



**Program Directory for
IBM Print Transform
from AFP to PDF for Infoprint Server
for z/OS V1R2M2**

Program Number 5655-TF1

FMIDs HTFX120, HTFX121, HTFA124, HTFS125

for Use with
z/OS V2R1 or higher

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GI11-9844-03

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 37.

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1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM Print Transform from AFP to PDF for Infoprint Server for z/OS, and IBM Print Transform from AFP to Accessible PDF for z/OS optional feature, and IBM Print Transform from AFP to IBM Signed Secure PDF for z/OS optional feature. This publication refers to IBM Print Transform from AFP to PDF for Infoprint Server for z/OS as Print Transform AFPxPDF, refers to IBM Print Transform from AFP to Accessible PDF for z/OS as Accessible PDF Transform, and refers to IBM Print Transform from AFP to IBM Signed Secure PDF for z/OS as Signed Secure PDF Transform.

This program directory is to be used for the following installation scenarios:

1. If you intend to order and install Print Transform AFPxPDF only.
2. If you intend to order and install Print Transform AFPxPDF and Accessible PDF Transform feature, or you plan to order and install Print Transform AFPxPDF and Signed Secure PDF Transform feature, or you plan to order and install Print Transform AFPxPDF and both Accessible PDF Transform feature and Signed Secure PDF Transform feature.
3. If you intend to order and install Accessible PDF Transform feature only or Signed Secure PDF Transform feature only because you have already installed Print Transform AFPxPDF previously.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.
- 3.0, “Program Support” on page 7 describes the IBM® support available for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.
- 4.0, “Program and Service Level Information” on page 9 lists the APARs (program level) and PTFs (service level) that have been incorporated into Print Transform AFPxPDF and Accessible PDF Transform feature.
- 5.0, “Installation Requirements and Considerations” on page 11 identifies the resources and considerations that are required for installing and using Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.
- 6.0, “Installation Instructions” on page 21 provides detailed installation instructions for Print Transform AFPxPDF, Accessible PDF Transform feature and Signed Secure PDF Transform feature. It also describes the procedures for activating the functions of Print Transform AFPxPDF, Accessible PDF Transform feature and Signed Secure PDF Transform feature, or refers to appropriate publications.

Before installing Print Transform AFPxPDF, Accessible PDF Transform feature and Signed Secure PDF Transform feature, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this program directory; then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 7 tells you how to find any updates to the information and procedures in this program directory.

Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform features are supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The program directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform features are included on the CBPDO tape.

Do not use this program directory if you install Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform feature with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. This program directory can point you to specific sections of it as required.

1.1 Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform Feature Description

Print Transform AFPxPDF is a complementary product to the Infoprint Server feature of z/OS®. Print Transform AFPxPDF enables conversion of AFP applications into PDF for electronic delivery as a mail attachment, or for publishing in non print format to the internet, to portals, or on web sites.

The optional Accessible PDF Transform enables the conversion of AFP documents into an accessible PDF format for sight disadvantaged individuals.

The optional Signed Secure PDF Transform enables the creation of signed PDF documents which guarantee the authenticity of the document content, the authenticity of the signer, and that the document is in its final form and has not been modified or tampered with. Conforming PDF viewers come with PDF signature validation, which makes it easy to determine the document authenticity at the time of viewing.

1.2 Print Transform AFPxPDF FMIDs

Print Transform AFPxPDF consists of the following FMIDs:

HTFX120
HTFX121

Accessible PDF Transform feature consists of the following FMID:

HTFA124

Signed Secure PDF Transform feature consists of the following new FMID:

HTFS125

2.0 Program Materials

An IBM program is identified by a program number. The program number for Print Transform AFPxPDF, Accessible PDF Transform feature and Signed Secure PDF Transform feature is 5655-TF1.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 21 for more information on how to install the program.

You can find information about the physical media for the basic machine-readable materials for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature in the *CBPDO Memo To Users Extension*.

2.2 Program Publications

The following sections identify the basic publications for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

2.2.1 Basic Program Publications

Figure 1 identifies the basic unlicensed or licensed publications for Print Transform AFPxPDF. These softcopy format publications can be obtained from the IBM Publications Center website at <http://www.ibm.com/shop/publications/order/>.

<i>Figure 1. Basic Material: Other Unlicensed or Licensed Publications</i>		
Publication Title	Form Number	How Available
IBM Print Transforms from AFP for Infoprint Server for z/OS	G325-2634-30	Internet
IBM Print Transform from AFP to PDF for Infoprint Server for z/OS Licensed Program Specifications	G325-2636-01	Internet

2.2.2 Optional Program Publications

Publications for the Accessible PDF Transform feature are shipped and available as part of the installation package. After completing the installation, you can find the following documents:

<i>Figure 2. Publications for the Accessible PDF Transform Feature</i>	
Document Title	Document Location in File System Directory
<i>accessible_ReadMeFirst.txt</i>	/usr/lpp/IBM/PrintXform/V1R2/samples
<i>accessible_PDF_ReferenceGuide.pdf</i>	/usr/lpp/IBM/PrintXform/V1R2/samples
<i>accessible_PDF_UserGuide.pdf</i>	/usr/lpp/IBM/PrintXform/V1R2/samples

Users of Accessible PDF Transform feature must review the *accessible_ReadMeFirst.txt* to view the instructions on how to obtain a copy of a Windows based GUI called Pro Designer. The Pro Designer is not required, but it is strongly recommended as it greatly aids in the process of creating the command file which is required to produce an accessible PDF document.

Publications for the Signed Secure PDF Transform feature are shipped and available as part of the installation package. After completing the installation, you can find the following documents:

<i>Figure 3. Publications for the Signed Secure PDF Transform Feature</i>	
Document Title	Document Location in File System Directory
<i>signed_ReadMeFirst.txt</i>	/usr/lpp/IBM/PrintXform/V1R2/samples

Users of Signed Secure PDF Transform feature must review the *signed_ReadMeFirst.txt* for instruction on how to set up and run a sample input to produce a sample signed PDF document using resource included in the samples directory.

2.3 Program Source Materials

No program source materials or viewable program listings are provided for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 4 during installation of Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature. To order copies, contact your IBM representative or visit the IBM Publications Center at <http://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

Figure 4. Publications Useful During Installation

Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277-30	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275-30	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276-30	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883-30	http://www.ibm.com/shop/publications/order/
<i>z/OS Infoprint Server Introduction</i>	SA38-0692-30	http://www.ibm.com/shop/publications/order/
<i>z/OS Infoprint Server Customization</i>	SA38-0691-30	http://www.ibm.com/shop/publications/order/
<i>z/OS Infoprint Server Operation and Administration</i>	SA38-0693-30	http://www.ibm.com/shop/publications/order/
<i>z/OS Infoprint Server User's Guide</i>	SA38-0695-30	http://www.ibm.com/shop/publications/order/
<i>z/OS Infoprint Messages and Diagnosis</i>	GA32-0927-30	http://www.ibm.com/shop/publications/order/
<i>IBM Print Transforms from AFP for Infoprint Server for z/OS</i>	G325-2634-30	http://www.ibm.com/shop/publications/order/
<i>z/OS MVS® JCL Reference</i>	SA23-1385-30	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before you install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on the APPLY CHECK command. See 6.1.11, “Perform SMP/E APPLY” on page 27 for a sample APPLY command.

If you obtained Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

<http://www14.software.ibm.com/webapp/set2/psearch/search?domain=psp>

You can also use S/390® SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at <http://www-01.ibm.com/software/support/>.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature are included in Figure 5.

<i>Figure 5 (Page 1 of 2). PSP Upgrade and Subset ID</i>		
UPGRADE	SUBSET	Description
5655TF1	HTFX120	Xform Common

Figure 5 (Page 2 of 2). PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5655TF1	HTFX121	Xform AFPxPDF
5655TF1	HTFA124	Accessible PDF Transform
5655TF1	HTFS125	Signed Secure PDF Transform

3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 6 identifies the component IDs (COMPID) for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

Figure 6. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HTFX120	5655TFX00	IP XFORM COMMON	120
HTFX121	5655TFX00	IP AFPxPDF	121
HTFA124	5655TFX00	Accessible PDF Transform (Optional Feature)	124
HTFS125	5655TFX00	Signed Secure PDF Transform (Optional Feature)	125

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

The following APAR fixes against previous releases of Print Transform AFPxPDF have been incorporated into this release. They are listed by FMID.

- FMID HTFX120
OA35704 OA38585 OA39396 OA39657 OA39659 OA40033
OA40619 OA42632 OA43938 OA44092 OA44219 OA44880
OA45957
- FMID HTFX121
OA35704 OA36007 OA37322 OA38368 OA38585 OA39396
OA39657 OA39659 OA39978 OA39980 OA40033 OA40619
OA41426 OA41772 OA42191 OA42632 OA43034 OA43268
OA43771 OA43938 OA44092 OA44219 OA44490 OA44604
OA44880 OA45136 OA45335 OA45731 OA45957 OA46467
OA46649 OA46897 OA47179 OA47304 OA47329 OA47399
OA47970 OA48070 OA48222 OA48329 OA48657 OA48882
OA49258 OA49461 OA49629 OA49667 OA49901 OA50620
OA51208 OA51638
- FMID HTFA124
No apars are incorporated in HTFA124.
- FMID HTFS125
No apars are incorporated in HTFS125.

4.2 Service Level Information

No PTFs against this release of Print Transform AFPxPDF have been incorporated into the product package.

Frequently check the Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the

FIXCAT(IBM.ProductInstall-RequiredService) operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.

The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.

- *Target system*: the system on which the program is configured and run.

The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 7. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V2R1 or higher	N/A	No
5655-G44	IBM SMP/E for z/OS	V3R6	N/A	No

Note: SMP/E is a requirement for installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V3R6.

Note: Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature are installed into a file system, either HFS or zFS. Before installing Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature, you must ensure that the target system file system data sets are available for processing on the driving system. OMVS must be active on the driving system and the target system file data sets must be mounted on the driving system.

If you plan to install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature in a zFS file system, this requires that zFS be active on the driving system. Information on activating and using zFS can be found in *z/OS Distributed File Service zSeries File System Administration*, SC24-5989.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Print Transform AFPxPDF, and Accessible PDF Transform and Signed Secure PDF Transform features.

Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature install in the z/OS (Z038) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites: Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product.

If you are installing Print Transform AFPxPDF only, please see Figure 8 for Target System Mandatory Installation Requisite information.

<i>Figure 8. Target System Mandatory Installation Requisites for Print Transform AFPxPDF</i>				
Program Number	Product Name	Minimum VRM	Minimum Service Level	Included in the shipped product?
5650-ZOS	z/OS	V2R1 or higher	N/A	No

If you are installing Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature, please see Figure 9 for Target System Mandatory Installation Requisite information.

<i>Figure 9. Target System Mandatory Installation Requisites for Accessible PDF Transform Feature</i>				
Program Number	Product Name	Minimum VRM	Minimum Service Level	Included in the shipped product?
5650-ZOS	z/OS	V2R1 or higher	N/A	No
5655-TF1	Print Transform AFPxPDF	V1R2	APAR OA55065	No

Note: Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time. These products are specified as IFREQs.

5.2.2.2 Operational Requisites: Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions.

Print Transform AFPxPDF has the following mandatory operational requisites. The Transform Manager component of Infoprint Server is used to invoke the transform provided in Print Transform AFPxPDF.

Figure 10. Target System Mandatory Operational Requisites for Print Transform AFPxPDF

Program Number	Product Name and Minimum VRM/Service Level	Function
5650-ZOS	Infoprint Server - Print Interface optional feature of z/OS V2R1 or higher	Required for basic transform function

Figure 11 below shows the mandatory operational requisites for Print Transform AFPxPDF and Accessible PDF Transform feature and/or Signed Secure PDF Transform feature installed together.

Figure 11. Target System Mandatory Operational Requisites for Print Transform AFPxPDF, Accessible PDF Transform Feature, and Signed Secure PDF Transform Feature

Program Number	Product Name and Minimum VRM/Service Level	Function
5650-ZOS	Infoprint Server - Print Interface optional feature of z/OS V2R1 or higher with PTF for APAR OA52466 for z/OS 2.1 and 2.2 (UA93984, UA93985) or OA53793 for z/OS 2.3 (UA93932)	Required for Accessible PDF Transform and Signed Secure PDF Transform functions

Figure 12 below shows the mandatory operational requisites for Signed Secure PDF Transform feature.

Figure 12. Target System Mandatory Operational Requisites for Signed Secure PDF Transform Feature

Program Number	Product Name and Minimum VRM/Service Level	Function
5650-ZOS	Infoprint Server - Print Interface optional feature of z/OS V2R1 or higher with PTFs for APAR OA55477 for z/OS 2.1 and 2.2 or OA55478 for z/OS 2.3	Required for Signed Secure PDF Transform function
5650-ZOS	Cryptographic Services System SSL, feature of z/OS V2R1 or higher with PTFs for APAR OA54821 for z/OS release 2.1, 2.2 or 2.3 (UA96093, UA96099, UA96100, UA96101, UA96092, UA96089)	Required for Signed Secure PDF Transform function

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions.

<i>Figure 13. Target System Conditional Operational Requisites</i>		
Program Number	Product Name and Minimum VRM/Service Level	Function
5650-ZOS	Font Collection of z/OS V2R1 or higher	To provide raster fonts, outline fonts, and WorldType fonts.

5.2.2.3 Toleration/Coexistence Requisites: Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature have no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites: Negative requisites identify products that must *not* be installed on the same system as this product.

Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature have no negative requisites.

5.2.3 DASD Storage Requirements

Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature libraries can reside on all supported DASD types.

Figure 14 lists the total space that is required for each type of library.

<i>Figure 14. Total DASD Space Required by Print Transform AFPxPDF, Accessible PDF Transform Feature, and Signed Secure PDF Transform Feature</i>	
Library Type	Total Space Required in 3390 Trks
Target	7 tracks on 3390 DASD
Distribution	700 (1100 or 2000) tracks on 3390 DASD See notes related to AAOKF120 library in Figure 19 on page 18.
File System	1200 tracks on 3390 DASD

Notes:

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.

2. Abbreviations used for data set types are shown as follows.

- U** Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.
- S** Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.
- E** Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information about the names and sizes of the required data sets, see 6.1.7, "Allocate SMP/E Target and Distribution Libraries" on page 24.

3. Abbreviations used for the file system path type are as follows.

- N** New path, created by this product.
- X** Path created by this product, but might already exist from a previous release.
- P** Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

- The default name of the data set can be changed.
- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

6. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLIST.

- These data sets are not required to be APF-authorized.

Figure 15. Storage Requirements for SMP/E Work Data Sets

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SMPWRK1	S	PDS	FB	80	5	2
SMPWRK2	S	PDS	FB	80	5	2
SMPWRK3	S	PDS	FB	80	5	2
SMPWRK4	S	PDS	FB	80	5	2
SMPWRK6	S	PDS	FB	80	5	2
SYSUT1	U	SEQ	--	--	2	0
SYSUT2	U	SEQ	--	--	1	0
SYSUT3	U	SEQ	--	--	1	0
SYSUT4	U	SEQ	--	--	1	0

The following table provides an estimate of the storage needed in the SMP/E data sets for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature. You must add the estimates to those of any other programs and service that you install to determine the total additional storage requirements.

Figure 16. Storage Requirements for SMP/E Data Sets

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SMPLTS	E	PDSE	U	0	15	--
SMPMTS	E	PDS	FB	80	15	2
SMPPTS	E	PDS	FB	80	15	2
SMPSCDS	E	PDS	FB	80	15	2
SMPSTS	E	PDS	FB	80	15	2

The following figures describe the target and distribution libraries and file system paths required to install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature. The storage requirements of Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature must be added to the storage required by other programs that have data in the same library or path.

Note: Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 17. Storage Requirements for Print Transform AFPxPDF, Accessible PDF Transform Feature, and Signed Secure PDF Transform Feature Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SAOKJ120	Sample	TVOL2	S	PDS	FB	80	7	2

Figure 18. Print Transform AFPxPDF, Accessible PDF Transform Feature, and Signed Secure PDF Transform Feature File System Paths

DDNAME	T Y P E	Path Name
SAOKF120	X	/usr/lpp/IBM/PrintXform/V1R2/IBM
SAOKF121	X	/usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/IBM

Figure 19 (Page 1 of 2). Storage Requirements for Print Transform AFPxPDF, Accessible PDF Transform Feature, and Signed Secure PDF Transform Feature Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AAOKJ120	S	PDS	FB	80	7	2

Figure 19 (Page 2 of 2). Storage Requirements for Print Transform AFPxPDF, Accessible PDF Transform Feature, and Signed Secure PDF Transform Feature Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AAOKF120	S	PDSE	VB	259	700, 1100, or 2000	--
*Notes: <ol style="list-style-type: none"> 1. If you install Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) only, then the total of tracks required for AAOKF120 is 700 tracks. 2. If you install Print Transform AFPxPDF and Accessible PDF Transform feature (FMIDs HTFX120, HTFX121, and HTFA124) concurrently, then you will require up to 1100 tracks for AAOKF120. You can increase the size of this library by updating sample allocation job AOKALLOC (see Figure 21 on page 22). 3. If you install Accessible PDF Transform feature (FMID HTFA124) only, and Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) were already installed previously, then you are required to increase the library AAOKF120 to 1100 tracks. 4. If you install Print Transform AFPxPDF and Signed Secure PDF Transform feature (FMIDs HTFX120, HTFX121, and HTFS125) concurrently, then you will require up to 1100 tracks for AAOKF120. You can increase the size of this library by updating sample allocation job AOKALLOC (see Figure 21 on page 22). 5. If you install Signed Secure PDF Transform feature (FMID HTFS125) only, and Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) were already installed previously, then you are required to increase the library AAOKF120 to 1100 tracks. 6. If you concurrently install all FMIDs available in this offering (FMIDs HTFX120, HTFX121, HTFA124, and HTFS125), then you will require up to 2000 tracks for AAOKF120. You can increase the size of this library by updating sample allocation job AOKALLOC (see Figure 21 on page 22). 						

5.3 FMIDs Deleted

Print Transform AFPxPDF V1R2 installation will result in the deletion of the V1R1 level of these transforms. To see what FMIDs will be deleted, examine the ++ VER statement in the product's SMPMCS.

The SMP/E Modification Control Statements (SMPMCS) for the product are contained in the SMPMCS file. The SMPMCS for each FMID in the product will be loaded to the SMPPTS data set, with a member name matching the FMID, when the FMID is SMP/E RECEIVED. You may browse or print these members using TSO/E, ISPF, or IEBGENER.

A sample dummy delete job, AOKDELFN, is provided in relfile 'prefix.HTFX120.F2' after SMP/E RECEIVE processing is complete. If you have installed Print Transform AFPxPDF V1R1 and other Print Transform

products, you must run sample job AOKDELFN to have SMP/E processing DELETE Print Transform V1R1 products before installing the V1R2 level of the FMIDs.

5.4 Special Considerations

Print Transform AFPxPDF is closely related to the Infoprint Server optional feature of z/OS V2R1 and higher. Print Transform AFPxPDF no longer shares target and distribution libraries and file system paths with Infoprint Server. This allows independent installation of these products. Users must run a one time post install script before using Print Transform AFPxPDF product, please see detailed information in 6.2.3, “Execute Installation Verification Procedures (IVPs)” on page 34.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform.

Please note the following points:

- The IBM Print Transform product (5655-TF1) consists of at least two FMIDs, one for the common transforms code, and at least one for the specific transform code.
 - HTFX120 - contains the common transform code.
 - HTFX121 - contains the AFP to PDF transform code.

The Accessible PDF Transform feature consists of FMID HTFA124.

The Signed Secure PDF Transform feature consists of FMID HTFS125.

- If you ordered Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature, you can install the FMIDs HTFX120, HTFX121, HTFA124 and HTFS125 concurrently as documented in this program directory.
- If you ordered Print Transform AFPxPDF, and did not order the Accessible PDF Transform feature or Signed Secure PDF Transform feature, then follow the instructions in this program directory to install FMIDs HTFX120 and HTFX121.
- If you ordered only the Accessible PDF Transform feature, or only the Signed Secure PDF Transform feature, and Print Transform AFPxPDF is already installed, follow the instructions to install Accessible PDF Transform FMID HTFA124 or Signed Secure PDF Transform FMID HTFS125 as documented in this program directory. The Accessible PDF Transform feature and Signed Secure PDF Transform feature installs in target and distribution libraries, DDDEFs and file system shared with Print Transform AFPxPDF.
- If you want to install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMP/CSI and the SMP/E control data sets.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform Feature

All installation steps must be run from a user ID that is defined to z/OS UNIX System Services, and has the following attributes:

- UID(0) or READ access or higher to BPX.SUPERUSER in the FACILITY class.
- READ access or higher to BPX.FILEATTR.PROGCTL, BPX.FILEATTR.APF, and BPX.FILEATTR.SHARELIB in the FACILITY classes.

6.1.1 SMP/E Considerations for Installing Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform Feature

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Print Transform AFPxPDF, Accessible PDF Transform feature and Signed Secure PDF Transform feature.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 20. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

<i>Figure 20. SMP/E Options Subentry Values</i>		
Subentry	Value	Comment
DSSPACE	450,45,100	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX

6.1.3 SMP/E CALLLIBS Processing

Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature do not require the use of the CALLLIBs function.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature:

Figure 21. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
AOKALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HTFX120.F2
AOKALZFS	zFS ALLOCATE	Sample job to allocate and mount the zFS	IBM.HTFX120.F2
AOKCLNUP	CLEANUP	Sample job to delete obsolete data sets, DDDEFs of previous level of Print Transform	IBM.HTFX120.F2
AOKDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HTFX120.F2
AOKDELFN	FMID DELETE	Sample job to delete previous level of Print Transform FMIDs	IBM.HTFX120.F2
AOKMKDR1	MKDIR	Sample mkdir exec invoked by AOKMKJB1 job to define install paths	IBM.HTFX120.F2
AOKMKJB1	MKDIR JCL	Sample job to invoke the supplied AOKMKDR1 exec to allocate file system paths	IBM.HTFX120.F2

If you ordered Print Transform AFPxPDF, you can access the sample installation jobs by performing an SMP/E RECEIVE of FMID HTFX120 (refer to 6.1.5, “Perform SMP/E RECEIVE” on page 23) then copy the jobs from the RELFILES to a work data set for editing and submission.

If you only ordered Accessible PDF Transform feature, and/or Signed Secure PDF Transform feature, the feature(s) must be installed into the same SMP/E target and distribution zones as Print Transform AFPxPDF, existing target and distribution libraries, and file system shared with Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) since these FMIDs are mandatory installation requisites for Accessible PDF Transform and Signed Secure PDF Transform features.

6.1.5 Perform SMP/E RECEIVE

If you have obtained Print Transform AFPxPDF and/or Accessible PDF Transform feature, and/or Signed Secure PDF Transform feature as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the Print Transform AFPxPDF (if ordered) and Accessible PDF Transform feature (if ordered) and Signed Secure PDF Transform feature (if ordered) FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

Expected Return Codes and Messages: A return code of 0 should be received.

6.1.6 Run FMID Delete Job

If you are not migrating from Print Transform AFPxPDF V1R1, then you can skip this entire 'Run FMID Delete Job' step and proceed to the next section.

If you migrate from Print Transform AFPxPDF V1R1, you must delete this prior level of Print Transform AFPxPDF FMIDs before installing the latest level of Print Transform AFPxPDF and Accessible PDF

Transform feature or Signed Secure PDF Transform feature which shipped with this program directory because they cannot coexist during execution. Following are the installation considerations.

1. If you are installing the latest level of Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature into the same SMP/E zones where previous level (V1R1) of Print Transform AFPxPDF was installed, you MUST delete the previous level of FMIDs using the provided sample job AOKDELFN. Edit and submit sample job AOKDELFN to perform the delete of the obsolete FMIDs. After AOKDELFN is successfully run, you can proceed to the next installation step.
2. If you are installing the latest level of Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature into new separate SMP/E zones from Print Transform AFPxPDF V1R1, then you must also run the provided sample job AOKDELFN to delete Print Transform AFPxPDF V1R1 in the old SMP/E zones.

Notes:

1. Sample job AOKDELFN is provided to SMP/E DELETE Print Transform AFPxPDF, AFPxPCL, and AFPxPS V1R1 (FMIDs HTFX110, HTFX111, HTFX112, HTFX113) before installing Print Transform AFPxPDF V1R2M2.
2. If you migrate from Print Transform AFPxPDF V1R1 (FMIDs HTFX110 and HTFX111) and run the AOKDELFN job, SMP/E processing will delete FMIDs HTFX110 and HTFX111. However, Print Transform AFPxPCL V1R1 FMID HTFX112 and Print Transform AFPxPS V1R1 FMID HTFX113 will not be deleted by SMP/E processing if the FMIDs do not exist in the SMP/E zones when AOKDELFN job is run.

6.1.7 Allocate SMP/E Target and Distribution Libraries

Accessible PDF Transform feature (FMID HTFA124) and Signed Secure PDF Transform feature (FMID HTFS125) install into the shared target and distribution libraries of Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121).

If you plan to install only Print Transform AFPxPDF, or you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature or concurrently with Signed Secure PDF Transform feature, edit and submit the sample job AOKALLOC to allocate the target and distribution libraries. Consult the storage requirement tables (Figure 17 on page 18, Figure 18 on page 18, and Figure 19 on page 18) for more information.

Expected Return Codes and Messages: A return code of 0 should be received.

If you plan to install only Accessible PDF Transform feature (FMID HTFA124) and/or Signed Secure PDF Transform feature (FMID HTFS125), and Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) were previously installed, then it is not necessary to run the AOKALLOC job. You can skip this step.

6.1.8 Allocate, Create, and Mount ZFS File System

Accessible PDF Transform feature and Signed Secure PDF Transform feature installs in the same file system in which Print Transform AFPxPDF is installed since it is a mandatory installation requisite. If you plan to install only Accessible PDF Transform feature (FMID HTFA124) and/or only Signed Secure PDF Transform feature (FMID HTFS125), and Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) were previously installed, it is not necessary to run the AOKALZFS job and you can skip this step.

If you plan to install only Print Transform AFPxPDF, or you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature and/or Signed Secure PDF Transform feature, edit and submit the sample job AOKALZFS job to perform the following tasks:

- Create the z/OS UNIX file system
- Create a mount point
- Mount the z/OS UNIX file system on the mount point

Consult the instructions in the sample job for more information.

The recommended z/OS UNIX file system type is *zFS*. The recommended mount point is */usr/lpp/IBM/PrintXform/V1R2*.

Before running the sample job to create the z/OS UNIX file system, you must ensure that OMVS is active on the driving system. zFS must be active on the driving system if you are installing Print Transform AFPxPDF into a file system that is zFS.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

```
MOUNT FILESYSTEM('#dsn')
MOUNTPPOINT('/usr/lpp/IBM/PrintXform/V1R2')
MODE(RDRW)          /* can be MODE(READ) */
TYPE(ZFS) PARM('AGGRGROW') /* zFS, with extents */
```

See the following information to update the statements in the previous sample:

- **#dsn** is the name of the data set holding the z/OS UNIX file system in which IBM Print Transform AFPxPDF, Accessible PDF Transform feature (if ordered) and Signed Secure PDF Transform feature (if ordered) are installed.
- **/usr/lpp/IBM/PrintXform/V1R2** is the name of the mount point where the z/OS UNIX file system will be mounted.

Expected Return Codes and Messages: A return code of 0 should be received.

6.1.9 Allocate File System Paths

Accessible PDF Transform feature and Signed Secure PDF Transform feature install in the same file system paths as Print Transform AFPxPDF is installed since it is a mandatory installation requisite. If you plan to install only Accessible PDF Transform feature (FMID HTFA124) and/or only Signed Secure PDF Transform feature (FMID HTFS125), and Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) were previously installed, you can skip this step.

If you plan to install only Print Transform AFPxPDF, or you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature and/or Signed Secure PDF Transform feature, follow the instructions in this section to allocate file system paths.

The target system file system must be mounted on the driving system when running the sample AOKMKJB1 job since the job will create paths in the file system.

Before running the sample job to create the paths in the file system, you must ensure that OMVS is active on the driving system and that the target system's file system is mounted to the driving system. zFS must be active on the driving system if you are installing Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature into a file system that is zFS.

If you plan to install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature into a new file system, you must create the mountpoint and mount the new file system to the driving system for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

The recommended mountpoint is `/usr/lpp/IBM/PrintXform/V1R2`.

Edit and submit sample job AOKMKJB1 to allocate the file system paths for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature. Consult the instructions in the sample job for more information.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

Expected Return Codes and Messages: A return code of 0 should be received.

6.1.10 Create DDDEF Entries

Accessible PDF Transform feature and Signed Secure PDF Transform feature install in the shared DDDEFs of Print Transform AFPxPDF. If you plan to install only Accessible PDF Transform feature (FMID HTFA124) and/or only Signed Secure PDF Transform feature (FMID HTFS125), and Print Transform AFPxPDF (FMIDs HTFX120 and HTFX121) were previously installed, you can skip this step.

If you plan to install only Print Transform AFPxPDF, or you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature and/or concurrently with Signed Secure PDF Transform feature, follow the instructions in this section to create DDDEF entries.

Edit and submit sample job AOKDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Print Transform AFPxPDF. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: A return code of 4 should be received the first time this job is run (due to the 'REP' command) with the following messages.

```
GIM27701W DDDEF ENTRY XXXXXXXX DOES NOT EXIST. THE REPLACE  
OPERATION HAS BEEN CHANGED TO AN ADD.
```

6.1.11 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job provided in Figure 22 on page 29 to perform an SMP/E APPLY CHECK for Print Transform AFPxPDF, Accessible PDF Transform feature and Signed Secure PDF Transform feature, if the features were ordered. Consult the instructions in the sample job for more information.

The latest HOLDDATA is available through several different portals, including <http://service.software.ibm.com/holdata/390holddata.html>. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

Here are sample APPLY commands:

- a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK  
FORFMID(fmid,fmid,...)  
SOURCEID(RSU*)  
FIXCAT(IBM.ProductInstall-RequiredService)  
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your

environment and if you should bypass the specific ERROR HOLDS in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

- b. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
..any other parameters documented in the program directory
```

This method is the quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDS during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

2. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Figure 22 on page 29 shows a sample job that you can use to perform an SMP/E APPLY CHECK for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

```

//APPLY JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
    SET BOUNDARY(targetzone) .
    APPLY CHECK XZREQ
    FORFMID (HTFX120, HTFX121, /* see Note 1 & 3 below */
             HTFA124, HTFS125) /* see Note 2 & 3 below */
    SELECT  (HTFX120, HTFX121, /* see Note 1 & 3 below */
             HTFA124, HTFS125) /* see Note 2 & 3 below */
    GROUPEXTEND(NOAPARS,NOUSERMODS)
    FIXCAT(IBM.ProductInstall-RequiredService)
    BYPASS(HOLDSYSTEM,
           HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*

```

Figure 22. Sample SMP/E APPLY Job

Required Updates

1. Update the job parameters.
2. Replace csiname on the SMPCSI DD statement with your CSI name.
3. Replace targetzone with your target zone name.

Notes:

1. If you plan to install Print Transform AFPxPDF only, then you need to install FMIDs HTFX120, and HTFX121. Keep these two FMIDs in the FORFMID and SELECT operands and remove HTFA124 and HTFS125.
2. If you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature and Signed Secure PDF Transform feature, then install FMIDs HTFX120, HTFX121, HTFA124 and HTFS125 together. You do not change the FMIDs shown in this sample job.

If you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature, and you are not installing Signed Secure PDF Transform feature, then install FMIDs HTFX120, HTFX121, and HTFA124 together. You must update the job to remove FMID HTFS125 from the FORFMID and SELECT operands before running the job.

If you plan to install Print Transform AFPxPDF concurrently with Signed Secure PDF Transform feature, and you are not installing Accessible PDF Transform feature, then install FMIDs HTFX120, HTFX121, and HTFS125 together. You must update the job to remove FMID HTFA124 from the FORFMID and SELECT operands before running the job.
3. If you plan to install Accessible PDF Transform only, and Print Transform AFPxPDF was installed previously, then you just need to install FMID HTFA124. Remove HTFX120 and HTFX121, and HTFS125 from the FORFMID and SELECT operands.

If you plan to install Signed Secure PDF Transform only, and Print Transform AFPxPDF was installed previously, then you just need to install FMID HTFS125, and you must remove HTFX120, HTFX121, and HTFA124 from the FORFMID and SELECT operands before running the job.

Notes:

1. The GROUPEXTEND operand indicates that the SMP/E applies all requisite SYSMODs. The requisite SYSMODs might be applicable to other functions.
2. The XZREQ operand only needs to be specified when cross-zone processing is required. If this operand is specified when there is no zone group set up, the following messages will be received, which are acceptable:

```
GIM50810W THE XZREQ OPERAND WAS SPECIFIED ON THE APPLY
COMMAND BUT SINCE NO ZONES WERE APPLICABLE FOR CROSS-ZONE
REQUISITE CHECKING, THE XZREQ OPERAND WILL BE IGNORED.
```

```
GIM20501I APPLY PROCESSING IS COMPLETE. THE HIGHEST RETURN
CODE WAS 04.
```

Expected Return Codes and Messages from APPLY CHECK: You will receive a return code of 0 if this job runs correctly.

Expected Return Codes and Messages from APPLY: You will receive a return code of 0 if this job runs correctly.

6.1.12 Perform SMP/E ACCEPT

Edit and submit the sample job provided in Figure 23 on page 31 below to perform an SMP/E ACCEPT CHECK for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of only *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Figure 23 on page 31 shows a sample job that you can use to perform an SMP/E ACCEPT CHECK for Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

```

//ACCEPT JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
    SET BOUNDARY(dlibzone) .
    ACCEPT CHECK XZREQ
    FORFMID (HTFX120, HTFX121, /* see Note 1 & 3 below */
             HTFA124, HTFS125) /* see Note 2 & 3 below */
    SELECT  (HTFX120, HTFX121, /* see Note 1 & 3 below */
             HTFA124, HTFS125) /* see Note 2 & 3 below */
    GROUPEXTEND(NOAPARS,NOUSERMODS)
    FIXCAT(IBM.ProductInstall-RequiredService)
    BYPASS(HOLDSYSTEM,
           HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*

```

Figure 23. Sample SMP/E ACCEPT Job

Required Updates

1. Update the job parameters.
2. Replace csiname on the SMPCSI DD statement with your CSI name.
3. Replace dlibzone with your distribution zone name.

Notes:

1. If you plan to install Print Transform AFPxPDF only, then you need to install FMIDs HTFX120, and HTFX121. Keep these two FMIDs in the FORFMID and SELECT operands and remove HTFA124 and HTFS125.
2. If you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature and Signed Secure PDF Transform feature, then install FMIDs HTFX120, HTFX121, HTFA124 and HTFS125 together. You do not change the FMIDs shown in this sample job.

If you plan to install Print Transform AFPxPDF concurrently with Accessible PDF Transform feature, and you are not installing Signed Secure PDF Transform feature, then install FMIDs HTFX120, HTFX121, and HTFA124 together. You must update the job to remove FMID HTFS125 from the FORFMID and SELECT operands before running the job.

If you plan to install Print Transform AFPxPDF concurrently with Signed Secure PDF Transform feature, and you are not installing Accessible PDF Transform feature, then install FMIDs HTFX120, HTFX121, and HTFS125 together. You must update the job to remove FMID HTFA124 from the FORFMID and SELECT operands before running the job.
3. If you plan to install Accessible PDF Transform only, and Print Transform AFPxPDF was installed previously, then you just need to install FMID HTFA124. Remove HTFX120, HTFX121 and HTFS125 from the FORFMID and SELECT operands.

If you plan to install Signed Secure PDF Transform only, and Print Transform AFPxPDF was installed previously, then you just need to install FMID HTFS125, and you must remove HTFX120, HTFX121 and HTFA124 from the FORFMID and SELECT operands before running the job.

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from ACCEPT CHECK: You will receive a return code of 0 if this job runs correctly.

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

Expected Return Codes and Messages from ACCEPT: You will receive a return code of 0 if this job runs correctly.

6.1.13 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

6.1.14 Cleaning Up Obsolete Data Sets, and DDDEFs

Note: You need to run this sample cleanup job AOKCLNUP only if you are migrating from Print Transform V1R1 products.

The following data sets and DDDEFs, which were allocated and used by Print Transform AFPxPDF V1R1, are no longer needed in this release. You can delete these obsolete data sets and DDDEFs after you delete the previous release from your system. Edit and submit sample job AOKCLNUP to remove the obsolete data sets and DDDEFs.

Figure 24. Data sets and DDDEFs that are deleted from the previous level of Print Transform AFPxPDF

DDDEF	Data Set (High-Level qualifier are defaults)	DLIB or Target
AAOKJCL	AOK.AAOKJCL	DLIB
AAOKHFS	AOK.AAOKHFS	DLIB
SAOKBIN		Target
SAOKJCL	AOK.SAOKJCL	Target
SAOKLIB		Target
SAOKMAN		Target
SAOKSAM		Target

Note: SAOKBIN, SAOKLIB, SAOKMAN, and SAOKSAM are DDDEFs only, there are no actual paths in the file system that needed to be removed.

Expected Return Codes and Messages : A return code of 0 should be received.

6.2 Activating Print Transform AFPxPDF, Accessible PDF Transform and Signed Secure PDF Transform Feature

The Transform Manager component of Infoprint Server is used to invoke the transform provided in Print Transform AFPxPDF. The publications *z/OS Infoprint Server Customization*, G544-5744, *z/OS Infoprint Server Operation and Administration*, S544-5745, and *IBM Transforms from AFP for Infoprint Server for z/OS*, G325-2634, contain the step-by-step procedures to activate the functions of Print Transform AFPxPDF.

6.2.1 File System Execution

If you mount the file system in which you have installed Print Transform AFPxPDF in read-only mode during execution, then complete the following tasks to activate Print Transform AFPxPDF, Accessible PDF Transform feature, and Signed Secure PDF Transform feature.

6.2.2 Dynamic Enablement - Update Parmlib

To enable Print Transform AFPxPDF to run with z/OS, the following entries must be in the IFAPRDxx parmlib member:

```
PRODUCT OWNER('IBM CORP')
NAME('PRINT TRANSFORMS')
ID(5655-TF1)
VERSION(*) RELEASE(*) MOD(*)
FEATURENAME('AFPxPDF')
STATE(ENABLED)
```

To enable Accessible PDF Transform feature, you need to have the product statement above and the following statement entry added in the IFAPRDxx parmlib member:

```
/* Accessible PDF Transform */  
PRODUCT OWNER('IBM CORP')  
NAME('PRINT TRANSFORMS')  
ID(5655-TF1)  
VERSION(*) RELEASE(*) MOD(*)  
FEATURENAME('AFPxACCESS PDF')  
STATE(ENABLED)
```

To enable Signed Secure PDF Transform feature, you need to have the AFPxPDF statement above and the following statement entry added in the IFAPRDxx parmlib member:

```
/* Signed Secure PDF Transform */  
PRODUCT OWNER('IBM CORP')  
NAME('PRINT TRANSFORMS')  
ID(5655-TF1)  
VERSION(*) RELEASE(*) MOD(*)  
FEATURENAME('AFPxSIGNED PDF')  
STATE(ENABLED)
```

6.2.3 Execute Installation Verification Procedures (IVPs)

The following IVP steps **MUST** be run in an OMVS or telnet/rlogin session from the target system after Print Transform file system is mounted. This includes executing a required one time post install step to establish symbolic links to Infoprint Server paths. You need to perform the steps listed below if you are installing Print Transform AFPxPDF and/or Accessible PDF Transform feature and/or Signed Secure PDF Transform feature.

Step 1: Run aokcheck - This REXX EXEC checks the setup of From AFP Transforms V1R2. Run this script after you have successfully installed and customized Infoprint Server and the transform products. Review the results for any issues before moving to the next step.

Issue:

```
/usr/lpp/IBM/PrintXform/V1R2/samples/aokcheck
```

Step 2: Run aokbuildinfo - This script file executable provides information about product build and performs implicit validation of key transform parts.

Issue:

```
cd /usr/lpp/IBM/PrintXform/V1R2/samples  
aokbuildinfo.sh -i /usr/lpp/IBM/PrintXform/V1R2
```

Step 3: Run aoksymlink - This script file executable establishes symbolic links from From AFP Transforms V1R2 into Infoprint Server paths. This one time setup is required and has to be performed after completing step 1 and 2 above and before using these products with Infoprint Server. Ensure you execute this script/job from a userid that has UID=0 permissions.

Issue:

```
cd /usr/lpp/IBM/PrintXform/V1R2/samples  
aoksymlink.sh -f slinks -i /usr/lpp/IBM/PrintXform/V1R2 -b /usr/lpp/Printsrv
```

6.2.4 Making Fonts Available

The AFP fonts referenced in the print files to be transformed must be in libraries configured for use by the Print Transform AFPxPDF. Common AFP fonts that can be used with the Print Transform AFPxPDF are listed in Figure 13 on page 15. You should ensure that the raster font library (commonly named SYS1.FONT300) or outline font library (SYS1.SFNTLIB) is available to the transform. If you are using the WorldType fonts, ensure that the /usr/lpp/fonts/worldtype directory is available to the transform. The transform can convert raster fonts to corresponding outline fonts for PDF output with appropriate point size, as long as the scaling is symmetric. z/OS Font Collection is provided as a base element with z/OS V2R1 or later.

6.3 Product Customization

The publication *IBM Transforms from AFP for Infoprint Server for z/OS* (G325-2634) contains the necessary information to customize and use the Print Transform AFPxPDF.

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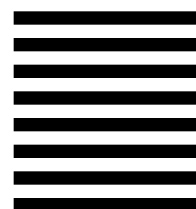
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