



IBM Print Services Facility V3R4 for z/OS incorporates TrueType/OpenType standard font support

Overview

Support for an important standard is now included in the Advanced Function Presentation™ (AFP™) architecture, and in the IBM Print Services Facility™ (PSF) V3R4 printing subsystem for z/OS® and OS/390®. TrueType/OpenType font technology.

The TrueType font technology, developed by Apple and Microsoft™, is the most prevalent font technology in the industry today. It is an open font standard that is widely published. The OpenType font format is an extension of the TrueType format allowing better support for international character sets, and broader multi-platform support. OpenType includes information needed to fully support Unicode data for multilingual print and presentation using a single font. It also provides the flexibility of allowing either TrueType outlines or Adobe Type 1 outlines to be packaged as a TrueType font.

The new support for TrueType and OpenType font technology in AFP provides significant benefits:

- More choices in selecting typefaces, especially for non-Latin languages
- TrueType, and to an even greater extent OpenType, provide a truly multilingual environment through support of Unicode, enabling the globalization of applications
- Inclusion of TrueType and OpenType standards in AFP allows customers to migrate toward a single font technology across all presentation environments

- Support for OpenType in AFP provides the basis for future, more advanced support of complex non-Latin languages and typefaces

Key prerequisites

PSF runs on the following S390 and IBM @server zSeries® processors:

- IBM zSeries 900 and 990 (z900 and z990)
- IBM zSeries 800 (z800)
- All models of the S390 Parallel Enterprise Server
- All models of the S390 Multiprise® 3000
- All models of the S390 Multiprise 2000
- All models of the IBM ES/9000® Processor unit 9021, 9121, or 9221

PSF supports printing on IBM and non-IBM AFP/IPDS™ printers that adhere to the IPDS specifications. Not all functions of PSF are supported by all IPDS printers. To use TrueType and OpenType fonts, the IPDS printer must support rasterization of the fonts in the printer via a printer-resident TrueType rasterizer.

Planned availability date

December 12, 2003

At a glance

Advanced Function Presentation (AFP) and Print Service Facilities (PSF) now support TrueType and OpenType standard font technology. This enables you to:

- Create AFP applications using the same popular typefaces found in Windows™, Macintosh, and other presentation environments.
- Reduce the risks associated with font substitution and replacement
- Implement a single font technology standard and reduce the cost of maintaining an expansive font library across diverse system environments
- Reduce training costs for technical professionals by converging from multiple font technologies in your enterprise to a single font technology
- Enable globalization of applications in multiple languages using a single font.
- Position your print environment to accept Unicode encoded applications.

For ordering, contact:

Your IBM representative, an IBM Business Partner, or the Americas Call Centers at

800-IBM-CALL

Reference: LE001

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: <http://www.ibm.com>.

Description

Why is it important for AFP to support TrueType and OpenType?

The addition of TrueType and OpenType support to the AFP architecture provides significant benefits to AFP customers today, and positions them for the future:

- It provides customers with more choices for typefaces, particularly for non-Latin languages. Literally thousands of typefaces can be purchased in TrueType and OpenType format from a variety of vendors.
- It allows customers to migrate toward a single font technology across all of their presentation environments, rather than having to use different fonts for AFP printing and viewing in Windows or Web browser environments.
- It provides a truly multilingual presentation environment with the support of Unicode encodings. The AFP FOCA font architecture, based predominantly on EBCDIC encoding, could not easily be extended to fully support Unicode.
- It provides the basis for future, more advanced support of complex non-Latin languages and typefaces.

Both the AFP font architecture and TrueType fonts have a structure that defines how the characters are mapped to the code points in the application data. The equivalent of an AFP code page in the TrueType technology is called a character map, or cmap. TrueType fonts can support multiple data encodings with a single font by including subtables in the cmap. In the AFP implementation of TrueType fonts, the Unicode character maps are supported to enable printing of Unicode-encoded data. Migration mappings are provided to enable the printing of legacy data with Unicode-enabled TrueType and OpenType fonts.

So what is Unicode and why is it important?

To understand the difference between Unicode and legacy computer data encodings, it is necessary to understand the concept of encodings. Character data in computer-generated print files is represented as a sequence of hexadecimal bytes (code points) in accordance with some predefined encoding scheme. Common legacy encoding schemes are EBCDIC, used primarily in IBM and compatible mainframe systems, and ASCII, used in Windows, UNIX®, Linux and other environments. In Latin-based and other languages that use fewer than two hundred fifty-six characters, a single-byte encoding scheme is adequate. In far eastern languages such as Japanese that may contain thousands of characters, or ideographs, a double-byte encoding scheme is required to uniquely represent each character. Unicode is the universal standard encoding that defines a single encoding scheme to represent all of the characters used in every language in the world.

How are TrueType and OpenType fonts installed in an AFP system?

TrueType fonts which IBM has licensed from Agfa/Monotype Corporation under the name WorldType fonts will be shipped as part of the Infoprint® Fonts for Multiplatforms (5648-E77) IBM program product. Available with the fonts is a Font Installer for AFP Systems that runs in Windows systems and helps install TrueType and OpenType fonts in resource libraries for print servers on IBM @server z/Series, IBM @server iSeries™, IBM @server pSeries®, and Windows systems. The utility generates a Resource Access Table for the

resource library, which is used by the print servers to locate and access the fonts.

In z/OS and OS/390, TrueType and OpenType fonts are installed in path libraries in either a UNIX System Services (USS) file system or a Hierarchical File System (HFS). They cannot be installed in partitioned data sets. Fonts can be installed singly, in collections consisting of multiple TrueType and OpenType fonts, or linked to form an ordered list of fonts that are processed as a single font. TrueType and OpenType fonts are not resident in the printers that support TrueType and OpenType fonts, but they can be captured by the printer and subsequently handled as a printer resident font.

How are TrueType and OpenType fonts referenced in AFP applications?

One difference that will become immediately apparent between the use of FOCA fonts and the use of TrueType and OpenType fonts in AFP applications is the manner in which they are referenced. There are two major differences:

- FOCA fonts are referenced in AFP applications by a Map Coded Font (MCF) structured field, whether it is generated by a composition program, or in a page definition. The TrueType and OpenType fonts are referenced in a Map Data Resource (MDR) structured field.
- The second major difference is that TrueType and OpenType fonts are referenced by their full font name, rather than by a six or eight character name representing a font member in a partitioned data set. The full font name is an identifier that is defined within the font file, is unique, and is the name that the Windows operating system uses to identify the font. It consists of a typeface name, such as Times New Roman, and the style name, such as Bold. The Resource Access Table uses this information to map the full font name in the application to information used to find and process the font on a given system.

Double-Byte Character Set (DBCS) support

The TrueType/WorldType font support in PSF V3R4 has no limitations for DBCS data.

Product positioning

PSF provides IBM's strategic enterprise print support in z/OS and OS/390. It supports AFP/IPDS printers with speeds from under 10 to over 1,000 pages per minute, in both impact and non-impact technologies. Printers can be attached via channel, TCP/IP, or SNA networks.

With this announcement, AFP architecture continues to maintain its leadership position as a de facto standard for production printing and presentation solutions.

Hardware and software support services

SmoothStart™/installation services

IBM Installation Services can be provided for PSF by IBM Printing Systems Professional Services at an additional cost. For additional information, contact your IBM representative and ask for Installation Services for Print Services Facility Version 3 for z/OS.

Reference information

For additional information on Print Services Facility, refer to Software Announcement 298-389, dated October 13, 1998, entitled Print Services Facility V3 Delivers New Enterprise Print Capability, Software Announcement 200-228, dated July 18, 2000, entitled Print Services Facility V3R2 Delivers New Application Formatting Capability, and Software Announcement 202-050, dated March 5, 2002, entitled Print Services Facility V3.3 Brings XML Capability to Advanced Function Printing™.

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IBM US Announcement Supplemental Information

October 28, 2003

Education support

The following classes, offered by IBM Global Services, Learning Services, will be available updated to include the new functions of PSF V3R4:

Course Title	Course number	Course location	Availability dates
Using AFP™	K2502	Refer to Catalog for dates and locations	
AFP Data Stream Fundamentals	K2703		

Visit the following Web site for additional information about these courses:

<http://www.printers.ibm.com>

Call IBM Education and Training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Technical information

Specified operating environment

Hardware requirements: PSF runs on the following S/390® and IBM @server zSeries® processors:

- All models of the IBM @server zSeries 900 (z900) processors
- All models of the IBM @server zSeries 800 (z800) processors
- All models of the IBM S/390 Parallel Enterprise Server™
- All models of the IBM S/390 Multiprise® 3000
- All models of the IBM S/390 Multiprise 2000
- All models of the IBM ES/9000® Processor Unit 9021, 9121, or 9221

PSF supports printing on IBM and non-IBM AFP/IPDS™ printers that adhere to IPDS specifications. Not all functions of PSF are supported by all IPDS printers. To use TrueType and OpenType fonts, the IPDS printer must support rasterization of the fonts in the printer via a printer-resident TrueType rasterizer. Refer to your printer documentation for device capabilities.

The following IBM printers support TrueType/OpenType fonts:

- IBM Infoprint® 4000 Models IS1, IS2, ID2, ID4, ID6, and IR4. These printers must have the Enhanced Operator Console (#9450 or #4450) and V11.7 or later microcode.

- IBM Infoprint 4000 Models IR2 with the Enhanced Operator Console (#4450) and V11.7 or later microcode.
- IBM Infoprint 4100 Models HS1, PS1, HD2, PD4, HD4, and HS2 These printers must have V11.7 or later microcode.

The availability of external device names and EC levels in the enhanced PSF error messages requires an IPDS printer that supports return of that information to PSF in the applicable IPDS command stream. Your printer may require an EC to the control unit to perform this function.

Printers will require an EC and hardware upgrade to support FICON™ attachment.

PSF V3R4 supports the PDF417, Data Matrix, Maxicode, and QR code 2D bar code methodologies. The PSF support for printing 2D bar codes from variable data in the print file requires Bar Code Object Content Architecture (BCOCA) support for 2D bar codes in the printer. The latest information about the availability of bar code support in a particular IBM printer can be found in an IBM Printing Systems Flash, "AFP Two-Dimensional (2D) Bar Code Product Support Status." To obtain this Flash, go to the IBM Printing Systems Web site at:

<http://www.ibm.com/printers>

- Click on Online Support
- Click on PSF for z/OS®
- Click on Frequently Asked Questions

Software requirements: PSF runs on any supported level of the operating system:

- z/OS V1R1 (5694-A01) or later with supported levels of JES2 or JES3
- OS/390® V2R10 (5647-A01) or later with supported levels of JES2 or JES3

One of the following system programs is required:

- SMP/E element of z/OS or OS/390
- SMP/E V3R1 (5655-G44) for z/OS and OS/390

The following functions of the z/OS and OS/390 Communications Server are required, depending on printer attachments:

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

One of the following is required to provide host fonts

- Infoprint Fonts for z/OS V1R1 (5648-E76) or later
- AFP Font Collection for OS/390 Version 2.1.1 or later (5648-B33).
- AFP Font Collection Version 1.1.0. This version of the AFP Font Collection does not contain the euro symbol.
- The optional compatibility fonts feature of PSF, which does not contain the euro symbol.

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- WorldType Fonts for AFP Print Servers optional feature of Infoprint Fonts for Multiplatforms (5648-E77). This feature contains a wide selection of TrueType/OpenType fonts.

To use TrueType/OpenType fonts with PSF V3R4, you need to use the Font Installer for AFP Systems optional feature of Infoprint Fonts for Multiplatforms V1R1 (5648-E77) to create the Resource Access Table (RAT) and install the fonts.

To define and manage PSF printers using the Printer Inventory, the optional Infoprint Server feature of OS/390 or z/OS is required. PTFs to Infoprint Server are required to use the following PSF functions in the Printer Inventory:

- To use the changed RRLV fields in the Printer Inventory, you need one of these PTFs:
 - OS/390 V2R10 and z/OS V1R1 systems: PTF UW82178 (English), PTF UW82179 (Japanese), or PTF UW82180 (Spanish).
 - For z/OS V1R2 or later: PTF UW82668 (English) or PTF UW82669 (Japanese).
- For support for reporting printer characteristics you need one of these PTFs:
 - For OS/390 V2R8, OS/390 V2R9, OS/390 V2R10, and z/OS V1R1 systems: PTF UW83615 (English), PTF UW83617 (Japanese), or PTF UW83618 (Spanish).
 - For z/OS V1R2 or later: PTF UW83614 (English) or PTF UW83616 (Japanese).
- To use the Printer Inventory to save printer information to a data set, you need one of these PTFs:
 - PTF UW83614 for OS/390 2.10
 - PTF UW83615 for z/OS 1.2, 1.3, and 1.4

For JCL keyword support for TrueType/OpenType fonts you need APAR OA05130 for z/OS 1.2 and later releases.

To use JCL keywords to generate the AFP Statistics about the Print File (AFPSTATS) report or to display printer characteristics (PRTINFO), z/OS V1R2 or later is required, with PTF UW85987 for z/OS V1R2 or PTF UW85988 for z/OS V1R3.

Some functions in PSF V3R4 require maintenance to the Page Printer Formatting Aid (PPFA), program product 5688-190, to invoke the capabilities.

- To use TrueType/OpenType fonts, PPFA APAR PQ77786 is required.
- To create Record Format Page Definitions, PTF UQ45507 is required.
- For the following three functions, PPFA APAR PQ56307 is required:
 - XML page definition creation
 - Select resources using names in the variable data
 - Select finishing at the medium-map level
- To create page definitions with 2D bar codes, PPFA APARs PQ53481 and PQ49491 are required.

If ACIF is used to format line data with page definitions using record formatting, PTF UQ45268 is required. If ACIF is used to support pagedefs with 2D bar codes, PTF UQ57774 is required. If ACIF is used to support pagedefs for XML and select resources using names, APAR PQ54118 is required. If ACIF is used with WorldType fonts, APAR PQ78464 is required. Check with IBM Service for availability of this APAR.

The following functions in PSF V3R4 are not yet supported by the Infoprint Server Transforms. Applications using these functions must be printed on IPDS printers driven by PSF.

- XML data formatting
- 2D bar code symbologies
- Selection of overlays and page segments using variable data
- Finishing selection at the medium-map level

Compatibility: PSF V3R4 for z/OS is upwardly compatible with PSF V3R3 and with PSF/MVS™ V2R2 (5695-040) with the following exceptions:

- PSF V3 for z/OS no longer includes the optional feature, Page Printer Migration Programs (PPMP), which is no longer supported. Customers currently using PPMP should migrate to the replacement product, Infoprint XT™ Extender for z/OS V1RF1 (5655-J65). For additional information, contact your local IBM Printing Systems representative.
- The AFP API component of PSF/MVS V2R2 is no longer provided with PSF Version 3. It is functionally replaced by AFP Toolbox for MVS, program product 5655-A25. Customers using the PSF/MVS V2R2 API can continue to use their existing program modules on an “as is” basis or migrate to AFP Toolbox for MVS.
- The IP PrintWay™ and NetSpool™ optional features are no longer available or supported. These optional features are functionally replaced by the Infoprint Server optional feature of OS/390 and z/OS. Customers who want the functionality of IP PrintWay and NetSpool should order the Infoprint Server optional feature of OS/390 and z/OS.

Limitations: Enhancements to the Infoprint Server Transforms product, which enables AFP jobs to print on non-AFP printers, are not necessarily made concurrently with PSF releases. New function supported by PSF should be printed only on printers attached to PSF until equivalent function is provided in the transforms.

PSF for z/OS V3R4 does not support Unicode character composition.

Performance considerations: The performance of PSF, and its attached printers, is dependent upon availability and efficiency of memory, storage, DASD, and channel and network resources in the system configuration. It is also highly dependent upon the content of the print datastreams being processed. In general, data-intensive applications, such as those containing images, require more resources than applications containing plain text. If performance degradation is experienced, normal system performance analysis and tuning should be conducted before contacting IBM Service.

TCP/IP Attachment Considerations: In order to print at rated speed on high-speed printers, not only must the printer be capable of processing and imaging the data at high speeds, but also the system and communications link must be able to provide data to the printer fast enough to maintain this speed. TCP/IP performance has been substantially improved in z/OS and OS/390, providing a significant improvement in the ability to deliver data over a TCP/IP link to high-speed production printers. This improvement allows PSF Version 3 to support TCP/IP-attached Infoprint 3000, Infoprint 4000, and Infoprint 4100 families of printers. However, TCP/IP may not provide adequate data delivery rates for all

applications or all system environments, depending on the attachment speeds.

The ability to run production printing applications at rated speed, on Infoprint 3000, Infoprint 4000, and Infoprint 4100 printers directly attached to PSF over TCP/IP will depend upon the following factors:

- Number of printers and printing speeds
- Density of the application datastream, usually measured in average bytes per page
- Availability of CPU resources
- Speed of the physical attachment, and LAN bandwidth and utilization.

Density of the application data stream can be a critical factor. TCP/IP-attached Infoprint 3000, Infoprint 4000, and Infoprint 4100 printers are capable of receiving about one megabyte of data per second using 10BaseT Ethernet attachments. While this is adequate for printing text jobs at rated speed on most high-speed printers, or jobs with some image content on printers with lower rated speeds, some image-intensive jobs may contain too much data to print at rated speed on some printers with 10BaseT Ethernet. Where supported by the printer, 100BaseT or Gigabit Ethernet attachments will provide up to four times higher data rates with TCP/IP.

You can estimate the data rate required to run an application at rated speed on a specific printer by calculating:

$$\text{bytes per second} = \frac{\text{average bytes/page} \times \text{pages/minute}}{60}$$

Average bytes/page includes not only bytes of data on the page, but also AFP control bytes, which vary with the complexity of the application formatting. In addition, loading of AFP resources to the printer can add to the average byte load of a print job.

With PSF V3R4, FICON channel attachment provides the fastest and most performance-efficient attachment for high-speed production printers. Either 100BaseT or Gigabit Ethernet attachments can provide performance similar to FICON attachment, but with higher CPU resource use for the same printers and applications. In general, TCP/IP attachment will use about the same amount of CPU as attachment via PSF Direct to an InfoPrint Manager or PSF for AIX® print server (an SNA communication attachment). ESCON® and parallel channel attachments will be faster than 10BaseT Ethernet, but slower than 100BaseT or Gigabit Ethernet, and will be about as efficient as FICON channel attachment.

For best performance, each TCP/IP-attached Infoprint 3000, Infoprint 4000, or Infoprint 4100 printer should be on a dedicated segment of a Token-Ring or Ethernet LAN, with the TCP/IP MTU size set to the largest supported value.

Planning information

Customer responsibilities: PSF interacts with JES printer definitions, and for communication with attached printers, with VTAM® and/or TCP/IP device definitions. Printers' device definitions should be in place for JES, VTAM, and/or TCP/IP prior to installing PSF.

Installability: Sample start-up procedures for PSF Version 3 will reference different fonts than those used in the start-up procedures for PSF V2R2. Care should be taken not to replace any start-up procedures with the new

samples until they can be tested with your available font libraries.

Direct customer support: Direct customer support is provided by IBM Operational Support Services — Support Line. This fee service can enhance your productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services — Support Line will help answer questions pertaining to usage, how to and suspected software defects for eligible products.

Installation and technical support is provided by IBM Printing Systems Professional Services for a fee. For more information on services, call 800-IBM-4YOU (426-4968).

Packaging: The PSF V3R4 base program and optional features are each shipped on separate tapes. No fonts are included on the PSF base tape. If the compatibility fonts are required, be sure to order the compatibility font optional, no-charge feature.

A program directory is shipped with each PSF feature that is ordered.

All publications are included in CD-ROMs in both BookManager® and PDF formats. These CD-ROMs are shipped with the base program. Terms and conditions for use of the machine-readable files are shipped with the files.

The following hardcopy publications are shipped with the base program:

- Licensed Programming Specifications (G544-5626)
- Customization (S544-5622)
- User's Guide (S544-5630)
- Tiered Pricing Exhibit for IBM AFP Printers (Z125-4564)
- Tiered Pricing Exhibit for Non-IBM AFP Printers (Z125-4565)

The following hardcopy publications are shipped with the corresponding optional feature:

- PSF Download (S544-5624)
- Font Summary (G544-3810)
- Upload Configuration Guide for SNA (S544-5422)
- Upload Configuration Guide for TCP/IP (S544-5423)

Security, auditability, and control

PSF uses the security features and programs of the z/OS and OS/390 operating systems. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

Ordering z/OS through the Internet

ShopzSeries (formerly SHOPS390) provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). ShopzSeries is available in the U.S. and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM

representative (or Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at:

<http://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp>

Current licensees

Current licensees of IBM Print Services Facility™ will be sent a program reorder form that can be returned directly to IBM Software Delivery and Fulfillment.

Reorder forms are scheduled to be mailed by January 2, 2004.

New licensees:

Orders for new licenses can be placed now.

Registered customers can access IBMLink™ for Ordering Information and Charges.

Shipment will not occur before availability date.

Unless a later date is specified, orders entered before the planned availability date will be assigned a schedule date of one week following availability.

Shipment will begin on the planned availability date.

New users of Print Services Facility V3 for z/OS should specify:

Type: 5655 Model: B17

Basic license: Print Services Facility Version 3 is priced in Cumulative Block Tiers. The PSF Tier is determined based on the number of printers PSF will be driving, and the impressions/minute rated speed of those printers. Printer points are assigned to each printer, accumulated, and the total number of points indicates the appropriate PSF price Tier.

Printer speeds and associated Printer Points are shown in two exhibits to the IBM Customer Agreement, the Print Services Facility Tiered Pricing Exhibit for IBM AFP Printers (Z125-4564) and the Print Services Facility Tiered Pricing Exhibit for Non-IBM AFP Printers (Z125-4565). To access the latest versions of these exhibits, go to:

<http://www.printers.ibm.com>

- Click on Software
- Click on zSeries
- Click on PSF for OS/390
- Click on Z125-4564 for the latest IBM AFP Printers exhibit
- Click on Z125-4565 for the latest non-IBM AFP Printers exhibit

Duplex printing systems count as two machines. Each engine counts as 12 or 20 points depending upon its rated speed.

For continuous forms printers that can print multiple logical pages on a single form, the printer speed should be calculated as the number of impressions per minute for a single 11 inch x 8.5 inch form (landscape). The table below shows speeds for Infoprint 3000 and 4000 models normalized to one 11 inch x 8.5 inch impression per form.

Points are also accumulated for non-IPDS printers driven by PSF's Distributed Print Function (DPF) or PSF Direct,

which support printing on printers attached to Infoprint Manager for AIX or Infoprint Manager for Windows NT™ or Windows™ 2000. For non-IBM IPDS printers driven by PSF, the number of points is based on the vendor's published rated speed.

How to order

To order a basic license, specify program number 5655-B17 and feature number 9001 for asset registration. Specify the feature numbers for the desired tier (usage level). For example, to order usage for Tier 3, order incrementally by specifying the features for Tier 1, Tier 2, and Tier 3.

Tier	Printer Points	Basic MLC
1	0 to 4	0001
2	5 to 9	0002
3	9 to 13	0003
4	14 to 19	0004
5	20 to 29	0005
6	30 to 45	0006
7	46 to 65	0007
8	66 to 85	0008
9	86 to 150	0009
10	151 to 300	0010
11	301 to 600	0011
12	601 to 2000	0012

Submit a special bid for more than 2,000 points.

To order optional priced features of PSF Version 3 for z/OS, specify the feature number for each feature you wish to order from the table below:

Feature Name	Basic MLC
Download for z/OS	0025
AFP Upload	0031

Basic machine-readable material: To order the PSF base product and each optional priced feature selected above, specify the desired media feature from the following table. Also specify the desired media if you wish to receive either the compatibility fonts or ACIF non-priced features:

PSF product component	3480 Cartridge	6250 Tape	4-mm Cartridge
PSF Base Product	5802	5801	5337
Compatibility Fonts	5842	5841	6142
ACIF Feature	5832	5831	6132
Download for z/OS	6091	6090	6092
AFP Upload	5812	5811	5338

Customization options: Select the appropriate feature numbers to customize your order to specify the delivery options desired. These features can be specified on the initial or MES orders.

Example: If publications are not desired for the initial order, specify feature number 3470 to ship media only. For future updates, specify feature number 3480 to ship media updates only. If, in the future, publication updates are required, order an MES to remove feature number 3480; then, the publications will ship with the next release of the program.

Description	Feature number	Title	Order number
Initial Shipments		PSF Licensed Program Specifications	S544-5626
Serial Number Only (suppresses shipment of media and documentation)	3444	PSF for z/OS Introduction	G544-5625
		PSF Customization	S544-5622
Ship Media Only (suppresses initial shipment of documentation)	3470	PSF User's Guide	S544-5630
		PSF Messages and Codes	G544-5627
		PSF Diagnosis	G544-5623
		AFP Fonts: Font Summary	G544-3810
Initial Shipments		ACIF User's Guide	S544-5285
Ship Documentation Only (suppresses initial shipment of media)	3471	PSF for z/OS Security Guide	S544-3291
		Download for z/OS Guide	S544-5624
		Upload Configuration Guide for SNA	S544-5422
Satellite Electronic Delivery	3450	Upload Configuration Guide for TCP/IP	S544-5423
		Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.	
Update Shipments		Customized offerings	
Ship Media Updates Only (suppresses update shipment of documentation)	3480	Most product media is shipped only via Customized Offerings (that is, CBPDO, ServerPac, Systempac®). Non-customized items (CDs, diskettes, source media, media kits) will continue to be shipped via the stand-alone product.	
Ship Documentation Only (suppresses update shipment of media)	3481		
Suppress Updates (suppresses update shipment of media and documentation)	3482		
Expedite Shipments		Terms and conditions	
Local IBM Office Expedite (for IBM use only)	3445	The terms for Print Services Facility for z/OS V3R4, as previously announced (Software Announcement 200-228), dated July 18, 2000, licensed under the IBM Customer Agreement are unaffected by this announcement.	
Customer Expedite Process Charge (\$30 charge for each product)	3446	To access the latest version of the Print Services Facility for z/OS (5655-B17) tiered pricing exhibits, go to:	
Expedite shipments will be processed to receive 72-hour delivery from the time IBM Software Delivery and Fulfillment (SDF) receives the order. SDF will then ship the order via overnight air transportation.		http://www.printers.ibm.com	
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