
Print Services Facility Version 4 Release 4.0 for z/OS, Program Number 5655-M32

- | Print Services Facility™ Version 4 Release 4 Modification 0 for z/OS® (PSF) provides device and resource-management support for Advanced Function Presentation™ (AFP™) printers, including those listed on this web page:
- | [http://www.infoprint.com/internet/comnelit.nsf/Files/PSFsPrinters/\\$File/PSFsPrinters.pdf](http://www.infoprint.com/internet/comnelit.nsf/Files/PSFsPrinters/$File/PSFsPrinters.pdf)

PSF also supports printing on z/OS-attached printers from AIX® and Windows® operating systems by using one of these programs:

- The AFP Upload feature of PSF for z/OS
- | • The Upload-n-Print function of InfoPrint® Manager for Windows (5648-F36)

PSF supports remote printing on AIX, Windows, and Linux® operating systems by using one of these programs:

- The Distributed Print Function (DPF) of InfoPrint Manager for Windows
- The Workstation Print Manager (WPM) (5648-C82), available only in Japan
- The Download for z/OS feature of PSF for z/OS
- The AFP Download Plus feature of PSF for z/OS

PSF communicates between the Job Entry Subsystem (JES) and the printer to provide access to AFP printer functions. When processing line printer data, PSF uses instructions in an external print resource called a page definition to format the print lines into pages. A form definition resource is used to place the formatted pages on the media and to select media options.

PSF processes print jobs from applications that produce fully composed page output. Applications that produce fully composed page output contain both the output data and the formatting instructions for each page in the same records. PSF accepts data for a page in any valid sequence, processes the data, and creates the commands to drive the printers.

PSF does formatting outside the application program, providing output formatting that is independent of the application program. Changes to the application program need not affect formatting, and formatting changes need not affect the application.

For more information about z/OS print and output software, visit this web page:
<http://www-03.ibm.com/systems/z/zos/printsoftware/>

Optional Features

These optional features are available with PSF:

AFP Conversion and Indexing Facility

AFP Conversion and Indexing Facility (ACIF) formats line data and XML data according to instructions in a page definition and converts it into an AFP data stream file. ACIF can be used to index the print file to identify individual groups of pages, such as a single customer's bank statement. ACIF also supports enhanced indexing capabilities. Using ACIF, a programmer can archive information and resources needed to print the job in system libraries and then retrieve them for printing or viewing. A PSF base license is not required to order ACIF.

AFP Download Plus

AFP Download Plus accepts line data, XML data, or Mixed Object Document Content Architecture™ (MO:DCA™) data from the JES spool; transforms, if required, the data into Mixed Object Document Content Architecture for Presentation (MO:DCA-P); packages all resources and job attributes inline with the print file for printing the job; and, as an option, encodes the file before sending it to the receiving system. You can use AFP Download Plus to send output from a z/OS system to a receiver system for printing, emailing, or faxing with:

- InfoPrint Manager for AIX
- InfoPrint Manager for Windows
- InfoPrint ProcessDirector for AIX
- InfoPrint ProcessDirector for Linux
- InfoPrint ProcessDirector for Windows
- Another PSF for z/OS system

AFP Download Plus uses TCP/IP to send data sets from the JES spool to receiver systems. A cooperating receiver running on another system receives the data sets.

AFP Upload

When you use AFP Upload with InfoPrint Manager on an IBM® System p® server, you can submit a file to InfoPrint Manager for printing on any printer supported by PSF for z/OS. InfoPrint Manager can upload files of any type that it can convert to a MO:DCA-P data stream.

Compatibility Fonts

240-pel and 300-pel Compatibility Fonts are available for PSF. These fonts are described in *Licensed Program Specifications for Advanced Function Printing: Compatibility Fonts, G544-3645*.

Download for z/OS

Download for z/OS sends data, without transforming it, from a z/OS system to a remote system for archiving with Content Manager OnDemand or for printing with:

- InfoPrint Manager for AIX
- InfoPrint Manager for Windows
- InfoPrint ProcessDirector for AIX
- InfoPrint ProcessDirector for Linux
- InfoPrint ProcessDirector for Windows
- Another PSF for z/OS system running AFP Download Plus

Download for z/OS uses TCP/IP to send data sets from the JES spool to remote systems. A cooperating server running on the remote system receives the data sets.

Compatibility Fonts are available at no additional charge to customers who have purchased PSF. The other features are separately priced.

AFP Font Collection (5648-B33) and Infoprint® Fonts for z/OS (5648-E76) are related IBM products that include recommended Font Object Content Architecture (FOCA) fonts for use with PSF. Infoprint Fonts for z/OS includes outline fonts only; both products contain euro support.

WorldType Fonts for AFP Print Servers is an optional feature of IBM Infoprint Fonts for Multiplatforms (5648-E77) that includes TrueType and OpenType fonts for use with PSF.

Links to web pages for AFP Font Collection, IBM Infoprint Fonts, and the Font Finder for AFP character and code page information are available from this web page:

http://www-03.ibm.com/systems/z/os/zos/printsoftware/afpfonts_ww.html

Specified Operating Environment

Hardware Requirements

PSF operates on IBM processors capable of supporting the operating systems listed in “Software Requirements” on page 4.

Printer Requirements

To determine supported printer functions and microcode level, you can use the display printer information function in PSF. See *PSF for z/OS: Customization*, S550-0427 for more information. To determine which functions your printer supports, you can also see the *Introduction and Planning Guide* for the printer.

ACIF Requirements

To use the ACIF feature of PSF, the hardware requirements are the same as those required by PSF for z/OS.

AFP Download Plus Requirements

To use the AFP Download Plus feature of PSF, the hardware requirements are the same as those required by:

- InfoPrint Manager for AIX Version 4.3 or later (5648-F35)
- InfoPrint Manager for Windows Version 2.3 or later (5648-F36)
- | • InfoPrint ProcessDirector for AIX Version 2.2 or later (5765-H26)
- | • InfoPrint ProcessDirector for Linux Version 2.2 or later (5765-H27)
- | • InfoPrint ProcessDirector for Windows Version 2.2 or later (5765-H28)
- | • PSF 4.4.0 for z/OS (5655-M32)

AFP Upload Requirements

To use the AFP Upload feature of PSF, the hardware requirements on the AIX system are:

- Hardware to support SNA communications between the z/OS and AIX systems (no additional hardware is required to support TCP/IP communications)
- Hardware required by InfoPrint Manager
- 8 MB¹ of hard disk and 5 MB of memory for each upload queue

Download for z/OS Requirements

To use the Download for z/OS feature of PSF, the hardware requirements are the same as those required by:

- | • DB2[®] Content Manager OnDemand for Multiplatforms Version 8.4 or later (5724-J33)
- InfoPrint Manager for AIX Version 4.3 or later (5648-F35)
- InfoPrint Manager for Windows Version 2.3 or later (5648-F36)
- | • InfoPrint ProcessDirector for AIX Version 2.2 or later (5765-H26)
- | • InfoPrint ProcessDirector for Linux Version 2.2 or later (5765-H27)
- | • InfoPrint ProcessDirector for Windows Version 2.2 or later (5765-H28)
- | • PSF 4.4.0 for z/OS (5655-M32)

1. MB = Megabytes. When referring to storage capacity, 2 to the twentieth power; 1048576 in decimal notation.

Software Requirements

- | Before installing PSF, the z/OS Version 1.11 or later (5694-A01) operating system is required with supported levels of JES2 or JES3.

To install PSF, one of these is required:

- | • SMP/E Version 3.5 or later for z/OS (5655-G44)
- | • SMP/E element of z/OS

Communication Server Requirements

These functions of the z/OS Communications Server are required, depending on printer attachments:

- | • SNA Services for SNA-attached printers
- | • IP Services for TCP/IP-attached printers

RACF Requirements

Resource Access Control Facility (RACF®), part of the Security Server feature of z/OS, is required for optional RACF protection for user libraries and for print security labeling.

AFP Download Plus Requirements

To use the AFP Download Plus feature of PSF, the software requirements on the receiving system are:

- | • InfoPrint Manager for AIX Version 4.3 or later (5648-F35)
- | • InfoPrint Manager for Windows Version 2.3 or later (5648-F36)
- | • InfoPrint ProcessDirector for AIX Version 2.2 or later (5765-H26)
- | • InfoPrint ProcessDirector for Linux Version 2.2 or later (5765-H27)
- | • InfoPrint ProcessDirector for Windows Version 2.2 or later (5765-H28)
- | • PSF 4.4.0 for z/OS (5655-M32)

AFP Upload Requirements

To use the AFP Upload for AIX feature of PSF, the software requirements on the AIX system are:

- | • AIX 5L™ for POWER® Version 5.3 or later (5765-G03), or AIX Version 6.1 or later (5765-G62 or 5765-G98)
- | • InfoPrint Manager for AIX Version 4.3 (5648-F35)
- | • Communications Server for AIX Version 6.3 or later (5765-E51)–for printing on SNA-attached printers

Download for z/OS Requirements

To use the Download for z/OS feature of PSF, the software requirements on the remote system are:

- | • DB2 Content Manager OnDemand for Multiplatforms Version 8.4 or later (5724-J33)
- | • InfoPrint Manager for AIX Version 4.3 or later (5648-F35)
- | • InfoPrint Manager for Windows Version 2.3 or later (5648-F36)
- | • InfoPrint ProcessDirector for AIX Version 2.2 or later (5765-H26)
- | • InfoPrint ProcessDirector for Linux Version 2.2 or later (5765-H27)
- | • InfoPrint ProcessDirector for Windows Version 2.2 or later (5765-H28)
- | • PSF 4.4.0 for z/OS (5655-M32) with the AFP Download Plus feature

PPFA Requirements

Page Printer Formatting Aid (PPFA) continues to be enhanced to support new PSF functions. As new functions are added, APARs are often required to run the newest functions.

Licensed Program Materials Availability

Restricted materials: No. This licensed program is available without source licensed program materials. It is available in object code.

Supplemental Terms

Designated Machine Identification

Designated Machine Identification Required: Yes

Testing Period

None

Satisfaction Guarantee

IBM provides a two-month unconditional guarantee for any reason for basic licenses. IBM will credit the price paid. The guarantee period starts 1) 10 days after IBM ships the program or 2) on the day IBM authorizes the customer to make an Additional License copy.

Installation or Location License

A separate license is required for each designated machine on which the licensed program materials are used. An installation or location license cannot be used.

The user is authorized to make verbatim copies of all or part of the IBM-supplied compatibility fonts. IBM-supplied compatibility fonts can be used and distributed within the user's organization; however, machine-readable IBM-supplied compatibility fonts cannot be distributed outside the user's organization or country where the original copy was acquired.

Use-Based Charges and Usage Restriction

- Usage License applies: Limited
- Usage License Restriction: Usage is limited by the usage tier specified in "Pricing Tiers" on page 6. Tiers are determined based on the cumulative point value of the printers installed. You can use the point counting tool in PSF to determine your usage tier. For information about using the point counting tool, see *PSF for z/OS: Customization*, S550-0427.

Printer Categories

- PSF 4.4.0 is priced in Cumulative Block Tiers. The PSF tier is determined based on the number of printers PSF will be driving and the impressions-per-minute (IPM) rated speed of those printers. Printer points are assigned to each printer, then accumulated. The total number of points indicates the appropriate PSF price tier.

Table 1 defines the ranges of printer speeds and the points assigned to each printer category.

Table 1. Printer categories, speeds, and points

Category	Printer Speed (IPM)	Printer Points
1	Impact	0
2	0– 62	1
3	63– 105	6

Table 1. Printer categories, speeds, and points (continued)

Category	Printer Speed (IPM)	Printer Points
4	106– 150	12
5	151– 400	20
6	401– 700	40
7	701–1000	55
8	1001+	65

To determine the printer categories of PSF supported printers, see the IBM System z[®] Software Pricing web page:

| <http://www-03.ibm.com/systems/z/resources/swprice/reference/exhibits/psf.html>

| **Note:** The IBM System z Software Pricing web page lists the printers as InfoPrint Solutions (IPS) printers
 | (an IBM vendor) or non-IPS printers (non-IBM vendors). In this publication, IPS printers are
 | referred to as IBM printers and non-IPS printers are referred to as non-IBM printers.

A printer is considered to be driven by a single printer control unit, even if that control unit drives two printer engines for duplex continuous-forms printing (or certain non-IBM continuous-forms printers that use two coordinated control units).

The rated speed for continuous forms printers is based on the number of landscape pages (8 1/2 inches length) printed per minute when printing only one page across the width of the web. For continuous forms printers with wide webs (17 inches or greater width), the maximum rated speed is based on the number of pages printed per minute when printing two portrait pages (11 inches length) side by side across the width of the web. For continuous forms duplex printers, the maximum rated speed is what is advertised for the duplex printer system.

Pricing Tiers

After point values have been determined for the printers driven by PSF, the total point value per PSF license must be calculated by multiplying the number of printers of each type by their respective point values and accumulating both the IBM and non-IBM printer results. This cumulative point value represents the usage level for a particular PSF license and is used to select a PSF usage tier (see Table 2). Usage tiers are additive: to order tier 6, tiers 1–5 must also be ordered or already installed.

Table 2. Pricing tiers based on printer points

Tier	Allowable Point Range
1	0– 5
2	6– 9
3	10– 14
4	15– 20
5	21– 30
6	31– 46
7	47– 66
8	67– 86
9	87–151
10	152–301
11	302–601
12	602+

You can use the point counting tool in PSF to determine your usage tier based on the total printer points in your installation. For information about using the point counting tool, see *PSF for z/OS: Customization*.

If the customer exceeds the maximum number of points specified by the usage tier in Table 2 on page 6, the customer must obtain the appropriate pricing feature for the license.

Type and Duration of Program Services

Program service, including an IBM Support Center, will be available until discontinued by IBM with a minimum of 12 months written notice.

Authorization for Copy and Use on Home or Portable Computer

- | Not permitted for PSF 4.4.0 for z/OS.

Softcopy Publications

- | To support authorized use of PSF 4.4.0 for z/OS, printed copies of the displayable or source material can be made if the copyright notice and any other legend of ownership is reproduced on each copy or partial copy.
- | PSF for z/OS and other AFP publications are available as BOOK and PDF files on the *PSF for z/OS Library Collection* CD, SK5T-8814.

Warranty

This program is warranted as specified in the IBM license.

Licensed Program Specifications may be updated from time to time and such updates may constitute a change in specifications.

Following the discontinuance of all program services, this program will be provided “As is” as specified in the IBM license.

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