points-addressability.

### **API**

Application Program Interface.

### **Application Program Interface (API)**

The call interface between a client program and the procedures that implement the printing system, as defined by the specification. Clients use the API to access servers. (P)

### **architecture**

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

### **archiving**

The transfer of digital information from an online system onto various media for offline storage. The original copy is deleted from the online system. See also *retrieval*.

### **array inkjet**

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

### **ASCII**

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

### **asynchronous**

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

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

### **attachment type**

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

---

**attribute**

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

**attribute name**

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

**attribute value**

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

**authorization**

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

**authorized user**

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

**automatic recovery**

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

**auxiliary sheet**

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

**auxiliary-sheet selections**

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

**B****backend**

In AIX or Linux, the program that is invoked by the `qdaemon` process (AIX) or CUPS printing system (Linux) to run a print or batch job. Synonymous with *backend program*.

**backend program**

Synonym for *backend*.

**backlog**

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

**backspace**

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

**bar code**

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

---

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

## **BCOCA**

Bar Code Object Content Architecture.

## **Bezier curves**

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

## **binding**

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

The process of applying the binding to a book.

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

## **bitmapped**

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

## **bleed**

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

## **boot**

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

## **BSD**

Berkeley Software Distribution.

## **BSD destination support system**

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

## **BSD physical printer**

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

## **burn**

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

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

---

## C

### CDE

Common Desktop Environment.

### child

See *parent/child relationship*.

### choke

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

### class

Synonym for *object class*.

### clean

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

### CLI

Command Line Interface.

### client

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

### CMR

Color Management Resource.

### CMY

Cyan, magenta, yellow.

### CMYK

Cyan, magenta, yellow, black.

### collator

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

### color balance

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

### color correction

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

### color key

---

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

### **Color management resource**

Color management resource (CMR) is an architected resource that is used to carry all of the color management information required to render a print file, document, group of pages or sheets, page, or data object with color fidelity.

### **Command Line Interface (CLI)**

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

### **Common Desktop Environment (CDE)**

A graphical user interface running on a UNIX operating system.

### **complex attribute**

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

### **constant data**

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

### **contextual help**

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

### **control strip**

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

### **Cromalin**

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

### **crop**

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

### **CTS**

Cutter-trimmer-stacker.

### **CUPS**

Common Unix Printing System is a modular printing system for Unix-like computer operating systems which allows a computer to act as a print server. A computer running CUPS is a host that can accept print jobs from client computers, process them, and send them to the appropriate printer.

### **CUPS destination support system**

---

In InfoPrint Manager, the destination support system that communicates with the standard Linux print system (CUPS) and that uses InfoPrint Manager **pioinfo** backend, InfoPrint Manager **piorpdm** backend for Ricoh printers, or other print backends to print jobs.

### **cutter-trimmer-stacker (CTS)**

A post-processing device attached to a printer device and used for paper handling.

### **cyan, magenta, yellow (CMY)**

The subtractive primary colors.

### **cyan, magenta, yellow, black (CMYK)**

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

## **D**

### **daemon**

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

### **data stream**

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

A continuous stream of data that has a defined format.

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

### **deadline**

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

### **default document**

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

### **default job**

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

### **default object**

In InfoPrint Manager, a general term that refers either to a *default document* or a *default job*. Synonymous with *initial value object*.

### **default value**

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

### **delete**

---

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

### **desktop publishing**

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

### **destination**

See *actual destination*, *logical destination*.

### **destination support system (DSS)**

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

### **device**

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

### **device address**

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

### **device driver**

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

### **device support system (DSS)**

Synonym for *destination support system*.

### **DFE**

Digital Front End

### **DFE destination support system**

In InfoPrint Manager, the destination support system that communicates with a DFE print server driving a Ricoh printer.

### **DFE printer**

In InfoPrint Manager, the object representing a DFE print server driving a Ricoh printer.

### **digital**

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

### **digital color proof**

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

### **digital printing**

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

### **direct-attached printer**

---

A printer device, attached to an pSeries computer through the network or through a serial or parallel port.

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

### **disable**

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

### **distributed print system**

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

### **dithering**

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

### **document**

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

### **document element**

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

### **document format**

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

### **document identifier**

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

### **Document Printing Application (DPA)**

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

### **document transfer method**

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

### **document type**

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

**dot**

The individual elements of a halftone.

**dot gain**

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

**dots per inch (dpi)**

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

**DPA**

Document Printing Application.

**DPF**

Distributed Print Facility.

**dpi**

Dots per inch.

**drag and drop**

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

**DSS**

Destination support system.

**dummy**

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

**duplex printing**

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

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

**E****early binding**

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

---

**edition binding**

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

**electronic document**

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

**electronic mail**

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

**electrophotographic**

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

**em**

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

**email**

Electronic mail.

**email destination**

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

**email destination support system**

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

**embellishments**

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

**en**

In composition, exactly one-half an em.

**enable**

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

**end sheet**

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

**Enhanced X-Windows**

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

---

## environment variable

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

## error log

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

## estimate

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

## event

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

## event log

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

## event notification

The notification that is sent by InfoPrint Manager for an event.

## F

### Federated Authentication

A technology that grants users secure access to InfoPrint Manager relying on external identity providers (IdPs). Instead of managing separate user credentials within the InfoPrint Manager system, federated authentication allows users to log in using their existing accounts from trusted third-party services.

### FIFO (first-in-first-out)

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

### file-reference document

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

### File Transfer Protocol (FTP)

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

### finisher

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

### finishing

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

**flag**

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

**FOCA**

Font object content architecture.

**folder**

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

**font**

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

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

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

**form definition**

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

**forward space**

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

**FPO**

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

**front panel**

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

**FST**

Files and Sockets Transport is the local security implementation for InfoPrint Manager. It uses the local namespace for user credentials, and it is a lightweight security protocol.

**FTP**

File Transfer Protocol.

**G****GCR**

Gray component replacement.

---

## **GIF**

Graphics Interchange Format.

## **global change**

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

## **global character**

A character or set of characters used to specify an unknown number or set of characters in a search string. In InfoPrint Manager, a global character is represented by an asterisk (\*).

## **global ID**

Global job identifier.

## **global job identifier**

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

## **glyph**

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

## **GOCA**

Graphics object content architecture.

## **graphic character**

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

## **Graphical User Interface (GUI)**

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

## **Graphics Interchange Format (GIF)**

A compressed graphics format widely used on the Internet.

## **gray component replacement (GCR)**

Synonym for *under color removal (UCR)*.

## **gray scale**

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

## **GUI**

Graphical User Interface.

## **gutter**

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

---

## H

### halftone

A printing method that simulates continuous-tone shading using dots of varying sizes laid out on a rectangular grid. Larger dots simulate darker tones and smaller dots simulate lighter tones. Typical grid spacings are 85 lines per inch (lpi) (newspaper), 133 lpi (low end), 150 lpi (midrange), and 175+ lpi (high quality).

### help

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

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

### hold

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

### host name

A unique label assigned to a device (such as a computer, server, or router) on a network, used to identify it. It can be a simple name (such as *laptop-01*) or part of a fully qualified domain name (FQDN) like *server.example.com*, allowing devices to locate and communicate with each other.

### hot folder

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

### hypertext

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

### hypertext link

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

## I

### icon

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

### image

Toned and untoned pels arranged in a pattern.

### image data

Rectangular arrays of raster information that define an image.

### imagesetter

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

### imposition

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

### **InfoPrint**

A solution of 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 Manager**

A print management product that runs on an AIX, Linux, or Windows operating system. InfoPrint Manager handles the scheduling, archiving, retrieving, and assembly of print jobs and their related resource files. It also tracks the finishing and packaging of the printed product.

### **InfoPrint Manager Select**

Synonym for *InfoPrint Select*.

### **InfoPrint Manager Submit Express**

Synonym for *InfoPrint Submit Express*.

### **InfoPrint Network**

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

### **InfoPrint Select**

The component of InfoPrint Manager that lets you submit and track jobs from your system to a destination that is managed by InfoPrint Manager.

### **InfoPrint Submit Express**

The component of InfoPrint Manager that lets you submit and track jobs with a job ticket from a Windows workstation.

### **InfoPrint 4000**

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

### **initial value document**

Synonym for *default document*.

### **initial value job**

Synonym for *default job*.

### **initial value object**

Synonym for *default object*.

### **initially settable attribute**

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

### **input focus**

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

### **input tray**

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

### **Intelligent Printer Data Stream (IPDS)**

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

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

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

### **International Organization for Standardization (ISO)**

An organization of national standards bodies from various countries established to promote development standards to facilitate international exchange of goods and services, and develop cooperation in intellectual, scientific, technological, and economic activity.

### **Internet**

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

### **Internet Protocol**

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

### **intervening jobs**

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

### **IOCA**

Image object content architecture.

### **IP address**

The IPv4 or IPv6 address.

### **IPDS**

Intelligent Printer Data Stream.

### **ISO**

International Organization for Standardization.

## **J**

### **job**

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

### **job bundle**

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Synonym for *job*.

### **job data**

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

### **job ID**

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

### **job-priority**

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

### **job submitter**

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

### **job ticket**

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

### **Joint Photographic Experts Group (JPEG)**

A compressed graphics format widely used on the Internet.

### **JPEG**

Joint Photographic Experts Group.

## **K**

### **kerning**

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

### **keyword**

A name or symbol that identifies a parameter.

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

### **kitting**

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

## **L**

### **LAN**

Local Area Network.

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## **laser (light amplification by stimulated emission of radiation)**

In InfoPrint printers, a device that emits a beam of coherent light that forms the image on the photoconductor that is subsequently transferred to the paper.

## **late binding**

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

## **LDAP**

Lightweight Directory Access Protocol is the network security implementation for InfoPrint Manager. It uses an LDAP or Active Directory server for user credentials, and it offers a unified security implementation in a customer environment.

## **LED**

Light-emitting diode.

## **light-emitting diode (LED)**

The imaging device element for electrophotographic print units.

## **lines per inch (lpi)**

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

## **Linux**

Linux is an open-source operating system modeled on UNIX. There are multiple distributions available, InfoPrint Manager is supported on AlmaLinux, Red Hat Enterprise Linux (RHEL), Rocky Linux, and SUSE Linux Enterprise Server (SLES).

## **Local Area Network (LAN)**

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

## **local ID**

Local job identifier.

## **local job identifier**

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

## **locale**

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

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

## **log**

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

To record messages in a file.

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## logical destination

In InfoPrint Manager, an object to which users submit their jobs. The logical destination routes jobs to one or more actual destinations representing output devices such as printers, or electronic mail systems. See also *logical printer*; contrast with *actual destination*.

## logical printer

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

## logical unit (LU)

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

## logical unit (LU) 6.2

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

## longest-job-first

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

## lpi

Lines per inch.

## LU

Logical unit.

## M

### magnetic ink character recognition (MICR)

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

### mainframe processor

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

### makeready

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

### manage

In the InfoPrint Manager GUI, the action used to put an object into a mode where its icon reflects changes of status.

### mechanical

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

**medium**

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

**merge data**

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

**message catalog**

A file of all the possible messages that can display during the processing of an application.

**MICR**

Magnetic ink character recognition.

**Mixed Object Document Content Architecture (MO:DCA)**

An architected, device-independent data stream for interchanging documents.

**MO:DCA-P**

Mixed Object Document Content Architecture Presentation.

**modify**

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

**moire**

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

**monospaced**

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

**Multiple Virtual Storage (MVS)**

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

**MVS**

Multiple Virtual Storage.

**N****N\_UP**

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

**namespace**

---

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

### **Network File System (NFS)**

A protocol that uses Internet Protocol to allow a set of cooperating computers to access each other's file systems as if they were local.

### **newline options**

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

### **NFS**

Network File System.

### **non-process-runout (NPRO)**

A printer function that moves the last printed sheet to the stacker of the printer device.

### **non-settable attribute**

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

### **notification**

The act of reporting the occurrence of events.

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

### **notification-profile**

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

### **NPRO**

Non-process-runout.

## **O**

### **object**

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

### **object class**

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

### **Object Identifier (OID)**

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

**object name**

The alphanumeric term that identifies an object.

**object state**

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

**OCR**

Optical character recognition.

**octet**

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

**offset stacking**

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

**OID**

Object Identifier.

**open destinations window**

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

**Open Prepress Interface (OPI)**

An industry standard for replacing low-resolution images in review documents with high-resolution images needed for high-quality final output.

**Open Software Foundation (OSF)**

A nonprofit research and development organization created by a consortium of companies that work together to develop software in the open systems market.

**OpenType font (OTF)**

An extension of the TrueType font format that adds:

- Support for PostScript outlines
- Better support for international character sets
- Broader support for advanced typographic control

**open window**

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

**operation**

An action performed on one or more data items.

**operator**

---

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

## **OPI**

Open Prepress Interface.

## **optical character recognition (OCR)**

Conversion of scanned text to editable ASCII characters.

## **option**

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

## **orphan logical destination**

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

## **orphan logical printer**

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

## **OSF**

Open Software Foundation.

## **overlay**

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

## **OTF**

OpenType font.

## **P**

### **PAC**

Privilege Attribute Certificate.

### **page definition**

A resource that contains the formatting controls for line data.

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

### **page segment**

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

### **pane**

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

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## parent/child relationship

In InfoPrint Manager, servers, queues, and destinations are related to one another in a parent/child relationship. For example, a server is the parent of all the queues that reside in that server, and these queues are its children.

## pass through

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

## path

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

## pause

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

## pdcreate

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

## PDF

Portable Document Format.

Printer description file.

## pdmsg

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

## pdpr

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

## perfect binding

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

## permissions

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

## physical printer

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

## piobe

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

## pipe-pull

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

### **plex**

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

### **Portable Document Format (PDF)**

An Adobe PostScript data format that can be viewed or printed.

### **Portable Operating System Interface for Computer Environments (POSIX)**

An Institute of Electrical and Electronics Engineers (IEEE) standard for computer operating systems.

### **POSIX**

Portable Operating System Interface for Computer Environments.

### **PostScript**

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

### **PostScript printer description (PPD)**

A file that contains options for printing PostScript data on various printer devices.

### **PPD**

PostScript printer description.

### **Prefix lengths**

Identify a range of IPv6 addresses that are on the same network.

### **preflight**

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

### **prepress**

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

### **print database**

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

### **print job**

Synonym for *job*.

### **Print Quality Enhancement (PQE)**

A printer facility that provides edge smoothing along diagonal lines, fine fidelity protection, and independent boldness control.

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## **Print Services Facility (PSF)**

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

### **print system**

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

### **printable document**

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

### **printer description file (PDF)**

A file that contains options for printing PostScript data on a specific printer device.

### **printer device**

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

### **printer driver**

A file that describes the physical characteristics of a printer or other peripheral device. This file is used to convert graphics and text into device-specific data at the time of printing or plotting. Synonymous with *device driver*.

### **priority**

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

### **process color**

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

### **processor**

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

### **promote**

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

### **protocol**

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

### **pSeries**

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

### **PSF**

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Print Services Facility.

### **PSF destination support system**

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

### **PSF physical printer**

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

## **Q**

### **queue**

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

A line or list formed by items waiting for processing.

## **R**

### **raster**

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

### **raster image processor (RIP)**

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

### **rc.pd**

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

### **read-only**

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

### **ready**

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

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

### **red, green, blue (RGB)**

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

### **registration**

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

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

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

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**reprographics**

The process of copying or duplicating documents or information.

**requested**

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

**resettable attribute**

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

**resource**

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

**resource context**

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

**resource document**

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

**resubmit**

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

**resume**

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

**retained job**

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

**retention**

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

**retrieval**

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

**RGB**

Red, green, blue.

**RIP**

---

Raster image processor.

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

### **root user**

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

### **RPC**

Remote Procedure Call.

### **RPM**

Red Hat Package Management is the baseline package format of the Linux Standard Base distribution.

## **S**

### **scanner**

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

### **scheduler**

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

### **separator sheet**

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

### **server**

In InfoPrint Manager, the object that accepts configuration, management, and printing requests, performs the requested operations, and sends responses back as a result of the operation.

### **settable attribute**

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

### **severity**

An indication of how serious an error condition is.

### **shell**

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

### **shift-out, shift-in code**

Control characters used to indicate the beginning and end of a string of double-byte, ideographic characters.

### **shortest-job-first**

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

### **shut down**

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

**signature**

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

**simplex**

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

**simplex printing**

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

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

**SMIT**

System Management Interface Tool.

**SNA**

Systems Network Architecture.

**spiral binding**

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

**spot color**

Individual colored inks formulated to exactly match a specified color. Spot color is used when CMYK process color cannot produce a reasonable facsimile of the color or when vivid color is needed. Spot color is also used when fluorescent or metallic colors are needed.

**spread**

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

**start sheet**

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

**state**

Synonym for *object state*.

**stripping**

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

**subnet mask**

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Identify a range of IPv4 addresses that are on the same network.

### **subnetwork**

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

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

### **subtractive color system**

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

### **superuser**

Synonym for *root user*.

### **supported**

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

### **synchronous**

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

### **system administrator**

Synonym for *administrator*.

### **System Management Interface Tool (SMIT)**

In the AIX operating system, an interface tool for installation, maintenance, configuration, and diagnostic tasks. SMIT lets you perform tasks without entering any commands.

### **Systems Network Architecture (SNA)**

The description of IBM's logical structure, formats, protocols, and operational sequences for sending units through, and controlling the configuration and operation of, networks.

## **T**

### **table reference character (TRC)**

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

### **Tagged Image File Format (TIFF)**

A digital format for storing scanned images. TIFF files are also referred to as raster format files (as opposed to vector format files). When used in desktop publishing, TIFF files produce only a low-resolution FPO image; the high-resolution data remains on the hard disk.

### **task help**

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

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## TCP/IP

Transmission Control Protocol/Internet Protocol.

## TCP/IP-attached printer

A printer device attached to an pSeries computer through telecommunication lines using the TCP/IP protocol.

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

## template

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

## ticket

See *job ticket*.

## TIFF

Tagged Image File Format.

## Transmission Control Protocol/Internet Protocol (TCP/IP)

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

## trapping

In desktop publishing, the amount of overlap in overprinting colors. Trapping prevents white paper showing through gaps caused by normal errors in registration. On sheet-fed presses, trapping is usually 0.25 point. See also *choke* and *spread*.

## TRC

Table Reference Character.

## TrueType font (TTF)

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

## TTF

TrueType font.

## tumble

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

## tumble duplex printing

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

## U

### UCR

Under color removal.

### under color removal (UCR)

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

### unmanage

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

### upload printer

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

### upload-TCP/IP-attached printer

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

## V

### validate

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

### value

A specific characteristic of an attribute.

### variable

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

### variable data

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

### varnish

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

### vector

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

**velox**

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

**vignette**

An image with soft, fade-away edges.

**Virtual Machine (VM)**

A product that manages the resources of a single computer so that multiple computing systems appear to exist.

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

**Virtual Storage Extended (VSE)**

A program whose full name is the Virtual Storage Extended/Advanced Function. It is a software operating system controlling the execution of programs.

**Visual Systems Management (VSM)**

In AIX, a type of graphical user interface that allows system management through the direct manipulation of objects.

**VM**

Virtual Machine.

**VSE**

Virtual Storage Extended.

**VSM**

Visual Systems Management.

**W**

**web**

A roll of paper used in web or rotary printing.

**well**

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

**what you see is what you get (WYSIWYG)**

Refers to the fact that the composite image displayed on the screen at a computer workstation has the appearance of the final printed image.

**window**

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

**wire-o binding**

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

**with-request**

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

**workstation**

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

**write access**

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

**WYSIWYG**

What you see is what you get.

**X**

**X-Windows**

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

**xerography**

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

**Xstation**

A terminal that is connected through a network to an pSeries computer, from which a user can perform command-line functions and run X-Windows based applications.



