

*IBM Print Transforms from AFP for  
Infoprint Server for z/OS, V1.2.2*



**Note**

Before using this information and the product it supports, read the information in [“Notices” on page 433](#).

This edition applies to Version 1 Release 2 of the following products:

- IBM® Print Transform from AFP to PCL for Infoprint Server for z/OS® (program number 5655-TF2)
- IBM Print Transform from AFP to PDF for Infoprint Server for z/OS (program number 5655-TF1)
- IBM Print Transform from AFP to PostScript for Infoprint Server for z/OS (program number 5655-TF3)

This edition applies to all subsequent releases and modifications until otherwise indicated in new editions.

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## About this document

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This document describes Version 1 Release 2 (V1.2) of the following IBM products:

- IBM Print Transform from AFP to PCL for Infoprint Server for z/OS (program number 5655-TF2)
- IBM Print Transform from AFP to PDF for Infoprint Server for z/OS (program number 5655-TF1)
- IBM Print Transform from AFP to PostScript for Infoprint Server for z/OS (program number 5655-TF3)

With these products, you can transform documents from Advanced Function Presentation (AFP) format to:

- Printer Control Language (PCL)
- Portable Document Format (PDF)
- PostScript

The transforms require Infoprint Server, which is a separately priced feature of z/OS. The transforms run on all supported releases of z/OS.

## Who should read this document

---

This document is for anyone who needs to transform AFP documents, system programmers who customize the transform products, administrators responsible for maintaining the Infoprint Server Printer Inventory, and diagnosticians who must diagnose transform errors.

Readers should be familiar with Infoprint Server, AFP, z/OS UNIX System Services, and z/OS job control language (JCL).

## Where to find more information

---

This section describes where to find related information.

### Preventive Service Planning information

Before installing Infoprint transforms, review the current *Preventive Service Planning (PSP)* information, also called the *PSP bucket*. It is important to periodically review the current PSP information for updates.

The PSP upgrade IDs and subsets are listed in [Table 1 on page xxi](#).

Transform	Upgrade ID	Subset
IBM Print Transform from AFP to PCL for Infoprint Server for z/OS	5655TF2	HTFX120, HTFX122
IBM Print Transform from AFP to PDF for Infoprint Server for z/OS	5655TF1	HTFX120, HTFX121
IBM Print Transform from AFP to PostScript for Infoprint Server for z/OS	5655TF3	HTFX120, HTFX123
IBM Print Transform From AFP to Accessible PDF for z/OS (Optionally Priced Feature of AFP to PDF)	5655TF1	HTFX120, HTFX121, HTFA124

Table 1. PSP upgrade IDs and subsets (continued)

Transform	Upgrade ID	Subset
IBM Print Transform from AFP to Signed Secure PDF for Infoprint Server for z/OS (Optionally Priced Feature of AFP to PDF)	5655TF1	HTFX120, HTFX121, HTFS125

To obtain the current PSP bucket, contact the IBM Support Center or use z/OS SoftwareXcel (IBMLink). If you obtained z/OS as part of a CBPDO, HOLDDATA and PSP information is included on the CBPDO tape. However, this information might not be current if the CBPDO tape was shipped several weeks prior to installation.

## Related information

This section lists related information that can help you use Print Transforms from AFP for Infoprint Server for z/OS, and other IBM transform products.

Table 2. Information for Infoprint Server and other IBM transform products

Document	Form number
<p><a href="#"><u>z/OS Infoprint Server Introduction</u></a></p> <p>Introduces Infoprint Server. This document contains printing scenarios that show how you can use Infoprint Server in your installation.</p>	S544-5742
<p><a href="#"><u>z/OS Infoprint Server Customization</u></a></p> <p>Describes customization tasks for Infoprint Server. This document describes Infoprint Server environment variables, configuration files, startup procedures, how to write exit routines and filter programs, and how to use the Infoprint Server API.</p>	S544-5744
<p><a href="#"><u>z/OS Infoprint Server Operation and Administration</u></a></p> <p>Describes operators procedures and administrative tasks for Infoprint Server. This document describes how to start and stop Infoprint Server and how operators can use Infoprint Central. It describes how administrators can create entries in the Printer Inventory by using either ISPF panels or the Printer Inventory Definition Utility (PIDU) program and define NetSpool printer LUs to VTAM®.</p>	S544-5745
<p><a href="#"><u>z/OS Infoprint Server User's Guide</u></a></p> <p>Describes user tasks for Infoprint Server. This information describes how to submit print jobs from remote systems (including Windows systems), the local z/OS system, and Virtual Telecommunications Access Method (VTAM) applications. It describes z/OS UNIX commands; the AOPPRINT JCL procedure; the AOPBATCH program; DD and OUTPUT JCL parameters that Infoprint Server supports; and how to download and install the Infoprint Port Monitor for Windows.</p>	S544-5746
<p><a href="#"><u>z/OS Infoprint Server Messages and Diagnosis</u></a></p> <p>Describes messages from Infoprint Server. This information also describes how to use Infoprint Server tracing facilities to diagnose and report errors.</p>	G544-5747

*Table 2. Information for Infoprint Server and other IBM transform products (continued)*

<b>Document</b>	<b>Form number</b>
<i>IBM Infoprint Transforms to AFP for z/OS</i>	G550-0443
Describes IBM Infoprint Transforms to AFP for z/OS. This information describes using transforms, customizing transforms, administering transforms, diagnosing errors, messages, and migrating from Infoprint Server Transforms V2.	

*Table 3. Licensed program specifications*

<b>Licensed program specifications</b>	<b>Form number</b>
<i>IBM Print Transform from AFP to PCL for Infoprint Server for z/OS LPS</i>	G325-2635
<i>IBM Print Transform from AFP to PDF for Infoprint Server for z/OS LPS</i>	G325-2636
<i>IBM Print Transform from AFP to PostScript for Infoprint Server for z/OS LPS</i>	G325-2637

*Table 4. Program directories*

<b>Program directory</b>	<b>Form number</b>
<i>IBM Print Transform from AFP to PCL for Infoprint Server for z/OS</i>	GI11-9843
<i>IBM Print Transform from AFP to PDF for Infoprint Server for z/OS</i>	GI11-9844
<i>IBM Print Transform from AFP to PostScript for Infoprint Server for z/OS</i>	GI11-9845





# How to send your comments to IBM

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We invite you to submit comments about the z/OS product documentation. Your valuable feedback helps to ensure accurate and high-quality information.

**Important:** If your comment regards a technical question or problem, see instead [“If you have a technical problem”](#) on page xxv.

Submit your feedback by using the appropriate method for your type of comment or question:

## Feedback on z/OS function

If your comment or question is about z/OS itself, submit a request through the [IBM RFE Community](http://www.ibm.com/developerworks/rfe/) ([www.ibm.com/developerworks/rfe/](http://www.ibm.com/developerworks/rfe/)).

## Feedback on IBM Knowledge Center function

If your comment or question is about the IBM Knowledge Center functionality, for example search capabilities or how to arrange the browser view, send a detailed email to IBM Knowledge Center Support at [ibmkc@us.ibm.com](mailto:ibmkc@us.ibm.com).

## Feedback on the z/OS product documentation and content

If your comment is about the information that is provided in the z/OS product documentation library, send a detailed email to [mhvrcfs@us.ibm.com](mailto:mhvrcfs@us.ibm.com). We welcome any feedback that you have, including comments on the clarity, accuracy, or completeness of the information.

To help us better process your submission, include the following information:

- Your name, company/university/institution name, and email address
- The following deliverable title and order number: IBM Print Transforms from AFP for Infoprint Server for z/OS, V1.2.1, G325-2634-30
- The section title of the specific information to which your comment relates
- The text of your comment.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute the comments in any way appropriate without incurring any obligation to you.

IBM or any other organizations use the personal information that you supply to contact you only about the issues that you submit.

## If you have a technical problem

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If you have a technical problem or question, do not use the feedback methods that are provided for sending documentation comments. Instead, take one or more of the following actions:

- Go to the [IBM Support Portal](http://support.ibm.com) ([support.ibm.com](http://support.ibm.com)).
- Contact your IBM service representative.
- Call IBM technical support.



# Summary of changes

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This document contains terminology, maintenance, and editorial changes to improve consistency and retrievability. Technical additions and changes to the information are indicated with a revision bar (|) to the left of the change.

## Print Transforms from AFP for Infoprint Server for z/OS Version 1 Release 2 Mod 2 (V1.2.2)

---

This document contains information that was previously presented in *Print Transforms from AFP for Infoprint Server for z/OS*, G325-2634-30, which supports Version 1 Release 2 Mod 1 (V1.2.1).

### General Information

This release introduces the Signed Secure PDF Transform feature, HTFS125, which is a separately priced feature for the AFP to PDF transform. With this new feature installed, you can create signed secure PDF documents by using the AFP to PDF transform. For more information, see [“Signed Secure PDF documents”](#) on page 14.

### New Information

- Encryption algorithms AES 128-bit and AES 256-bit have been added, see [“Using AES Encryption”](#) on page 13.
- For the job attributes for creating signed secure PDF documents, see [“Job attributes for creating Signed Secure PDF documents”](#) on page 47 .
- The following environment variables are new for creating signed secure PDF documents with the AFP to PDF transform:

```
AOP_DIGITAL_CERTIFICATE_LOCATION
AOP_GSK_FIPS_STATE
AOP_GSKKYMAN_DB_PWORD
AOP_SIGNATURE_CONTACT
AOP_SIGNATURE_DIGESTALG
AOP_SIGNATURE_LOCATION
AOP_SIGNATURE_NAME
AOP_SIGNATURE_PSIZE
AOP_SIGNATURE_REASON
```

For complete information about the environment variables, see [“Environment variables for the AFP to PDF transform”](#) on page 90. For the environment variable quick reference page, see [Appendix A, “Environment variables,”](#) on page 425.

- The following new messages are added to [Chapter 6, “Messages,”](#) on page 165:

```
AOK00203W
AOK00209W
AOK00244E
AOK00418E
AOK00418W
AOK00427E
AOK00450W
AOK00601W
AOK00603W
```

AOK00604I  
AOK00605W  
AOK00606W  
AOK00607W  
AOK00608I  
AOK00609I  
AOK00828W  
AOK00999W  
AOK03008E  
AOK03265W  
AOK06084W  
AOK07041W  
AOK07080E  
AOK09002E  
AOK09003W  
AOK09005W  
AOK09009W  
AOK09017W  
AOK09020W  
AOK09021W  
AOK09022W  
AOK09023W  
AOK09024W  
AOK09025W  
AOK09026W  
AOK09027W  
AOK09028W  
AOK09031W  
AOK09032W  
AOK09039W  
AOK09040W  
AOK09041E  
AOK09042E  
AOK09043E  
AOK09044E  
AOK09047W  
AOK09048W  
AOK09049W  
AOK09050E  
AOK09051W  
AOK09052W  
AOK09053W  
AOK09055E  
AOK09057E  
AOK09058E  
AOK09059E  
AOK09062E  
AOK09064E  
AOK09065E  
AOK09066W  
AOK09069W

AOK09070W  
AOK09071W  
AOK09072E  
AOK09073E  
AOK09074E  
AOK09075E  
AOK09076E  
AOK09077E  
AOK09078E  
AOK09079W  
AOK09081W  
AOK09082E  
AOK09083W  
AOK09084W  
AOK09085W  
AOK09086W  
AOK09089W

### Changed Information

- The following messages are changed in [Chapter 6, “Messages,” on page 165](#):

AOK00022W  
AOK00418W  
AOK00424W  
AOK09028W

## Print Transforms from AFP for Infoprint Server for z/OS Version 1 Release 2 Mod 1 (V1.2.1)

---

This document contains information that was previously presented in *Print Transforms from AFP for Infoprint Server for z/OS*, G325-2634-30, which supports Version 1 Release 2 (V1.2).

### General Information

This release introduces the Accessible PDF Transform feature, HTFA124, which is a separately priced feature for the AFP to PDF transform. With this new feature installed, you can create accessible PDF documents by using the AFP to PDF transform. For more information, see [“Creating accessible PDF documents” on page 13](#).

### New Information

- For the job attributes for creating accessible PDF documents, see [“Job attributes for creating accessible PDF documents” on page 44](#).
- The following environment variables are new for creating accessible PDF documents with the AFP to PDF transform:

AOP\_ACCESSIBLE\_COMPLIANCE\_TYPE  
AOP\_PDF\_AUTHOR  
AOP\_PDF\_LANGUAGE  
AOP\_PDF\_TITLE  
AOP\_PDF\_KEYWORDS  
AOP\_PDF\_SUBJECT  
AOP\_UACF\_LOCATION

For complete information about the environment variables, see [“Environment variables for the AFP to PDF transform”](#) on page 90. For the environment variable quick reference page, see [Appendix A, “Environment variables,”](#) on page 425.

- The following new messages are added to [Chapter 6, “Messages,”](#) on page 165:

AOK00022W  
AOK00200W  
AOK00243E  
AOK00400E  
AOK00421W  
AOK00424W  
AOK01010W  
AOK03262E  
AOK03263E  
AOK03263W  
AOK03264W  
AOK07000W  
AOK07005E  
AOK09068W

- Upgrade and subset information for IBM Print Transform From AFP to "Accessible PDF for z/OS" is added to [“Preventive Service Planning information”](#) on page xxi.

---

# Chapter 1. Introduction

This information introduces Version 1 Release 2 (V1.2) of the following products.

- IBM Print Transform from AFP to PCL for Infoprint Server for z/OS (program number 5655-TF2)
- IBM Print Transform from AFP to PDF for Infoprint Server for z/OS (program number 5655-TF1)
- IBM Print Transform from AFP to PostScript for Infoprint Server for z/OS (program number 5655-TF3)

These products provide data-stream transforms that let you transform documents from Advanced Function Presentation (AFP) format to other formats that you can print on non-AFP printers or view with Adobe Reader. You can transform documents from AFP format to:

- Printer Control Language (PCL)
- Portable Document Format (PDF)
- PostScript

Documents in AFP format can contain:

- Mixed Object Document Content Architecture for Presentation (MO:DCA-P) data.
- Line data, which can be traditional line data or record-format line data. An AFP page definition is required to provide data placement and presentation information.
- Extensible Markup Language (XML) data. An AFP page definition is required to provide data placement and presentation information.

---

## Transform names and levels

The names of the transforms from AFP and the levels of data streams that they create are:

**This transform:**

**Transforms AFP to these levels:**

**AFP to PCL**

PCL 5, 5e, or 5c

**AFP to PDF**

PDF 1.4 or PDF 1.7

**AFP to PostScript**

PostScript Language Level 3

---

## Using transforms with Infoprint Server

This information describes how you can use the transforms together with Infoprint Server to meet your printing needs. It describes these scenarios:

- Printing AFP documents on PCL printers
- Sending AFP documents as encrypted PDF documents in an email.

### Printing AFP documents on PCL printers

A bank creates its loan applications in AFP format for printing on high-speed AFP printers. The company also wants to print these documents at their branch offices. However, the printers at their branch offices can print only PCL data.

Here is how the company can use the AFP to PCL transform together with Infoprint Server to meet its requirement:

1. A batch application running on z/OS creates an AFP document in an output data set on the JES spool. The application's JCL directs the output data set to Infoprint Server to be printed on a PCL printer in the branch office.
2. Infoprint Server determines that the AFP document must be transformed into PCL format before printing and calls the AFP to PCL transform.
3. The AFP to PCL transform uses AFP resources, such as a form definition, fonts, and images from AFP resource libraries, to convert the AFP data to PCL format.
4. Infoprint Server transmits the PCL document over the TCP/IP network to the PCL printer.

Figure 1 on page 2 shows how to print an AFP document on a PCL printer.

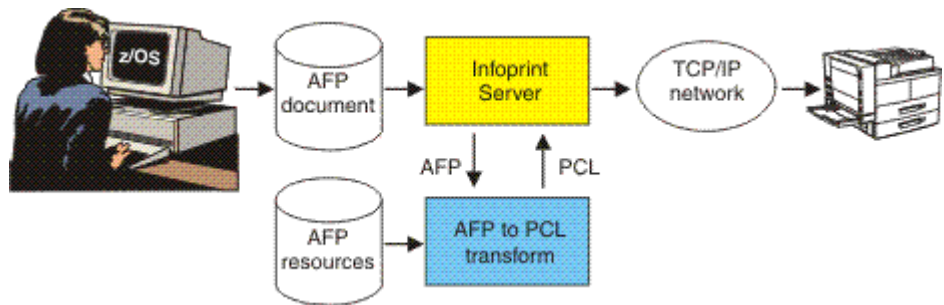


Figure 1. Printing AFP documents on PCL printers

## Sending AFP documents as encrypted PDF documents

A hospital creates test results in AFP format. A nurse needs to electronically send a patient's test results to the doctor as a PDF document that only the doctor can read and print. To ensure privacy, the PDF document must be encrypted when sent over the TCP/IP network.

Here is how the company can use the AFP to PDF transform together with Infoprint Server to meet its requirement:

1. A batch application running on z/OS creates an AFP document in an output data set on the JES spool. The application's JCL directs the output data set to Infoprint Server to be sent to the doctor's email address.
2. Infoprint Server determines that the AFP document must be transformed into PDF format and calls the AFP to PDF transform.
3. The AFP to PDF transform uses AFP resources, such as a form definition, fonts, and images from AFP resource libraries, to convert the AFP data to PDF format.
4. The transform determines that the PDF document must be encrypted. It calls its internal encryption services to encrypt the PDF data, and it associates the doctor's password with the PDF document so that only the doctor can use Adobe Reader to open the document.
5. Infoprint Server sends the encrypted PDF document as an email attachment over the TCP/IP network to the doctor's email address.
6. The doctor uses Adobe Reader to open the PDF document with his password. From Adobe Reader, the doctor can print the PDF document. The doctor can also detach the PDF document from the email and save it for future reference.

Figure 2 on page 3 shows how to send an AFP document as an encrypted PDF document in an email.



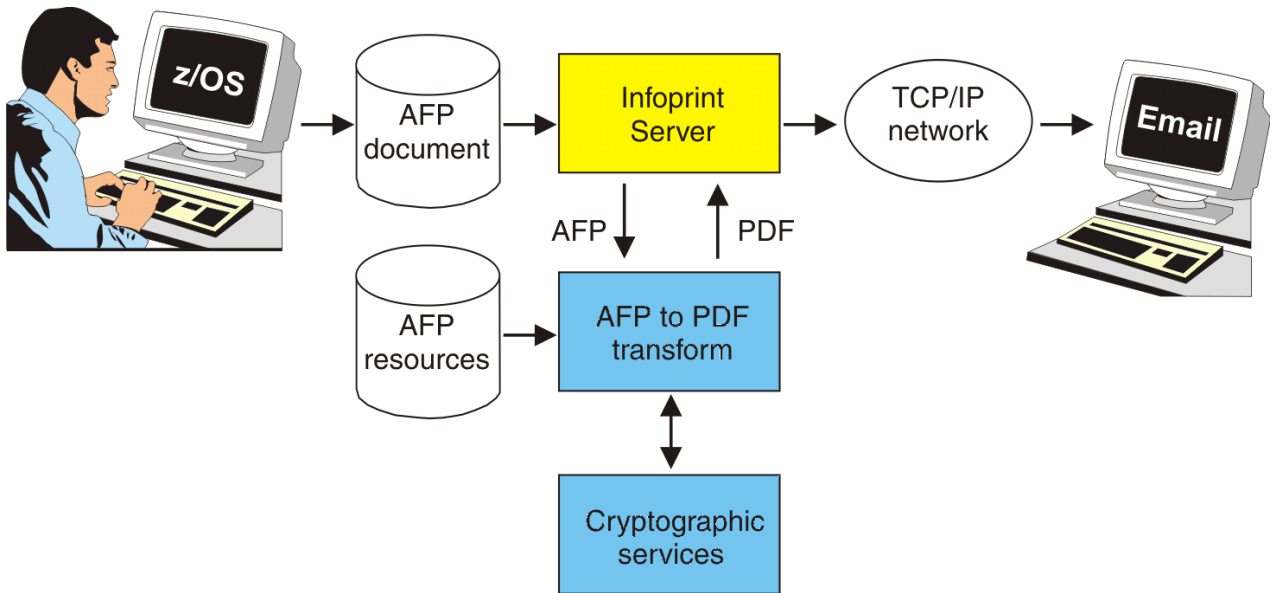


Figure 2. Sending AFP documents as encrypted PDF documents in emails

## Methods for transforming documents

You can use either of these methods to transform AFP documents:

### z/OS UNIX transform commands

z/OS UNIX System Services users can use transform commands to convert documents from AFP format to another format without printing the documents. You can run the transform commands from the z/OS UNIX command line, or you can use the Infoprint Server AOPBATCH program to run them.

You might want to transform documents without printing them in these situations:

- You intend to print a document many times. In this case, it is more efficient to transform the document once and print the output than to transform the document every time you print it.
- You want to present a document on the web as a PDF document.

You can use these transform commands:

#### **afpxpcl**

For AFP to PCL

#### **afxpdf**

For AFP to PDF

#### **afpxps**

For AFP to PostScript

The input AFP document and the output document can be in an MVS™ data set or in a z/OS UNIX file.

For example, to transform the AFP document `myfile.afp` to a PostScript document named `myfile.ps`, enter:

```
afpxps -o myfile.ps myfile.afp
```

### Printer definitions

The administrator can specify transform filters in printer definitions in the Infoprint Server Printer Inventory. When you do this, Infoprint Server automatically calls the appropriate transform filter before it prints the document or sends it to an email destination. You use this method when you want to transform and print (or send) documents but not save the transformed output.

For example, suppose that the administrator has configured a printer definition named "myprinter" to use the AFP to PCL transform filter. You can use the z/OS UNIX `lp` command to transform and print an

AFP document by using this printer definition. Or, you can transform and print the output of a batch job by using this printer definition. For example:

- To transform and print the AFP document in file `myfile.afp`, enter this z/OS UNIX command:

```
lp -d myprinter myfile.afp
```

- To transform and print the AFP document created by a batch program, submit this JCL:

```
//MYJOB JOB ...  
//STEP1 EXEC PGM=USERA  
//OUTDS1 OUTPUT CLASS=P,FSSDATA='printer=myprinter'  
//DD1 DD SYSOUT=(,),OUTPUT=* .OUTDS1
```

This example assumes that Infoprint Server processes output data sets in output class P for the printer definition `myprinter`.

## Specifying transform options

You can use transform options to tell the transforms how you want the data to be transformed from AFP. You can use these methods to specify transform options:

### Transform configuration file

The administrator can specify some transform options in the transform configuration file `aopxfd.conf`. For example, the administrator can specify a default page definition in the `AOP_PAGEDEF` environment variable.

The administrator can create separate classes of a transform with different transform options in each class. For example, the administrator could create a separate transform class for printers that print on different paper sizes. The administrator names and defines the transform classes in the transform configuration file. To use a transform class that the administrator has defined:

- The administrator can specify the name of the transform class in the **-c** transform option in the printer definition.
- The job submitter can specify the name of the transform class in the **-c** transform command option.

### Transform command options

You can specify some transform options on the transform commands. For example, when you enter the `afxpdf` command, you can specify option **-c transformclass** to tell the transform the name of a transform class to use.

When you transform and print documents, you can specify transform command options in the **filter-options** job attribute. For example, when you enter the `lp` command, you can specify the **-c** option in the **filter-options** job attribute.

### Job attributes and OUTPUT JCL parameters

You can specify some transform options with Infoprint Server job attributes. For example, you can use the **page-definition** job attribute to tell the transform which page definition to use to format line-data and XML documents. You can specify job attributes on the transform commands, on the `lp` command, and when you submit print jobs from some remote systems. For example, you can specify job attributes when you use the Infoprint Port Monitor for Windows.

Many job attributes have corresponding parameters on the OUTPUT JCL statement. For example, the **page-definition** job attribute is equivalent to the `PAGEDEF` parameter of the OUTPUT statement. If you need to specify a job attribute that does not have a corresponding parameter on the OUTPUT statement, you can specify the job attribute in the `PRTATTRS` parameter on the OUTPUT JCL statement.

For information about how to specify Infoprint Server job attributes and how to use the Print Interface subsystem, see [z/OS Infoprint Server Operation and Administration](#).

## Transform error handling

You can control how the AFP to PCL, AFP to PDF, and AFP to PostScript transforms handle errors that occur during the transform. You can control whether the transform:

- Stops transforming a document when a data stream error or warning occur. The transform does not create any output. By default, the transforms stop processing when a data stream error occurs but not when a warning occurs.
- Adds a page at the end of the output document with informational, warning, and error messages (called the trailer page). By default, the transforms add a trailer page when a data stream warning or error occurs.

**Note:** If the transform fails because of data stream errors or warnings, it does not create an output document. Therefore, to see a trailer page with error and warning messages, request that the transform does not stop processing when errors or warnings occur (fail-on-transform-error=no).

You can control transform error handling in these ways:

- Job submitters can specify the fail-on-transform-error and trailer-transform-error-page job attributes. For information, see [“Job attributes for error handling” on page 48](#).

These are some of the ways you can specify job attributes, depending on how you submit the transform or print request:

- In the -j option of the afpxpcl, afpxpdf, and afpxps commands
- In the PRTATTRS parameter of the OUTPUT JCL statement

For information, see [Chapter 2, “Using transforms,” on page 25](#).

- Administrators can specify the Fail on error and Trailer error page fields in Infoprint Server printer definitions. For information, see [Chapter 4, “Administering transforms,” on page 139](#).
- Administrators can specify the AOP\_FAIL\_ON\_ERROR and AOP\_TRAILER\_ERROR\_PAGE environment variables in the Infoprint Server transform configuration file. For information, see [Chapter 3, “Customizing transforms,” on page 65](#).

[Table 5 on page 5](#) shows the job attributes, printer definition fields, and environment variables that you can specify.

<b>Job attribute</b>	<b>Field in printer definition</b>	<b>Transform environment variable</b>
fail-on-transform-error	Fail on error	AOP_FAIL_ON_ERROR
trailer-transform-error-page	Trailer error page	AOP_TRAILER_ERROR_PAGE

The transforms use the values in this order:

1. Job attribute
2. Field in printer definition (print request only)
3. Transform environment variable

## Software requirements

The transforms run on all supported releases of z/OS.

In addition to the z/OS base elements, the following IBM software is required:

- IBM XML Toolkit for z/OS, C++ edition, V1.10 (5655-J51) for transforming data from XML.
- An AFP page definition, form definition and font for formatting transform error messages.
- AFP resources that are not included inline in AFP documents.

## AFP font collections

---

z/OS V2R1 (5650-ZOS) contains a font element named the z/OS Font Collection, which includes double-byte Asian fonts and replaces the fonts from the IBM products listed below. For recent updates to this list, see *z/OS Font Collection*.

- IBM AFP Font Collection V2 (5648-B33)
- Compatibility Fonts feature of IBM Print Services Facility Version 4 for z/OS (5655-M32).
- AFP outline fonts from IBM Infoprint Fonts for z/OS. V1.1 (5648-E76).
- WorldType fonts (TrueType and OpenType fonts) from IBM Infoprint Fonts for Multiplatforms, Version 1 Release 1 (5648-E77).

## Performance considerations

---

Transforming documents from the document format in which they were created to another document format uses more system resources than printing the documents on printers that support the original document format.

The impact on system and network resources varies depending on items such as:

- Print volume
- Content of documents being transformed
- Current utilization of the system and network resources

The throughput of the transform varies depending on items such as:

- Document format created
- Size, density, and complexity of the AFP documents

When the AFP to PDF transform encrypts PDF documents, the additional processing might require more system resources and degrade throughput.

In addition, transformed documents are sometimes larger than the original documents.

## AFP to PCL transform

---

The AFP to PCL transform creates PCL 5, 5e, or 5c output. The transform can create monochrome or color output. You can print the PCL output on printers that support PCL 5, 5e, or 5c. A printer that supports PCL 5c is required to print color output.

The AFP to PCL transform converts AFP resources (resources can be inline in the AFP documents or in AFP resource libraries) into PCL format and includes them in the PCL data stream. In addition, the transform converts AFP formatting options, such as paper size and duplexing, to PCL commands. The interpretation of these PCL commands depends on your printer, and unpredictable results can occur if the AFP document requests formatting options that are not installed in the PCL printer.

The AFP to PCL transform uses 240-pel and 300-pel (single-byte and double-byte) raster fonts. The transform includes all raster fonts in the PCL data stream to make sure that they are available. The transform converts outline, OpenType, and TrueType fonts to equivalent raster fonts and includes them in the PCL data stream.

When printing images, the transform scales 240-pel images to 300-pel when the environment variable `AOP_LEGACY_PRINTER → NO` is specified. Otherwise, the printer scales the images to the resolution of the printer.

The administrator can specify transform options in the transform configuration file, such as the output page size, how to map AFP input tray numbers to paper sizes and PCL tray numbers, and whether to produce monochrome or color output.

## Supported objects and controls

The AFP to PCL transform supports these objects and controls:

### AFP resources

- Page definitions, including conditional processing, record-format page definitions, and XML page definitions
- Form definitions, including basic N\_UP processing, enhanced N\_UP processing, and offset stacking
- Overlays
- Page segments
- User resource libraries

The job submitter must have RACF® authorization to read all AFP resource libraries that the transform uses. For more information, see [“Setting up security for AFP resource libraries” on page 127.](#)

### Line data

- Carriage control (ANSI, machine)
- CHARS
- Mixed line data and AFP records (including IDM, IMM)
- Record-format line data
- Traditional line data
- Table reference characters
- Shift-out/shift-in for DBCS data: SOSI1, SOSI2, SOSI3, and SOSI4 options

### MO:DCA-P objects

- Bar Code Object Content Architecture (BCOCA) (see [Table 6 on page 8](#) for the bar codes that the AFP to PCL transform supports)
- Font Object Content Architecture (FOCA):
  - Single-byte character set (SBCS) fonts:
    - 300-pel raster fonts (fixed and relative metrics)
    - 240-pel raster fonts (fixed and relative metrics)
    - AFP outline fonts
  - Double-byte character set (DBCS) fonts:
    - 300-pel raster fonts (fixed and relative metrics)
    - 240-pel raster fonts (fixed and relative metrics)
    - AFP outline fonts
    - TrueType, OpenType, and WorldType fonts
- Graphic Object Content Architecture (GOCA): All functions

**Note:** The transform positions GOCA characters like normal text by using the font size in the GOCA data stream. Characters are not scaled, and the cell size in the GOCA data stream is ignored. The printed output will be similar to the output on most newer IBM AFP printers. This positioning method is likely to produce the most readable output.

- Image (IM): All functions, in single and double dot, in all rotations
- Image Object Content Architecture (IOCA):
  - FS45 tiled, compressed, and uncompressed image objects except: Include Tile parameter, Referencing Tile structure, IOCA Tile Resource structure
  - Uncompressed, compressed MMR, G3, G4, RL4, JPEG baseline and extended
  - IDE 1-8, 24 (lookup table)

- Map Media Type (MMT)
- Object containers for PDF documents and GIF, JFIF, JPEG, and TIFF image objects
- Offset stacking
- Presentation Text Object Content Architecture (PTOCA1, PTOCA2)

#### **XML data**

XML data encoded in EBCDIC (code page IBM-1047). The XML data encoding must match the encoding scheme defined in the page definition.

Table 6 on page 8 lists the bar codes that the AFP to PCL transform supports.

<i>Table 6. Bar codes that AFP to PCL transform supports</i>	
<b>Code</b>	<b>Bar code type</b>
X'01'	Code 39 (3-of-9 Code), AIM USS-39
X'02'	MSI (modified Plessey code)
X'03'	UPC/CGPC—Version A
X'05'	UPC/CGPC—Version E
X'06'	UPC—Two-digit Supplemental (Periodicals)
X'07'	UPC—Five-digit Supplemental (Paperbacks)
X'08'	EAN-8 (includes JAN-short)
X'09'	EAN-13 (includes JAN-standard)
X'0A'	Industrial 2-of-5
X'0B'	Matrix 2-of-5
X'0C'	Interleaved 2-of-5, AIM USS-I 2/5
X'0D'	Codabar, 2-of-7, AIM USS-Codabar
X'11'	Code 128, AIM USS-128
X'16'	EAN Two-digit Supplemental
X'17'	EAN Five-digit Supplemental
X'18'	POSTNET
X'1A'	RM4SCC
X'1B'	Japan Postal Bar Code
X'1C'	Data Matrix (2D bar code)
X'1D'	MaxiCode (2D bar code)
X'1E'	PDF417 (2D bar code)
X'1F'	Australia Post Bar Code
X'20'	QR code (2D bar code)
X'21'	Code 93
X'22'	USPS Four-State - Intelligent Mail Barcode (IMB)

#### **Limitations for the AFP to PCL transform**

The following topic lists the items in the AFP architecture that the AFP to PCL transform does not currently support. Unsupported items are either ignored or error messages are issued. Because the AFP

architecture and PSF continue to be enhanced with new functional capabilities, this list might be incomplete after the publication date. IBM suggests that you test how your AFP applications print on your non-AFP printers to make sure the output is acceptable.

- DATAACK JCL parameter and print-error-reporting job attribute (for information about an alternative to the DATAACK JCL parameter, see [“Migration considerations”](#) on page 419)
- DBCS fonts in XML line data
- Include Page (IPG)
- Global Resource Identifier (GRID)
- Internal copy groups
- Invoke master environment group (IMG)
- IOCA: ABIC (non-concatenated) image compression
- Map Color Attribute Table (MCA)
- Map Page (MPG)
- Medium Finishing Control (MFC)
- Preprocess Presentation Object (PPO)
- Presentation Fidelity Control (PFC)

Other limitations include:

- The transform might create bar codes that are larger or smaller than the same bar codes printed on AFP printers. The transform creates bar codes with a resolution of 300 pels per inch. Even though the size of bar codes might be different, the bar codes will scan properly.
- The transform does not check all AFP structured fields in the AFP documents for validity. PSF might check additional structured fields for validity when it prints the AFP documents. Therefore, do not use the AFP to PCL transform to determine if PSF can print an AFP document.

## AFP to PDF transform

---

The AFP to PDF transform creates PDF 1.4 output. The transform always creates color output if the AFP document contains color images. You can use Adobe Reader 5.0 (or higher), or a comparable PDF viewer, to view and print the PDF documents.

The AFP to PDF transform converts AFP resources (resources can be inline in the AFP documents or in AFP resource libraries) into PDF format and includes them in the PDF data stream.

The transform does not include some AFP formatting options (such as copies, duplex, input and output bins, finishing, and jogging) in the PDF document. When you print PDF documents, you can use the printer driver options to select options such as copies, duplex, and so on.

For fonts which are mapped to the Adobe Reader base-14 font set, the transform includes only the names of outline fonts in the PDF document. Including only the names of outline fonts reduces the size of PDF documents. For other outline fonts, the outline font is converted to an Adobe Type 1 font and included in the PDF file. For more information, see the AOP\_OUTLINE environment variable [“AOP\\_OUTLINES”](#) on page 99.

If the source font is a raster font and the target font is an outline font, you can customize font-mapping to add custom fonts. For more information, see [“Mapping raster fonts to outline fonts”](#) on page 130.

When printing images, the transform does not scale images. The printer scales the images to the resolution of the printer.

The administrator can specify transform options in the transform configuration file, such as the output page size, whether to create enhanced PDF documents (enhanced PDF documents are easier to view and navigate), and whether to encrypt PDF documents. For more information, see the AOP\_ROTATE\_PDF environment variable [“AOP\\_ROTATE\\_PDF”](#) on page 104.

## Creating enhanced PDF documents

The AFP to PDF transform can create PDF documents that are easier to view and navigate. The transform can:

- Create PDF bookmarks to help readers navigate through PDF documents. Adobe Reader displays PDF bookmarks in its navigation pane. For example, if the AFP document contains a table of contents, the transform converts it to a set of PDF bookmarks. For more information, see the description of the AOP\_INDEX environment variable.
- Create PDF links to let readers jump to another location in a PDF document or to a website. For example, if the AFP document contains references to other locations, the transform converts them to PDF links. If the AFP document contains references to websites, the transform converts them to URLs that link to the websites. For more information, see the description of the AOP\_LINKS environment variable.
- Optimize PDF documents for fast viewing from the web. This means that Adobe Reader can display the first page of the PDF document before the entire document has been loaded from a website or a network. For more information, see the description of the AOP\_LINEARIZE environment variable.
- Rotate PDF documents for easier viewing. For example, some pages (such as those that contain tables) might require the PDF document to be turned sideways to be read. You can select auto-rotation so that each page is rotated in the same direction as the majority of characters on the page, which includes characters in AFP objects such as overlays. For more information, see the description of the AOP\_ROTATE\_PDF environment variable in [“AOP\\_ROTATE\\_PDF” on page 104](#).

## Encrypting PDF documents

The AFP to PDF transform can encrypt PDF documents. Encrypting PDF documents provides enhanced security for sensitive documents.

In addition, the transform can associate user and owner passwords with encrypted PDF documents to prevent unauthorized access, and it can restrict copying, updating, and printing of encrypted PDF documents. For example, a nurse could use the transform to encrypt a patient's test results and send them to the doctor in a PDF document that only the doctor can open and print.

### Encryption methods

You can use either or both of these methods to encrypt PDF documents:

#### Encrypting with passwords

When you use this method:

- You can associate a *user password* with the PDF document. The user password lets someone open an encrypted PDF document. A user password is optional. However, it prevents unauthorized users from opening PDF documents.  
**Tip:** In Adobe Reader, the user password is called an *open password*.
- You can associate an *owner password* with the PDF document. The owner password lets someone open an encrypted PDF document and bypass restrictions. An owner password is optional. However, it is required to restrict actions in PDF documents.  
**Tip:** In Adobe Reader, the owner password is called a *permissions password*.
- You can restrict actions in the PDF document, or you can allow all actions. Adobe Reader prevents users from doing restricted actions unless the user knows the owner password.
- You can select the level of encryption:
  - A high level of encryption (128-bit, aes128 or aes256 encryption keys) provides enhanced security.
  - A low level of encryption lets you send encrypted PDF documents to countries that do not use a high level of encryption or to users with Adobe Reader 3.0 - 4.x.

#### Encrypting without passwords

When you use this method:



- Anyone can open the PDF document because no user password is associated with it.
- The transform generates an owner password that it uses to restrict actions in the PDF document. Because this owner password is secret, no one can use it to bypass restrictions.
- The transform uses a low level of encryption (a 40-bit encryption key). You cannot select the level of encryption.

**Tip:** You might want to encrypt PDF documents without passwords so that the administrator does not need to maintain a password database.

### Specifying user and owner passwords

For security reasons, job submitters cannot specify user and owner passwords during job submission, and administrators cannot specify passwords in printer definitions. Instead, job submitters and administrators specify user and owner identifiers.

The administrator can decide what identifiers to use. For example, identifiers can be z/OS user IDs, email addresses, or a combination of different types of identifiers. Identifiers can contain any combination of 1-256 letters, numbers, blanks, and special characters.

The administrator must write a Password exit that returns a password to the transform for each user and owner identifier. The Password exit can obtain these passwords from a password database. The password database can be in any format that your Password exit can use. For information, see [“Writing a Password exit”](#) on page 108.

Job submitters can specify user and owner identifiers in job attributes **pdf-user-identifier** and **pdf-owner-identifier**. For example, you can specify this **afpxpdf** command:

```
afpxpdf -j "pdf-user-identifier=SMITH pdf-owner-identifier=LEE"
        -o myfile.pdf myfile.afp
```

As an alternative, the administrator can specify user and owner identifiers in printer definitions. For an example, see [“Example -- ISPF Processing panel for the AFP to PDF transform”](#) on page 149.

### Restricting actions

When you encrypt PDF documents with or without passwords, you can restrict copying, updating, and printing in the PDF documents. Adobe Reader does not permit users to do the restricted actions when they open the PDF document. However, users who open the PDF document with the owner password bypass restrictions.

In Adobe Reader, actions that are restricted are not available. For example, if you restrict printing, the Adobe Reader "Print" menu action is not available. To fully understand what menu actions Adobe Reader makes not available when you restrict an action, open the PDF document that the transform creates and check what actions Adobe Reader has made not available. PDF viewers other than Adobe Reader might interpret restricted actions in different ways.

You can restrict slightly different sets of actions when you encrypt documents with and without passwords. In addition, the way you specify restricted actions differs.

### Encrypting with passwords

When you encrypt PDF documents with passwords, job submitters can specify the restricted actions in the **pdf-protect** job attribute. For example, you can specify this **afpxpdf** command:

```
afpxpdf -j "pdf-user-identifier=SMITH pdf-owner-identifier=LEE
pdf-protect={copy print update}" -o myfile.pdf myfile.afp
```

For information about the **pdf-protect** job attribute, see [“Job attributes for encrypting PDF documents”](#) on page 42.

As an alternative, the administrator can specify restricted actions in printer definitions. For an example, see [“Example -- ISPF Processing panel for the AFP to PDF transform”](#) on page 149.

The transform clears these bits in the encryption dictionary's P entry for each restricted action, depending on whether you select a high (128-bit) or low (40-bit) level of encryption:

**Restricted action:**

**Bits:**

**copy**

5 and 10 (high encryption)  
5 (low encryption)

**print**

3 and 12 (high encryption)  
3 (low encryption)

**update**

4, 6, 9, and 11 (high encryption)  
4 and 6 (low encryption)

For more information about bits in the encryption dictionary, see the *Adobe PDF Reference*, which is available from [Adobe website \(www.adobe.com\)](http://www.adobe.com).

When an owner password, user password, and 128-bit, aes128, aes256 encryption is specified, you can have more granular control of document security. To do so, use the AOP\_PROTECT\_EXTENDED environment variable in the transform configuration file. Using the AOP\_PROTECT\_EXTENDED environment variable overrides the AOP\_PROTECT environment variable and the **pdf-protect** job attribute. For more information, see the AOP\_PROTECT\_EXTENDED environment variable in [“AOP\\_PROTECT\\_EXTENDED” on page 103](#).

**Encrypting without passwords**

When you encrypt PDF documents without passwords, the administrator must specify restricted actions in the AOP\_PROTECT environment variable in the transform configuration file. For example, the administrator could create a transform class called "nomodify" that restricts users from modifying the PDF documents. To do this, the administrator would specify this environment variable for the transform class:

```
AOP_PROTECT -> "modify"
```

For information about the AOP\_PROTECT environment variable, see [“Environment variables for the AFP to PDF transform” on page 90](#).

When you encrypt PDF documents without passwords, job submitters cannot specify restricted actions. However, job submitters can submit transform jobs to the transform class that has the restrictions they want. For example, you can specify this **afpxpdf** command:

```
afpxpdf -c nomodify -o myfile.pdf myfile.afp
```

As an alternative, the administrator can specify a transform class that restricts actions in printer definitions.

The transform clears these bits in the encryption dictionary's P entry for each restricted action:

**Restricted action:**

**Bit:**

**modify**

4

**print**

3

**select**

5

For more information about bits in the encryption dictionary, see the *Adobe PDF Reference*, which is available on the [Adobe website \(www.adobe.com\)](http://www.adobe.com).

### **Using AES Encryption**

When encrypting PDF documents with passwords, AES encryption can be used to provide a higher degree of security. Both AES 128-bit and 256-bit encryption can be specified using the pdf-encryption-level job attribute. When using AES encryption, the transform will create PDF 1.7 output. A newer level of PDF reader is required to open PDF 1.7 documents.

When ICSF is configured on the system, the transform will use it to perform a cryptographically superior random number generation. If ICSF is not configured on the system, message AOK00426W will be issued and AES encryption will continue using a less secure alternative. Regardless of the level of encryption being used, passwords are limited to characters which are common between the IBM-1047 and ISO8859-1 codepages, UTF8 passwords are not supported.

## **Creating accessible PDF documents**

Accessible PDF Transform feature (HTFA124) is a separately priced feature for the AFP to PDF transform.

When HTFA124 is installed, you can create accessible PDF documents by using the AFP to PDF transform.

A growing number of governments and corporations require electronic documents to be accessible for people with disabilities. Accessible PDF documents can be designed to assist a visually impaired individual to browse PDF document contents by using assistive technologies. An accessible PDF document contains specific and mandatory tagging techniques to enhance the navigation of the document.

An accessible PDF has two compliance types that conform to the ISO standard 14289:

### **PDFUA compliance**

An accessible PDF with PDFUA compliance embeds all fonts within the PDF to improve document fidelity.

### **WCAG compliance**

An accessible PDF with WCAG compliance allows the Adobe Base 14 fonts to be mentioned by name instead of being embedded in the PDF document, which can reduce the PDF file size for quicker loading by the web browser.

Accessible PDF documents can be viewed as normal PDF documents by using the common viewers like Adobe. However, when used with assistive technology, the tagged content allows a visually impaired user to navigate the document content using the assistive technology interface.

## **Producing accessible PDF documents**

Creating an accessible PDF document is achieved through a process of adding "tags" and other accessibility features to a document. Tags and other features identify unique attributes of content such as text, tables, graphics, lists, charts, and others. Page content navigation information and reading order are also identified within these tags, allowing assistive technologies to help browsing the document contents and present the content in a logical and easily understandable order. This includes being able to skip sections of content that aren't of immediate interest, and the ability to move forward and backward through the document easily. Tags also identify the heading and row descriptions so that the content of tables can be properly communicated, again enabling quick and easy navigation. After tagged, the resulting accessible PDF documents contain the tags and other special content within the underlying document structure and are used by assistive technologies.

The Accessible PDF Transform allows organizations to avoid manual tagging by automatically converting high-volume transaction and variable content print production files into PDF/UA format. The AFP to PDF transform can create PDFUA-compliant accessible PDF documents or WCAG-compliant accessible PDF documents. The automatic tagging of the input document requires a special input control file that is called

a User Accessibility Control File (referred to as the ICF in this and other documents). The ICF file contains business rules that instruct the Accessible PDF Transform to look for specific text strings, images, objects, and more in the input, and if found, insert a specific tag for that object in the PDF output. The ICF file name can be specified on the transform command by using the pdf-user-accessibility-control-file job attribute.

For more information about the pdf-user-accessibility-control-file job attribute, see "[Job attributes for creating accessible PDF documents](#)" on page 44".

An ICF file is created by the customer for each individual document or more likely, a group of like documents. Depending on the format of the input document, ICF files can be complex to create. Installation of Accessible PDF Transform entitles you to a single license of Crawford Technologies Inc. Pro Designer GUI. This product runs on Windows and provides an easy to use WYSIWYG interface to assist you in creating ICF files from corresponding input. You must contact Crawford Technologies Inc. to obtain your Pro Designer software and license key. For more information, see the /usr/lpp/IBM/PrintXform/V1R2/samples/accessible\_ReadMeFirst.txt file.

The following two manuals are included with the Accessible PDF Transform and can be used to assist with the generation of Accessible PDF output, including creating and editing ICF files.

- *Accessible PDF Transform User Guide* is in /usr/lpp/IBM/PrintXform/V1R2/samples/accessible\_PDF\_UserGuide.pdf.
- *Accessible PDF Transform Reference Guide* is in /usr/lpp/IBM/PrintXform/V1R2/samples/accessible\_PDF\_ReferenceGuide.pdf.

**Note:** Creating accessible PDF documents by using the AFP to PDF transform results in increased CPU consumption and larger output file size.

**Note:** When creating accessible PDF documents with encryption, ensure that the pdf accessibility flag is enabled. Do not choose 'all' or 'copy' if using the pdf-protect job attribute. Do not choose 'select' if using the AOP\_PROTECT environment variable. Another option is to use allowaccessibility with the AOP\_PROTECT\_EXTENDED environment variable.

### Example for creating an accessible PDF document

To transform an AFP file "myfile.afp" to a PDF/UA compliant accessible PDF "myPDFUA.pdf", enter the following command on one line: `afpxpdf -o myPDFUA.pdf -c pdfua -j " pdf-user-accessibility-control-file='myfileAccPDF.icf' pdf-title='PDF UA Title' " myfile.afp`

The example assumes myfileAccPDF.icf exists in the /usr/lpp/IBM/PrintXform/V1R2/samples directory, and that you have a transform class that is defined with following entries:

```
transform afpxpdf_pdfua
  start-command = afpxpdf
  min-active = 0
  max-active = 2
  maximum-idle-time = 300 # 5 minutes
  environment = {
    .....
    AOP_ACCESSIBLE_COMPLIANCE_TYPE -> 'pdfua'
    AOP_PDF_LANGUAGE -> 'En-US'
    AOP_UACF_LOCATION -> "/usr/lpp/IBM/PrintXform/V1R2/samples"
    _BPX_JOBNAME -> AFPXPDFD
  } ;
```

**Note:** The use of AOP\_UACF\_LOCATION is important to specify the path where the \*.icf file is located.

### Signed Secure PDF documents

Signed Secure PDF Transform feature (HTFS125) is a separately priced feature for AFP to PDF Transform. When this feature is installed, signed PDF documents can be created using the AFP to PDF Transform.

A digitally signed PDF document guarantees 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.

The Signed PDF Transform uses the Certificate Manager Services (CMS) API, which is part of the Cryptographic Services System Secure Socket Layer (SSL) subsystem to process certificates located in z/OS repositories. Ensure that Cryptographic Services System SSL base and Cryptographic Services Security Level 3 are available on your system.

If you choose to run with any of the Federal Information Processing Standard (FIPS) modes, ensure that Integrated Cryptographic Service Facility (ICSF) is available. For System SSL to use cryptographic support provided through ICSF, the ICSF started task must be running and the application user ID must be authorized to the appropriate resources in the RACF® CSFSERV class. For more information, see [z/OS Cryptographic Services ICSF Overview](#).

The Signed Secure PDF Transform feature goes through several steps to produce a digitally signed PDF:

- A digital certificate is required to generate the signed PDF.
- This feature starts with the PDF output from the base AFP to PDF transform.
- The base document contents are hashed with the digital certificate's public key.
- The resulting digest is then encrypted with the digital certificate's private key and stored in the document along with the digital certificate.
- Later, when the document is viewed using a conforming PDF viewer, the document contents are hashed again and compared with the hash value that was previously stored in the document. If the comparison fails, the PDF viewer alerts the user.

The term "Conforming PDF viewer" refers to software that can process PDF 1.7 (ISO 32000-1) documents. The Signed Secure PDF feature embeds a detached Public Key Cryptography Standards (PKCS#7) signature object in the PDF document. For more information and a list of Adobe-approved providers of digital certificates, see the Adobe Approved Trust List(<https://helpx.adobe.com/acrobat/kb/approved-trust-list2.html>).

## Overview

### PDF digital signature

A PDF can contain several standard types of signatures. The Signed Secure PDF Transform utilizes the *certification signatures* type. It is also known as a recipient or document signature and uses a byte range digest method to specify the byte range within the PDF document to be monitored. If any data within the byte range is changed, the conforming PDF viewer identifies that it has been compromised.

### Byte range digest

Since the byte range can encompass the entire document, the byte range digest cannot be generated when the PDF is initially created. Because the number of bytes required to store the signature information cannot be determined until the PDF has been fully assembled, the user must reserve an estimated space for the signature, as a content entry in the signature dictionary. When the signature is generated in the second pass, the byte range and content entries in the signature dictionary are updated. Any unused space can be filled with hex zero string.

A suggestion to estimate how much space to reserve is to create a test version of the signed PDF. You can use the test version to determine how many bytes are used to store the signature information.

### Asymmetric key cryptography for digital certificates

Asymmetric keys are created as a pair with one public key and one private key. By using the asymmetric keys, data can be encrypted with one key and decrypted with the other key. RSA is the most widely used public key algorithm. DSA, Diffie-Hellman and ECC are other algorithms used for public keys. For a current list of supported algorithms, see [z/OS Cryptographic Services System SSL Programming](#).

Digital certificates are based on the asymmetric key cryptography, the private key is used by the signer or the owner of the key pair to encrypt the signature data. This private key is not revealed to the public. The public key is placed in the signature dictionary and given to the conforming PDF reader to unencrypt the signature for validation purposes.

### **Cryptographic hash algorithms**

The input for the cryptographic hash function cannot be recreated from the output data. The input values of this function are called the message, and the output is known as the digest or hash. You will need to determine which hash algorithm to use, SHA256, SHA384 or SHA512, minimum supported level is SHA256.

### **x.509 certificate and certificate chain of trust**

x.509 is the most widely used standard for the digital certificates. A certificate contains two parts: The first part is the basic information about the signer and information about the cryptographic algorithm used. The second part is the encrypted data from the hash or digest created from the information in the first part that has been encrypted using the signer's private key. This ensures that if a certificate created with strong cryptographic algorithm is tampered with, it can be detected.

Since certificates can be created by anyone, the certificate alone is not sufficiently trustworthy. There are certificate authority organizations or CAs, who are considered trusted by the world. CAs can sign the signer's certificate with their private key after confirming the authenticity of the signer. The CAs signature on the certificate assures that the signer's certificate is valid and can be trusted. The trusted CA signature on the certificate is called the certificate chain of trust.

### **Validation at time of viewing a signed PDF**

When a signed PDF document is viewed, using a conforming viewer, the contents of the PDF are validated by calculating the document's hash and comparing it to the hash within the digital signature. The digital signature verifies that the contents of the PDF have not been modified.

This technique can be used on its own or in combination with the standard password security. If the PDF has been tampered with, the digital signature will become invalid, and the user will be alerted about it.

Signed PDF feature supports certificates created using SHA1, SHA224, SHA256, SHA384, SHA512 and supports RSA, DSA, Diffie-Hellman and ECC cryptographic algorithms and allows key sizes of 1024, 2048 or 4096 bytes.

### **Producing signed PDF documents**

To produce a signed PDF document, the user needs to supply a trusted digital certificate issued by a recognized Certificate Authority and install the certificate in a desired certificate repository (for example: SAF key ring or in a gskkyman database). Work with your system programmer or security administrator for details on how to obtain, install and access certificates on your system.

### **Example for creating a signed PDF document**

To transform an AFP file myfile.afp to a signed PDF document, enter the following UNIX command as one line: `afpxpdf -o SignedPDF.pdf -c signed -j " pdf-digital-certificate-name='Sample Certificate' pdf-title='Sample Signed PDF' " myfile.afp`

The example above assumes that the digital certificate is stored in a gskkyman database, and a fully qualified database name is specified. The database name and password for the gskkyman database are supplied using the transform class environment variables below.

```
transform afpxpdf_signed
  start-command = afpxpdfd
  min-active = 0
  max-active = 2
  maximum-idle-time = 300 # 5 minutes
  environment = {
  .....
```

```

AOP_DIGITAL_CERTIFICATE_LOCATION -> '<gskkyman-database-path>/<db-name>'
AOP_SIGNATURE_NAME -> 'Sample Signature Name'
AOP_SIGNATURE_REASON -> 'Sample Signature Reason'
AOP_SIGNATURE_CONTACT -> 'Sample Signature Contact'
AOP_SIGNATURE_LOCATION -> 'Sample Signature Location'
AOP_SIGNATURE_DIGESTALG -> 'SHA256'
AOP_SIGNATURE_PSIZE -> 32768
AOP_GSKKYMAN_DB_PASSWORD -> 'SamplePassword'
_BPX_JOBNAME -> AFPXPDFD
} ;

```

## Supported objects and controls

The AFP to PDF transform supports the following objects and controls.

### AFP resources

- Page definitions, including conditional processing, record-format page definitions, and XML page definitions
- Form definitions, including basic N\_UP processing and enhanced N\_UP processing
- Overlays
- Page segments
- User resource libraries

The job submitter must have RACF authorization to read all AFP resource libraries that the transform uses. For more information, see [“Setting up security for AFP resource libraries” on page 127](#).

### Line data

- Carriage control (ANSI, machine).
- CHARS
- Mixed line data and AFP records (including IDM, IMM).
- Record-format line data.
- Traditional line data
- Table reference characters.
- Shift-out/shift-in for DBCS data: SOSI1, SOSI2, SOSI3, and SOSI4 options.

### MO:DCA-P objects

- BCOCA (see [Table 7 on page 18](#) for the bar codes that the AFP to PDF transform supports)
- FOCA:
  - Single-byte (SBCS) fonts:
    - 300-pel raster fonts (fixed and relative metrics)
    - 240-pel raster fonts (fixed and relative metrics)
    - AFP outline fonts
  - Double-byte (DBCS) fonts:
    - 300-pel raster fonts (fixed and relative metrics)
    - 240-pel raster fonts (fixed and relative metrics)
    - AFP outline fonts
    - True Type, Open Type, and World Type fonts
- GOCA: All functions

**Note:** The transform positions GOCA characters like normal text by using the font size in the GOCA data stream. Characters are not scaled, and the cell size in the GOCA data stream is ignored. The printed output will be similar to the output on most newer IBM AFP printers. This positioning method is likely to produce the most readable output.

- IM: All functions, in single and double dot, in all rotations
- IOCA:
  - FS45 tiled, compressed, and uncompressed image objects except: Include Tile parameter, Referencing Tile structure, IOCA Tile Resource structure
  - Uncompressed, compressed MMR, G3, G4, RL4, JPEG baseline and extended
  - IDE 1-8, 24 (lookup table)
- Link Logical Element (LLE) and Tag Logical Element (TLE) structured fields
- Map Media Type (MMT)
- Object containers for PDF documents and GIF, JFIF, JPEG, and TIFF image objects
- PTOCA1, PTOCA2

#### XML data

XML data encoded in EBCDIC (code page IBM-1047). The XML data encoding must match the encoding scheme defined in the page definition.

Table 7 on page 18 lists the bar codes that the AFP to PDF transform supports.

<i>Table 7. Bar codes that AFP to PDF transform supports</i>	
<b>Code</b>	<b>Bar code type</b>
X'01'	Code 39 (3-of-9 Code), AIM USS-39
X'02'	MSI (modified Plessey code)
X'03'	UPC/CGPC—Version A
X'05'	UPC/CGPC—Version E
X'06'	UPC—Two-digit Supplemental (Periodicals)
X'07'	UPC—Five-digit Supplemental (Paperbacks)
X'08'	EAN-8 (includes JAN-short)
X'09'	EAN-13 (includes JAN-standard)
X'0A'	Industrial 2-of-5
X'0B'	Matrix 2-of-5
X'0C'	Interleaved 2-of-5, AIM USS-I 2/5
X'0D'	Codabar, 2-of-7, AIM USS-Codabar
X'11'	Code 128, AIM USS-128
X'16'	EAN Two-digit Supplemental
X'17'	EAN Five-digit Supplemental
X'18'	POSTNET
X'1A'	RM4SCC
X'1B'	Japan Postal Bar Code
X'1C'	Data Matrix (2D bar code)
X'1D'	MaxiCode (2D bar code)
X'1E'	PDF417 (2D bar code)
X'1F'	Australia Post Bar Code
X'20'	QR code (2D bar code)



Table 7. Bar codes that AFP to PDF transform supports (continued)

Code	Bar code type
X'21'	Code 93
X'22'	USPS Four-State - Intelligent Mail Barcode (IMB)

## Limitations for the AFP to PDF transform

The following topic lists the items in the AFP architecture that the AFP to PDF transform does not currently support. Unsupported items are either ignored or error messages are issued. Because the AFP architecture and PSF continue to be enhanced with new functional capabilities, this list might be incomplete after the publication date. IBM suggests that you test how your AFP applications print on your non-AFP printers to make sure the output is acceptable.

- DBCS fonts in XML line data
- Global Resource Identifier (GRID)
- Include Page (IPG)
- Internal copy groups
- Invoke master environment group (IMG)
- IOCA: ABIC (non-concatenated) image compression
- Map Color Attribute Table (MCA)
- Map Page (MPG)
- Medium Finishing Control (MFC)
- Offset jogging specified in the form definition
- Preprocess Presentation Object (PPO)
- Presentation Fidelity Control (PFC)

Limitations of viewing and searching with Adobe Reader:

- Text that has been generated by using AFP GOCA output graphic characters cannot be found.
- To preserve the output fidelity of a document, corresponding placement of characters is done in the PDF output document, which can result in additional “space” characters in a character string. This restricts the operation of the Adobe find function.
- The AFP representation of a code page might not match its ASCII representation. This can cause problems searching, especially with raster fonts.
- The printed output might be smaller or larger than expected. For example, the output might be 90% of the original size if the **Fit to Page** or **Fit to paper** option is selected in the Adobe Reader Print dialog. To solve this problem, deselect the option.
- Transformed PDF images might look different from the original AFP image, depending on your monitor and printer.
- The transform uses the AFP font encoding to create the PDF document. The characters contained in the document might not be the same as the ASCII character mapping available on the system used for PDF viewing.
- The actual appearance of raster fonts can differ from the printed output. For example, some characters might not be aligned on the character baseline. The appearance might change as higher magnification levels are chosen in Adobe Reader.
- In some versions of Adobe Reader you might need to select **Use Greek text below xx pixels** to see all output.
- PDF documents contains a unique page number identification that is assigned during the creation of the PDF document. This page number might not correspond to the page numbers used in the AFP input document.

Other limitations include:

- The transform might create bar codes that are larger or smaller than the same bar codes printed on AFP printers. The transform creates bar codes with a resolution of 300 pels per inch. Even though the size of bar codes might be different, the bar codes will scan properly.
- The transform does not check all AFP structured fields in the AFP documents for validity. PSF might check additional structured fields for validity when it prints the AFP documents. Therefore, do not use the AFP to PDF transform to determine if PSF can print an AFP document.

## AFP to PostScript transform

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The AFP to PostScript transform creates PostScript Language Level 3 output. The transform can create monochrome or color output. You can print the PostScript output on printers that support PostScript Language Level 3.

The AFP to PostScript transform converts all AFP resources (resources can be inline in the AFP documents or in AFP resource libraries) into PostScript format and includes them in the PostScript data stream. In addition, the transform converts formatting options in the AFP document, such as paper size and duplexing, to corresponding PostScript commands. The interpretation of these commands depends on your printer, and unpredictable results can occur if the AFP document requests formatting options that are not installed in the PostScript printer.

The AFP to PostScript transform can use 240-pel and 300-pel raster fonts (single-byte or double-byte) and AFP outline fonts (single-byte or double-byte). The transform includes all fonts in the PostScript data stream to make sure they are available.

The AOP\_EMBED\_OUTLINES environment variable allows the transform to include outline fonts in the PostScript output, which provides improved output fidelity. However, each typeface increases the size of the PostScript output file. For more information, see the AOP\_EMBED\_OUTLINES environment variable in [“AOP\\_EMBED\\_OUTLINES” on page 119](#).

If the source font is a raster font and the target font is an outline font, you can customize font-mapping to add custom fonts. For more information, see [“Mapping raster fonts to outline fonts” on page 130](#).

When printing images, the transform does not scale images. The printer scales the images to the resolution of the printer.

The administrator can specify transform options in the transform configuration file, such as the output page size, how to map AFP input tray numbers to paper sizes and PostScript tray numbers, and whether to produce monochrome or color output.

## Supported objects and controls

The AFP to PostScript transform supports these objects and controls:

### AFP resources

- Page definitions, including conditional processing, record-format page definitions, and XML page definitions
- Form definitions, including basic N\_UP processing, enhanced N\_UP processing, and offset stacking
- Overlays
- Page segments
- User resource libraries

The job submitter must have RACF authorization to read all AFP resource libraries that the transform uses. For more information, see [“Setting up security for AFP resource libraries” on page 127](#).

### Line data

- Carriage control (ANSI, machine)
- CHARS

- Mixed line data and AFP records (including IDM, IMM)
- Record-format line data
- Traditional line data
- Table reference characters
- Shift-out/shift-in for DBCS data: SOSI1, SOSI2, SOSI3, and SOSI4 options

### MO:DCA-P objects

- BCOCA (see [Table 8 on page 21](#) for the bar codes that the AFP to PostScript transform supports)
- FOCA:
  - Single-byte (SBCS) fonts:
    - 300-pel raster fonts (fixed and relative metrics)
    - 240-pel raster fonts (fixed and relative metrics)
    - AFP outline fonts
  - Double-byte (DBCS) fonts:
    - 300-pel raster fonts (fixed and relative metrics)
    - 240-pel raster fonts (fixed and relative metrics)
    - AFP outline fonts
    - True Type, Open Type, and World Type fonts
- GOCA: All functions
 

**Note:** The transform positions GOCA characters like normal text by using the font size in the GOCA data stream. Characters are not scaled, and the cell size in the GOCA data stream is ignored. The printed output will be similar to the output on most newer IBM AFP printers. This positioning method is likely to produce the most readable output.
- IM: All functions, in single and double dot, in all rotations
- IOCA:
  - FS45 tiled, compressed, and uncompressed image objects except: Include Tile parameter, Referencing Tile structure, IOCA Tile Resource structure
  - Uncompressed, compressed MMR, G3, G4, RL4, JPEG baseline and extended
  - IDE 1-8, 24 (lookup table)
- Map Media Type (MMT)
- Object containers for PDF documents and GIF, JFIF, JPEG, and TIFF image objects
- PTOCA1, PTOCA2

### XML data

XML data encoded in EBCDIC (code page IBM-1047). The XML data encoding must match the encoding scheme defined in the page definition.

[Table 8 on page 21](#) lists the bar codes that the AFP to PostScript transform supports.

<i>Table 8. Bar codes that AFP to PostScript transform supports</i>	
<b>Code</b>	<b>Bar code type</b>
X'01'	Code 39 (3-of-9 Code), AIM USS-39
X'02'	MSI (modified Plessey code)
X'03'	UPC/CGPC—Version A
X'05'	UPC/CGPC—Version E
X'06'	UPC—Two-digit Supplemental (Periodicals)

<i>Table 8. Bar codes that AFP to PostScript transform supports (continued)</i>	
<b>Code</b>	<b>Bar code type</b>
X'07'	UPC—Five-digit Supplemental (Paperbacks)
X'08'	EAN-8 (includes JAN-short)
X'09'	EAN-13 (includes JAN-standard)
X'0A'	Industrial 2-of-5
X'0B'	Matrix 2-of-5
X'0C'	Interleaved 2-of-5, AIM USS-I 2/5
X'0D'	Codabar, 2-of-7, AIM USS-Codabar
X'11'	Code 128, AIM USS-128
X'16'	EAN Two-digit Supplemental
X'17'	EAN Five-digit Supplemental
X'18'	POSTNET
X'1A'	RM4SCC
X'1B'	Japan Postal Bar Code
X'1C'	Data Matrix (2D bar code)
X'1D'	MaxiCode (2D bar code)
X'1E'	PDF417 (2D bar code)
X'1F'	Australia Post Bar Code
X'20'	QR code (2D bar code)
X'21'	Code 93
X'22'	USPS Four-State - Intelligent Mail Barcode (IMB)

## Limitations for the AFP to PostScript transform

The following topic lists the items in the AFP architecture that the AFP to PostScript transform does not currently support. Unsupported items are either ignored or error messages are issued. Because the AFP architecture and PSF continue to be enhanced with new functional capabilities, this list might be incomplete after the publication date. IBM suggests that you test how your AFP applications print on your non-AFP printers to make sure the output is acceptable.

- DATAACK JCL parameter and print-error-reporting job attribute (for information about alternatives to the DATAACK JCL parameter, see [“Migration considerations”](#) on page 419)
- DBCS fonts in XML line data
- Global Resource Identifier (GRID)
- Include Page (IPG)
- Internal copy groups
- IOCA: ABIC (non-concatenated) image compression
- Invoke master environment group (IMG)
- Map Color Attribute Table (MCA)
- Map Page (MPG)
- Medium Finishing Control (MFC)

- Preprocess Presentation Object (PPO)
- Presentation Fidelity Control (PFC)

Other limitations include:

- The transform might create bar codes that are larger or smaller than the same bar codes printed on AFP printers. The transform creates bar codes with a resolution of 300 pels per inch. Even though the size of bar codes might be different, the bar codes will scan properly.
- The transform does not check all AFP structured fields in the AFP documents for validity. PSF might check additional structured fields for validity when it prints the AFP documents. Therefore, do not use the AFP to PostScript transform to determine if PSF can print an AFP document.



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## Chapter 2. Using transforms

The following information describes the z/OS UNIX transform commands that you can use, and the JCL parameters that the transforms use when you submit a batch job.

The transform commands let you convert files from one format to another without printing the files.

For the levels of the data stream files that the transform commands create, see [“Transform names and levels” on page 1](#).

The topics in this category are:

- [“afpxpcl–Transform AFP data to PCL data” on page 25](#)
- [“afpxpdf–Transform AFP data to PDF data” on page 31](#)
- [“afpxps–Transform AFP data to PostScript data” on page 36](#)
- [“Job attributes for encrypting PDF documents” on page 42](#)
- [“Job attributes for error handling” on page 48](#)
- [“Transforming data with the AOPBATCH program” on page 49](#)
- [“Using JCL to transform and print AFP documents” on page 53](#)
- [“AOP\\_MVS\\_RETURN\\_CODES environment variable” on page 63](#)

---

### afpxpcl–Transform AFP data to PCL data

The **afpxpcl** command transforms an Advanced Function Presentation (AFP) data file into a Printer Control Language (PCL) data stream file.

#### Format

```
afpxpcl [-c transformclass] [-F tracefile] [-i inputcodepage] [-j jobattributes]...
```

```
[-o outputfile] [-T traceoptions] [inputfile ...]
```

#### Description

The **afpxpcl** command converts an Advanced Function Presentation (AFP) data file into a Printer Control Language (PCL) data stream file.

The transform writes messages related to errors in the input data stream at the end of the output document by default, but you can redirect the messages by specifying the trailer-transform-error-page job attribute in the -j option. Or, the administrator can redirect the messages by specifying the AOP\_TRAILER\_ERROR\_PAGE environment variable. For information about this environment variable, see [“Environment variables for the AFP to PCL transform” on page 70](#).

#### Options

##### **-c transformclass**

Specifies the name of a transform class that your administrator has defined. The transform class determines options such as:

- The characteristics of the printer, such as how to map AFP tray numbers to printer tray numbers
- The size of paper in each input tray, such as letter, ledger, A4, B4, or B5
- Defaults for page formatting options, such as the default page definition, form definition, and font
- Resource libraries

You do not always have to specify a transform class. If you do need to specify one, however, ask your administrator for the name of a transform class suitable for the printer and the type of job.

### **-F tracefile**

Specifies the file in which to store the trace. This option should only be used as instructed by IBM service personnel. For information about this option, see [“Trace options” on page 161](#).

### **-i inputcodepage**

This option applies only when you transform line data. If you specify this option for AFP data, it is ignored.

This option identifies the code page to which line data is converted before it is transformed. Specify a code page that corresponds to the coded fonts specified in the page definition or in the **chars** job attribute.

To transform line data that is already encoded in the code page that corresponds to the coded fonts, do *not* specify this option. If this option is not specified, line data is not converted before it is transformed. For example, to transform a line data document that specifies coded fonts in the **chars** job attribute and currently prints correctly on an AFP printer, do *not* specify this option.

You must specify this option to correctly transform documents encoded in code pages that do not correspond to the code page for the coded fonts. This is most likely to occur when you transform an ASCII file.

In the **-i** option, you must specify an IBM-supplied or custom code page that the iconv utility supports. For code page information, see [z/OS XL C/C++ Programming Guide](#). To find the AFP code page for each character set, see [z/OS Font Collection](#).

The AFP code page and the name of the code pages that iconv uses are different. Be careful to specify the iconv code page value. For example, if you specify one of the coded fonts in [Table 9 on page 26](#) in the **chars** job attribute, specify **-i IBM-500**.

Coded font	AFP code page	iconv code page
40D0, 40F0, 40E0, 4100	T1V10500	IBM-500
60D9 (default font)	T1V10500	IBM-500

**Note:** When you specify this option, also make sure that the code page specified in the **document-codepage** job attribute correctly identifies the code page in which the input document is encoded. If you do not specify the **document-codepage** attribute, the default is the code page of the locale, which is typically an EBCDIC code page.

### **-j jobattributes**

Specifies an option, that is, one or more attribute value assignments in the format *attribute=value*, separated by spaces. You can specify **-j** multiple times. If job attributes are repeated, the last value specified for the attribute is used.

- If a value contains spaces, enclose the value in single or double quotation marks:

```
attribute='value with spaces'  
attribute="value with spaces"
```

- If an option contains spaces or characters that might be interpreted by the shell (such as **\$ & ( ) > < | ' "**), enclose the option in single quotation marks:

```
-j 'attribute1=value1 attribute2=value2'  
-j 'attribute='value with spaces''  
-j 'attribute=value(1)'
```

For information about how the shell interprets special characters, see [z/OS UNIX System Services User's Guide](#).

- If both value and option require quotation marks, do either of these:



- Use two pairs of double quotation marks and place a backslash before each quotation mark that surrounds the value:

```
-j "attribute=\"value with spaces\""
```

- Use different quotation marks around the option and value. For example:

```
-j 'attribute="value with spaces"'
-j "attribute='value with spaces'"
```

Instead of entering a string of attributes on the command line, you can store attributes and values in a file. You use a special attribute called `attributes` to specify the file.

You can specify any of these attributes, which apply to all files to be transformed with the command:

```
carriage-control-type
chars
document-codepage
document-format
duplex
fail-on-transform-error
form-definition
input-tray-number
output-bin-number
overlay-back
overlay-front
page-definition
resource-directories
resource-library
shift-out-shift-in
table-reference-characters
trailer-transform-error-page
x-image-shift-back
x-image-shift-front
y-image-shift-back
y-image-shift-front
```

For more information about the attributes, see [z/OS Infoprint Server User's Guide](#).

### **-o outputfile**

Specifies the output path and file into which the transform output (that is, PCL data) is written. The transform overwrites any existing data in the output file. If you do not specify an output file, the result is written to standard output (STDOUT).

To specify an MVS data set, such as a sequential or partitioned data set, precede the data set name with `//`. When you specify a fully qualified name, two sets of quotation marks are required. For example, `//'h1q.PDS(MYDOC)'` or `//'h1q.SEQDS'`. When you specify a partially qualified name, you only need one set of quotation marks. For example, `//PDS(MYDOC)` or `//SEQDS`.

If you specify an MVS data set, you need to allocate the data set before you run this command, especially when you transform a large document. Allocate a data set that is large enough to hold the output data stream. The size of the output data stream depends on the complexity of the document. Allocate the output data set with these characteristics:

- Record-format: VB
- Record length: 32756 is recommended. If a record length other than 1024 is specified, change environment variable `AOP_MAX_RECORD_LENGTH` to this new length.

### **-T traceoptions**

Specifies the trace options. This should only be used as instructed by IBM service personnel. For information about this option, see [“Trace options” on page 161](#).

**Tip:** You can use the **filter-options** job attribute with, for example, the **lp** command to pass the **-c transformclass** and **-i inputcodepage** options to the transform. For information about the **filter-options** job attribute, see [z/OS Infoprint Server User's Guide](#).

## Operand

### **inputfile**

Specifies an input file to be transformed. If you specify more than one input file name, the **afpxpcl** command concatenates the files. The results are written to a single output file (if one is specified in **-o**) or to standard output.

If you do not specify an input file, or if you specify a dash (-) for the file name, **afpxpcl** uses standard input.

To specify an MVS data set, precede the data set name with **//**. When you specify a fully qualified name, two sets of quotation marks are required. For example, `///hlq.PDS(MYDOC)'` or `///hlq.SEQDS'`. When you specify a partially qualified name, you only need one set of quotation marks. For example, `///PDS(MYDOC)'` or `///SEQDS'`.

## Usage notes

- If you specify multiple values of the same option, except for **-j**, the transform uses the last value that you specified.
- When transforming line data in UNIX files that contain ANSI or no carriage control characters, you must specify **document-format=line**. If the data has ANSI control characters, also specify **carriage-control-type=ansi**.
- When transforming XML data, make sure an XML declaration statement is the first line in the input file. For example: `<?xml version "1.0" encoding="IBM-1047"?>`. You can also specify **document-format=xml**.

## Examples for afpxpcl

### **Transform an AFP UNIX file, specifying a transform class and output file**

To transform the AFP UNIX file `myfile.afp` into an output PCL file called `myfile.pcl`, using the `us` transform class, enter:

```
afpxpcl -c us -o myfile.pcl myfile.afp
```

### **Transform an AFP MVS data set, specifying a form definition**

To transform the AFP MVS data set `USERX.AFP(MYFILE)` into an output PCL file called `myfile.pcl`, using the form definition `F1CP0110`, enter:

```
afpxpcl -j "form-def=f1cp0110" -o myfile.pcl ///USERX.AFP(MYFILE)'
```

### **Transform an AFP UNIX file, specifying a form definition and a resource library**

To transform the AFP UNIX file `myfile.afp` into an output PCL file called `myfile.pcl`, using the form definition `F1CP0110` that contains references to user-supplied AFP resources, enter this command on one line:

```
afpxpcl -j "form-def=f1cp0110 res-lib={lib1.pseglib lib3.private}"  
-o myfile.pcl myfile.afp
```

### Transform and print an AFP MVS data set, specifying a form definition and a resource library

To transform the AFP MVS data set `PROD.AFP0UT(JOB1)` into a PCL file, using the form definition `F1CP0110` that contains references to user-supplied AFP resources, and print the output, enter this command on one line:

```
afpxpcl -j "form-def=f1cp0110 res-lib={lib1.pseglib lib3.private}"  
        "'/PRD.AFP0UT(JOB1)'" | lp -d myprinter
```

### Transform a job using redirection

To transform the AFP file `input.afp` into the PCL output file called `output.pcl`, enter:

```
afpxpcl < input.afp > output.pcl
```

**Note:** You can use redirection operators only with UNIX files.

### Transform multiple files and concatenate the output

To transform the AFP files `input.01.afp`, `input.02.afp`, ... `input.xx.afp` into one PCL output file called `output.pcl`, enter:

```
afpxpcl -o output.pcl input.01.afp input.02.afp ... input.xx.afp
```

### Transform an AFP UNIX file to an MVS data set

To transform the line data file `input.line` into an MVS PCL output data set called `hlq.OUTPUT.PCL(MYDOC)`, enter:

```
afpxpcl -j doc-format=line  
        -o "'/hlq.OUTPUT.PCL(MYDOC)'" input.line
```

### Transform an AFP MVS data set, writing the output to a UNIX file

To transform the AFP MVS data set `HLQ.INPUT.LINE(MYDOC)` into an output file called `output.pcl`, enter:

```
afpxpcl -o output.pcl "'/hlq.INPUT.LINE(MYDOC)'"
```

### Transform line data, specifying a form definition and a page definition

To transform line data in file `myfile.line` that contains ANSI carriage control characters into an output PCL file called `myfile.pcl`, using the form definition `F1CP0110` and page definition `P1P06362`, enter this command on one line:

```
afpxpcl -j "form-def=f1cp0110 page-def=p1p06362 c-c-t=a doc-format=line"  
        -o myfile.pcl myfile.line
```

### Transform line data, specifying a form definition and fonts

To transform the line data file `myfile.line` containing machine carriage control characters and table reference characters into an output PCL file called `myfile.pcl`, using the form definition `F1CP0110`, enter this command on one line:

```
afpxpcl -j "form-def=f1cp0110 c-c-t=m t-r-c=yes chars={60D8 60D0}"  
        -o myfile.pcl myfile.line
```

### Transform an AFP MVS data set and receive MVS return codes

To transform the AFP MVS data set `HLQ.INPUT.LINE(MYDOC)` into an output file called `output.pcl` and receive MVS return codes (0, 4, 8), enter:

```
AOP_MVS_RETURN_CODES=YES afpxpcl  
        -o output.pcl "'/hlq.INPUT.LINE(MYDOC)'"
```

MVS return codes indicate whether the transform was successful (0), a transform warning occurred (4), or a transform error occurred (8).

## Transform an AFP document with TrueType fonts in multiple font directories

To transform an AFP document with TrueType fonts that are found in external resource directories:

```
afpxpcl -j "resource-directories={/usr/lpp/fontpath1 /usr/lpp/fontpath2}"  
-o myfile.pcl myfile.afp
```

## Environment variables

The **afpxpcl** command uses the following environment variables.

### AOPCONF

Names the Infoprint Server configuration file. This variable takes precedence over the user-specific configuration file (**\$HOME/.aopconf**) and the system default configuration file (**/etc/Printsrv/aopd.conf**). For more information about the configuration file, see [z/OS Infoprint Server Customization](#).

### AOP\_MVS\_RETURN\_CODES

Specifies whether the command returns MVS return codes (0, 4, 8) or UNIX exit values (0, 1). The default is UNIX exit values.

### LIBPATH

The path used to locate dynamic link libraries (DLLs).

### NLSPATH

Names the directory paths that the **afpxpcl** command searches for message catalogs.

For information about setting and using environment variables, see [z/OS UNIX System Services User's Guide](#).

## Files

### **\$HOME/.aopconf**

Contains the user-specific Infoprint Server configuration file. This file takes precedence over **/etc/Printsrv/aopd.conf**.

### **/etc/Printsrv/aopd.conf**

Contains the system default Infoprint Server configuration file.

For the format of the configuration file, see [z/OS Infoprint Server Customization](#).

## Exit values

MVS return codes:

**0**

Successful.

**4**

A warning occurred during the transform.

**8**

The command was not accepted, a data stream error occurred during the transform, or the transform failed.

UNIX exit values (default):

**0**

The data was transformed successfully. However, the output document might contain error messages related to errors in the input data stream.

**>0**

An error occurred. No output document was created.

### Note:

1. The AOP\_MVS\_RETURN\_CODES environment variable determines the type of exit values.
2. The AOP\_FAIL\_ON\_ERROR environment variable controls whether the transform fails when it detects a data stream warning or error.

## afpxpdf—Transform AFP data to PDF data

---

The **afpxpdf** command transforms an Advanced Function Presentation (AFP) data file into an Adobe Portable Document Format (PDF) data stream file for printing or emailing.

### Format

```
afpxpdf [-c transformclass] [-F tracefile] [-i inputcodepage] [-j jobattributes]....
```

```
[-o outputfile] [-T traceoptions] [inputfile]
```

### Description

The **afpxpdf** command converts an Advanced Function Presentation (AFP) data file into an Adobe Portable Document Format (PDF) data stream file for printing or emailing.

The transform writes messages related to errors in the input data stream at the end of the output document by default, but you can redirect the messages by specifying the **trailer-transform-error-page** job attribute in the **-j** option. Or, the administrator can redirect the messages by specifying the `AOP_TRAILER_ERROR_PAGE` environment variable. For information about this environment variable, see [“Environment variables for the AFP to PDF transform” on page 90](#).

### Options

#### **-c transformclass**

Specifies the name of a transform class that your administrator has defined. The transform class determines options such as:

- The characteristics of the printer, such as how to map AFP tray numbers to printer tray numbers
- The size of paper in each input tray, such as letter, ledger, A4, B4, B5, or a custom paper size
- Defaults for page formatting options, such as the default page definition, form definition, and font
- Resource libraries
- Whether PDF encryption is enabled

You do not always have to specify a transform class. If you do need to specify one, however, ask your administrator for the name of a transform class suitable for the printer and the type of job.

#### **-F tracefile**

Specifies the file in which to store the trace. This should only be used as instructed by IBM service personnel. For information about this option, see [“Trace options” on page 161](#).

#### **-i inputcodepage**

This option applies only when you transform line data. If you specify this option for AFP data, it is ignored.

This option identifies the code page to which line data is converted before it is transformed. Specify a code page that corresponds to the coded fonts specified in the page definition or in the **chars** job attribute.

To transform line data that is already encoded in the code page that corresponds to the coded fonts, do *not* specify this option. If this option is not specified, line data is not converted before it is transformed. For example, to transform a line data document that specifies coded fonts in the **chars** job attribute and currently prints correctly on an AFP printer, do *not* specify this option.

You must specify this option to correctly transform documents encoded in code pages that do not correspond to the code page for the coded fonts. This is most likely to occur when you transform an ASCII file.

In the **-i** option, you must specify an IBM-supplied or custom code page that the iconv utility supports. For code page information, see *z/OS XL C/C++ Programming Guide*. To find the AFP code page for each character set, see *z/OS Font Collection, IBM AFP Fonts: Font Summary for AFP Font Collection*, or both..

The AFP code page and the name of the code pages that iconv uses are different. Be careful to specify the iconv code page value. For example, if you specify one of the coded fonts in [Table 9 on page 26](#) in the **chars** job attribute, specify **-i IBM-500**.

**Note:** When you specify this option, also make sure that the code page specified in the **document-codepage** job attribute correctly identifies the code page in which the input document is encoded. If you do not specify the **document-codepage** attribute, the default is the code page of the locale, which is typically an EBCDIC code page.

### **-j jobattributes**

Specifies an option, that is, one or more attribute value assignments in the format *attribute=value*, separated by spaces. You can specify **-j** multiple times. If job attributes are repeated, the last value specified for the attribute is used.

- If a value contains spaces, enclose the value in single or double quotation marks:

```
attribute='value with spaces'  
attribute="value with spaces"
```

- If an option contains spaces or characters that might be interpreted by the shell (such as **\$ & ( ) > < | ' "**), enclose the option in single or double quotation marks:

```
-j 'attribute1=value1 attribute2=value2'  
-j "attribute='value with spaces'"  
-j "attribute=value(1)"
```

For information about how the shell interprets special characters, see *z/OS UNIX System Services User's Guide*.

- If both value and option require quotation marks, do either of these:
  - Use two pairs of double quotation marks and place a backslash before each quotation mark that surrounds the value:

```
-j "attribute=\"value with spaces\""
```

- Use different quotation marks around the option and value. For example:

```
-j 'attribute="value with spaces" '  
-j "attribute='value with spaces' "
```

Instead of entering a string of attributes on the command line, you can store attributes and values in a file. You use a special attribute called **attributes** to specify the file.

You can specify any of these attributes, which apply to all files to be transformed with the command:

- carriage-control-type
- chars
- document-codepage
- document-format
- duplex
- fail-on-transform-error
- form-definition
- input-tray-number
- output-bin-number
- overlay-back
- overlay-front
- pdf-author
- page-definition

pdf-digital-certificate-name  
pdf-encryption-level  
pdf-keywords  
pdf-owner-identifier  
pdf-protect  
pdf-signature-contact  
pdf-signature-location  
pdf-signature-name  
pdf-signature-reason  
pdf-subject  
pdf-title  
pdf-user-accessibility-control-file  
pdf-user-identifier  
resource-directories  
resource-library  
shift-out-shift-in  
table-reference-characters  
trailer-transform-error-page  
x-image-shift-back  
x-image-shift-front  
y-image-shift-back  
y-image-shift-front

For more information about the attributes, see *z/OS Infoprint Server User's Guide*. For information about the attributes beginning with “pdf-”, see [“Job attributes for encrypting PDF documents” on page 42](#).

#### **-o outputfile**

Specifies the output path and file into which the transform output (that is, PDF data) is written. The transform overwrites any existing data in the output file. If you do not specify an output file, the result is written to standard output (STDOUT).

To specify an MVS data set, such as a sequential or partitioned data set, precede the data set name with `//`. When you specify a fully qualified name, two sets of quotation marks are required. For example, `"/'/h1q.PDS(MYDOC)'"` or `"/'/h1q.SEQDS'"`. When you specify a partially qualified name, you only need one set of quotation marks. For example, `"/PDS(MYDOC)"` or `"/SEQDS"`.

If you specify an MVS data set, you need to allocate the data set before you run this command, especially when you transform a large document. Allocate a data set that is large enough to hold the output data stream. The size of the output data stream depends on the complexity of the document. Allocate the output data set with these characteristics:

- Record-format: VB
- Record length: 32756 is recommended. If a record length other than 1024 is specified, change environment variable AOP\_MAX\_RECORD\_LENGTH to this new length.

#### **-T traceoptions**

Specifies the trace options. This should only be used as instructed by IBM service personnel. For information about this option, see [“Trace options” on page 161](#).

**Tip:** You can use the **filter-options** job attribute with, for example, the **lp** command to pass the **-c transformclass** and **-i inputcodepage** options to the transform. For information about the **filter-options** job attribute, see *z/OS Infoprint Server User's Guide*.

## Operand

### *inputfile*

Specifies an input file to be transformed. If you specify more than one input file name, the **afpxpdf** command will fail.

If you do not specify an input file, or if you specify a dash (-) for the file name, **afpxpdf** uses standard input.

To specify an MVS data set, precede the data set name with `//`. When you specify a fully qualified name, two sets of quotation marks are required. For example, `///'hlq.pds(MYDOC)'" or ///'hlq.seqds'". When you specify a partially qualified name, you only need one set of quotation marks. For example, ///pds(MYDOC)" or ///seqds".`

## Usage notes

- If you specify multiple values of the same option, except for **-j**, the transform uses the last value that you specified.
- When transforming line data in UNIX files that contain ANSI or no carriage control characters, you must specify **document-format=line**. If the data has ANSI control characters, also specify **carriage-control-type=ansi**.
- When transforming XML data, make sure an XML declaration statement is the first line in the input file. For example: `<?xml version "1.0" encoding="IBM-1047"?>`. You can also specify **document-format=xml**.

## Examples for afpxpdf

### Transform an AFP UNIX file, specifying a transform class and output file

To transform the AFP UNIX file `myfile.afp` into an output PDF file called `myfile.pdf`, by using the `us` transform class, enter:

```
afpxpdf -c us -o myfile.pdf myfile.afp
```

### Transform an AFP MVS data set, specifying a form definition

To transform the MVS data set `USERX.AFP(MYFILE)` into an output PDF file called `myfile.pdf`, by using the form definition `F1C10110`, enter:

```
afpxpdf -j "form-def=f1c10110" -o myfile.pdf ///'USERX.AFP(MYFILE)'"
```

### Transform an AFP UNIX file, specifying a form definition and a resource library

To transform the AFP UNIX file `myfile.afp` into an output PDF file called `myfile.pdf`, by using the form definition `F1C10110` that contains references to user-supplied AFP resources, enter the following command on one line.

```
afpxpdf -j "form-def=f1c10110 res-lib={lib1.pseglib lib3.private}"  
-o myfile.pdf myfile.afp
```

### Transform a job using redirection

To transform the UNIX AFP file `input.afp` into the PDF output file called `output.pdf`, enter:

```
afpxpdf < input.afp > output.pdf
```

**Note:** You can use redirection operators only with UNIX files.

### Transform a UNIX AFP file to an MVS data set

To transform the line data file `input.line` into an AFP MVS PDF output data set called `HLQ.OUTPUT.PDF(MYDOC)`, enter:

```
afpxpdf -j doc-format=line -o ///'HLQ.OUTPUT.PDF(MYDOC)'" input.line
```



### Transform an AFP MVS data set, writing the output to a UNIX file

To transform the AFP MVS data set `hlq.INPUT.LINE(MYDOC)` into an output file called `output.pdf`, enter:

```
afpxpdf -o output.pdf "'HLQ.INPUT.LINE(MYDOC)'"
```

### Transform line data, specifying a form definition and a page definition

To transform the line data file `myfile.line` that contains ANSI carriage control characters into an output PDF file called `myfile.pdf`, by using the form definition `F1C10110` and page definition `P1P06362`, enter the following command on one line.

```
afpxpdf -j "form-def=f1c10110 page-def=p1p06362 c-c-t=a doc-format=line"
-o myfile.pdf myfile.line
```

### Transform line data for viewing in landscape orientation

To transform the line data file `myfile.line` that contains ANSI carriage control characters into a PDF file that you can view with Adobe Reader in the landscape direction, enter the following command on one line:

```
afpxpdf -j "form-def=f101011a page-def=p1a06462 c-c-t=a doc-format=line"
-o myfile.pdf myfile.line
```

### Transform line data, specifying a form definition, a page definition, and fonts

To transform the line data file `myfile.line` containing machine carriage control characters and table reference characters into an output PDF file called `myfile.pdf`, using the form definition `F1C10110` and page definition `F1P06362`, enter the following command on one line.

```
afpxpdf -j "form-def=f1c10110 page-def=p1p06362 c-c-t=m t-r-c=yes chars={60D8
60D0}"
-o myfile.pdf myfile.line
```

### Transform line data, specifying a page definition and print offset

To transform the line data file `myfile.line` containing machine carriage control characters into an output PDF file called `myfile.pdf`, using the page definition `P1P06362` and positioning the output 24 millimeters (approximately one inch) from the left edge of the paper, enter the following command on one line.

```
afpxpdf -j "page-def=p1p06362 c-c-t=m x-image-shift-front=24"
-o myfile.pdf myfile.line
```

### Transform an AFP file, encrypting the PDF document and specifying restrictions

To transform the AFP file `myfile.afp` into an output PDF file called `myfile.pdf`, encrypting the PDF document and specifying that the user cannot print or change the encrypted PDF document, enter the following command on one line.

```
afpxpdf -j "pdf-owner-identifier='Nurse-Lee' pdf-user-identifier='Dr-Smith'
pdf-protect={print update}" -o myfile.pdf myfile.afp
```

### Transform an AFP MVS data set and receive MVS return codes

To transform the MVS data set `USERX.AFP(MYFILE)` into an output PDF file called `myfile.pdf` and receive MVS return codes (0, 4, 8), enter:

```
AOP_MVS_RETURN_CODES=YES afpxpdf -o myfile.pdf "'USERX.AFP(MYFILE)'"
```

MVS return codes indicate whether the transform was successful (0), a transform warning occurred (4), or a transform error occurred (8).

### Transform an AFP document with TrueType fonts in multiple font directories

To transform an AFP document with TrueType fonts that are found in external resource directories:

```
afpxpdf -j "resource-directories={/usr/lpp/fontpath1 /usr/lpp/fontpath2}"
-o myfile.pdf myfile.afp
```

## Environment variables

The **afpxpdf** command uses these environment variables:

### **AOPCONF**

Names the Infoprint Server configuration file. This variable takes precedence over the user-specific configuration file (**\$HOME/.aopconf**) and the system default configuration file (**/etc/Printsrv/aopd.conf**). For more information about the configuration file, see [z/OS Infoprint Server Customization](#).

### **AOP\_MVS\_RETURN\_CODES**

Specifies whether the command returns MVS return codes (0, 4, 8) or UNIX exit values (0, 1). The default is UNIX exit values.

### **LIBPATH**

The path used to locate dynamic link libraries (DLLs).

### **NLSPATH**

Names the directory paths that the **afpxpdf** command searches for message catalogs.

For information about setting and using environment variables, see [z/OS UNIX System Services User's Guide](#).

## Files

### **\$HOME/.aopconf**

Contains the user-specific Infoprint Server configuration file. This file takes precedence over **/etc/Printsrv/aopd.conf**.

### **/etc/Printsrv/aopd.conf**

Contains the system default Infoprint Server configuration file.

For the format of the configuration files, see [z/OS Infoprint Server Customization](#).

## Exit values

MVS return codes:

**0**

Successful.

**4**

A warning occurred during the transform.

**8**

The command was not accepted, a data stream error occurred during the transform, or the transform failed.

UNIX exit values (default):

**0**

The data was transformed successfully. However, the output document might contain error messages related to errors in the input data stream.

**>0**

An error occurred. No output document was created.

### **Note:**

1. The **AOP\_MVS\_RETURN\_CODES** environment variable determines the type of exit values.
2. The **AOP\_FAIL\_ON\_ERROR** environment variable controls whether the transform fails when it detects a data stream warning or error.

## afpxps—Transform AFP data to PostScript data

---

The **afpxps** command converts an Advanced Function Presentation (AFP) data file into a PostScript data stream file.

## Format

```
afpxps [-c transformclass] [-F tracefile] [-i inputcodepage] [-j jobattributes]...
```

```
[-o outputfile] [-T traceoptions] [inputfile ...]
```

## Description

The **afpxps** command converts an Advanced Function Presentation (AFP) data file into a PostScript data stream file.

The transform writes messages related to errors in the input data stream at the end of the output document by default, but you can redirect the messages by specifying the **trailer-transform-error-page** job attribute in the **-j** option. Or, the administrator can redirect the messages by specifying the AOP\_TRAILER\_ERROR\_PAGE environment variable. For information about this environment variable, see [“Environment variables for the AFP to PostScript transform” on page 117](#).

## Options

### **-c transformclass**

Specifies the name of a transform class that your administrator has defined. The transform class determines options such as:

- The characteristics of the printer, such as how to map AFP tray numbers to printer tray numbers
- The size of paper in each input tray, such as letter, ledger, A4, B4, B5, or a custom paper size
- Defaults for page formatting options, such as the default page definition, form definition, and font
- Resource libraries

You do not always have to specify a transform class. If you do need to specify one, however, ask your administrator for the name of a transform class suitable for the printer and the type of job.

### **-F tracefile**

Specifies the file in which to store the trace. This should only be used as instructed by IBM service personnel. For information about this option, see [“Trace options” on page 161](#).

### **-i inputcodepage**

This option applies only when you transform line data. If you specify this option for AFP data, it is ignored.

This option identifies the code page to which line data is converted before it is transformed. Specify a code page that corresponds to the coded fonts specified in the page definition or in the **chars** job attribute.

To transform line data that is already encoded in the code page that corresponds to the coded fonts, do *not* specify this option. If this option is not specified, line data is not converted before it is transformed. For example, to transform a line data document that specifies coded fonts in the **chars** job attribute and currently prints correctly on an AFP printer, do *not* specify this option.

You must specify this option to correctly transform documents encoded in code pages that do not correspond to the code page for the coded fonts. This is most likely to occur when you transform an ASCII file.

In the **-i** option, you must specify an IBM-supplied or custom code page that the iconv utility supports. For code page information, see [z/OS XL C/C++ Programming Guide](#). To find the AFP code page for each character set, see [z/OS Font Collection](#).

The AFP code page and the name of the code pages that iconv uses are different. Be careful to specify the iconv code page value. For example, if you specify one of these coded fonts in [Table 9 on page 26](#) in the **chars** job attribute, specify **-i IBM-500**.

**Note:** When you specify this option, also make sure that the code page specified in the **document-codepage** job attribute correctly identifies the code page in which the input document is encoded. If

you do not specify the **document-codepage** attribute, the default is the code page of the locale, which is typically an EBCDIC code page.

### **-j jobattributes**

Specifies an option, that is, one or more attribute value assignments in the format *attribute=value*, separated by spaces. You can specify **-j** multiple times. If job attributes are repeated, the last value specified for the attribute is used.

- If a value contains spaces, enclose the value in single or double quotation marks:

```
attribute='value with spaces'  
attribute="value with spaces"
```

- If an option contains spaces or characters that might be interpreted by the shell (such as **\$ & ( ) > < | ' "**), enclose the option in single or double quotation marks:

```
-j 'attribute1=value1 attribute2=value2'  
-j "attribute='value with spaces'"  
-j "attribute=value(1)"
```

For information about how the shell interprets special characters, see [z/OS UNIX System Services User's Guide](#).

- If both value and option require quotation marks, do either of these:
  - Use two pairs of double quotation marks and place a backslash before each quotation mark that surrounds the value:

```
-j "attribute=\"value with spaces\""
```

- Use different quotation marks around the option and value. For example:

```
-j 'attribute="value with spaces" '  
-j "attribute='value with spaces' "
```

Instead of entering a string of attributes on the command line, you can store attributes and values in a file. You use a special attribute called `attributes` to specify the file.

You can specify any of these attributes, which apply to all files to be transformed with the command:

- carriage-control-type
- chars
- document-codepage
- document-format
- duplex
- fail-on-transform-error
- form-definition
- input-tray-number
- output-bin-number
- overlay-back
- overlay-front
- page-definition
- pdf-encryption-level
- pdf-owner-identifier
- pdf-protect
- pdf-user-identifier
- resource-directories
- resource-library
- shift-out-shift-in
- table-reference-characters
- trailer-transform-error-page

x-image-shift-back  
x-image-shift-front  
y-image-shift-back  
y-image-shift-front

For more information about the attributes, see [z/OS Infoprint Server User's Guide](#).

### **-o outputfile**

Specifies the output path and file into which the transform output (that is, PostScript data) is written. The transform overwrites any existing data in the output file. If you do not specify an output file, the result is written to standard output (STDOUT).

To specify an MVS data set, such as a sequential or partitioned data set, precede the data set name with `//`. When you specify a fully qualified name, two sets of quotation marks are required. For example, `//' h1q .PDS(MYDOC) '` or `//' h1q .SEQDS '`. When you specify a partially qualified name, you only need one set of quotation marks. For example, `//PDS(MYDOC) "` or `//SEQDS"`.

If you specify an MVS data set, you might need to allocate the data set before you run this command, especially when you transform a large document. Allocate a data set that is large enough to hold the output data stream. The size of the output data stream depends on the complexity of the document. Allocate the output data set with these characteristics:

- Record-format: VB
- Record length: 32756 is recommended. If a record length other than 1024 is specified, change environment variable AOP\_MAX\_RECORD\_LENGTH to this new length.

### **-T traceoptions**

Specifies the trace options. This should only be used as instructed by IBM service personnel. For information about this option, see ["Trace options" on page 161](#).

**Tip:** You can use the **filter-options** job attribute with, for example, the **lp** command to pass the **-c transformclass** and **-i inputcodepage** options to the transform. For information about the **filter-options** job attribute, see [z/OS Infoprint Server User's Guide](#).

## **Operand**

### **inputfile**

Specifies an input file to be transformed. If you specify more than one input file name, the **afpxps** command concatenates the files. The results are written to a single output file (if one is specified in **-o**) or to standard output.

If you do not specify an input file, or if you specify a dash (-) as the file name, **afpxps** uses standard input.

To specify an MVS data set, precede the data set name with `//`. When you specify a fully qualified name, two sets of quotation marks are required. For example, `//' h1q .pds(MYDOC) '` or `//' h1q .seqds '`. When you specify a partially qualified name, you only need one set of quotation marks. For example, `//pds(MYDOC) "` or `//seqds"`.

## **Usage notes**

- If you specify multiple values of the same option, except for **-j**, the transform uses the last value that you specified.
- When transforming line data in UNIX files that contain ANSI or no carriage control characters, you must specify **document-format=line**. If the data has ANSI control characters, you must also specify **carriage-control-type=ansi**.
- When transforming XML data, make sure an XML declaration statement is the first line in the input file. For example: `<?xml version "1.0" encoding="IBM-1047" ?>`. You can also specify **document-format=xml**.

## Examples for afpxps

### Transform a UNIX AFP file, specifying a transform class and output file

To transform the UNIX AFP file `myfile.afp` into an output PostScript file called `myfile.ps`, using the `us` transform class, enter:

```
afpxps -c us -o myfile.ps myfile.afp
```

### Transform an AFP MVS data set, specifying a form definition

To transform the AFP MVS data set `USERX.AFP(MYFILE)` into an output PostScript file called `myfile.ps`, using the form definition `F1CP0110`, enter:

```
afpxps -j "form-def=f1cp0110" -o myfile.ps "'/USERX.AFP(MYFILE)'"
```

### Transform a UNIX AFP file, specifying a form definition and a resource library

To transform the a UNIX AFP file `myfile.afp` into an output PostScript file called `myfile.ps`, using the form definition `F1CP0110` that contains references to user-supplied AFP resources, enter this command on one line:

```
afpxps -j "form-def=f1cp0110 res-lib={lib1.pseglib lib3.private}"  
-o myfile.ps myfile.afp
```

### Transform and print an AFP MVS data set, specifying a form definition and a resource library

To transform the AFP MVS data set `PROD.AFP(OUT(JOB1))` into a PostScript file, using the form definition `F1CP0110` that contains references to user-supplied AFP resources, and print the output, enter this command on one line:

```
afpxps -j "form-def=f1cp0110 res-lib={lib1.pseglib lib3.private}"  
"'/PROD.AFP(OUT(JOB1))'" | lp -d myprinter
```

### Transform a job using redirection

To transform the AFP file `input.afp` into the PostScript output file called `output.ps`, enter:

```
afpxps < input.afp > output.ps
```

**Note:** You can use redirection operators only with UNIX files.

### Transform multiple files and concatenate the output

To transform the UNIX AFP files `input.01.afp`, `input.02.afp`, ... `input.xx.afp` into one PostScript output file called `output.ps`, enter:

```
afpxps -o output.ps input.01.afp input.02.afp ... input.xx.afp
```

### Transform a UNIX AFP file to an MVS data set

To transform the line data file `input.line` into an MVS PostScript output data set called `hlq.OUTPUT.PS(MYDOC)`, enter:

```
afpxps -j doc-format=line -o "'/hlq.OUTPUT.PS(MYDOC)'" input.line
```

### Transform an AFP MVS data set, writing the output to a UNIX file

To transform the AFP MVS data set `hlq.INPUT.LINE(MYDOC)`, where `hlq` is your user ID, into a PostScript output file called `output.ps`, enter:

```
afpxps -o output.ps "'/hlq.INPUT.LINE(MYDOC)'"
```

### Transform line data, specifying a form definition and a page definition

To transform the line data file `myfile.line` that contains ANSI carriage control characters into an output PostScript file called `myfile.ps`, using the form definition `F1CP0110` and page definition `P1P06362`, enter this command on one line:

```
afpxps -j "form-def=f1cp0110 page-def=p1p06362 c-c-t=a doc-format=line"  
-o myfile.ps myfile.line
```

### Transform line data, specifying a page definition and fonts

To transform the line data file `myfile.line` containing machine carriage control characters and table reference characters into an output PostScript file called `myfile.ps`, using the page definition P1P06362, enter this command on one line:

```
afpxps -j "page-def=p1p06362 c-c-t=m t-r-c=yes chars={60D8 60D0}"
-o myfile.ps myfile.line
```

### Transform line data, specifying a form definition and a page definition

To transform the line data file `myfile.line` that contains ANSI carriage control characters into an output PostScript file called `myfile.ps`, using the form definition F1CP0110 and page definition P1P06362, enter this command on one line:

```
afpxps -j "form-def=f1cp0110 page-def=p1p06362 c-c-t=a doc-format=line"
-o myfile.ps myfile.line
```

### Transform line data and receive MVS return codes

To transform the line data file `myfile.line` into a PostScript file and write the result to a file called `myfile.ps` and receive MVS return codes (0, 4, 8), enter:

```
AOP_MVS_RETURN_CODES=YES afpxps -o myfile.ps myfile.line
```

MVS return codes indicate whether the transform was one of the following

- successful (0)
- transform warning occurred (4)
- transform error occurred (8).

### Transform an AFP document with TrueType fonts in multiple font directories

To transform an AFP document with TrueType fonts that are found in external resource directories:

```
afpxps -j "resource-directories={/usr/lpp/fontpath1 /usr/lpp/fontpath2}"
-o myfile.ps myfile.afp
```

## Environment variables

The **afpxps** command uses the following environment variables.

#### AOPCONF

Names the Infoprint Server configuration file. This variable takes precedence over the user-specific configuration file (**\$HOME/.aopconf**) and the system default configuration file (**/etc/Printsrv/aopd.conf**). For more information about the configuration file, see [z/OS Infoprint Server Customization](#).

#### AOP\_MVS\_RETURN\_CODES

Specifies whether the command returns MVS return codes (0, 4, 8) or UNIX exit values (0, 1). The default is UNIX exit values.

#### LIBPATH

The path used to locate dynamic link libraries (DLLs).

#### NLSPATH

Names the directory paths that the **afpxps** command searches for message catalogs.

For information about setting and using environment variables, see [z/OS UNIX System Services User's Guide](#).

## Files

#### **\$HOME/.aopconf**

Contains the user-specific Infoprint Server configuration file. This file takes precedence over **/etc/Printsrv/aopd.conf**.

#### **/etc/Printsrv/aopd.conf**

Contains the system default Infoprint Server configuration file.

For the format of the configuration files, see [z/OS Infoprint Server Customization](#).

## Exit values

MVS return codes:

**0**

Successful.

**4**

A warning occurred during the transform.

**8**

The command was not accepted, a data stream error occurred during the transform, or the transform failed.

UNIX exit values (default):

**0**

The data was transformed successfully. However, the output document might contain error messages related to errors in the input data stream.

**>0**

An error occurred. No output document was created.

### Note:

1. The AOP\_MVS\_RETURN\_CODES environment variable determines the type of exit values.
2. The AOP\_FAIL\_ON\_ERROR environment variable controls whether the transform fails when it detects a data stream warning or error.

## Job attributes for encrypting PDF documents

---

The following information describes the job attributes that you can use to encrypt PDF documents with the AFP to PDF transform. Encrypting a PDF document protects it from unauthorized access. For example, a nurse encrypts a patient's test results with the transform and sends them electronically to the doctor as a PDF document that only the doctor can read.

### pdf-encryption-level

This **single-valued** attribute specifies the level of encryption used to encrypt PDF documents. A high level of encryption provides enhanced security. However, some users might not be able to open PDF documents that use a high level of encryption.

#### Allowed values

You can enter one of these fixed values:

##### bits40

A low level of encryption (a 40-bit encryption key) is used. Select this value if you send PDF documents in an email to countries that do not use 128-bit encryption, or for Adobe Reader 3.0 - 4.x.

##### bits128

A high level of encryption (a 128-bit encryption key) is used.

##### aes128

AES (Advanced Encryption Standard) 128-bit encryption is used. AES is a modern block cipher that is documented in the FIPS-197 Publication. Select this value for sensitive PDF documents.

##### aes256

AES (Advanced Encryption Standard) 256-bit encryption is used. AES is a modern block cipher that is documented in the FIPS-197 Publication. Select this value for sensitive PDF documents.



### Default value

bits128

### Usage guidelines

- When encrypting with bits128, aes128 or aes256, a user identifier, an owner identifier, or both are required.

## pdf-owner-identifier

This **single-valued** attribute specifies the identifier of the owner of an encrypted PDF document. The owner identifier is associated with a password that is stored in a separate database. An owner password is required to restrict actions with the **pdf-protect** attribute.

### Notes:

1. If 128-bit encryption is used, **pdf-owner-identifier** is specified and **pdf-user-identifier** is not specified, Adobe does not prompt for a password and restrictions apply to all users including the owner.
2. If the owner needs to use the PDF document without restrictions applied, both **pdf-user-identifier** and **pdf-owner-identifier** must be specified to create 128-bit encrypted PDF files.

### Allowed values

You can enter a text string of 1 - 256 characters. You can enter any combination of letters, numbers, blanks, and special characters that the Password exit allows. Your administrator sets up the Password exit. This text string might be case-sensitive, depending on the Password exit. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single quotation marks. For example:

```
-j 'pdf-owner-identifier='Nurse-Lee@hospital.com''
```

If the string contains double quotation marks, enclose the string in single quotation marks.

### Default value

The owner identifier that the administrator specifies in the printer definition. If none is specified, there is no default.

### Usage guidelines

- The transform encrypts a PDF document when a user identifier, an owner identifier, or both is specified. Encrypting a PDF document protects it from unauthorized access.
- The user and owner identifiers should be different because the passwords must be different.

## pdf-protect

This **multi-valued** attribute specifies one or more actions that users cannot take on encrypted PDF documents.

**Note:** The use of pdf-protect requires a PDF transform class with AOP\_ENCRYPT -> yes and the specification of one or more owner identifiers, user identifiers, or both.

### Allowed values

You can enter one or more fixed values to restrict actions (see [Table 10 on page 44](#)). If you specify more than one value, separate the values with spaces and enclose the list of values in braces {}. For example:

```
-j "pdf-protect=all"  
-j "pdf-protect={copy update}"
```

Table 10. pdf-protect values

Value:	Actions users cannot do:
<b>all</b>	<ul style="list-style-type: none"> <li>• All actions (copy, print, update)</li> </ul>
<b>copy</b>	<ul style="list-style-type: none"> <li>• Copy or extract content to another document</li> <li>• Extract content for accessibility</li> </ul>
<b>print</b>	<ul style="list-style-type: none"> <li>• Print at low resolution (150 dpi)</li> <li>• Print at high resolution</li> </ul>
<b>update</b>	<ul style="list-style-type: none"> <li>• Change the document</li> <li>• Assemble the document (insert, delete, rotate pages)</li> <li>• Add comments</li> <li>• Fill in form fields or sign</li> <li>• Create template pages</li> </ul>

#### Default value

The value that the administrator has specified in the printer definition. If none is specified, no actions are restricted.

### pdf-user-identifier

This **single-valued** attribute specifies the identifier of the user of an encrypted PDF document. The user identifier is associated with a password that is stored in a separate database. The user enters the user password when opening the encrypted PDF document.

#### Allowed values

You can enter a text string of 1 - 256 characters. You can enter any combination of letters, numbers, blanks, and special characters that the Password exit allows. Your administrator sets up the Password exit. This text string might be case-sensitive, depending on the Password exit. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks. For example:

```
-j "pdf-user-identifier='Dr-Smith@hospital.com'"
```

If the string contains double quotation marks, enclose the string in single quotation marks.

#### Default value

The user identifier that the administrator has specified in the printer definition. If none is specified, any user can open the PDF document without a password.

#### Usage guidelines

- The transform encrypts a PDF document when a user identifier, an owner identifier, or both is specified. Encrypting a PDF document protects it from unauthorized access.
- The user and owner identifiers should be different because the passwords must be different.

## Job attributes for creating accessible PDF documents

The following information describes the job attributes that you can use to create accessible PDF documents with the Accessible PDF Transform, which is an optionally priced feature of the AFP to PDF

transform. Accessible PDF documents can assist a visually impaired individual to interpret PDF output documents.

### **pdf-user-accessibility-control-file (Required)**

This **single-valued** attribute provides the UNIX file name of the user accessibility control instructions. The file contains business rules that instruct the Accessible PDF Transform to search for specific text strings, images, and other objects in the input. If found, it inserts specific tags for that object in the PDF output. The **pdf-user-accessibility-control-file** attribute is also referred to as the ICF file in this information.

#### **Allowed values**

When specifying the UNIX file name, enter a text string of 1 - 255 characters. The file extension of .icf is recommended. For example:

```
-j "pdf-user-accessibility-control-file='myfileAccPDF.icf'"
```

This text string is case-sensitive. If the text string you specify contains special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks.

#### **Default value**

None.

#### **Usage guidelines**

- The pdf-user-accessibility-control-file job attribute must be specified to produce an accessible PDF. If the attribute is omitted, no PDF/UA tagging is performed by the Accessible PDF Transform.
- The pdf-user-accessibility-control-file name is combined with environment variable **AOP\_UACF\_LOCATION** at run time to fully qualify the location of the ICF file. If the **AOP\_UACF\_LOCATION** is not specified, the pdf-user-accessibility-control-file must be located in the default directory at /usr/lpp/IBM/PrintXform/V1R2/samples.
- The total length of pdf-user-accessibility-control-file and path in **AOP\_UACF\_LOCATION** cannot exceed 255 characters.

**Note:** The **pdf-user-accessibility-control-file** job attribute is only valid when the Accessible PDF Transform, an optionally priced feature (HTFA124), is installed.

### **pdf-title (Required for compliant PDF/UA documents)**

This single-valued attribute specifies the PDF title. You specify the title to clarify the use or origin of the PDF output file. This value appears in the document Title field of the output PDF file.

There is a corresponding transform class environment variable, **AOP\_PDF\_TITLE**, that you can also use. If both values are specified, the **pdf-title** job attribute is used and the **AOP\_PDF\_TITLE** value is ignored.

#### **Allowed values**

Enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks. For example:

```
-j "pdf-title='Blue Bank Accessible PDF'"
```

#### **Default value**

None.

#### **Notes:**

- A title must be provided to produce a PDF/UA compliant PDF document.
- You can use the **pdf-title** attribute with or without generating an accessible PDF output file.

### pdf-keywords (Optional)

This single-valued attribute specifies the PDF keywords. You can specify one or more keywords to highlight important content within a document. This value appears in the document Keywords field of the output PDF file.

There is a corresponding transform class environment variable, **AOP\_PDF\_KEYWORDS**, that you can also use. If both values are specified, the **pdf-keywords** job attribute value is used and the **AOP\_PDF\_KEYWORDS** value is ignored.

#### Allowed values

Enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks. For example:

```
-j "pdf-keywords='Blue Bank Financial Statement'"
```

#### Default value

None.

**Note:** You can use the **pdf-keywords** attribute with or without generating an accessible PDF output file.

### pdf-subject (Optional)

This single-valued attribute specifies the PDF subject. You can use this value to specify the subject of the PDF output file. This value appears in the document Subject field of the output PDF file.

There is a corresponding transform class environment variable, **AOP\_PDF\_SUBJECT**, that you can also use. If both values are specified, the **pdf-subject** job attribute value is used and the **AOP\_PDF\_SUBJECT** value is ignored.

#### Allowed values

Enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks. For example:

```
-j "pdf-subject='Blue Bank Financial Statement 2017'"
```

#### Default value

None.

**Note:** You can use the **pdf-subject** attribute with or without generating an accessible PDF output file.

### pdf-author (Optional)

This single-valued attribute specifies the PDF author. You can use this value to specify the author of the PDF output file. This value appears in the document Author field of the output PDF file.

There is a corresponding transform class environment variable, **AOP\_PDF\_AUTHOR**, that you can also use. If both values are specified, the **pdf-author** job attribute value is used and the **AOP\_PDF\_AUTHOR** value is ignored.

#### Allowed values

Enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks. For example:

```
-j "pdf-author='Blue Bank CFO'"
```

#### Default value

None.

**Note:** You can use the **pdf-author** attribute with or without generating an accessible PDF output file.

## Job attributes for creating Signed Secure PDF documents

---

This section describes the job attributes that you can use to create Signed Secure PDF documents with Signed PDF Transform, an separately priced feature of AFP to PDF transform.

Signed Secure PDF documents can help ensure that a document has not been modified since its creation and conforming PDF viewers alert the user if changes are detected.

### **pdf-digital-certificate-name (Required)**

This single-valued attribute specifies the digital certificate name. The certificate name is used in combination with AOP\_DIGITAL\_CERTIFICATE\_LOCATION value to locate the digital certificate. This digital certificate is used to create a signed PDF document.

#### **Allowed values**

You can enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks.

For example: -j "pdf-digital-certificate-name='Sample Digital Certificate'"

#### **Default value**

None

#### **Notes:**

SAF Keyring allows certificate labels up to 32 characters in length.

GSKKYMANN key database allows certificate labels up to 127 characters in length.

### **pdf-signature-name (optional)**

This single-valued attribute specifies the name of the person or authority signing the PDF document. This value should only be used when it is not possible to extract the name for the signature from the certificate. This value is imbedded in the PDF document as part of the signature dictionary.

#### **Allowed values**

You can enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks.

For example: -j "pdf-signature-name='Sample Signer Name'"

#### **Default value**

A single name extracted from the certificate/signature.

### **pdf-signature-reason (optional)**

This single-valued attribute specifies the reason for signing the PDF document. This value is imbedded in the PDF document as part of the signature dictionary.

#### **Allowed values**

You can enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks.

For example: -j "pdf-signature-reason='I agree to the terms of this agreement'"

**Default value**

None

**pdf-signature-contact (optional)**

This single-valued attribute specifies contact information about the signer or the signing authority to enable the recipient of the signed PDF document to establish contact with the signer to verify the signature. This value is imbedded in the PDF document as part of the signature dictionary.

**Allowed values**

You can enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks.

For example: -j "pdf-signature-contact='For validation call 1-800-mmmm-nnnn'"

**Default value**

None

**pdf-signature-location (optional)**

This single-valued attribute specifies either the server name or the physical location of the signing. This value is imbedded in the PDF document as part of the signature dictionary.

**Allowed values**

You can enter a text string of 1 - 255 characters. You can enter any combination of letters, numbers, blanks, and special characters. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks.

For example: -j "pdf-signature-location='Home Town USA'"

**Default value**

None

## Job attributes for error handling

---

The following topic describes the job attributes that you can use to control transform error handling. For more information, see [“Transform error handling”](#) on page 5.

**fail-on-transform-error**

This **single-valued** attribute indicates whether transforms fail when data stream errors or warnings occur. Warnings can indicate degraded output.

**Allowed values**

You can enter one of these fixed values:

**error**

The transform fails when an error occurs and does not create an output document. However, the transform continues if warnings occur.

**no**

The transform continues processing when a warning or error occurs and creates an output document.

**warning**

The transform fails when a warning or error occurs and does not create an output document.

**Note:** If the transform fails because of data stream errors or warnings, it does not create an output document. Therefore, to see a trailer page with error and warning messages, specify **fail-on-transform-error=no**.

### Default value

1. The value in the **Fail on error** field in the printer definition for the printer.
2. The value in the AOP\_FAIL\_ON\_ERROR environment variable for the transform.
3. The **error** value.

## trailer-transform-error-page

This **single-valued** attribute indicates whether the transform writes messages for data stream errors and warnings to a trailer page. The trailer page is the last page in the output document. Warnings can indicate degraded output.

### Allowed values

You can enter one of these fixed values:

#### error

The transform writes messages to a trailer page when an error occurs. This option does not apply when **fail-on-transform-error=error** or **fail-on-transform-error=warning** because no output document is created when an error occurs.

#### no

The transform does not write messages to a trailer page.

#### warning

The transform writes messages to a trailer page when an error or warning occurs. This option does not apply when **fail-on-transform-error=warning** because no output document is created when an error or warning occurs.

**Note:** If the transform fails because of data stream errors or warnings, it does not create an output document. Therefore, to see a trailer page with error and warning messages, specify **fail-on-transform-error=no**.

### Default value

1. The value selected in the **Trailer error page** field in the printer definition for the printer.
2. The value in the AOP\_TRAILER\_ERROR\_PAGE environment variable for the transform.
3. The **warning** value.

## Transforming data with the AOPBATCH program

---

The following topic describes how to use the Infoprint Server AOPBATCH program to run the transform commands.

The AOPBATCH program lets you submit a batch job to transform data from AFP. Infoprint Server provides the AOPBATCH program in SYS1.LINKLIB.

### AOPBATCH parameters

The AOPBATCH parameters are the name of the transform command, followed by transform options and arguments, in this format:

```
EXEC PGM=AOPBATCH,PARM='/transform_name transform_options'
```

/

The optional slash indicates that the PARM data that follows is input to AOPBATCH. If you omit the initial slash, your PARM data will be interpreted as Language Environment® run-time options. You *must* include the initial slash if any of the PARM data itself includes a slash. For example, if the transform name is /mylib/afpxps, specify: PARM='/mylib/afpxps ...'.

### ***transform\_name***

The name of an executable transform program that resides in a z/OS UNIX file. The name of the transform program is case-sensitive. You can specify one of these command names: **afpxpcl**, **afpxpdf**, **afpxps**.

If the transform program does not reside in one of the directories specified in the PATH environment variable, also specify the path name. You can use the STDENV DD statement to set the PATH environment variable if the default value set by AOPBATCH is not suitable. For information about the defaults set for environment variables, see [“AOPBATCH DD statements”](#) on page 50.

### ***transform\_options***

Options and arguments accepted by the transform. For a description of each, see [“afpxpcl–Transform AFP data to PCL data”](#) on page 25, [“afpxpdf–Transform AFP data to PDF data”](#) on page 31, or [“afpxps–Transform AFP data to PostScript data”](#) on page 36.

You must specify the transform input data set or file as a transform argument, and you must specify the **-o** transform option to identify where you want the transform to write its output. (This is because the transform cannot write its output to standard output and cannot read input from standard input.) To identify the transform input and output data set or file, you can specify either a DD statement name or a data set or file name. You must specify a DD statement name if you want to write the transform output to an MVS data set that does not already exist.

Specify the names of DD statements to the transform in this format:

```
//DD:DDname
```

The name of the DD statement is *DDname*.

When you specify an MVS data set name in the **-o** option, code two slashes before the data set name and enclose the data set name in two sets of single quotation marks if you specify a fully qualified data set name. If you do *not* enclose the data set name in quotation marks, a high-level qualifier is added to the name you specify:

- If you are running under TSO (batch or interactive), the TSO user prefix is appended.
- If you are running under MVS batch or IMS (batch or online), the RACF user ID is appended.
- If your system does not use RACF, a high-level qualifier is not added.

For examples of different ways to specify transform input and output data sets and files, see [“AOPBATCH examples”](#) on page 51.

## **AOPBATCH DD statements**

The AOPBATCH JCL procedure accepts these standard DD statements:

### **STDENV**

Specifies environment variables for use by the transform. You can specify the environment variables in-stream in the JCL, in an MVS data set, or in a UNIX file. Specify the environment variables in the format *variable=value*, with one environment variable per line or record. Sequence numbers in columns 73 - 80 in data specified with the STDENV DD statement are ignored and *not* treated as part of the data.

If you omit the STDENV DD statement or do not specify one of the environment variables, AOPBATCH sets these default values, which are suitable for running Infoprint Server programs if your installation installed Infoprint Server files in the default directories:

```
PATH=/usr/lpp/Printsrv/bin:/bin:/usr/bin  
LIBPATH=/usr/lpp/Printsrv/lib:/lib:/usr/lib  
NLSPATH=/usr/lpp/Printsrv/%L/%N:/usr/lpp/Printsrv/En_US/%N:/usr/lib/nls/msg/%L/%N
```

AOPBATCH also sets the HOME environment variable to the user's home directory and sets the LOGIN variable to the user ID.

### **Note:**



1. To obtain MVS return codes (0, 4, 8) instead of the default UNIX exit values (0, 1), set the AOP\_MVS\_RETURN\_CODES=yes environment variable. For information, see [“AOP\\_MVS\\_RETURN\\_CODES environment variable” on page 63](#)
2. Do **not** specify the \_BPX\_SHAREAS environment variable. AOPBATCH sets it appropriately.

### STDERR

Specifies the system output data set where error messages are to be written. The data set can be an MVS data set or a UNIX file. The transforms do not write messages related to errors in the input data stream in this data set. Instead, the transforms write these messages at the end of the output document.

### STDOUT

Specifies the system output data set where informational messages are to be written. The data set can be an MVS data set or a UNIX file.

You can also include DD statements to specify MVS data sets that contain input data to be transformed, the transformed output, or job attributes that are input to the transform.

### Rules:

1. Do not use DD names STDIN, STDOUT, or STDERR to specify the transform input and output data sets. Instead, use other DD names, such as INPUT and OUTPUT, which are used in the example.
2. If you have not added the Language Environment run-time library (CEE.SCEERUN) or the C++ run-time library (CBC.SCLBDLL) to the system LNKLST, specify these data sets in a STEPLIB DD statement.
3. You can concatenate input data sets that have the same data format; for example, PostScript data or AFP data. However, you *cannot* concatenate data sets that contain PDF data.
4. If you want to write the output data stream to an MVS data set, allocate and catalog the data set before you run AOPBATCH, or include a DD statement in the AOPBATCH job to allocate the data set. Allocate a data set with these characteristics:
  - Record-format: VB
  - Record length: 32756 is recommended. If a record length other than 1024 is specified, change environment variable AOP\_MAX\_RECORD\_LENGTH to this new length.
  - Disposition: SHR or OLD overwrites any existing data in the data set; MOD appends the output to any existing data. MOD is the default.

The MVS output data set must be large enough to hold the output data stream. The size of the output data stream depends on the size and complexity of the document.

## AOPBATCH examples

These examples show how to use the AOPBATCH procedure to transform data. For additional AOPBATCH examples, see [z/OS Infoprint Server Operation and Administration](#).

### Transform an AFP MVS data set into a PDF file using AOPBATCH

This example shows how to use the AOPBATCH procedure to transform data.

The transform input is in an MVS data set and transform output is written to a UNIX file. The AFP to PDF transform reads the AFP input from data set HLQ.INPUT.AFP and writes PDF output to file /tmp/output.pdf.

```
//AOPBATCH JOB ...
//TRANSFORM EXEC PGM=AOPBATCH,PARM='afpxpdf -o /tmp/output.pdf -j "form
// -definition=F1CP0110" "'HLQ.INPUT.AFP''''
//STDOUT DD SYSOUT=*
//STDERR DD SYSOUT=*
AOP_MVS_RETURN_CODES=YES
```

## Transform and print data sets only if the transform is successful

This example shows how to transform data and print the output from the transform in a subsequent step only if no warnings or errors occur during the transform.

In the first step, the AFP to PostScript transform reads AFP input from data set HLQ.INPUT.AFP and writes PostScript output to data set HLQ.OUTPUT.PS, where HLQ represents the high-level qualifier.

The STDENV data set specifies the AOP\_MVS\_RETURN\_CODES environment variable. Because this variable is set to YES, the transform returns MVS return codes: 0 (successful), 4 (warning), 8 (failure).

In the second step, the AOPPRINT JCL procedure prints the PostScript output to the printer named mypsfprinter, which is defined in the Printer Inventory. This step runs only if the return code from the transform step is less than 4.

For information about AOPPRINT, see [\*z/OS Infoprint Server Operation and Administration\*](#).

```
//AOPBATCH JOB ...
//TRANSFRM EXEC PGM=AOPBATCH,PARM='/afpxps -o //DD:OUTPUT //DD:INPUT'
//INPUT DD DSN=HLQ.INPUT.AFP,DISP=SHR
//OUTPUT DD DSN=HLQ.OUTPUT.PS,DISP=(NEW,CATLG,DELETE),
// DCB=(RECFM=VBM,LRECL=32756,BLKSIZE=32760),SPACE=(CYL,(1,1))
//STDOUT DD SYSOUT=*
//STDERR DD SYSOUT=*
//STDENV DD *
AOP_MVS_RETURN_CODES=YES
/*
//PRINT EXEC AOPPRINT,PRINTER='myspfprinter',
// COND=(4,LT,TRANSFRM)
//SYSIN DD DSN=HLQ.OUTPUT.PS,DISP=SHR
```

## Continuing parameter fields in JCL

To continue a parameter field:

1. Interrupt the field after a complete parameter or subparameter, including the comma that follows it, at or before column 71.
2. Code // in columns 1 and 2 of the following statement.
3. Code a blank character in column 3 of the following statement.
4. Continue the interrupted parameter or field beginning in any column from 4 through 16.

To continue a parameter that is enclosed in apostrophes:

1. Extend the parameter to column 71. Do not code an apostrophe in column 71.
2. Code // in columns 1 and 2 of the following statement.
3. Continue the parameter in column 16 of the following statement even if this splits the parameter.

## AOPBATCH exit values

AOPBATCH returns one of these values:

### Value

Value	Meaning
<b>1</b>	An error occurred while AOPBATCH was trying to write to the STDOUT DD.
<b>2</b>	An error occurred while AOPBATCH was trying to write to the STDERR DD.
<b>4</b>	AOPBATCH could not spawn the process.
<b>nn</b>	The exit value from the transform command.

The transforms return either MVS return codes (0, 4, 8) or UNIX exit values (0, 1) depending on the value of the AOP\_MVS\_RETURN\_CODES environment variable. If the environment variable is not set, the transforms return UNIX exit values.

## Using JCL to transform and print AFP documents

The following topic describes the parameters on the DD and OUTPUT JCL statements that the transforms use. These JCL parameters apply to output data sets that Infoprint Server automatically transforms from AFP format to another format.

Many of these JCL parameters have corresponding job attributes. For example, the PAGEDDEF parameter of the OUTPUT JCL statement is equivalent to the **page-definition** job attribute. If both the JCL PAGEDDEF parameter and **page-definition** job attribute are specified, the job attribute takes precedence.

If you need to specify job attributes that do not have corresponding JCL parameters, you can specify them in the PRTATTRS parameter on the OUTPUT JCL statement.

Figure 3 on page 53 summarizes the JCL parameters. All parameters are optional.

For more information about JCL parameters, see [z/OS MVS JCL Reference](#).

### DD JCL Statement:

```
CHARS=(font_name1[,font_name2][,font_name3][,font_name4])
DCB
FCB=fc_name
UCS=font_name
```

### OUTPUT JCL Statement:

```
CHARS=(font_name1[,font_name2][,font_name3][,font_name4])
DUPLEX={NO | NORMAL | TUMBLE}
FCB=fc_name
FORMDEF=form_definition_name
INTRAY=nnn
OFFSETXB=nnnn[.mmm]unit
OFFSETXF=nnnn[.mmm]unit
OFFSETYB=nnnn[.mmm]unit
OFFSETYF=nnnn[.mmm]unit
OUTBIN=nnn
OVERLAYB=overlay_name
OVERLAYF=overlay_name
PAGEDDEF=page_definition_name
PRMODE={SOSI1 | SOSI2 | SOSI3 | SOSI4}
PRTATTRS='attribute=value ...'
TRC={YES | NO}
UCS=font_name
USERLIB=(library_name[,...])
USERPATH=(path_name)
```

Figure 3. Summary of JCL parameters

In most cases, transforms interpret the parameters in the same way as PSF for z/OS does, so that you can use the same JCL that you use when the output is printed on AFP printers that PSF controls. These parameters have different characteristics when used with these transforms:

- **CHARS:** If the page definition used to print the job is the system default page definition and the page definition specifies a font, the transforms do not use the font specified in the CHARS parameter. Instead, the transforms use the font in the page definition. PSF, on the other hand, uses the font specified in the CHARS parameter.
- **DCB=RECFM:** When transforming XML data, if the RECFM subparameter indicates that the data set contains carriage control characters, the transforms do not transform the first character of each record. PSF, on the other hand, ignores the RECFM subparameter and always prints the first character of each XML record. Typically, XML data sets do not contain carriage control characters. Therefore, when printing XML data, do not specify a record-format that indicates carriage controls.

The parameters you can specify are:

**CHARS=(font\_name1[,font\_name2][,font\_name3][,font\_name4])**

Specifies the 4-character name of the coded font that you want to use to print a data set that contains line data. You can specify up to four fonts.

**font\_name**

Specifies the name of a coded font (in a font library) containing 4 or fewer characters, not including the prefix.

**Tip:** Some coded fonts have 6-character names, not counting the prefix. For these coded fonts and for the 4-character alternate coded font name, see [z/OS Font Collection](#), [IBM AFP Fonts: Font Summary for AFP Font Collection](#), or both.

When you uses CHARS to specify the coded-font name, do not include the 2-character prefix of the member name (X0 through XG).

Coded fonts that can be used with the CHARS parameter are supplied with the IBM AFP Font Collection. The fonts you specify must reside in a font library assigned to the transform in the transform configuration file or in a user library specified with the USERLIB JCL parameter, or else they must be inline with the data set. For details about available fonts and the naming conventions, see [z/OS Font Collection](#), [IBM AFP Fonts: Font Summary for AFP Font Collection](#), or both.

If you specify more than one font with the JCL CHARS parameter, you must use the TRC parameter to tell these transforms which font to use for each line of data.

If the page definition specifies fonts, the transforms ignore the CHARS parameter.

**Default:** The transforms use the first value found in this order:

1. The font specified in the page definition.
2. The font specified in the UCS JCL parameter.
3. The font specified in the printer definition.
4. The default page definition if IP PrintWay basic mode processes the data set. However, JES does not provide a default page definition if you use IP PrintWay extended mode or the Print Interface subsystem.
5. The font specified in the Infoprint Server transform configuration file.
6. Font X060D9.

**Examples:**

1. 

```
//DD1 DD CHARS=(GT10,GT12)
```
2. 

```
//OUTDS OUTPUT CHARS=(GT10,GT12)
```

**DCB**

**RECFM**

Specifies the record-format of the data set, including whether the data set contains carriage control characters.

**OPTCD=J**

Specifies whether the print data set contains table reference characters (TRCs). This is the same as **TRC=YES**. For more information, see the TRC parameter in [“TRC={YES|NO}”](#) on page 60.

**DUPLEX={NO | NORMAL | TUMBLE}**

Specifies whether printing is to be done on both sides of each sheet.

**NO**

The job is printed only on the front side of each sheet.

**NORMAL**

The job is printed on both sides of the sheet so that the top of side 1 is the top of side 2 (for side binding).

**TUMBLE**

The job is printed on both sides of the sheet so that the top of side 1 is the bottom of side 2 (for top binding).

**Tip:** The administrator can limit the value that you can specify in this parameter. If you specify a value that is not allowed, the data set might not print.

**Default:** The transforms use the first value found in this order:

1. The duplex option specified in the printer definition
2. The duplex option specified in the form definition

**Example:** //OUTDS OUTPUT DUPLEX=NORMAL

**FCB=*fc\_name***

Specifies the 1 to 4 character name of the page definition. The transforms add the prefix P1 to the FCB name you specify. Therefore, do not specify the prefix P1.

You can also specify the name of the page definition in the PAGEDEF parameter. If you specify both the FCB and the PAGEDEF parameters, the transforms ignore the FCB parameter. For more information, see the PAGEDEF parameter.

**FORMDEF=*form\_definition\_name***

Specifies the name (from 1 to 6 alphanumeric or national characters) of the form definition you want to use. Omit the system prefix, F1, from the name. These transforms add F1 to the name you specify.

You can store the form definition that you use in any of these places:

- In a system library assigned to these transforms
- In a user library referred to in the printer definition
- In a user library referred to in your JCL
- Inline in the print data set

**Using form definitions from a user library**

You can instruct these transforms to select a form definition from your user library rather than from a system library assigned to these transforms. To use a form definition from a user library:

- Refer to the user library containing the form definition in your JCL. For details, see the USERLIB parameter.
- Specify the name of the form definition in the JCL FORMDEF parameter.

**Using inline form definitions**

To use an inline form definition:

- Include the inline form definition in the print data set.
- If you specify the FORMDEF parameter, make sure that the name of the inline form definition matches the form definition name that you specified, or else specify FORMDEF=DUMMY. If you do not specify the FORMDEF parameter, these transforms select the first inline form definition in the print data set.
- Make sure that the data set is identified as containing carriage control characters.

You can include more than one inline form definition in a print data set, and you can change the form definition name in the JCL for different printing jobs to test different form definitions. If the name of an inline form definition does not match the FORMDEF name specified in the JCL, these transforms use the form definition from the resource library that matches the name in the JCL.

**Default:** The transforms use the first value found in this order:

1. The form definition specified in the printer definition
2. The first inline form definition

3. The form definition specified in the Infoprint Server transform configuration file
4. Form definition F1CP0111

**Example:** To specify F1USER10 as the form definition, enter:

```
//OUTDS OUTPUT FORMDEF=USER10
```

### **INTRAY=nnn**

Specifies the 1 to 3 decimal digit number from 1 to 255 that identifies the tray from which paper is to be selected. These transforms map this tray number to the tray number of the PCL or PostScript printer, using tray-mapping values specified by the administrator in the transform configuration file. For more information about tray mapping, see the "input-tray-number" in *z/OS Infoprint Server User's Guide*.

**Default:** The transforms use the first value found in this order:

1. The input tray specified in the printer definition
2. The input tray selected in the AFP data stream
3. The input tray specified in the form definition
4. Tray 1

**Example:** //OUTDS OUTPUT INTRAY=4

### **OFFSETXB=nnnn[.mmm]unit**

Specifies the X offset of the logical page origin to the right of the physical page origin on the back side of a double-sided sheet.

For unit, specify one of these units:

#### **Unit**

#### **Meaning**

#### **IN**

Specifies a unit of inches

#### **CM**

Specifies a unit of centimeters

#### **MM**

Specifies a unit of millimeters

#### **PELS**

Specifies a unit of picture elements (1/240 inch)

#### **POINTS**

Specifies a unit of points (1/72 inch)

**Note:** If you specify the unit as PELS or POINTS, you must specify the value as a whole number with no decimal point.

**Default:** The transforms use the first value found in this order:

1. The offset specified in the printer definition
2. The offset specified in the form definition

### **OFFSETXF=nnnn[.mmm]unit**

Specifies the X offset of the logical page origin to the right of the physical page origin on the front of the sheet.

For unit, specify one of these:

#### **IN**

Specifies a unit of inches

#### **CM**

Specifies a unit of centimeters

**MM**

Specifies a unit of millimeters

**PELS**

Specifies a unit of picture elements (1/240 inch)

**POINTS**

Specifies a unit of points (1/72 inch)

**Note:** If you specify the unit as PELS or POINTS, you must specify the value as a whole number with no decimal point.

**Default:** The transforms use the first value found in this order:

1. The offset specified in the printer definition
2. The offset specified in the form definition

**OFFSETYB=nnnn[.mmm]unit**

Specifies the Y offset of the logical page origin below the physical page origin on the back side of a double-sided sheet.

For unit, specify one of these:

**IN**

Specifies a unit of inches

**CM**

Specifies a unit of centimeters

**MM**

Specifies a unit of millimeters

**PELS**

Specifies a unit of picture elements (1/240 inch)

**POINTS**

Specifies a unit of points (1/72 inch)

**Note:** If you specify the unit as PELS or POINTS, you must specify the value as a whole number with no decimal point.

**Default:** The transforms use the first value found in this order:

1. The offset specified in the printer definition
2. The offset specified in the form definition

**OFFSETYF=nnnn[.mmm]unit**

Specifies the offset in the Y direction of the logical page origin below the physical page origin on the front of the sheet.

For unit, specify one of these:

**IN**

Specifies a unit of inches

**CM**

Specifies a unit of centimeters

**MM**

Specifies a unit of millimeters

**PELS**

Specifies a unit of picture elements (1/240 inch)

**POINTS**

Specifies a unit of points (1/72 inch)

**Note:** If you specify the unit as PELS or POINTS, you must specify the value as a whole number with no decimal point.

**Default:** The transforms use the first value found in this order:

1. The offset specified in the printer definition
2. The offset specified in the form definition

**Example:** This example sets the page origin to .5 inches, 1.1 inches on the front side, and 1.5 inches, 1.1 inches on the back side:

```
//OUTDS OUTPUT OFFSETXF=0.5IN,OFFSETYF=1.1IN,  
//                OFFSETXB=1.5IN,OFFSETYB=1.1IN
```

### **OUTBIN=nnn**

Specifies the 1 to 3 decimal digit identifier of the output bin that Infoprint Server places a print job. If the printer does not support the selection of an output bin, the job is stacked in the default output bin for the printer.

When you print on a PCL or PostScript printer, instead of on an AFP printer, specify the output bin number of the PCL or PostScript printer. The value you specify for this parameter overrides any output bin that the form definition specifies.

**Default:** The transforms use the first value found in this order:

1. The output bin specified in the printer definition
2. The output bin selected in the AFP data stream
3. The output bin specified in the form definition

**Example:** //OUTDS OUTPUT OUTBIN=4

### **OVERLAYB=overlay\_name**

Specifies the member name (from 3 to 10 alphanumeric or national characters) of a medium overlay to be placed on the back side of each sheet in a two-sided job, in addition to overlays from other sources. Specify the complete name of the overlay member because these transforms do not add an O1 prefix.

**Default:** The transforms use the first value found in this order:

1. The overlay specified in the printer definition
2. The overlay specified in the form definition

### **OVERLAYF=overlay\_name**

Specifies the member name (from 3 to 10 alphanumeric or national characters) of a medium overlay to be placed on the front side of each sheet, in addition to overlays from other sources. Specify the complete name of the overlay member because these transforms do not add an O1 prefix.

**Default:** The transforms use the first value found in this order:

1. The overlay specified in the printer definition
2. The overlay specified in the form definition

**Example:** This example requests overlay O1FOVLY be placed on the front side of each sheet and overlay O1BOVLY be placed on the back side of each sheet:

```
//OUTDS OUTPUT OVERLAYF=O1FOVLY,OVERLAYB=O1BOVLY
```

### **PAGEDEF=page\_definition\_name**

Specifies the name (from 1 to 6 alphanumeric or national characters) of the page definition you want to use. When you specify the name in the JCL, omit the system prefix, P1. These transforms add it automatically.

If a PAGEDEF parameter is not coded in your JCL, these transforms use the page definition specified in the printer definition. If no page definition is specified in the printer definition, these transforms use the page definition in the Infoprint Server transform configuration file.

You can store the page definition that you use in any of these places:



- In a system library assigned to these transforms
- In a user library referred to in the printer definition
- In a user library referred to in your JCL
- Inline in the print data set

### Using page definitions from a user library

You can instruct these transforms to select a page definition from your user library rather than from a system library assigned to these transforms. To use a page definition from a user library:

- Include in your JCL a reference to the user library that contains the page definition.
- Specify the name of the page definition in the JCL PAGEDEF parameter of your JCL.

### Using inline page definitions

To use an inline page definition:

- Include the inline page definition in the print data set.
- If you specify the PAGEDEF parameter, make sure that the name of the inline page definition matches the name of the page definition name that you specified, or else specify PAGEDEF=DUMMY.
- If you do not specify the PAGEDEF parameter, these transforms select the first inline page definition in the print data set, unless a JES default page definition exists.
- If a page definition resource is included inline with the data, make sure to identify the data set as containing carriage control characters.

You can include more than one inline page definition in a print data set, and you can change the page definition name in the JCL on different printing jobs to test different page definitions. If, however, the name of an inline page definition does not match the PAGEDEF name specified in the JCL, these transforms use the page definition from the resource library that matches the name in the JCL.

**Default:** The transforms use the first value found in this order:

1. The page definition specified in the PAGEDEF parameter unless DUMMY is specified.
2. The page definition specified in the FCB parameter.
3. The page definition specified in the printer definition.
4. The FCB value specified in the printer definition.
5. The default page definition if IP PrintWay basic mode processes the data set. However, JES does not provide a default page definition if you use IP PrintWay extended mode or the Print Interface subsystem.
6. The first inline page definition.
7. The page definition specified in the Infoprint Server transform configuration file.
8. Page definition P1P08682.

**Example:** In this example, P1USER10 is the page definition name:

```
//OUTDS OUTPUT PAGEDEF=USER10
```

### PRMODE={SOSI1| SOSI2 | SOSI3 | SOSI4}

Specifies the type of data in the print data set and whether these transforms must do optional processing of the data.

**Note:** Only SOSI1, SOSI2, SOSI3 and SOSI4 are supported values; all other values are ignored.

#### SOSI1

Specifies that each shift-out, shift-in code is converted to a blank and a Set Coded Font Local text control.

#### SOSI2

Specifies that each shift-out, shift-in code is converted to a Set Coded Font Local text control.

### SOSI3

Specifies that the shift-in code is converted to a Set Coded Font Local text control and two blanks. A shift-out code is converted to a Set Coded Font Local text control.

### SOSI4

Specifies that each shift-out, shift-in code is converted to a Set Coded Font Local text control. SOSI characters are not counted when computing the PAGEDEF FIELD offsets.

JES uses values in the PRMODE parameter for job routing. These transforms ignore all values except SOSI1, SOSI2, SOSI3, and SOSI4, which they use to format data sets that contain both single-byte and double-byte fonts.

When you use the SOSI process, remember that:

- For the process to work correctly, you must specify two fonts in the CHARS parameter or in a page definition font list. The first font must be the single-byte font, and the second font must be the double-byte font.
- IBM recommends that you do not mix SOSI codes and TRCs in the same job.

#### Default:

1. If the Print Interface subsystem processes the data set, the value in the printer definition is used. If none is specified in the printer definition, JES provides a default value. However, the transforms do not use the JES default value.
2. If the Print Interface subsystem does not process the data set, JES provides a default value.

**Example:** //OUTDS OUTPUT CHARS=(font\_name1,font\_name2),PRMODE=SOSI1

### PRATTRS='attribute=value ...'

Specifies one or more Infoprint Server job attributes.

#### Rules:

1. The list of job attributes can be 1-127 characters.
2. Attribute names and values are case-sensitive. All attribute names are lowercase.
3. Enclose the entire list of job attributes in single quotation marks.
4. Separate job attributes with one or more spaces.
5. If an attribute value contains blanks, lowercase letters, or special characters, enclose that attribute value in double quotation marks.
6. You can store attributes and values in a UNIX file (for example, a zFS file) or in an MVS data set. Use the job attribute called **attributes** to specify the UNIX file name of the DD name for the MVS data set that contains the attributes.

**Example:** //OUTDS OUTPUT PRATTRS='trailer-transform-error-page=no'

### TRC={YES|NO}

Specifies whether the print data set contains table reference characters (TRCs). This is the same as the DCB=OPTCD=J parameter.

In line data, you can use different fonts on different lines of a file by specifying TRCs at the beginning of each line after the carriage control characters, if any are present.

#### Examples:

1. //OUTDS OUTPUT CHARS=(GT10,GT12),TRC=YES
2. //DD2 DD CHARS=(GT10,GT12),DCB=OPTCD=J

When you use table reference characters, remember that:

- If the TRC=YES and the page definition does not identify fonts, you must specify fonts with the CHARS parameter.

- The order in which the fonts are specified in the CHARS parameter establishes which number is assigned to each associated TRC. For example, the TRCs for the fonts in the preceding example are zero for *font\_name1* and one for *font\_name2*.
- If you do not specify TRC=YES, but your line data contains a TRC as the first character of each line (or the second character if carriage control characters are used), the TRC is not used as a font identifier, but is printed as a text character.

### **UCS=font\_name**

Serves as another way to select a font. When a CHARS parameter is not specified, you can specify the universal character set (UCS) parameter to select one font. If the page definition specifies a font, the UCS parameter is ignored.

**Example:** //DD1 DD UCS=GT10

### **USERLIB=(library\_name,...)**

Specifies the name of 1 to 8 cataloged MVS data sets (user libraries) containing AFP resources for processing the data set. The transforms dynamically allocate these data sets and search for resources in them in the order specified on the USERLIB statement. If the transforms find no resources, they search the system libraries defined in the Infoprint Server transform configuration file. The libraries you specify can contain any AFP resources: fonts, page segments, overlays, page definitions, form definitions, or object container resources.

#### **Note:**

1. The user who starts the Infoprint Server daemons must have RACF authorization to read the AFP user resource libraries. For more information, see [“Setting up security for AFP resource libraries” on page 127](#).
2. If Infoprint Server uses the IP PrintWay basic mode resubmit for filtering function to transform data from AFP format to PCL, PostScript, or PDF format, the AFP user resource libraries must have universal read access. This is because the resubmit for filtering function does not, by default, use the job submitters' user ID to check RACF authorization to the AFP user resource libraries. If you do not want to grant universal read access to the AFP user resource libraries, use one of these methods to transform and print the data set because these methods do not use the resubmit for filtering function:
  - Print Interface subsystem
  - AOPPRINT JCL procedure
  - z/OS UNIX lp command
3. If you must use the IP PrintWay basic mode resubmit for filtering function, your administrator can set the AOPRESUBMITUSER environment variable to let the resubmit for filtering function use the job submitter's user ID to check RACF authorization. However, IBM recommends that you do not use the AOPRESUBMITUSER environment variable. For information about the AOPRESUBMITUSER variable, see [z/OS Infoprint Server Customization](#).

**Default:** The transforms use the first value found in this order:

1. Resource libraries specified in the printer definition
2. Resource libraries specified in the Infoprint Server transform configuration file or, if no library is specified, a hard-coded default resource library

**Example:** In this example, the USERLIB parameter tells the transforms to search the libraries specified for AFP resources.

```
//OUTDS OUTPUT USERLIB=(USER.IMAGES,USER.AFP.RESOURCES)
```

### **USERPATH=(path\_name,...)**

Specifies one to eight z/OS UNIX file paths containing AFP resources for processing the data set. The path specified on the USERPATH parameter can contain the following resources:

- TrueType fonts
- OpenType fonts

- Resource access table (RAT)
- WorldType fonts

**Example:** // USERPATH=(/usr/fonts/ttfonts)

## Examples -- Using JCL to transform AFP documents

The following examples show the JCL that you can use to transform AFP documents to:

- PCL format and print the PCL documents
- PDF format and send the PDF documents in an email
- PDF format and specify the encryption job attributes.

### Transform an AFP document to PCL format and print it

This example shows how to transform an AFP document to PCL format and print the transformed output on a PCL printer. It assumes that:

- Printer definition pc11 exists in the Infoprint Server Printer Inventory with these characteristics:
  - The IP PrintWay LPR, direct-sockets, or IPP protocol is selected.
  - The AFP to PCL transform is specified.
- IP PrintWay prints output data sets in JES output class P.

```
//PCLJOB JOB ...
//STEP1 EXEC PGM=USERA
//OUTDS1 OUTPUT CLASS=P,FSSDATA='printer=pc11',
//      FORMDEF=MYDEF,USERLIB=USERX.MYLIB
//DD1 DD SYSOUT=(,),OUTPUT=*.OUTDS1,DSNAME=&&MYFILE
```

### Transform an AFP document to PDF format and send it in an email

This example shows how to transform an AFP document to PDF format and send it to an email address. This example shows how to specify JCL parameters for sending the document in an email (MAILTO, MAILFROM, REPLYTO, and MAILFILE). For information about these JCL parameters, see [z/OS Infoprint Server Operation and Administration](#).

This example assumes that:

- Printer definition mail exists in the Infoprint Server Printer Inventory with these characteristics:
  - The email protocol is selected.
  - The AFP to PDF transform is specified.
  - (Optional) A PDF user identifier, owner identifier, and protected actions are specified. If a user or owner identifier is specified, the AFP to PDF transform encrypts the PDF document and restricts any protected actions.
- IP PrintWay prints output data sets in JES output class P.

```
//MAILJOB JOB ...
//STEP1 EXEC PGM=USERA
//OUTDS1 OUTPUT CLASS=P,FSSDATA='printer=mail',
//      FORMDEF=MYDEF,MAILTO='user@xyz.com',
//      MAILFROM='John Sender',REPLYTO='secretary@xyz.com',
//      MAILFILE='July report',TITLE='Monthly Report'
//DD1 DD SYSOUT=(,),OUTPUT=*.OUTDS1
```

### Transform an AFP document to PDF format, specifying encryption job attributes

This example shows how to transform an AFP document to PDF format and mail it to an email address using the Print Interface subsystem. The Print Interface subsystem lets you specify job attributes that you cannot specify in JCL parameters, such as the job attributes used to encrypt PDF documents.

This example shows how to specify:

- The SUBSYS JCL parameter, with job attributes used to encrypt the PDF document (**pdf-owner-identifier**, **pdf-user-identifier**, **pdf-protect**)
- JCL parameters used to send the PDF document in an email (MAILTO, MAILFROM, REPLYTO, MAILFILE, TITLE)

For information about these JCL parameters, see [z/OS Infoprint Server Operation and Administration](#).

This example assumes that:

- Printer definition mail exists in the Infoprint Server Printer Inventory with these characteristics:
  - The email protocol is selected.
  - The AFP to PDF transform is specified.
- The name of the Print Interface subsystem is AOP1.

```
//SUBSJOB JOB ...
//STEP1 EXEC PGM=IEBGENER
//OUTDS1 OUTPUT FORMDEF=MYDEF,MAILTO='CEO@xyz.com',
// MAILFROM='John Sender',REPLYTO='secretary@xyz.com',
// MAILFILE='July report',TITLE='Monthly Report'
//SYSUT2 DD SUBSYS=(AOP1,'mail','pdf-owner-identifier=john pdf-user-i
// identifier=ceo pdf-protect={copy update}'),
// OUTPUT=* .OUTDS1
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD DISP=SHR,DSN=USERX.DATA(JULY)
```

**Tip:** The SYSUT2 DD statement shows how to continue a value within quotation marks on the next line. To continue the value, end typing in column 71 and continue typing the value in column 16 of the next line.

## AOP\_MVS\_RETURN\_CODES environment variable

The AOP\_MVS\_RETURN\_CODES environment variable determines whether the transform command returns MVS return codes (0, 4, 8) instead of UNIX exit values (0, 1). With MVS return codes, you can determine whether a warning or error occurred during the transform.

MVS return codes are useful when you use the AOPBATCH JCL procedure to run a transform. Any subsequent step in the job runs only if the transform step was successful.

### AOP\_MVS\_RETURN\_CODES

Specifies whether the **afpxpc1**, **afpxpdf**, and **afpxps** commands return MVS return codes or UNIX exit values:

#### Value

#### Meaning

#### YES

MVS return codes:

**0**

Successful.

**4**

A warning occurred during the transform.

**8**

The command was not accepted, a data stream error occurred during the transform, or the transform failed.

#### NO

UNIX exit values:

**0**

Successful. However, there might still be a warning or data stream error that occurred during the transform.

**1**

The command was not accepted, or the transform failed.

**Note:**

1. Specify this environment variable before the command on the z/OS UNIX command line. You can also specify this variable in the \$HOME/.profile file (if you use the /bin/sh shell) or the \$HOME/.tcshrc file (if you use the /bin/tcsh shell).
2. If you use the AOPPRINT JCL procedure, specify this environment variable in the STDENV data set of the procedure. AOPPRINT runs the **lp** command and returns the code from the **lp** command.
3. If you use the AOPBATCH JCL procedure to run a transform command, specify this environment variable in the STDENV data set of the procedure. AOPBATCH returns the code from the transform command.
4. Do not specify this environment variable in the transform entry in the Infoprint Server transform configuration file, **aopxfd.conf**.
5. You can specify the value by using lowercase or uppercase letters (for example, no or NO).

**Default:** NO

**Example:** AOP\_MVS\_RETURN\_CODES=YES

Table 11 on page 64 explains the transform exit values when the AOP\_FAIL\_ON\_ERROR and AOP\_MVS\_RETURN\_CODES environment variables are set and the transform is successful, a warning occurs, or a data stream error occurs. (The **Fail on error** field, in the printer definition, and the **fail-on-transform-error** job attribute provide equivalent function to the AOP\_FAIL\_ON\_ERROR environment variable.)

AOP_FAIL_ON_ERROR	AOP_MVS_RETURN_CODES=YES	AOP_MVS_RETURN_CODES=NO
NO	Successful: 0 Warning: 4 Error: 8	Successful: 0 Warning: 0 Error: 0
ERROR	Successful: 0 Warning: 4 Error: 8	Successful: 0 Warning: 0 Error: 1
WARNING	Successful: 0 Warning: 8 Error: 8	Successful: 0 Warning: 1 Error: 1

## Chapter 3. Customizing transforms

The following topics describes how to customize the transforms.

- [“Customizing the AFP to PCL transform” on page 65](#)
- [“Customizing the AFP to PDF transform” on page 84](#)
- [“Customizing the AFP to PostScript transform” on page 112](#)
- [“Setting up security for AFP resource libraries” on page 127](#)
- [“Setting up security for AFP user path directories” on page 128](#)
- [“Starting Infoprint Server with sufficient memory” on page 129](#)
- [“Mapping raster fonts to outline fonts” on page 130](#)
- [“Using TrueType, OpenType, and WoldType fonts” on page 133](#)
- [“Paper names” on page 134](#)
- [“Customizing paper sizes using the paper stock table \(AFP to PCL transform\)” on page 135](#)
- [“Creating custom paper names and sizes” on page 136](#)

### Customizing the AFP to PCL transform

To customize the AFP to PCL transform, do the tasks listed in Table 12 on page 65. Required tasks are required by all installations. Optional tasks are required only if the listed condition applies to your installation.

Task	Condition	Reference
<a href="#">“Specifying transform options” on page 65</a>	Required	<a href="#">“Specifying transform options” on page 65</a>
<a href="#">“Setting up security for AFP resource libraries” on page 127</a>	Required	<a href="#">“Setting up security for AFP resource libraries” on page 127</a>
<a href="#">“Starting Infoprint Server with sufficient memory” on page 129</a>	Required	<a href="#">“Starting Infoprint Server with sufficient memory” on page 129</a>
<a href="#">“Installing and configuring the XML Toolkit” on page 129</a>	Optional: To transform XML input	<a href="#">“Installing and configuring the XML Toolkit” on page 129</a>

#### Specifying transform options

You must create at least one transform entry in the Infoprint Server transform configuration file (**aopxfd.conf**) for the AFP to PCL transform. In the transform entry, you can specify the following options.

- Environment variables that control the transform
- Attributes that control how the Infoprint Server Transform Manager manages the transform

For information about how to create and edit the Infoprint Server transform configuration file, see [Creating the remote transform configuration file \(aoprxf.conf\) in z/OS Infoprint Server Customization](#). After you update the transform configuration file, you must restart the Infoprint Server Transform Manager.

**Tip:** After the Transform Manager starts, check for error messages in the transform's **stderr** file or in the Infoprint Server common message log if the common message log is enabled in Infoprint Server. If you find any error messages, fix the errors and restart the Transform Manager. For more information about how to find the transform message logs, see [“Finding the transform stderr file”](#) on page 159.

## Transform classes

If you want to specify different transform options for different printers, you can create different classes of the AFP to PCL transform. For example, you might create classes for printers that print on different paper sizes.

For each transform class, you must create a separate transform entry. You select a name for the transform class in the transform entry (see the **transform** attribute).

To use a transform class, job submitters must specify the class name as an option (-c) on the **afpxpcl** transform command or in the filter-options job attribute. Administrators must specify the class name as a filter option (-c) in the printer definition. For example, these z/OS UNIX commands use the "eu" transform class:

```
afpxpcl -c eu -o myfile.pcl myfile.afp
lp -d myprinter -o "filter-options='-c eu'" myfile.afp
```

**Tip:** The sample transform configuration file, `/usr/lpp/IBM/PrintXform/V1R2/samples/aopxfd.afpx.conf` shows examples of transform entries with different transform classes. Also, see [“Examples: Transform configuration file entries for the AFP to PCL transform”](#) on page 83.

## Default AFP resources

AFP resources are collections of data and control information that the transforms use to create PCL documents. You can specify default AFP resources (such as a default font, form definition, and page definition) in the transform configuration file and in printer definitions. AFP resources specified in a printer definition override default resources specified in the transform entry. If only a few printers use different default AFP resources, you might want to specify these default AFP resources in the printer definitions.

In most situations, you should specify the same default AFP resources that your AFP printers use. These default resources are specified either in the PSF startup procedures (in the PRINTDEV statements) or, if PSF is configured to obtain PRINTDEV values from the Printer Inventory, in the PSF functional subsystem application (FSA) definitions in the Printer Inventory.

Use these environment variables to specify default AFP resources in the transform configuration file:

- AOP\_CHARS: The default font used for transform error messages and for line data and AFP data that does not specify another font.
- AOP\_FORMDEF: The default form definition used when no other form definition is specified.
- AOP\_PAGDEF: The default page definition used when no other page definition is specified.

## Search hierarchy for form definitions

The transform uses the following hierarchy to select the name of the form definition:

1. The form definition specified in the **form-definition** job attribute.
2. The form definition specified in the **FORMDEF** JCL parameter.
3. The form definition specified in the **Form definition** field in the printer definition.
4. The first inline form definition.
5. The form definition specified in the AOP\_FORMDEF environment variable in the transform configuration file.
6. Form definition F1CP0111 is the default that is coded in the transform.

## Tips:

1. If form definition name **dummy** is specified, the transform uses the first inline form definition.



2. After the transform determines the name of the form definition, the transform first searches for the form definition inline in the data set, and then searches in the user and system resource libraries.

### ***Search hierarchy for page definitions***

The transform uses the following hierarchy to select the name of the page definition:

1. The page definition specified in the **page-definition** job attribute or the **PAGEDEF** or **FCB** JCL parameter. (The **PAGEDEF** parameter overrides the **FCB** parameter and the **page-definition** job attribute overrides both.)
2. The default page definition supplied by JES to IP PrintWay basic mode. (See Tips.)
3. The page definition specified in the **Page definition** field in the printer definition.
4. The first inline page definition.
5. The page definition specified in the AOP\_PAGEDEF environment variable in the transform configuration file.
6. Page definition P1P08682 is the default that is coded in the transform.

### **Tips:**

1. If page definition name **dummy** is specified, the transform uses the first inline page definition.
2. After the transform determines the name of the page definition, the transform first searches for the page definition inline in the data set, and then searches in the user and system resource libraries.
3. JES supplies a default page definition for batch jobs submitted to IP PrintWay basic mode with OUTPUT and DD JCL statements. If you want to use the default page definition specified in the transform configuration file, you can request that JES not supply a default page definition to the IP PrintWay basic mode FSA. For more information about the JES initialization parameters to do this, see [z/OS Infoprint Server Customization](#).

### ***Search hierarchy for the default font***

The transform uses the following hierarchy to select a font for line data and AFP data that does not specify a font.

1. The font named in the page definition.
2. The font specified in the **chars** job attribute or the **CHARS** or **UCS** JCL parameter. (The **CHARS** JCL parameter overrides the **UCS** parameter.)
3. The default font supplied by JES to IP PrintWay basic mode. (See Tip.)
4. The font specified in the **Character set** field in the printer definition.
5. The font specified in the AOP\_CHARS environment variable in the transform configuration file. The transform prefixes "X0" to the font named in the variable if you do not specify a prefix.
6. Font X060D9 is the default that is coded in the transform.

**Note:** If the page definition specifies a font ID of X'FF', which indicates to use the presentation system default, the transform uses a font value of character set C0D0GT10 and code page T1D0BASE. The transform also uses the same font in some error situations.

**Tip:** JES supplies a default font for jobs submitted to IP PrintWay basic mode with OUTPUT and DD JCL statements. If you want to use the default font specified in the transform configuration file, you can request that JES not supply a default font to the IP PrintWay basic mode functional subsystem application (FSA). For more information about the JES initialization parameters to do this, see [z/OS Infoprint Server Customization](#).

### ***Search hierarchy for the message font***

The transform uses the following hierarchy to select a font used for transform error messages:

1. The font named in the page definition specified in the AOP\_MSGPAGEDEF environment variable.
2. The font specified in the AOP\_CHARS environment variable in the transform configuration file. The transform prefixes X0 to the font named in the variable if you do not specify a prefix.

3. Font X060D9 is the default that is coded in the transform.

### AFP system resource libraries

In the transform entry, you can specify 1 to 8 or more AFP system resource libraries for fonts, page definitions, form definitions, page segments, and overlays. You can specify from 1 to 8 AFP user resource libraries in printer definitions.

In most situations, you should specify the same AFP system resource libraries in the transform configuration file as you currently specify in your PSF startup procedures. If only a few printers require different resource libraries, you can specify those libraries in the printer definitions for the printers.

Use the following environment variables to specify system resource libraries in the transform configuration file:

- AOP\_FONTLIB: The names of 1 to 8 or more system font libraries.
- AOP\_FORMDEFLIB: The names of 1 to 8 or more system form definition libraries.
- AOP\_OVERLAYLIB: The names of 1 to 8 or more system overlay libraries.
- AOP\_PAGEDEFLIB: The names of 1 to 8 or more system page definition libraries.
- AOP\_PAGESEGLIB: The names of 1 to 8 or more system page segment libraries.

AFP user resource libraries can be specified in job attributes, JCL parameters, environment variables, and in the printer definition.

**Note:** The libraries listed in the environment variables are treated as permanent resources and a shared lock is held to prevent deletion of the libraries while they are in use. The transforms obtain a shared lock for the system resources for the life of the transform daemon. The lock occurs when the first transform is executed for a given class and lasts for the life of the transform daemon (**maximum-idle-time after completion of last transform execution**).

The lock is intended to help improve transform performance for subsequent transform invocations. You can specify as many resource libraries as your system allows. Use only the required set of libraries needed. Additional resource libraries, beyond the initial eight, result in non-linear increase of I/O and CPU resource consumption.

The transforms use the following hierarchy when searching AFP resource libraries:

1. User resource libraries specified in the **resource-library** job attribute or the **USERLIB** JCL parameter.
2. Default user resource libraries specified in the **Resource library** field in the printer definition. These libraries are searched only when the job submitter does not specify any user resource libraries (see step 1).
3. System resource libraries specified in environment variables in the transform configuration file.
4. Default system resource libraries that are hard-coded in the transform. These libraries are searched only if no system resource libraries are specified in the transform configuration file (in step 3).

### AFP system resource directories

In the transform entry, you can specify from one to eight UNIX file resource path directories that contain TrueType, OpenType, and WorldType fonts. The directory path can be up to 255 characters. The fonts must be installed in each directory with a resource installer that builds a resource access table (RAT) to describe the fonts in that directory. You can also specify the resource directories in printer definitions.

In most situations, you can specify the same AFP resource directories in the transform configuration file as you currently specify in your PSF startup procedures. If only a few printers require different resource directories, you can specify those directories in the printer definitions for the printers.

Use the AOP\_FONTPATH environment variable to specify the resource directories in the transform configuration file.

AFP user resource directories can be specified in job attributes, JCL parameters, environment variables, and in the printer definition.

The transform uses the following hierarchy when it searches AFP resource directories:

1. User resource directories that are specified in the **resource-directories** job attribute or USERPATH JCL parameter.
2. Default user resource directories that are specified in the **Resource directories** field in the printer definition. These directories are searched only when the job submitter does not specify any user resource directories (see step 1).
3. Resource directories that are specified in the AOP\_FONTPATH environment variable in the transform configuration file.
4. Default resource directory that is hardcoded in the transform, which is /usr/lpp/fonts/worldtype. This directory is searched only if no resource directories are specified in the transform configuration file (see step 3).

### Format of an AFP to PCL transform entry

The format of an AFP to PCL transform entry in the transform configuration file (**aopxfd.conf**) is:

```
transform afpxpcl[_transformclass]
  start-command = afpxpcld [-n | -l]
  [ environment = {name -> value [ name -> value]... } ]
  [ maximum-active = number ]
  [ maximum-idle-time = seconds ]
  [ minimum-active = number ]
  ;
```

#### transform afpxpcl[\_transformclass]

This statement indicates the beginning of a transform entry.

#### afpxpcl

The name of the transform.

#### transformclass

The name of an optional transform class. Specify from 1 to 55 characters, including letters, numbers, or special characters. The name of the transform class is case-sensitive.

**Default:** No transform class.

**Example:** transform afpxpcl\_us

#### start-command = afpxpcld [-n | -l]

The name of the transform daemon. If the transform daemon is not in a directory identified in the PATH environment variable specified in the **aopstart** EXEC, specify the full directory path name of the daemon. This attribute is required. (The **afpxpcld** daemon is installed in **/usr/lpp/IBM/PrintXform/V1R2/AFPxPCL/bin**.)

#### -n OR parameter not specified

This option disables any job information from being logged to the stderr file. The transform attempts to write job information only when data stream errors are generated. Otherwise, no messages are written to the stderr file. This is the default behavior.

#### -l

This option allows the user to specify that the transform can write available job information to the stderr file.

**Tip:** Use of the trace options (-T <option-value>) overrides the use of -n option on the start command.

**Default:** None.

**Example:** start-command=/usr/lpp/IBM/PrintXform/V1R2/AFPxPCL/bin/afpxpcld

#### environment = {name -> value [name -> value]... }

Environment variables that specify transform options. Enclose the entire set of environment variables in braces. The values in these environment variables override environment variables with the same name that are set in the **aopstart** EXEC. If a value contains special characters or spaces, enclose the value in single or double quotation marks.

For information about the environment variables you can specify, see [“Environment variables for the AFP to PCL transform”](#) on page 70.

**Default:** None.

**Example:** environment={AOP\_FORMDEF -> F1CP0111}

**maximum-active = number**

The maximum number of transform daemons that the Transform Manager activates concurrently. Specify a number greater than 0 and greater than or equal to the number specified in the **minimum-active** attribute. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** No maximum number. Transform daemons are started when needed.

**maximum-idle-time = seconds**

The number of seconds before the Transform Manager shuts down an idle transform daemon and system resources are freed. Specify a number greater than 0. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** Idle transform daemons are not shut down.

**minimum-active = number**

The minimum number of transform daemons that the Transform Manager activates concurrently. Specify a number less than or equal to the number specified in the **maximum-active** attribute. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** minimum-active = 0

**Environment variables for the AFP to PCL transform**

The following information describes the environment variables that you can use with the AFP to PCL transform.

You can use environment variables for the following tasks.

- Specify default AFP resources, such as the default form definition and page definition.
- Specify AFP system resource libraries.
- Select transform functions, such as whether to create color output.
- Name the paper sizes in AFP input trays, and map AFP input tray IDs to PCL input trays.

You can optionally specify the following environment variables.

**\_BPX\_JOBNAME**

The job name for this transform. When you assign a different job name to each class of transform, the operator can manage the transform daemons more effectively. Specify a job name of 1 to 8 alphanumeric characters. Incorrect job names are ignored. For more information about the `_BPX_JOBNAME` variable, see [z/OS UNIX System Services Planning](#).

**Default:** The job name is AOPXFD.

**Example:** environment={\_BPX\_JOBNAME -> afpxpc1d}

**AOP\_ASSUME\_RIDIC\_UNPAD**

Indicates whether all G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) images are unpadded RIDIC. In some IOCA images, the RECID incorrectly states that the encoding is RIDIC when it is unpadded RIDIC. If the RECID for the G4 MMR image specifies RIDIC, but the width of the image is not padded with zeros, set `AOP_ASSUME_RIDIC_UNPAD-> yes`.

Valid values are:

**yes**

Ignore the G4 MMR RECID setting and process all G4 MMR images as unpadded.

**no**

Decode G4 MMR images as specified in the RECID.

**Default:** AOP\_ASSUME\_RIDIC\_UNPAD -> no

**Example:** environment={AOP\_ASSUME\_RIDIC\_UNPAD → yes}

## AOP\_CHARS

The default coded font. The transform uses this font to format error messages unless the page definition specified in the AOP\_MSGPAGEDEF variable names a font. The transforms also use this font for (1) line data when no other font is specified in the page definition that is used to print the document and (2) AFP data when no other font is specified in the AFP data stream.

Specify the 1 to 4 character coded font name. You can specify the X0 or XZ prefix of the coded font name. If you do not specify a prefix, the transform adds an X0 prefix. Some coded fonts have 6-character names, not counting the X0 or XZ prefix. For these fonts, use the 4-character alternative coded font name. For font names and alternate font names, see *IBM AFP Fonts: Font Summary for AFP Font Collection*.

### Rules:

1. Specify only one default coded font in this environment variable.
2. The font that you specify, or default font X060D9, must exist in one of the AFP font libraries so that the transform can write error messages in the output.
3. The code page that is associated with this coded font must be an EBCDIC code page.

**Tip:** You might want to specify the same font as the resident font in the AFP printer to which output is typically printed.

**Default:** AOP\_CHARS → 60d9 (The font is X060D9 because the transform adds prefix X0.)

**Example:** environment={AOP\_CHARS → 60d8}

## AOP\_COLOR

Indicates whether the transform is to produce color output. The transform supports the MO:DCA OCA color commands. Specify **yes** if the printer supports color. Valid values are:

### yes

The transform produces color output.

### no

The transform does color simulation.

### bilevel

The transform produces bi-level color PCL commands. Use this option if the AFP bi-level color input is printing incorrectly when using AOP\_COLOR -> yes.

Do not use this option if your AFP color input is not bi-level.

**Tip:** For best results, when printing to monochrome and color printers, use a class with AOP\_COLOR->no for monochrome printers and a separate class with AOP\_COLOR->yes for color printers.

**Default:** AOP\_COLOR -> no

**Example:** environment={AOP\_COLOR -> yes}

## AOP\_CUTSHEET

Indicates whether the transform is to prepare the output for printing on a cutsheet printer. Valid values are:

### yes

The output is to be printed on a cutsheet printer. Therefore, the transform uses the cutsheet and N\_UP specifications in the form definition to determine whether to send medium orientation information to the printer. For more information, see the description of the CUTSHEET and N\_UP commands in [Page Printer Formatting Aid: User's Guide](#).

**Tip:** Select this option if your output is incorrectly printing in the down direction on a cutsheet printer.

### no

The output is not to be printed on a cutsheet printer. Therefore, the transform always sends medium orientation information to the printer.

Table 13 on page 72 shows how the value of the AOP\_CUTSHEET environment variable and values set in the form definition determine the orientation of the output. The shaded row is the only scenario where the orientation specified in the form definition results in a different output orientation.

*Table 13. Output orientation based on AOP\_CUTSHEET and form definition values. N/A indicates that the value has no impact on the output orientation.*

AOP_CUTSHEET value	Form definition values			Output orientation
	Orientation	CUTSHEET	N_UP	
No	Landscape	N/A	N/A	Landscape
No	Portrait	N/A	N/A	Portrait
Yes	Landscape	No	0	Portrait
Yes	Landscape	N/A	> 0	Landscape
Yes	Landscape	Yes	N/A	Landscape
Yes	Portrait	No	0	Portrait
Yes	Portrait	N/A	> 0	Portrait
Yes	Portrait	Yes	N/A	Portrait

**Default:** AOP\_CUTSHEET -> no

**Example:** environment={AOP\_CUTSHEET -> yes}

#### AOP\_EDGETOEDGE

Indicates whether the transform adjusts the x,y left edge offset starting position to allow for printers that are configured for edge-to-edge printing. Valid values are:

##### yes

The AOP\_PAPER values are sent to the printer and adjusted for edge-to-edge printing.

##### no

No adjustment is made.

**Default:** AOP\_EDGETOEDGE -> no

**Example:** environment={AOP\_EDGETOEDGE -> yes}

#### AOP\_FAIL\_ON\_ERROR

Specifies whether the transform stops processing when a warning or data stream error occurs during the transform. Warnings can indicate degraded output.

Valid values are:

##### error

The transform fails when a data stream error occurs and does not create an output document. However, the transform continues if warnings occur. This is the default.

##### no

The transform attempts to continue processing and create an output document when a warning or data stream error occurs.

##### warning

The transform fails when a warning or data stream error occurs and does not create an output document.

##### Tips:

1. The **fail-on-transform-error** job attribute and the **Fail on error** field in the printer definition override this value.
2. You can specify the value by using lowercase or uppercase letters (for example, no or NO).

3. You can use the Infoprint Server ISPF panels to set the **Fail on error** field in the Processing section of a printer definition.

**Default:** AOP\_FAIL\_ON\_ERROR -> error

**Example:** environment={AOP\_FAIL\_ON\_ERROR -> no}

### AOP\_FAIL\_ON\_IMAGE\_ERROR

Indicates whether the transform continues to process the document when the transform cannot decode an IOCA image because of certain compression padding errors. Some compression algorithms cause unpadded RIDIC images to be read as padded RIDIC by the transform.

Valid values are:

#### yes

If the transform cannot decode an IOCA image, it issues a message and stops processing the document.

#### no

If the transform cannot decode an IOCA image, it issues a message, stops processing the image, and continues with the next MO:DCA statement.

#### retrycont

If the transform cannot decode a G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) image, it proceeds one of two ways:

- If the RECID indicates RIDIC and the transform fails to decode it as RIDIC, it tries to decode it again as unpadded RIDIC.
- If the RECID indicates unpadded RIDIC, and the transform fails to decode the image that way, it tries to decode it again as RIDIC.

If the transform still cannot decode the G4 MMR image, or if the image is not a G4 MMR image, the transform issues an error message, stops processing the image, and continues with the next MO:DCA statement.

#### retryfail

If the transform cannot decode a G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) image, it proceeds one of two ways:

- If the RECID indicates RIDIC and the transform fails to decode it as RIDIC, it tries to decode it again as unpadded RIDIC.
- If the RECID indicates unpadded RIDIC, and the transform fails to decode the image that way, it tries to decode it again as RIDIC.

If the transform still cannot decode the G4 MMR image, or if the image is not a G4 MMR image, the transform issues a message and stops processing the document.

**Default:** AOP\_FAIL\_ON\_IMAGE\_ERROR -> yes

**Example:** environment={AOP\_FAIL\_ON\_IMAGE\_ERROR -> no}

### AOP\_FONTLIB

The AFP system resource libraries that contain fonts. Specify 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

Specify the AFP 240-pel or 300-pel raster and outline font libraries used by your installation:

- Specify AFP 240-pel or 300-pel raster font libraries because the AFP to PCL transform requires raster fonts.
- Specify AFP outline font libraries if data to be transformed refers to outline fonts.

**Default:** AOP\_FONTLIB -> "sys1.font300 SYS1.SFNILIB"

**Examples:**

1. `environment={AOP_FONTLIB -> "sys1.font300"}`
2. The backslash in the following example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_FONTLIB -> "sys1.font300 \
SYS1.SFNTLIB inst.font300"}
```

### AOP\_FONTMAP\_TABLE

The full path name of a UNIX file that contains a font-mapping table.

**Tip:** Using a font-mapping table is not recommended because the PCL transform always includes raster fonts in the output document.

**Default:** No file path.

**Example:**

```
environment={AOP_FONTMAP_TABLE -> "/usr/lpp/IBM/PrintXform/V1R2/samples/aokfontmap.samp"}
```

### AOP\_FONTPATH

The directories that contain TrueType, OpenType, and WorldType fonts that the transform uses to process data sets. The directory path can be up to 255 characters and you can specify from one to eight UNIX file resource path directories. The transform searches for fonts in the directories in the order they are specified. The fonts must be installed in each directory with a resource installer that builds a resource access table (RAT) to describe the fonts in that directory. To find out how to install fonts, see [“Using TrueType, OpenType, and WorldType fonts” on page 133](#).

**Default:** `AOP_FONTPATH -> "/usr/lpp/fonts/worldtype"`

**Examples:**

1. Single directory specified:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/collections"}
```

2. Multiple directories specified with a blank between the paths:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/myfonts /jdoe/fonts/truetype"}
```

**Tip:** Separate directory paths with a space. Spaces are not allowed within the directory path name.

3. The backslash in the example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/collections \
/usr/lpp/fonts/wt_ttf"}
```

### AOP\_FORMDEF

The default form definition that is used to format the input data stream. Specify the 1 to 8 character form definition name, with or without the F1 prefix. If you omit the F1 prefix, the transform adds it.

The transform uses this form definition only if no other form definition is specified.

**Default:** `AOP_FORMDEF -> F1CP0110`

**Example:** `environment={AOP_FORMDEF -> F1CP0111}`

### AOP\_FORMDEFLIB

The AFP system resource libraries that contain form definitions. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** `AOP_FORMDEFLIB -> "sys1.fdeflib"`

**Example:** `environment={AOP_FORMDEFLIB -> "sys1.fdeflib inst.fdeflib"}`



## AOP\_FULLPAGEIMAGE

Indicates whether the transform is to generate each output page as a full-page bitmap rather than a series of separate text, graphic, and image drawing commands. This is not recommended for general use. It typically results in increased CPU consumption, larger output file size, and slower printing throughput. However, it can provide a better printed image appearance in certain cases when the destination printer does not support an element of the normal PCL data stream.

Valid values are:

### **yes**

The transform generates each output page as a full-page bitmap.

### **no**

The transform produces normal PCL text, graphic, and image draw commands.

**Default:** AOP\_FULLPAGEIMAGE -> no

**Example:** environment= {AOP\_FULLPAGEIMAGE -> yes}

## AOP\_JPEGQUALITY

Indicates the JPEG image quality that is used in the transformed output as a percentage of the original image quality. A higher number results in a better quality image, yet a larger output file size. For smaller images, a small value such as 5 or 10 might not result in poor image output quality. Adjusting the value can help reduce the size of the resulting output files that contains images.

Valid values are:

### **100**

Keep the original image quality as is.

### **1-100**

Specify the JPEG image quality to be used in the transformed output as a percentage of the original image quality.

**Tip:** Specify a value less than 100 to reduce the image quality to that percentage of the original image quality.

**Default:** AOP\_JPEGQUALITY -> "100"

**Example:** environment={AOP\_JPEGQUALITY -> "10"}

## AOP\_LEFT\_OFFSET

Indicates the amount of x shift of the PCL page, the amount by which the page is offset from left edge of the media. This setting applies for Simplex and Duplex outputs.

Valid values are:

### **nnnnn**

An integer value in the range of -32767 to 32767, in decipoint units.(1 decipoint = 1/720 inches ).

**Tip:** The default setting is appropriate for most PCL printers. If your PCL printer requires adjustment of page contents, you can use this parameter to shift the page within the printable area of your printer.

**Default:** 0 (No Shift)

**Example:** environment={AOP\_LEFT\_OFFSET -> -150 } Using the value in the example, the results shift the entire page contents 150 decipoints to the left.

## AOP\_LEGACY\_PRINTER

Indicates whether the transform is printing to a printer that might not support the complete set of PCL 5c commands.

Valid values are:

### **yes**

The transform produces monochrome PCL output and turns off TIFF image scaling. Use this option if you are getting incorrect output when trying to print to older monochrome printers.

**no**

The printer supports the full set of PCL 5c commands.

**Default:** AOP\_LEGACY\_PRINTER -> no

**Example:** environment={AOP\_LEGACY\_PRINTER -> yes}

### **AOP\_MAXIMAGERESOLUTION**

Specifies the maximum resolution to be used to print images in the document. If you specify a resolution, the transform scales all images in the document to the specified resolution. Adjusting the maximum resolution value can help reduce the size of the output files that contain the images. This environment variable has minimal impact for AFP to PCL transform, unless it is set to a value less than 300.

Valid values are:

**0**

Keep the input image resolution unchanged.

**150-600**

Specify the maximum resolution to use to print images in the document. Typically, you want to choose 300 or 600 DPI.

**Default:** AOP\_MAXIMAGERESOLUTION -> "0"

**Example:** environment={AOP\_MAXIMAGERESOLUTION -> "300"}

**Tip:** Choose a value between 150 to 600 DPI as an image resolution in the output document. Typically you can choose 300 or 600 DPI.

### **AOP\_MAX\_RECORD\_LENGTH**

This value is used internally for data transfer. If transforming output to an MVS data set, specify a value that represents the smallest record length for MVS data sets that will be used for transform output. A larger value results in better transform throughput and performance. Specify MAX if not transforming output to MVS data sets.

Valid values are:

**696 - 32756**

Specify the record length of the MVS data set used to receive transform output.

**MAX**

The maximum record length of 32756 is used.

**Tips:**

1. A record length of 32756 for the MVS data set is recommended.
2. If 32756 is specified, use MAX for this environment variable.

**Default:** AOP\_MAX\_RECORD\_LENGTH ->1024

**Example:** environment={AOP\_MAX\_RECORD\_LENGTH-> MAX}

### **AOP\_MSGFORMDEF**

The form definition that is used to format transform error messages. Specify the 1 to 8 character form definition name, with or without the F1 prefix. If you omit the F1 prefix, the transform adds it. This form definition must be located in one of the libraries that are specified in the AOP\_FORMDEFLIB variable.

**Default:** AOP\_MSGFORMDEF -> F1CP0110

**Example:** environment={AOP\_MSGFORMDEF -> F1CP0111}

### **AOP\_MSGPAGEDEF**

The page definition that is used to format transform error messages. Specify the 1 to 8 character page definition name, with or without the P1 prefix. If you omit the P1 prefix, the transform adds it. This page definition must be located in one of the libraries that are specified in the AOP\_PAGEDEFLIB

variable. The transform formats messages for the first paper size that is defined in the AOP\_PAPER variable.

**Recommendation:** Use page definition P1P08682 for letter size paper, and page definition P1Q09182 for A4 paper.

**Default:** AOP\_MSGPAGEDEF -> P1P08682

**Example:** environment={AOP\_MSGPAGEDEF -> P1P06362}

### AOP\_OFFSET\_JOGGING

Indicates how the transform supports offset stacking (also called jogging). Offset stacking is requested in the form definition (medium map). If the form definition requests offset stacking, the transform can offset, shift, or rotate each subset in the output (depending on the printer support). Valid values are:

#### imm

The transform offsets the output by specifying a PCL Job Separation command for each subset. This PCL command toggles the printer output bin between two positions. Printers that support this PCL command include HP LaserJet III Si, Xerox DocuPrint 180, and similar printers.

#### no

The transform ignores offset stacking requested in the form definition.

#### rotate

The transform rotates the output by creating a new printer job for each subset and specifying the PCL DEFAULT JOBOFFSET=ROTATE command for the job. Printers that support this PCL command include some Ricoh printers.

#### shift

The transform shifts the output by creating a new printer job for each subset and specifying the PCL DEFAULT JOBOFFSET=SHIFT command for the job. Printers that support this PCL command include some Ricoh printers.

#### yes | on

The transform offsets the output by creating a new printer job for each subset and specifying the PCL DEFAULT JOBOFFSET=ON command for the job. The value "yes" is the same as "on".

**Rule:** If you specify rotate, shift, yes, or on, the printer must support PCL commands. In addition, you must specify the AOP\_PJL -> yes environment variable.

If you specify AOP\_PJL -> yes and use the IP PrintWay extended mode Direct Sockets protocol to send documents to the printer, do not select either of the following options in the printer definition.

"Record pages printed for accounting"

"Restart printing after last successful page"

This is because a PCL JOB command in the document can conflict with the PCL JOB command that IP PrintWay adds to the document to track the number of pages that print successfully.

**Recommendation:** Specify the **imm** option if the printer supports it.

**Default:** AOP\_OFFSET\_JOGGING -> no

**Example:** environment={AOP\_OFFSET\_JOGGING -> imm}

**Note:** If you specify rotate, shift, yes, or on, fonts are sent to the printer again for each new printer job, which can adversely affect performance. In addition, other documents might print between the printer jobs.

### AOP\_OVERLAYLIB

The AFP system resource libraries that contain overlays. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_OVERLAYLIB -> "sys1.overlib"

**Example:** environment={AOP\_OVERLAYLIB -> "sys1.overlib inst.overlib"}

## **AOP\_PAGEDEF**

The default page definition that is used to format line data and create PCL output. Specify the 1 to 8 character page definition name, with or without the P1 prefix. If you omit the P1 prefix, the transform adds it. The transform uses this page definition only if no other page definition is specified.

**Recommendation:** Use page definition P1P08682 for letter size paper, and page definition P1Q09182 for A4 paper.

**Default:** AOP\_PAGEDEF -> P1P08682

**Example:** environment={AOP\_PAGEDEF -> P1Q09182}

## **AOP\_PAGEDEFLIB**

The AFP system resource libraries that contain page definitions. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_PAGEDEFLIB -> "sys1.pdeflib"

**Example:** environment={AOP\_PAGEDEFLIB -> "sys1.pdeflib inst.pdeflib"}

## **AOP\_PAGESEGLIB**

The AFP system resource libraries that contain page segments. Specify from 1 to 8 or more data set names. Separate each name with a space.

**Default:** AOP\_PAGESEGLIB -> "sys1.pseglib"

**Example:** environment={AOP\_PAGESEGLIB -> "sys1.pseglib inst.pseglib"}

## **AOP\_PAPER**

The name of the paper that is typically installed in each AFP input tray. The transform formats the PCL output for the paper in the AFP input tray ID the document selects.

The position (1 through 9) of each paper name represents the number of the AFP input tray. The 10th position represents any AFP input tray number greater than 9.

You can specify from 1 to 10 paper names. Separate each name with a space. If you specify fewer than 10 paper names, the transform uses the paper name in position 1.

For more information about paper names that you can specify and adding custom paper names, see ["Paper names" on page 134](#) and ["Creating custom paper names and sizes" on page 136](#).

Valid paper names and their sizes (width x height) are:

<b>Paper Name</b>	<b>Size</b>
-------------------	-------------

<b>auto</b>	
-------------	--

The transform uses the page size in the Page Descriptor (PGD) structured field if the size is equivalent to a standard PCL page size. Otherwise, the transform uses letter size because PCL interpreters do not recognize non-standard paper sizes.

<b>a3</b>	
-----------	--

297 x 420 mm

<b>a4</b>	
-----------	--

210 x 297 mm

<b>a5</b>	
-----------	--

148.3 x 210 mm

<b>b4</b>	
-----------	--

250 x 353 mm

<b>b5</b>	
-----------	--

176 x 250 mm

<b>c5</b>	
-----------	--

162 x 229 mm (6.48 x 9.16 in.)

**com10**

4.125 x 9.5 in. (104.8 x 241.3 mm)

**dl**

110 x 220 mm (4.4 x 8.8 in)

**executive**

7.25 x 10.5 in (185 x 267 mm)

**ledger**

11 x 17 in (279 x 432 mm)

**legal**

8.5 x 14.0 in (216 x 356 mm)

**letter**

8.5 x 11.0 in (216 x 279 mm)

**monarch**

3.875 x 7.5 in. (98.4 x 190.5 mm)

**Note:** Use the **AOP\_EDGETOEDGE** → **yes** environment variable when the printer is configured to print edge-to-edge. However, if the printer does not support edge-to-edge printing, documents that are created for edge-to-edge printing have the outside 50 pels, approximately 4 millimeters, of output that is cut off.

**Default:** AOP\_PAPER → "letter letter letter letter letter letter letter letter letter"

**Example:** The backslash in the following example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_PAPER -> "letter legal letter letter \
letter letter letter letter letter letter"}
```

In this example, if the document to be transformed specifies:

- AFP input tray 1, the transform formats the output for letter size paper.
- AFP input tray 2, the transform formats the output for legal size paper.
- AFP input tray 3, the transform formats the output for letter size paper.
- AFP input tray greater than 9, the transform formats the output for letter size paper.

**AOP\_PAPERSTOCK\_TABLE**

Indicates the full path name for the custom paper names table file. The custom paper names that are defined in this file can be used in the AOP\_PAPER environment variable. Specify the full path name of a UNIX file that contains the custom paper sizes for the transform to use. For more information about defining custom paper sizes, see [“Creating custom paper names and sizes” on page 136](#).

**Tip:** The use of this environment variable is only recommended for the PCL transform. The AOP\_PAPER value of "auto" can be used in the PDF and PostScript class definition to use the page size that is specified in the Page Descriptor (PGD) structured field.

**Default:** No file path.

**Example:** environment={AOP\_PAPERSTOCK\_TABLE -> "/usr/lpp/IBM/PrintXform/V1R2/samples/aokstocktable.samp"}

**AOP\_PCLCOMPRESSGLYPHS**

Indicates whether the transform compresses font glyph data. You only choose the no value if your PCL output prints incorrectly on some printer makes and models. Valid value are:

**yes**

Transform compresses font glyph data.

**no**

Transform does not compress font glyph data.

**Default:** AOP\_PCLCOMPRESSGLYPHS -> yes

**Example:** environment={AOP\_PCLCOMPRESSGLYPHS -> no}

### **AOP\_PCLFONTPRECISION**

Indicates whether the transform makes spacing adjustments between characters for some of the monospaced fonts to reduce character crowding and spacing issues between some characters. Valid values are:

**pel**

Make no character spacing adjustment.

**quarterpel**

Make character spacing adjustment by ¼ of a pel.

**Default:** AOP\_PCLFONTPRECISION -> pel

**Example:** environment={AOP\_PCLFONTPRECISION -> quarterpel}

### **AOP\_PCL\_GRAPHICS**

Indicates how the transform handles graphics objects (GOCA). The transform can either rasterize GOCA objects or process the GOCA objects by using HPGL/2 vector graphics language commands. When raster is selected, GOCA objects are rasterized as images and included in the PCL output file. When hpgl is selected, GOCA objects are rendered by using HPGL/2 vector graphics language commands and included in the PCL output file. Using hpgl can yield improved CPU performance and printing speeds. Valid values are:

**raster**

The transform rasterizes GOCA objects as images that are included in the PCL output.

**hpgl**

The transform renders GOCA objects as HPGL/2 commands that are included in the PCL output. The print draws the graphics object using HPGL/2 commands.

**Default:** AOP\_PCL\_GRAPHICS -> raster

**Example:** environment={AOP\_PCL\_GRAPHICS -> hpgl}

**Note:** Raster is the preferred option for small, complex graphics, scanned images, or images that cannot be drawn with HPGL/2. When you choose the HPGL/2 option, test print the PCL output on a target printer to ensure it can process HPGL/2 commands and produce the desired results.

### **AOP\_PJL**

Indicates whether the printer accepts all PCL 5 commands, including PJL commands. All printers that support PCL 5 support PJL commands. Some printers that support only PCL 4 do not support PJL commands. Sometimes, a printer that does not support PJL commands prints a smiley face where a PJL command occurs in the data stream or prints the PJL command on the first page. Valid values are:

**yes**

The printer accepts PJL commands.

**no**

The printer does not accept PJL commands. Therefore, the AFP to PCL transform does not create PJL commands.

**Default:** AOP\_PJL -> yes

**Example:** environment={AOP\_PJL -> no}

**Tip:** If you use IP PrintWay extended mode, specify AOP\_PJL -> no because a PJL JOB command in the document can conflict with the PJL JOB command that IP PrintWay adds to the document to track the number of pages that print successfully.

### **AOP\_RESOURCE\_CACHE**

Specifies how the transform caches resources during execution, which can be in memory or in a UNIX directory. The **AOP\_RESOURCE\_CACHE** environment variable applies when the input data contains one or more of the following embedded AFP resources:

Overlays

Page Segments

Objects (such as graphics and images)

Fonts

Valid values are:

**memory**

By default, this transform caches all resource in memory.

**base**

This transform caches resources in the directory named <base-directory>/x<sub>fd</sub>/transform[\_class].#.d. The base-directory is /var/Printsrv.

**Default:** AOP\_RESOURCE\_CACHE -> memory

**Example:** environment={AOP\_RESOURCE\_CACHE -> base}

**AOP\_SUBSET\_PCL\_FONTS**

Indicates whether the transform optimizes fonts that are included in PCL output. This option might help reduce the size of PCL files. Valid values are:

**yes**

Optimize fonts for PCL output.

**no**

Include complete font information in the PCL output file.

**Default:** AOP\_SUBSET\_PCL\_FONTS -> yes

**Example:** environment={AOP\_SUBSET\_PCL\_FONTS -> no}

**Note:** Before the AOP\_SUBSET\_PCL\_FONTS environment variable was introduced, the default was to include complete font information in the PCL output file.

**AOP\_TOP\_OFFSET**

Indicates the amount of y shift of the PCL page, which is the amount that the page is offset from the top edge of the media. This setting applies for Simplex and Duplex outputs. Valid values are:

**nnnnn**

An integer value in the range of -32767 to 32767, in decipoints (1 decipoint = 1/720 inch).

**Default:** 0 (No shift).

**Example:** environment={AOP\_TOP\_OFFSET -> -150}

The example value (-150) results in shifting the entire page contents 150 decipoints towards the top of page.

**Tip:** The default setting is appropriate for most PCL printers. If your PCL printer requires adjustment of page contents, you can use this variable to shift the page within the printable area of your printer.

**AOP\_TRAILER\_ERROR\_PAGE**

Specifies whether the transform writes messages for transform warnings and data stream errors to a trailer error page. The trailer error page is the last page in the output document. Warnings can indicate degraded output.

Valid values are:

**error**

The transform writes error messages, but not warning messages, to a trailer error page. This option does not apply when AOP\_FAIL\_ON\_ERROR-> error or AOP\_FAIL\_ON\_ERROR->warning because no output document is created when an error occurs.

**no**

No trailer error page is produced.

**warning**

The transform writes warning and error messages to a trailer error page. This option does not apply when AOP\_FAIL\_ON\_ERROR->warning because no output document is created when an error or warning occurs. This value is the default.

**Tips:**

1. The trailer-transform-error-page job attribute and the Trailer error page field in the printer definition override this value.
2. You can specify the value by using lowercase or uppercase letters (for example, no or NO).
3. You can use the Infoprint Server ISPF panels to set the Trailer error page field in the Processing section of a printer definition.

**Default:** AOP\_TRAILER\_ERROR\_PAGE -> warning

**Example:** environment={AOP\_TRAILER\_ERROR\_PAGE -> error}

**AOP\_TRAYID**

A mapping of AFP input tray numbers to PCL tray IDs. The position (1 - 9) of each PCL tray ID corresponds to the AFP tray number. The 10th position corresponds to all AFP input tray numbers greater than 9.

Specify 1 to 10 PCL tray IDs, separating each number with a space. Number 0 (zero) indicates that an input tray is not installed in the printer. If the input document requests an input tray that is not installed, the transform writes an error message in the output file and uses the tray ID in position 1.

PCL tray IDs typically mean:

- PCL tray 1: Feed paper from a printer-specific tray.
- PCL tray 2: Feed paper from manual input.
- PCL tray 3: Feed envelope from manual input.
- PCL tray 4: Feed paper from lower tray.
- PCL tray 5: Feed paper from optional paper source.
- PCL tray 6: Feed envelope from optional envelope source.

The AFP to PCL transform codes the PCL tray ID specified in AOP\_TRAYID in the PCL Paper Source command. For more information about PCL tray IDs, see the description of the Paper Source command in Hewlett Packard's PCL documentation. Because the implementation of paper tray IDs can vary from printer to printer, also see the documentation for your printer.

**Rule:** Specify a nonzero value in the first position. This rule applies because the transform uses tray 1 as the default tray.

**Tips:**

1. PCL tray IDs do not match the tray numbers that are embossed on the actual printer trays.
2. If the usual PCL tray IDs do not work, specify different tray IDs in the AOP\_TRAYID variable until the printer selects paper from the wanted paper tray.

**Default:** AOP\_TRAYID -> "1 4 0 0 0 0 0 0 2"

**Example:** environment={AOP\_TRAYID -> "1 4 1 1 1 1 1 1 1 2"}

This example shows that if the document to be transformed specifies:

- AFP input tray 1, the transform uses PCL tray ID 1.
- AFP input tray 2, the transform uses PCL tray ID 4.
- AFP input tray 3 through 9, the transform uses PCL tray ID 1.
- AFP input tray greater than 9, the transform uses PCL tray ID 2.

**AOP\_VGASIMAGE (Deprecated. Instead use "AOP\_PCL\_GRAPHICS" on page 80.**

Indicates how the AFP to PCL transform handles multiple vector graphics on the same page. Valid values are:

**yes**

The transform includes all vector graphics as one single image on the page.



**no**

The transform rasterizes each vector graphic as a separate image. This process can correct the rendering order of filled Graphic Object Content Architecture (GOCA) objects to appear correct when they are layered.

**Default:** AOP\_VGASIMAGE -> yes.

**Example:** environment={AOP\_VGASIMAGE -> no}

**Tip:** You might want to specify a value of "no" if you observe incorrect fill patterns for GOCA graphic objects that are enclosed within other GOCA graphic objects.

### Examples: Transform configuration file entries for the AFP to PCL transform

These examples show sample transform entries in the Infoprint Server transform configuration file (**aopxfd.conf**) for the AFP to PCL transform.

#### Print on letter and legal size paper

This transform entry can be used for printers that print on letter and legal size paper. To use this entry, do not specify a transform class.

```
transform afpxpcl
start-command = afpxpcl
maximum-active = 2
maximum-idle-time = 300 # 5 minutes
minimum-active = 1
environment = {
  _BPX_JOBNAME -> AFPXPCLD
  AOP_CHARS -> 60d9
  AOP_COLOR -> no
  AOP_CUTSHEET -> yes
  AOP_FONTLIB -> "sys1.font300"
  AOP_FORMDEF -> F1CP0110
  AOP_FORMDEFLIB -> "sys1.fdeflib"
  AOP_MSGFORMDEF -> F1CP0110
  AOP_MSGPAGEDEF -> P1P08682
  AOP_OVERLAYLIB -> "sys1.overlib"
  AOP_PAGEDEF -> P1P08682
  AOP_PAGEDEFLIB -> "sys1.pdeflib"
  AOP_PAGSEGLIB -> "sys1.pseglib"
  AOP_PAPER ->
  "letter legal letter letter letter letter letter letter letter"
  AOP_PJL -> no
  AOP_TRAYID -> "1 4 1 1 1 1 1 1 1 2"
}
;
```

#### Print on A3, A4, and C5 paper

This transform entry can be used for printers that print on A3, A4, and C5 paper. This transform entry creates transform class "eu". To use this transform class, specify the class in the -c transform option as shown in these two examples:

- afpxpcl -c eu -o myfile.pcl myfile.afp  
lp -o "filter-options='-c eu'" -d myprinter myfile.afp

- transform afpxpcl\_eu
start-command = afpxpcl
maximum-active = 2
maximum-idle-time = 300 # 5 minutes
minimum-active = 1
environment = {
 AOP\_CHARS -> 60d9
 AOP\_COLOR -> no
 AOP\_CUTSHEET -> yes
 AOP\_FONTLIB -> "sys1.font300"
 AOP\_FORMDEF -> F1CP0110
 AOP\_FORMDEFLIB -> "sys1.fdeflib inst.fdeflib"
 AOP\_MSGFORMDEF -> F1CP0110
 AOP\_MSGPAGEDEF -> P1P08682
 AOP\_OVERLAYLIB -> "sys1.overlib inst.overlib"
 AOP\_PAGEDEF -> P1P08682
 AOP\_PAGEDEFLIB -> "sys1.pdeflib inst.pdeflib"
 AOP\_PAGSEGLIB -> "sys1.pseglib inst.pseglib"
 AOP\_PAPER -> "a4 a3 a4 a4 a4 a4 a4 a4 a4 c5"
}

```

AOP_PJL -> no
AOP_TRAYID -> "1 4 1 1 1 1 1 1 1 2"
}
;

```

## Customizing the AFP to PDF transform

To customize the AFP to PDF transform, do the tasks listed in Table 14 on page 84. Required tasks are required by all installations. Optional tasks are required only if the listed condition applies to your installation.

Task	Condition	Reference
<a href="#">“Specifying transform options” on page 84</a>	Required	<a href="#">“Specifying transform options” on page 84</a>
<a href="#">“Setting up security for AFP resource libraries” on page 127</a>	Required	<a href="#">“Setting up security for AFP resource libraries” on page 127</a>
<a href="#">“Starting Infoprint Server with sufficient memory” on page 129</a>	Required	<a href="#">“Starting Infoprint Server with sufficient memory” on page 129</a>
<a href="#">“Writing a Password exit” on page 108</a>	Optional: To encrypt PDF documents with passwords	<a href="#">“Writing a Password exit” on page 108</a>
<a href="#">“Installing and configuring the XML Toolkit” on page 129</a>	Optional: To transform XML input	<a href="#">“Installing and configuring the XML Toolkit” on page 129</a>
<a href="#">“Mapping raster fonts to outline fonts” on page 130</a>	Optional: To map raster fonts to outline fonts	<a href="#">“Mapping raster fonts to outline fonts” on page 130</a>

### Specifying transform options

You must create at least one transform entry in the Infoprint Server transform configuration file (**aopxfd.conf**) for the AFP to PDF transform. In the transform entry, you can specify:

- Environment variables that control the transform
- Attributes that control how the Infoprint Server Transform Manager manages the transform

For information about how to create and edit the Infoprint Server transform configuration file, see *Creating the transform configuration file in z/OS Infoprint Server Customization*. After you update the transform configuration file, you must restart the Infoprint Server Transform Manager.

**Tip:** After you restart the Transform Manager, check for error messages in the transform's **stderr** file or in the Infoprint Server common message log if the common message log is enabled in Infoprint Server. If you find any error messages, fix the errors and restart the Transform Manager. For more information about how to find the transform message logs, see [“Finding the transform stderr file” on page 159](#).

#### Transform classes

If you want to specify different sets of transform options for different uses, you can create different classes of the AFP to PDF transform. For example, you might create a separate class for documents that require encryption.

For each transform class, you must create a separate transform entry. You select a name for the transform class in the transform entry (see the **transform** attribute).

To use a transform class, job submitters must specify the class name as an option (-c) on the **afpxpdf** transform command or in the filter-options job attribute. Administrators must specify the class name as a filter option (-c) in the printer definition. For example, the following z/OS UNIX commands use the "encrypt" transform class:

```
afpxpdf -c encrypt -o myfile.pdf myfile.afp
lp -d myprinter -o "filter-options='-c encrypt'" myfile.afp
```

**Tip:** The sample transform configuration file, `/usr/lpp/IBM/PrintXform/V1R2/samples/aopxfd.afpx.conf`, shows examples of transform entries with different transform classes. Also, see [“Examples of the transform configuration file entries \(AFP to PDF\)”](#) on page 107.

### Font-mapping options

The AFP to PDF transform can use 300-pel raster fonts (single-byte or double-byte) and AFP outline fonts (single-byte only). In addition, the transform can map single-byte 240-pel or 300-pel raster fonts to equivalent type 1 outline fonts. Outline fonts provide superior viewing and printing. Double-byte outline fonts are not supported. See [“Mapping raster fonts to outline fonts”](#) on page 130 for information on mapping fonts.

Use these environment variables to control font-mapping in the transform configuration file:

- **AOP\_FONTMAP\_TABLE:**

Specifies the full path name of a UNIX file that contains a font-mapping table that maps raster fonts to outline fonts.

**Note:**

1. The font-mapping table must be a UNIX file.
2. The presence of a valid font-mapping table in the specified file implies that font mapping is performed for any fonts found in the table.

- **AOP\_OUTLINES:**

- The **yes** option (default) causes the transform to include outline fonts in the output data.
- The **builtin** option causes the transform to include only the names of outline fonts in the PDF document.
- The **base14** option causes the transform to include only the names of Standard Adobe Type 1 Fonts (base 14 outline fonts) in the PDF output. All other outline fonts are embedded in the output.

**Tip:** Select the **builtin** option if you want to reduce the size of your PDF documents. However, if the outline font is not available to the PDF viewer, errors might be issued and the document might not view correctly.

### Enhanced PDF options

The AFP to PDF transform lets you select options that enhance viewing and navigation in PDF documents. To select these options, use these environment variables:

- **AOP\_ANNOTATIONS:** Creates annotations in the PDF document.
- **AOP\_INDEX:** Creates bookmarks in PDF documents for improved navigation.
- **AOP\_INDEX\_LANG:** Specifies the code page for the language for converting text in bookmarks.
- **AOP\_LINEARIZE:** Optimizes PDF documents for fast viewing from the web.
- **AOP\_LINKS:** Creates links in PDF documents for improved navigation.
- **AOP\_ROTATE\_PDF:** Specifies how to rotate PDF documents for easier viewing.

### PDF encryption options

The AFP to PDF transform can encrypt PDF documents. For an overview of encryption, see [“Encrypting PDF documents”](#) on page 10.

Use these environment variables to specify encryption options in the transform configuration file:

- AOP\_ENCRYPT: Enables encryption.

When you enable encryption, the transform encrypts documents if any of these conditions are met:

- The job submitter specifies a user or owner identifier in a job attribute, or submits a print job to a printer definition that specifies a user or owner identifier.
  - The AOP\_PROTECT environment variable is specified in the AFP to PDF transform class.
  - If neither AOP\_PROTECT is specified nor a user or owner password is provided, the transform will use 40 bit encryption for the document with no protect options.
- AOP\_PASSWORD\_EXIT: The name of your Password exit and optional arguments. The transform calls this exit to obtain PDF owner and user passwords when an owner or user identifier is specified.

This environment variable is used if encryption is enabled and a user or owner identifier is specified. Otherwise it is ignored.

- AOP\_PROTECT: The actions to be restricted in all PDF documents when no identifiers are specified. You can restrict copying, printing, and updating PDF documents.

This environment variable is ignored if either a user or owner identifier is specified.

**Tip:** Consider specifying the AOP\_PROTECT environment variable in a separate transform class. Use this transform class only for documents you want to restrict actions on. You might want to set up several transform classes with different restrictions. For example, you could set up a class that restricts printing PDF documents, and another class that restricts changing PDF documents.

### Default AFP resources

AFP resources are collections of data and control information that the transforms use to create PDF documents. You can specify default AFP resources (such as a default font, form definition, and page definition) in the transform configuration file and in printer definitions. AFP resources specified in a printer definition override default resources specified in the transform entry. If only a few printers use different default AFP resources, you might want to specify these default AFP resources in the printer definitions.

In most situations, you should specify the same default AFP resources that your AFP printers use. These default resources are specified either in the PSF startup procedures (in the PRINTDEV statements) or, if PSF is configured to obtain PRINTDEV values from the Printer Inventory, in the PSF FSA definitions in the Printer Inventory.

Use these environment variables to specify default AFP resources in the transform configuration file:

- AOP\_CHARS: The default font used for transform error messages and for line data and AFP data that does not specify another font.
- AOP\_FORMDEF: The default form definition used when no other form definition is specified.
- AOP\_PAGDEF: The default page definition used when no other page definition is specified.

### Search hierarchy for form definitions

The transform uses the following hierarchy to select the name of the form definition:

1. The form definition specified in the **form-definition** job attribute or FORMDEF JCL parameter.
2. The form definition specified in the **Form definition** field in the printer definition.
3. The first inline form definition.
4. The form definition specified in the AOP\_FORMDEF environment variable in the transform configuration file.
5. Form definition F1CP0111. This default is coded in the transform.

### Tips:

1. If form definition name **dummy** is specified, the transform uses the first inline form definition.
2. After the transform determines the name of the form definition, the transform first searches for the form definition inline in the data set, and then searches in the user and system resource libraries.

### ***Search hierarchy for page definitions***

The transform uses the following hierarchy to select the name of the page definition:

1. The page definition specified in the **page-definition** job attribute or the PAGEDDEF or FCB JCL parameter. (The PAGEDDEF parameter overrides the FCB parameter.)
2. The default page definition supplied by JES to IP PrintWay basic mode. (See Tips.)
3. The page definition specified in the **Page definition** field in the printer definition.
4. The first inline page definition.
5. The page definition specified in the AOP\_PAGEDDEF environment variable in the transform configuration file.
6. Page definition P1P08682. This default is coded in the transform.

#### **Tips:**

1. If page definition name **dummy** is specified, the transform uses the first inline page definition.
2. After the transform determines the name of the page definition, the transform first searches for the page definition inline in the data set, and then searches in the user and system resource libraries.
3. JES supplies a default page definition for batch jobs submitted to IP PrintWay basic mode with OUTPUT and DD JCL statements. If you want to use the default page definition specified in the transform configuration file, you can request that JES not supply a default page definition to the IP PrintWay basic mode FSA. For more information about the JES initialization parameters to do this, see [\*z/OS Infoprint Server Customization\*](#).

### ***Search hierarchy for the default font***

The transform uses the following hierarchy to select a font for line data and AFP data that does not specify a font:

1. The font named in the page definition.
2. The font specified in the **chars** job attribute or the CHARS or UCS JCL parameter. (The CHARS JCL parameter overrides the UCS parameter.)
3. The default font supplied by JES to IP PrintWay basic mode. (See Tip.)
4. The font specified in the **Character set** field in the printer definition.
5. The font specified in the AOP\_CHARS environment variable in the transform configuration file. The transform prefixes X0 to the font named in the variable if you do not specify a prefix.
6. Font X060D9. This default is coded in the transform.

**Note:** If the page definition specifies a font ID of x'FF', which indicates that the presentation system default is to be used, the transform uses a font value of character set CODOGT10 and code page T1D0BASE. The transform also uses the same font in some error situations.

**Tip:** JES supplies a default font for jobs submitted to IP PrintWay basic mode with OUTPUT and DD JCL statements. If you want to use the default font specified in the transform configuration file, you can request that JES not supply a default font to the IP PrintWay basic mode FSA. For more information about the JES initialization parameters to do this, see [\*z/OS Infoprint Server Customization\*](#).

### ***Search hierarchy for the message font***

The transform uses the following hierarchy to select a font used for transform error messages:

1. The font named in the page definition specified in the AOP\_MSGPAGEDDEF environment variable.
2. The font specified in the AOP\_CHARS environment variable in the transform configuration file. The transform prefixes X0 to the font named in the variable if you do not specify a prefix.
3. Font X060D9. This default is coded in the transform.

## AFP system resource libraries

In the transform entry, you can specify from 1 to 8 or more AFP system resource libraries for fonts, page definitions, form definitions, page segments, and overlays. You can specify from 1 to 8 AFP user resource libraries in printer definitions.

In most situations, you should specify the same AFP system resource libraries in the transform configuration file as you currently specify in your PSF startup procedures. If only a few printers require different resource libraries, you can specify those libraries in the printer definitions for the printers.

Use these environment variables to specify the system resource libraries in the transform configuration file:

- AOP\_FONTLIB: The names of 1 to 8 or more system font libraries.
- AOP\_FORMDEFLIB: The names of 1 to 8 or more system form definition libraries.
- AOP\_OVERLAYLIB: The names of 1 to 8 or more system overlay libraries.
- AOP\_PAGEDEFLIB: The names of 1 to 8 or more system page definition libraries.
- AOP\_PAGESEGLIB: The names of 1 to 8 or more system page segment libraries.

**Note:** The libraries listed in the environment variables are treated as permanent resources and a shared lock is held to prevent deletion of the libraries while they are in use. The transforms obtain a shared lock for the system resources for the life of the transform daemon. This occurs when the first transform is executed for a given class and lasts for the life of the transform daemon (**maximum-idle-time**).

This change is intended to help improve transform performance for subsequent transform invocations. You can specify as many resource libraries as your system allows. Use only the required set of libraries needed. Additional resource libraries, beyond the initial eight, result in non-linear increase of I/O and CPU resource consumption.

AFP user resource libraries can be specified in job attributes, JCL parameters, environment variables, and in the printer definition.

The transforms use this hierarchy when searching AFP resource libraries:

1. User resource libraries specified in the **resource-library** job attribute or USERLIB JCL parameter.
2. Default user resource libraries specified in the **Resource library** field in the printer definition. These libraries are searched only when the job submitter does not specify any user resource libraries (in step 1).
3. System resource libraries specified in environment variables in the transform configuration file.
4. Default system resource libraries that are hard-coded in the transform. These libraries are searched only if no system resource libraries are specified in the transform configuration file (in step 3).

## AFP system resource directories

In the transform entry, you can specify from one to eight UNIX file resource path directories that contain TrueType, OpenType, and WorldType fonts. The directory path can be up to 255 characters. The fonts must be installed in each directory with a resource installer that builds a resource access table (RAT) to describe the fonts in that directory. You can also specify the resource directories in printer definitions.

In most situations, you should specify the same AFP resource directories in the transform configuration file as you currently specify in your PSF startup procedures. If only a few printers require different resource directories, you can specify those libraries in the printer definitions for the printers.

Use the AOP\_FONTPATH environment variable to specify the resource directories in the transform configuration file:

AFP user resource directories can be specified in job attributes, JCL parameters, environment variables, and in the printer definition.

The transform uses this hierarchy when searching AFP resource directories:

1. User resource directories specified in the **resource-directories** job attribute or **USERPATH** JCL parameter.

2. Default user resource directories specified in the **Resource directories** field in the printer definition. These directories are searched only when the job submitter does not specify any user resource directories (see step 1).
3. Resource directories specified in the AOP\_FONTPATH environment variable in the transform configuration file.
4. Default resource directory that is hard-coded in the transform (/usr/lpp/fonts/worldtype). The directory is searched only when no resource directories are specified in the transform configuration file (see step 3).

### Format of an AFP to PDF transform entry

The format of an AFP to PDF transform entry in the transform configuration file (**aopxfd.conf**) is:

```
transform afxpdf[_transformclass]
  start-command = afxpdf
  [ environment = {name -> value [ name -> value]... } ]
  [ maximum-active = number ]
  [ maximum-idle-time = seconds ]
  [ minimum-active = number ]
;
```

#### transform afxpdf[\_transformclass]

This statement indicates the beginning of a transform entry.

#### afxpdf

The name of the transform.

#### transformclass

The name of an optional transform class. Specify from 1 to 55 characters, including letters, numbers, or special characters. The name of the transform class is case-sensitive.

**Default:** No transform class.

**Example:** transform afxpdf\_encrypt

#### start-command = afxpdf [-n | -l]

The name of the transform daemon. If the transform daemon is not in a directory identified in the PATH environment variable specified in the **aopstart** EXEC, specify the full directory path name of the daemon. This attribute is required. (The **afxpdf** daemon is installed in **/usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/bin.**)

#### -n OR parameter not specified

This option disables any job information from being logged to the stderr file. The transform attempts to write job information only when data stream errors are generated. Otherwise, no messages are written to the stderr file. This is the default behavior.

#### -l

This option allows the user to specify that the transform can write available job information to the stderr file.

**Tip:** Use of the trace options (-T <option-value>) overrides the use of **-n** option on the start command.

**Default:** None.

**Example:** start-command=/usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/bin/afxpdf

#### environment = {name -> value [name -> value]... }

Environment variables that specify transform options. Enclose the entire set of environment variables in braces. The values in these environment variables override environment variables with the same name that are set in the **aopstart** EXEC. If a value contains special characters or spaces, enclose the value in single or double quotation marks

For information about the environment variables you can specify, see [“Environment variables for the AFP to PDF transform”](#) on page 90.

**Default:** None.

**Example:** environment={AOP\_ENCRYPT -> yes}

**maximum-active = number**

The maximum number of transform daemons that the Transform Manager activates concurrently. Specify a number greater than 0 and greater than or equal to the number specified in the **minimum-active** attribute. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** No maximum number. Transform daemons are started when needed.

**maximum-idle-time = seconds**

The number of seconds before the Transform Manager shuts down an idle transform daemon and system resources are freed. Specify a number greater than 0. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** Idle transform daemons are not shut down.

**minimum-active = number**

The minimum number of transform daemons that the Transform Manager activates concurrently. Specify a number less than or equal to the number specified in the **maximum-active** attribute. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** minimum-active = 0

**Environment variables for the AFP to PDF transform**

You can use environment variables to:

- Specify default AFP resources, such as the default form definition and page definition.
- Specify AFP system resource libraries.
- Select transform functions, such as whether to enable encryption.
- Name the paper sizes in AFP input trays.

You can optionally specify the following environment variables.

**\_BPX\_JOBNAME**

The job name for this transform. When you assign a different job name to each class of transform, the operator can manage the transform daemons more effectively. Specify a job name of 1 to 8 alphanumeric characters. Incorrect job names are ignored. For more information about the `_BPX_JOBNAME` variable, see [z/OS UNIX System Services Planning](#).

**Default:** The job name is AOPXFD.

**Example:** environment={\_BPX\_JOBNAME -> afpxpdfD}

**AOP\_ACCESSIBLE\_COMPLIANCE\_TYPE**

Specifies the PDF/UA compliance type to which the output PDF document conforms. Valid values are:

**pdfua**

PDFUA specifies ISO 14289 PDF Universal Accessibility compliance (default). Specifying PDFUA causes all outline fonts to be embedded in the PDF output.

**wcag**

WCAG specifies the Web Content Accessibility Guidelines (WCAG) compliance. Specifying WCAG causes all Adobe Base 14 outline fonts to be referenced by name in the PDF output.

**Default:** AOP\_ACCESSIBLE\_COMPLIANCE\_TYPE -> 'pdfua'

**Example:** environment={AOP\_ACCESSIBLE\_COMPLIANCE\_TYPE -> 'wcag'}

**Important:** The **AOP\_ACCESSIBLE\_COMPLIANCE\_TYPE** environment variable is only valid if the Accessible PDF Transform optionally priced feature, HTFA124, is installed. If the compliance type is **'wcag'**, the recommendation is to include **AOP\_FONTMAP\_TABLE** and **AOP\_OUTLINES** environment variables in the transform class.



## AOP\_ANNOTATIONS

Indicates whether the transform is to produce annotations in the PDF document. The transform can create an annotation on each page. The annotation only contains printing instructions such as "Normal duplex Front side". The printing instructions are derived from the form definition that is used to transform the document. For more information about annotations, see the online help that is provided with Adobe Reader. Valid values are:

### yes

The transform produces annotations.

### no

The transform does not produce annotations.

**Default:** AOP\_ANNOTATIONS -> yes

**Example:** environment={AOP\_ANNOTATIONS -> no}

## AOP\_ASSUME\_RIDIC\_UNPAD

Indicates whether all G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) images are unpadding RIDIC. In some IOCA images, the RECID incorrectly states that the encoding is RIDIC when it is unpadding RIDIC. If the RECID for the G4 MMR image specifies RIDIC, but the width of the image is not padded with zeros, set AOP\_ASSUME\_RIDIC\_UNPAD-> yes.

Valid values are:

### yes

Ignore the G4 MMR RECID setting and process all G4 MMR images as unpadding.

### no

Decode G4 MMR images as specified in the RECID.

**Default:** AOP\_ASSUME\_RIDIC\_UNPAD -> no

**Example:** environment={AOP\_ASSUME\_RIDIC\_UNPAD -> yes}

## AOP\_CHARS

The default coded font. The transform uses this font to format error messages unless the page definition specified in the AOP\_MSGPAGEDEF variable names a font. The transforms also use this font for (1) line data when no other font is specified in the page definition that is used to format the document and (2) AFP data when no other font is specified in the AFP data stream.

Specify the 1 to 4 character coded font name. You can specify the X0 or XZ prefix of the coded font name. If you do not specify a prefix, the transform adds an X0 prefix. Some coded fonts have 6-character names, not counting the X0 or XZ prefix. For these fonts, use the 4-character alternate coded font name. For font names and alternate font names, see *z/OS Font Collection* or *IBM AFP Fonts: Font Summary for AFP Font Collection, S544-5633-02* in the IBM Publications Center ([www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss](http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss)).

### Rules:

1. Specify only one default coded font in this environment variable.
2. The font that you specify, or default font X060D9, must exist in one of the AFP font libraries so that the transform can write error messages in the output. The coded font member for a raster font, for example X060D9, must exist in an AFP font library that is specified to the transform.
3. The code page that is associated with this coded font must be an EBCDIC code page.

### Tip:

1. You might want to specify the same font as the resident font in the AFP printer to which output is typically printed.
2. Specify an outline font because outline fonts provide higher-quality output for printing and viewing.

**Default:** AOP\_CHARS -> 60d9 (This is font X060D9 because the transform adds prefix X0.)

**Example:** environment={AOP\_CHARS -> 60d8}

## AOP\_CUTSHEET

Indicates whether the transform is to prepare the output for printing on a cutsheet printer. Valid values are:

### yes

The output is to be printed on a cutsheet printer. Therefore, the transform uses the cutsheet and N\_UP specifications in the form definition to determine whether to send medium orientation information to the printer. For more information, see the description of the CUTSHEET and N\_UP commands in *Page Printer Formatting Aid: User's Guide*.

**Tip:** Select this option if your output is incorrectly printing in the down direction on a cutsheet printer.

### no

The output is not to be printed on a cutsheet printer. Therefore, the transform always sends medium orientation information to the printer.

Table 13 on page 72 shows how the value of the AOP\_CUTSHEET environment variable and values set in the form definition determine the orientation of the output. The shaded row is the only scenario where the orientation specified in the form definition results in a different output orientation.

**Default:** AOP\_CUTSHEET -> no

**Example:** environment={AOP\_CUTSHEET -> yes}

## AOP\_DIGITAL\_CERTIFICATE\_LOCATION

Specifies the repository containing the digital certificate. AOP\_DIGITAL\_CERTIFICATE\_LOCATION string length can be between 1 - 255 characters.

When the digital certificate is stored in a gskkyman database, specify the full path and name of the database. Users will also need to supply a password for the database, either in clear text or as a fully qualified name of the password stash file.

When the digital certificate is stored in a SAF key ring, specify the owner and name of the SAF key ring. The transform application must have at least read access to the key ring to access the certificate.

**Default:** None

**Example:**

```
AOP_DIGITAL_CERTIFICATE_LOCATION -> '<full-path>/gkkyman-db-name'  
AOP_DIGITAL_CERTIFICATE_LOCATION -> 'owner-name/key-ring-name'
```

**Note:** This environment variable is only valid if the Signed Secure PDF Transform separately priced feature (HTFS125) is installed.

## AOP\_ENCRYPT

Indicates whether you want the transform to encrypt documents.

### yes

The transform encrypts the documents.

### no

The transform does not encrypt documents. Any transform requests that specify user or owner identifiers fail.

**Tip:** If AOP\_ENCRYPT is set to yes and neither AOP\_PROTECT is specified nor a user or owner password is provided, the transform uses a 40-bit encryption key with no protect option.

**Default:** AOP\_ENCRYPT -> no

**Example:** environment={AOP\_ENCRYPT -> yes}

## AOP\_FAIL\_ON\_ERROR

Specifies whether the transform stops processing when a warning or data stream error occurs during the transform. Warnings can indicate degraded output.

Valid values are:

**error**

The transform fails when a data stream error occurs and does not create an output document. However, the transform continues if warnings occur. The **error** value is the default.

**no**

The transform attempts to continue processing and create an output document when a warning or data stream error occurs.

**warning**

The transform fails when a warning or data stream error occurs and does not create an output document.

**Tips:**

1. The **fail-on-transform-error** job attribute and the **Fail on error** field in the printer definition override this value.
2. You can specify a value that uses lowercase or uppercase letters (for example, no or NO).
3. The **Fail on error** printer definition attribute can also be set by using the ISPF panel in the processing section.

**Default:** AOP\_FAIL\_ON\_ERROR -> error

**Example:** environment={AOP\_FAIL\_ON\_ERROR -> no}

**AOP\_FAIL\_ON\_IMAGE\_ERROR**

Indicates whether the transform continues to process the document when the transform cannot decode an IOCA image because of certain compression padding errors. Some compression algorithms cause unpadded RIDIC images to be read as padded RIDIC by the transform.

Valid values are:

**yes**

If the transform cannot decode an IOCA image, it issues a message and stops processing the document.

**no**

If the transform cannot decode an IOCA image, it issues a message, stops processing the image, and continues with the next MO:DCA statement.

**retrycont**

If the transform cannot decode a G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) image, it proceeds one of two ways:

- If the RECID indicates RIDIC and the transform fails to decode it as RIDIC, it tries to decode it again as unpadded RIDIC.
- If the RECID indicates unpadded RIDIC, and the transform fails to decode the image that way, it tries to decode it again as RIDIC.

If the transform still cannot decode the G4 MMR image, or if the image is not a G4 MMR image, the transform issues an error message, stops processing the image, and continues with the next MO:DCA statement.

**retryfail**

If the transform cannot decode a G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) image, it proceeds one of two ways:

- If the RECID indicates RIDIC and the transform fails to decode it as RIDIC, it tries to decode it again as unpadded RIDIC.
- If the RECID indicates unpadded RIDIC, and the transform fails to decode the image that way, it tries to decode it again as RIDIC.

If the transform still cannot decode the G4 MMR image, or if the image is not a G4 MMR image, the transform issues a message and stops processing the document.

**Default:** AOP\_FAIL\_ON\_IMAGE\_ERROR -> yes

**Example:** environment={AOP\_FAIL\_ON\_IMAGE\_ERROR -> no}

### AOP\_FLATE

Indicates whether the transform is to use the Adobe Flate compression algorithm to compress the output. Valid values are:

**yes**

The transform produces compressed output.

**no**

The transform does not produce compressed output. However, throughput is higher.

**Default:** AOP\_FLATE -> yes

**Example:** environment={AOP\_FLATE -> no}

### AOP\_FONTLIB

The AFP system resource libraries that contain fonts. Specify 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

Specify the AFP 240-pel or 300-pel raster and outline font libraries that are used by your installation:

- Specify AFP 240-pel or 300-pel raster font libraries because the AFP to PCL transform requires raster fonts.
- Specify AFP outline font libraries if data to be transformed refers to outline fonts.

**Default:** AOP\_FONTLIB -> "sys1.font300 SYS1.SFNTILIB"

**Examples:**

1. `environment={AOP_FONTLIB -> "sys1.font300"}`

2. The backslash in the following example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_FONTLIB -> "sys1.font300 \  
SYS1.SFNTILIB inst.font300"}
```

### AOP\_FONTMAP\_TABLE

The full path name of a UNIX file that contains a font-mapping table that maps raster fonts to outline fonts.

**Default:** No file path.

**Example:**

```
environment={AOP_FONTMAP_TABLE -> /usr/lpp/IBM/PrintXform/V1R2/samples/aokfontmap.samp}
```

### AOP\_FONTPATH

The directories that contain TrueType, OpenType, and WorldType fonts that the transform uses to process data sets. The directory path can be up to 255 characters and you can specify from one to eight UNIX file resource path directories. The transform searches for fonts in the directories in the order they are specified. The fonts must be installed in each directory with a resource installer that builds a resource access table (RAT) to describe the fonts in that directory. To find out how to install fonts, see [“Using TrueType, OpenType, and WorldType fonts” on page 133](#).

**Default:** AOP\_FONTPATH -> "/usr/lpp/fonts/worldtype"

**Examples:**

1. Single directory specified:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/collections"}
```

2. Multiple directories specified with a blank between the paths:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/myfonts /jdoe/fonts/truetype"}
```

**Tip:** Separate directory paths with a space. Spaces are not allowed within the directory path name.

3. The backslash in the following example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/collections \  
/usr/lpp/fonts/wt_ttf"}
```

### AOP\_FORMDEF

The default form definition that is used to format the input data stream and create PDF output. Specify the 1 to 8 character form definition name, with or without the F1 prefix. If you omit the F1 prefix, the transform adds it.

The transform uses this form definition only if no other form definition is specified.

**Default:** AOP\_FORMDEF -> F1CP0110

**Example:** environment={AOP\_FORMDEF -> F1CP0111}

### AOP\_FORMDEFLIB

The AFP system resource libraries that contain form definitions. Specify 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_FORMDEFLIB -> "sys1.fdeflib"

**Example:** environment={AOP\_FORMDEFLIB -> "sys1.fdeflib inst.fdeflib"}

### AOP\_GSK\_FIPS\_STATE

Specifies the FIPS mode the transform sets when calling CMS API services.

Valid values are:

**on**

FIPS mode state is set to FIPS mode

**off**

FIPS mode state is set to non-FIPS mode

**level1**

FIPS mode state is set to FIPS LEVEL1 mode (\*\*)

**level2**

FIPS mode state is set to FIPS LEVEL2 mode (\*\*)

**level3**

FIPS mode state is set to FIPS LEVEL3 mode (\*\*)

**Default:** off

**Example:** AOP\_GSK\_FIPS\_STATE -> off

**Note:** \*\*z/OS 2.3 or higher provide support for level1, level2 or level3 value, for prior release these settings are treated as ON.

System SSL imposes additional restrictions for signature algorithms and allowed key sizes based on FIPS level, for details please review z/OS Cryptographic Services System Secure Sockets Layer Programming.

### AOP\_GSKKYMAN\_DB\_PASSWORD

Specify this value if the digital certificate being used is stored in a gskkyman database. You can either specify the actual database password as a text string (not recommended) or specify the fully qualified name of the password stash file for the gskkyman database. The certificate information cannot be processed without a valid password. AOP\_GSKKYMAN\_DB\_PASSWORD string length can be between 1 - 255 characters.

Valid values are:

1. A valid password text string
2. A fully qualified file name for the password stash file

**Default:** None

**Example:**

```
AOP_GSKKYMANN_DB_PWORD -> 'SamplePassword'  
AOP_GSKKYMANN_DB_PWORD -> '/<absolute-path-name>/samplepassword.sth'
```

**Note:** When specifying a password stash file, supply the absolute path name with a mandatory file extension of sth.

## AOP\_INDEX

Indicates whether the transform is to create PDF bookmarks in the PDF document when the input AFP document contains Tag Logical Elements (TLE) structured fields. For example, a table of contents in an AFP document can be converted to a set of PDF bookmarks. Adobe Reader displays PDF bookmarks in its navigation pane. For more information about bookmarks, see the online help that is provided with Adobe Reader. Valid values are:

**yes**

The transform creates bookmarks in the PDF document.

**no**

The transform does not create bookmarks in the PDF document.

**Default:** AOP\_INDEX -> no

**Example:** environment={AOP\_INDEX -> yes}

## AOP\_INDEX\_LANG

The default code page the transform uses to translate text in the PDF bookmarks (TLE structured fields). This code page is used for line-data documents and overrides the AFP Begin Document (BDT) structured field in an AFP document. If the BDT contains a document language that is to be used, specify NONE for AOP\_INDEX\_LANG. If the BDT does not contain a document language and AOP\_INDEX\_LANG is NONE, code page 37 will be used. Valid values are:

**Code page**

**Description**

**037**

USA, Canada, Australia, New Zealand

**273**

Austria, Germany

**274**

Belgium

**275**

Brazil

**277**

Denmark, Norway

**278**

Finland, Sweden

**280**

Italy

**281**

Japan Latin

**282**

Portugal

**284**

Spain, Latin America

**285**

UK

**297**

France

**500**

International

**871**

Iceland

**Default:** AOP\_INDEX\_LANG -> 037**Example:** environment={AOP\_INDEX\_LANG->500}**AOP\_JPEGQUALITY**

Indicates the JPEG image quality that is used in the transformed output as a percentage of the original image quality. A higher number results in a better quality image, yet a larger output file size. For smaller images, a small value such as 5 or 10 might not result in poor image output quality. Adjusting the value can help reduce the size of the resulting output files that contains images.

Valid values are:

**100**

Keep the original image quality as is.

**1-100**

Specify the JPEG image quality to be used in the transformed output as a percentage of the original image quality.

**Tip:** Specify a value less than 100 to reduce the image quality to that percentage of the original image quality.**Default:** AOP\_JPEGQUALITY -> "100"**Example:** environment={AOP\_JPEGQUALITY -> "10"}**AOP\_LINEARIZE**

Indicates whether the transform is to linearize PDF documents so that they can be viewed faster from the web. This function is especially important for large PDF documents that can take a long time to download. In Adobe Reader online help, this function is called *optimization* and *Fast Web View*. Adobe Reader displays the first page of a linearized PDF document before the entire document has been loaded from a website. For more information about optimization, see the online help provided with Adobe Reader. Valid values are:

**yes**

The transform optimizes the PDF document for fast viewing from the web.

**no**

The transform does not optimize the PDF document for fast viewing from the web.

**Tip:** When you select linearization, the transform uses additional memory because the entire PDF document is kept in memory while it is being linearized.**Default:** AOP\_LINEARIZE -> no**Example:** environment={AOP\_LINEARIZE -> yes}**AOP\_LINKS**

Indicates whether the transform is to create links in the PDF document when the input AFP document contains Link Logical Elements (LLE) structured fields. If the Object Classification Triplet in the LLE indicates an executable program link, the transform creates a Uniform Resource Locator (URL) in the PDF document. Valid values are:

**yes**

The transform creates links in the PDF document.

**no**

The transform does not create links in the PDF document.

**Default:** AOP\_LINKS -> no

**Example:** environment={AOP\_LINKS -> yes}

**AOP\_MAXIMAGERESOLUTION**

Specifies the maximum resolution to be used to print images in the document. If you specify a resolution, the transform scales all images in the document to the specified resolution. Adjusting the maximum resolution value can help reduce the size of the output files that contain the images. This environment variable has minimal impact for AFP to PDF transform, unless it is set to a value less than 300.

Valid values are:

**0**

Keep the input image resolution unchanged.

**150-600**

Specify the maximum resolution to use to print images in the document. Typically, you want to choose 300 or 600 DPI.

**Default:** AOP\_MAXIMAGERESOLUTION -> "0"

**Example:** environment={AOP\_MAXIMAGERESOLUTION -> "300"}

**Tip:** Choose a value between 150 to 600 DPI as an image resolution in the output document. Typically you choose 300 or 600 DPI.

**AOP\_MAX\_RECORD\_LENGTH**

This value is used internally for data transfer. If you are transforming output to an MVS data set, specify a value that represents the smallest record length for MVS data sets to use for transform output. A larger value results in better transform throughput and performance. Specify MAX if not transforming output to MVS data sets.

Valid values are:

**696 - 32756**

Specify the record length of the MVS data set used to receive transform output.

**MAX**

The maximum record length of 32756 is used.

**Tips:**

1. A record length of 32756 for the MVS data set is recommended.
2. If 32756 is specified, use MAX for this environment variable.

**Default:** AOP\_MAX\_RECORD\_LENGTH ->1024

**Example:** environment={AOP\_MAX\_RECORD\_LENGTH-> MAX}

**AOP\_MSGFORMDEF**

The form definition that is used to format transform error messages. Specify the 1 to 8 character form definition name, with or without the F1 prefix. If you omit the F1 prefix, the transform adds it. This form definition must be located in one of the libraries that are specified in the AOP\_FORMDEFLIB variable.

**Default:** AOP\_MSGFORMDEF -> F1CP0110

**Example:** environment={AOP\_MSGFORMDEF -> F1CP0111}

**AOP\_MSGPAGEDEF**

The page definition that is used to format transform error messages. Specify the 1 to 8 character page definition name, with or without the P1 prefix. If you omit the P1 prefix, the transform adds it. This



page definition must be located in one of the libraries that are specified in the AOP\_PAGDEFLIB variable. The transform formats messages for the first paper size that is defined in the AOP\_PAPER variable.

**Recommendation:** Use page definition P1P08682 for letter size paper, and page definition P1Q09182 for A4 paper.

**Default:** AOP\_MSGPAGEDEF -> P1P08682

**Example:** environment={AOP\_MSGPAGEDEF -> P1P06362}

## AOP\_OUTLINES

The type of processing the transform does for outline fonts. Valid values are:

### base14

The transform includes only the names of the Standard Adobe Type 1 Fonts (base 14 outline fonts) in the PDF output following the standard Adobe Type 1 Font naming convention. All other outline fonts are embedded in the output.

### builtin

The transform includes only the names of outline fonts in the PDF output. Outline fonts themselves are not included in the output.

### yes

The transform includes outline fonts in the PDF output. This option provides better output fidelity than the **builtin** option. However, each typeface increases the size of the PDF output file by approximately 110 KB.

**Default:** AOP\_OUTLINES -> yes

**Example:** environment={AOP\_OUTLINES -> builtin}

### Note:

For the base14 and **builtin** options, when the PDF output is viewed or printed, the PDF driver (for example, Adobe Reader or a PDF printer) maps the requested typeface to an equivalent typeface. These options produce smaller output files than when fonts are included in the output. However, differences in output appearance can result from the mapping that is done by the PDF driver.

For example, font spacing might be different. Also, if you use special characters, characters or glyphs that are unknown to the PDF driver, the characters might not be visible.

## AOP\_OUTPUTENCODING

Indicates the font encoding scheme that is used in the PDF output file. Specifying WinANSI converts EBCDIC text code points to the Adobe WinANSI standard character set. This setting can help reduce PDF file size in some cases by reducing the size of /Encoding and /ToUnicode tables for PDF fonts. Valid values are:

### afp

Generate EBCDIC code points for fonts used in the PDF output file.

### winansi

Translate EBCDIC text code points to the Adobe WinANSI standard character set.

**Default:** AOP\_OUTPUTENCODING -> afp

**Example:** environment={AOP\_OUTPUTENCODING -> winansi}

**Note:** The WinANSI setting might have an adverse effect for some fonts. Before deciding to use this setting, consider testing sample documents for any impact.

## AOP\_OVERLAYLIB

The AFP system resource libraries that contain overlays. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_OVERLAYLIB -> "sys1.overlib"

**Example:** environment={AOP\_OVERLAYLIB -> "sys1.overlib inst.overlib"}

## AOP\_PAGEDEF

The default page definition used to format line data. Specify the 1 to 8 character page definition name with or without the P1 prefix. If you omit the P1 prefix, the transform adds it. The transform uses this page definition only if no other page definition is specified.

**Best practice:** Use page definition P1P08682 for letter size paper. Use page definition P1Q09182 for A4 paper.

**Default:** AOP\_PAGEDEF → P1P08682

**Example:** environment={AOP\_PAGEDEF → P1Q09182}

## AOP\_PAGEDEFLIB

The AFP system resource libraries that contain page definitions. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_PAGEDEFLIB → "sys1.pdeflib"

**Example:** environment={AOP\_PAGEDEFLIB → "sys1.pdeflib inst.pdeflib"}

## AOP\_PAGESEGLIB

The AFP system resource libraries that contain page segments. Specify from 1 to 8 or more data set names. Separate each name with a space.

**Default:** AOP\_PAGESEGLIB → "sys1.pseglib"

**Example:** environment={AOP\_PAGESEGLIB → "sys1.pseglib inst.pseglib"}

## AOP\_PAPER

The name of the paper that is typically installed in each AFP input tray. The transform formats the PDF output for the paper in the first AFP input tray ID the document selects.

The position (1 through 9) of each paper name represents the number of the AFP input tray. The 10th position represents any AFP input tray number greater than 9.

You can specify from 1 to 10 paper names. Separate each name with a space. If you specify fewer than 10 paper names, the transform uses the paper name in position 1.

For more information about the paper names you can specify, see [“Paper names” on page 134](#).

Valid paper names and their sizes (width x height) are:

### Paper Name Size

#### auto

The transform uses the page size in the Page Descriptor (PGD) structured field.

#### a3

297 X 420 mm

#### a4

210 x 297 mm

#### a5

148.3 x 210 mm

#### b4

250 x 353 mm

#### b5

176 x 250 mm

#### c5

162 x 229 mm (6.48 x 9.16 in.)

#### com10

4.125 x 9.5 in. (104.8 x 241.3 mm)

#### dl

110 x 220 mm (4.4 x 8.8 in)

**executive**

7.25 x 10.5 in (185 x 267 mm)

**ledger**

11 x 17 in (279 x 432 mm)

**legal**

8.5 x 14.0 in (216 x 356 mm)

**letter**

8.5 x 11.0 in (216 x 279 mm)

**monarch**

3.875 x 7.5 in. (98.4 x 190.5 mm)

**Default:** AOP\_PAPER -> "letter letter letter letter letter letter letter letter letter letter"**Example:** The backslash in the example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_PAPER -> "letter legal letter letter \
letter letter letter letter letter letter"}
```

In this example, if the document to be transformed specifies:

- AFP input tray 1, the transform formats the output for letter size paper.
- AFP input tray 2, the transform formats the output for legal size paper.
- AFP input tray greater than 9, the transform formats the output for letter size paper.

**AOP\_PASSWORD\_EXIT**

The name of the Password exit and optional arguments. The transform calls the Password exit to obtain PDF owner and user passwords for encryption when a user identifier or owner identifier is specified.

Specify the full path name of the Password exit unless it is in a directory that is named in the LIBPATH environment variable. Also, specify any optional arguments that your Password exit accepts.

A sample Password exit is provided in **/usr/lpp/IBM/PrintXform/V1R2/lib/aokpdfexit.dll**. This sample exit accepts the name of the password database as an optional argument (if none is specified, the sample exit uses **/etc/Printsrv/aokpdfexit.db**). For information about the sample Password exit, see ["Writing a Password exit" on page 108](#).**Default:** AOP\_PASSWORD\_EXIT -> "/usr/lpp/IBM/PrintXform/V1R2/lib/aokpdfexit.dll"**Example:** In this example, the argument is the name of the sample password database that the transform provides. The backslash (\) indicates that the text within the quotation marks continues to the next line.

```
environment={AOP_PASSWORD_EXIT -> "/usr/lpp/IBM/PrintXform/V1R2/lib/
aokpdfexit.dll \
/usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.db"}
```

**AOP\_PDF\_AUTHOR**This value can be used to specify an author of the PDF output file. This value appears in the document Author field of the PDF output. The **AOP\_PDF\_AUTHOR** string length can be between 1 - 255 characters. There is a corresponding job attribute, pdf-author, that can be used instead of **AOP\_PDF\_AUTHOR**. If both values are specified, the pdf-author job attribute value is used and the **AOP\_PDF\_AUTHOR** value is ignored.**Default:** None.**Example:** environment={AOP\_PDF\_AUTHOR -> 'Blue Bank CFO'}**Note:** You can use **AOP\_PDF\_AUTHOR** with or without generating accessible PDF files.

## AOP\_PDF\_LANGUAGE

Specifies the Language and optional Country code to specify the natural language of the tagged data. The Language sub code can consist of a two or three character code. See ISO standard 639 for a list of values. If the Country code is needed, use the '-' character as a separator followed by the two character Country code. Possible values for the Country code are listed under ISO standard 3166. To search for the Language and Country code values, see [International Organization for Standardization \(ISO\) \(www.iso.org\)](http://www.iso.org).

**Default:** AOP\_PDF\_LANGUAGE -> 'EN'

The country code is blank.

### Examples:

1. environment={AOP\_PDF\_LANGUAGE -> 'FR'} for French
2. environment={AOP\_PDF\_LANGUAGE -> 'FR-CA'} for French Canadian

**Note:** This environment variable is valid only when the Accessible PDF Transform optionally priced feature, HTFA124, is installed.

## AOP\_PDF\_TITLE

This value can be used to specify a title of the PDF output file. This value appears in the document Title field of the output PDF. The **AOP\_PDF\_TITLE** string length can be between 1 - 255 characters. There is a corresponding job attribute, pdf-title that you can use instead. If both values are specified, the pdf-title job attribute value is used and the **AOP\_PDF\_TITLE** value is ignored.

**Default:** None.

**Example:** environment={AOP\_PDF\_TITLE -> 'Blue Bank Accessible PDF'}

### Notes:

1. **AOP\_PDF\_TITLE** can be used with or without generating accessible PDF output files.
2. To create a compliant accessible PDF/UA document, a title must be provided.

## AOP\_PDF\_KEYWORDS

This value can be used to specify one or more keywords that highlight important content within the PDF output file. This value appears in the document Keywords field of the output PDF. The **AOP\_PDF\_KEYWORDS** string length can be between 1 - 255 characters. There is a corresponding job attribute, pdf-keywords that you can use instead. If both values are specified, the pdf-keywords job attribute value is used and the **AOP\_PDF\_KEYWORDS** value is ignored.

**Default:** No PDF keywords.

**Example:** environment={AOP\_PDF\_KEYWORDS -> 'Blue Bank Statement'}

**Note:** You can use **AOP\_PDF\_KEYWORDS** with or without generating accessible PDF files.

## AOP\_PDF\_SUBJECT

This value can be used to specify the subject of the PDF output file. This value appears in the document Subject field of the output PDF. The **AOP\_PDF\_SUBJECT** string length can be between 1 - 255 characters. There is a corresponding job attribute, pdf-subject that you can use instead. If both values are specified, the pdf-subject job attribute value is used and the **AOP\_PDF\_SUBJECT** value is ignored.

**Default:** No PDF subject.

**Example:** environment={AOP\_PDF\_SUBJECT -> 'Blue Bank Statement 2017'}

**Note:** You can use **AOP\_PDF\_SUBJECT** with or without generating accessible PDF files.

## AOP\_UACF\_LOCATION

The location of the UNIX file pdf-user-accessibility-control-file job attribute value, which is also called ICF in this information. The directory path can be up to 255 characters.

**Default:** environment={AOP\_UACF\_LOCATION -> "/usr/lpp/IBM/PrintXform/V1R2/samples"}

**Example:** environment={AOP\_UACF\_LOCATION -> "/usr/lpp/IBM/PrintXform/V1R2/var/etc"}

**Notes:**

1. The **AOP\_UACF\_LOCATION** environment variable is only valid when the Accessible PDF Transform optionally priced feature, HTFA124, is installed.
2. If any external files are used in the ICF file syntax, ensure they can be located in this same location.

**AOP\_PROTECT**

The actions the transform is to restrict in all PDF documents when the transform job does not specify either a user or owner identifier.

The transform encrypts the PDF documents and restricts the specified actions. However, the encrypted PDF documents do not have user passwords. This means that anyone can read them without a password. The transform uses a low level of encryption (a 40-bit encryption key).

If a transform job specifies a user or owner identifier, the transform ignores this variable and encrypts the PDF document using the passwords that are associated with the identifiers. It restricts the actions that are specified in the **pdf-protect** job attribute or in the printer definition.

Valid values are:

<i>Table 15. AOP_PROTECT values</i>	
<b>Value</b>	<b>Actions users cannot do</b>
<b>select</b>	<ul style="list-style-type: none"><li>• Copy or extract content to another document</li><li>• Extract content for accessibility</li></ul>
<b>print</b>	<ul style="list-style-type: none"><li>• Print at low resolution (150 dpi)</li><li>• Print at high resolution</li></ul>
<b>modify</b>	<ul style="list-style-type: none"><li>• Change the document</li><li>• Assemble the document (insert, delete, rotate pages)</li><li>• Create template pages</li></ul>

**Default:** None.

**Example:** environment={AOP\_PROTECT -> "select print modify"}

**Note:** This environment variable is ignored when the pdf-protect job attribute is used.

**AOP\_PROTECT\_EXTENDED**

This environment variable provides granular control of document security settings. Specify any actions that the transform can allow or restrict in PDF documents. This environment variable requires the use of owner and user identifiers and 128-bit (default), aes128, or aes256 encryption.

Use of the **AOP\_PROTECT\_EXTENDED** environment variable overrides **AOP\_PROTECT/pdf-protect**.

By default, all actions are restricted. To allow actions, specify the allow value listed in [Table 16 on page 103](#).

<i>Table 16. AOP_PROTECT_EXTENDED values</i>		
<b>Document Security</b>	<b>Allow value</b>	<b>Default value</b>
Print	allowprint	restrictprint

<i>Table 16. AOP_PROTECT_EXTENDED values (continued)</i>		
<b>Document Security</b>	<b>Allow value</b>	<b>Default value</b>
Modify	allowmodify	restrictmodify
Copy	allowcopy	restrictcopy
Annotations	allownotes	restrictnotes
Form Fill	allowforms	restrictforms
Copy For Accessibility	allowaccessibility	restrictaccessibility
Assembly	allowassembly	restrictassembly
Print High Quality	allowfaithfulprint	restrictfaithfulprint

**Default:** All actions are restricted.

**Example:** `environment={AOP_PROTECT_EXTENDED -> "allowassembly allowprint"}`

### **AOP\_RESOURCE\_CACHE**

Specifies how the transform caches resources during execution, which is either in memory or in a UNIX directory. The **AOP\_RESOURCE\_CACHE** environment variable applies when the input data contains the following embedded AFP resources: Overlays, Page Segments, Objects (such as graphics and images), and Fonts.

Valid values are:

#### **memory**

The default value in which the transform caches all resource in memory.

#### **base**

The transform caches resources in the directory named <base-directory>/xpd/transform[\_class].#.d. The default base directory is /var/Printsrv

**Default:** `AOP_RESOURCE_CACHE -> memory`

**Example:** `environment= {AOP_RESOURCE_CACHE -> base}`

### **AOP\_ROTATE\_PDF**

Indicates how the transform is to rotate PDF documents. For example, some pages (such as those that contain tables) might require the PDF document to be turned sideways to be read. Valid values are:

#### **no**

The rotation in the form definition is used (PRESENT keyword).

#### **auto**

The rotation on each page is the same as the direction of the majority of the characters on the page, which includes characters in AFP objects such as overlays.

#### **0**

The PDF document is not rotated.

#### **90**

The entire PDF document is rotated 90 degrees counterclockwise.

#### **180**

The entire PDF document is rotated 180 degrees counterclockwise.

#### **270**

The entire PDF document is rotated 270 degrees counterclockwise.

**Tip:** Rotating PDF documents can change the way the PDF documents print. If PDF documents do not print correctly using the **no** value, try the **0** value.

**Default:** `AOP_ROTATE_PDF -> no`

**Example:** environment={AOP\_ROTATE\_PDF -> auto}

### **AOP\_SIGNATURE\_CONTACT**

This value can be used to specify the contact information for the signer or the signing authority generating the signed PDF document. This value is imbedded in the PDF document as part of the signature dictionary. AOP\_SIGNATURE\_CONTACT string length can be between 1 - 255 characters.

There is a corresponding job attribute, pdf-signature-contact that can be used instead. If both are specified, the pdf-signature-contact job attribute value is used and the AOP\_SIGNATURE\_CONTACT value is ignored.

**Default:** None

**Example:** AOP\_SIGNATURE\_CONTACT -> 'For validation call 1-800-mmmm-nnnn'

### **AOP\_SIGNATURE\_DIGESTALG**

This single value specifies the cryptographic hash algorithm to be used for generating the signature digest. This digest is placed within the PDF document along with the public key of the certificate used to sign the PDF document. Digital certificates are based on asymmetric key cryptography, the private key is used by the signer or owner of the key pair to encrypt the signature data. The private key is not revealed to the users of the certificate. The public key is given to the PDF reader to unencrypt the signature and validate the document content when a signed PDF is viewed.

Valid values are:

- sha1 (obsolete)
- sha256
- sha384
- sha512

**Default:** sha256

**Example:** AOP\_SIGNATURE\_DIGESTALG -> sha256

### **AOP\_SIGNATURE\_LOCATION**

This value can be used to specify either the server information or physical location for the signed PDF document. This value is imbedded in the PDF document as part of the signature dictionary. AOP\_SIGNATURE\_LOCATION string length can be between 1 - 255 characters.

There is a corresponding job attribute, pdf-signature-location that can be used instead. If both are specified, the pdf-signature-location job attribute value is used and the AOP\_SIGNATURE\_LOCATION value is ignored.

**Default:** None

**Example:** AOP\_SIGNATURE\_LOCATION -> 'Rochester Minnesota USA'

### **AOP\_SIGNATURE\_NAME**

This value can be used to specify the name of the person or authority signing the signed PDF document. This value should only be used when it is not possible to extract the name for the signature from the certificate. This value is imbedded in the PDF document as part of the signature dictionary. AOP\_SIGNATURE\_NAME string length can be between 1 - 255 characters.

There is a corresponding job attribute, pdf-signature-name that can be used instead. If both are specified, the pdf-signature-name job attribute value is used and the AOP\_SIGNATURE\_NAME value is ignored.

**Default:** A single name extracted from the certificate/signature.

**Example:** AOP\_SIGNATURE\_NAME -> 'Sample Signer Name'

### **AOP\_SIGNATURE\_PSIZE**

This single integer value specifies the amount of reserved space needed for the signature content key in the signature dictionary. This space is required for the byte range digest. Byte range digest

signature cannot be created when the PDF is first created, because the number of bytes required to store the signature is unknown. When the signature is generated in the second phase, the byte range and the content entries in the signature dictionary are updated. Any unused reserved space can be filled with a hex zero string.

The amount of reserved space required depends on the certificate. You can create a test version of a signed PDF to determine if the allocated space is sufficient for the type of certificate. The size of the PDF document does not play any role in calculating the size of reserved space.

Valid values are:

***nnnn***

An integer value between 16902 and 65635.

**Default:** 32768

**Example:** AOP\_SIGNATURE\_PSIZE -> 32768

### **AOP\_SIGNATURE\_REASON**

This value can be used to specify the reason for signing the PDF document. This value is imbedded in the PDF document as part of the signature dictionary. AOP\_SIGNATURE\_REASON string length can be between 1 - 255 characters. There is a corresponding job attribute, pdf-signature-reason that can be used instead. If both are specified, the pdf-signature-reason job attribute value is used and the AOP\_SIGNATURE\_REASON value is ignored.

**Default:** None

**Example:** AOP\_SIGNATURE\_REASON-> 'I agree to the terms of this agreement'

### **AOP\_TRAILER\_ERROR\_PAGE**

Specifies whether the transform writes messages for transform informational warnings and data stream errors to a trailer error page. The trailer error page is the last page in the output document. Warnings can indicate degraded output.

Valid values are:

**error**

The transform writes error messages, but not warning messages, to a trailer error page. This option does not apply when AOP\_FAIL\_ON\_ERROR-> error or AOP\_FAIL\_ON\_ERROR->warning because no output document is created when an error occurs.

**no**

No trailer error page is produced.

**warning**

The transform writes informational warning and error messages to a trailer error page. This option does not apply when AOP\_FAIL\_ON\_ERROR->warning because no output document is created when an error or warning occurs. This is the default.

**Tips:**

1. The **trailer-transform-error-page** job attribute and the **Trailer error page** field in the printer definition override this value.
2. You can specify the value using lowercase or uppercase letters (for example, no or NO).
3. The **Trailer error page** printer definition attribute can also be set by using the ISPF panel in the processing section.

**Default:** AOP\_TRAILER\_ERROR\_PAGE -> warning

**Example:** environment={AOP\_TRAILER\_ERROR\_PAGE -> error}

### **AOP\_TRAYID**

Indicates whether an AFP tray number is valid. The position (1 - 9) of each value corresponds to the AFP tray number. The 10th position corresponds to all AFP input tray numbers greater than 9. Valid values are:



1

The AFP tray number is valid.

0

The AFP tray number is not valid. If the AFP document requests this tray in position 2-10, the transform writes an error message and uses the tray ID in position 1. If the AFP document requests this tray in position 1, the transform changes the value to a 1, as it is used as the default value.

**Tip:** To avoid transforming error messages, either omit this variable or specify the default value.

**Default:** AOP\_TRAYID -> "1 1 1 1 1 1 1 1 1 1"

**Example:** environment={AOP\_TRAYID -> "1 1 1 1 1 1 1 1 1 1"}

### Examples of the transform configuration file entries (AFP to PDF)

The following examples show sample transform entries in the Infoprint Server transform configuration file (**aopxpdf.conf**) for the AFP to PDF transform.

#### Enhance viewing of PDF documents

This transform entry enables transform options that enhance viewing of PDF documents. The environment variables to enable these functions are shown in **bold** text. For more information about these environment variables, see [“Enhanced PDF options” on page 85](#).

```
transform afpxpdf
start-command = afpxpdfd
minimum-active = 1
maximum-active = 2
maximum-idle-time = 300 # 5 minutes
environment = {
  _BPX_JOBNAME -> afpxpdfD
  AOP_CHARS -> 60D9
  AOP_CUTSHEET -> yes
  AOP_ENCRYPT -> no
  AOP_FLATE -> yes
  AOP_FONTLIB -> "sys1.font300 SYS1.SFNTILIB"
  AOP_FORMDEF -> F1CP0110
  AOP_FORMDEFLIB -> "sys1.fdeflib"
  AOP_INDEX -> yes
  AOP_INDEX_LANG -> 037
  AOP_MSGFORMDEF -> F1CP0110
  AOP_MSGPAGEDEF -> P1P08682
  AOP_OVERLAYLIB -> "sys1.overlib"
  AOP_PAGEDEF -> P1P08682
  AOP_PAPER ->
  "letter letter letter letter letter letter letter letter letter letter"
  AOP_ROTATE_PDF -> auto
  AOP_TRAYID -> "1 1 1 1 1 1 1 1 1 1"
}
;
```

#### Encrypt PDF documents

This transform entry enables encryption and also restricts actions in all PDF documents. The environment variables used for encryption are shown in **bold** text. For more information about these environment variables, see [“PDF encryption options” on page 85](#).

This transform entry creates transform class "encrypt". To use this transform class, specify the class in the **-c** transform option as shown in the following examples.

Example 1

```
afpxpdf -c encrypt -o myfile.pdf myfile.afp
lp -o "filter-options='-c encrypt'" -d myprinter myfile.afp
```

## Example 2

```
transform afpxpdf_encrypt
start-command = afpxpdfd
minimum-active = 1
maximum-active = 2
maximum-idle-time = 300 # 5 minutes
environment = {
  _BPX_JOBNAME -> afpxpdfd
  AOP_CHARS -> 60D9
  AOP_CUTSHEET -> no
  AOP_ENCRYPT -> yes
  AOP_FLATE -> yes
  AOP_FONTLIB -> "sys1.font300 SYS1.SFNLIB"
  AOP_FORMDEF -> F1CP0110
  AOP_FORMDEFLIB -> "sys1.fdeflib"
  AOP_INDEX -> yes
  AOP_INDEX_LANG -> 037
  AOP_MSGFORMDEF -> F1CP0110
  AOP_MSGPAGEDEF -> P1P08682
  AOP_OVERLAYLIB -> "sys1.overlib"
  AOP_PAGEDEF -> P1P08682
  AOP_PAGEDEFLIB -> "sys1.pdeflib"
  AOP_PAGESEGLIB -> "sys1.pseglib"
  AOP_PAPER ->
    "letter letter letter letter letter letter letter letter letter letter"
  AOP_PASSWORD_EXIT -> "/usr/lpp/IBM/PrintXform/V1R2/lib/aokpdfexit.dll"
  AOP_PROTECT -> "modify print select"
  AOP_ROTATE_PDF -> no
  AOP_TRAYID -> "1 1 1 1 1 1 1 1 1 1"
}
;
```

## Writing a Password exit

To encrypt PDF documents with passwords, you must write a Password exit. The Password exit provides passwords to the AFP to PDF transform.

**Tip:** To encrypt PDF documents without passwords, you do not need to write a Password exit. For information, see [“PDF encryption options”](#) on page 85.

The types of PDF passwords are:

### User password

Lets someone open an encrypted PDF document. A user password is optional. If a user password is not specified, anyone can open the encrypted PDF document.

### Owner password

Lets you restrict actions in an encrypted PDF document. The owner password also lets someone open an encrypted PDF document and bypass restrictions. An owner password is optional. However, it is required to restrict actions.

The Password exit can do the following functions.

- Provide user and owner passwords:

The AFP to PDF transform passes one or two identifiers to the Password exit as input, a user identifier and an owner identifier. (The Password exit is called only when at least one identifier is specified.) Typically, job submitters specify these identifiers in job attributes. However, the administrator can also specify identifiers in printer definitions.

Your installation can decide what identifiers to use. For example, identifiers can be z/OS userIDs, email addresses, or a combination of different types of identifiers. See [“Input to the Password exit”](#) on page 109 for rules pertaining to identifiers.

The Password exit must return a password for each identifier that is passed as input to the exit. See [“Output from the Password exit”](#) on page 109 for rules pertaining to passwords.

To map identifiers to passwords, your Password exit can use a password database in any format. For example, your Password exit can use a password database that already exists for other purposes. Or, you could create a password database that only your Password exit uses.

**Tip:** Your Password exit can return a password even when an identifier is not specified as input. For example, your Password exit could provide a default owner password when no owner identifier is specified.

- (Optional) Specify restricted actions:

The AFP to PDF transform passes a list of restricted actions to the Password exit as input. The job submitter specifies the restricted actions in a job attribute, or the administrator can specify them in the printer definition. If no restricted actions have been specified for a job, the default is not to restrict actions. This default is passed to the exit.

Your Password exit can change the restricted actions. However, if your Password exit restricts actions, it must also return an owner password.

### **Programming considerations:**

1. The Password exit must be program-controlled.
2. The Password exit runs with UID 0.
3. Do not send a long-term explicit or implied WAIT in the Password exit.
4. The Password exit runs in 31-bit addressing mode, in problem state.
5. Code the Password exit to be reentrant.
6. Programming exceptions cause Infoprint Server to abend so test your Password exit carefully. An ESTAE is in effect while the exit is running.
7. Future maintenance might require that you recompile the exit.

### **Input to the Password exit**

- Arguments (optional): You can define arguments in the AOP\_PASSWORD\_EXIT environment variable in the transform configuration file. For example, you might want to pass the name of the password database as an argument to your Password exit.
- User identifier (optional): The user identifier. This identifier can be specified either in the **pdf-user-identifier** job attribute or in the **User identifier** field in the printer definition. Although the user identifier is optional, the transform calls the Password exit only if a user identifier or owner identifier is specified.
- Owner identifier (optional): The owner identifier. This identifier can be specified either in the **pdf-owner-identifier** job attribute or in the **Owner identifier** field in the printer definition. Although the owner identifier is optional, the transform calls the Password exit only if a user identifier or owner identifier is specified.
- Protected actions (optional): A list of actions that are to be restricted in the PDF document. These restricted actions can be specified either in the **pdf-protect** job attribute or in the **Protected actions** field in the printer definition. For information about the values in this list, see the description of the **pdf-protect** job attribute in [“Job attributes for encrypting PDF documents” on page 42](#).

### **Rules for identifiers:**

1. The identifier can contain any combination of 1-256 letters, numbers, blanks, and special characters.
2. The identifier is passed to the exit in EBCDIC representation (IBM-1047 code page).
3. The identifier is passed to the exit with the same case as it was specified. However, your password exit could ignore the identifier's case. The sample Password exit does not ignore the identifier's case.

### **Output from the Password exit**

- User password (optional): The password for the user identifier.
- Owner password (optional): The password for the owner identifier.

- Protected actions: A list of actions that are to be restricted in the PDF document. For information about the actions that can be protected, see the description of the **pdf-protect** job attribute in [“Job attributes for encrypting PDF documents”](#) on page 42.

### Rules for passwords:

1. Passwords can be 1 to 256 characters.
2. Adobe Reader allows passwords that contain blanks or special characters. However, if you use the sample Password exit, passwords cannot contain blanks or the pound sign (#).
3. If a user identifier or owner identifier is input to the Password exit, it must return a password for the identifier or the job fails.
4. If your Password exit returns a list of protected actions, it must also return an owner password or the job fails.
5. The user and owner passwords must not be the same.
6. Passwords must be in ASCII representation because PDF viewers expect ASCII passwords. For example, use ASCII code page ISO8859-1.

### Sample Password exit

IBM provides a sample Password exit and sample password database:

#### **/usr/lpp/IBM/PrintXform/V1R2/lib/aokpdfexit.dll**

This sample Password exit looks up passwords in the sample password database and returns a password for each identifier that is passed to it as input. It does not change the restricted actions.

The sample Password exit accepts the name of the password database as an argument. If no argument is specified for the sample exit in the AOP\_PASSWORD\_EXIT environment variable, the exit looks for the database in **/etc/Printsrv/aokpdfexit.db**.

#### **/usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.db**

A sample password database that maps identifiers to passwords. To use the sample database with the sample exit, copy it to **/etc/Printsrv/aokpdfexit.db** because the sample exit looks for the password database in that location.

IBM provides the source code for the sample Password exit (**aokpdfexit.dll**) in these files:

#### **/usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.h:**

A header file that contains declarations and interface descriptions.

**Rule:** Do not change the contents of this file.

#### **/usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.c**

The source code for the sample Password exit.

### Steps for writing and installing a Password exit

1. Modify file **/usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.c**, which contains the source code for the sample Password exit.  
File **/usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.h** contains declarations and interface descriptions.
2. Link your Password exit as a dynamic link library (DLL). Follow instructions in **/usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.h**.
3. Mark the UNIX file or MVS data set that contains your Password exit program-controlled. If the Password exit is in a UNIX file, use the z/OS UNIX **extattr** command to mark it.

**Example:** `extattr +p /usr/lpp/IBM/PrintXform/V1R2/lib/mypdfexit.dll`

**Tip:** To use the **+p** option of the **extattr** command, you must have at least READ access to the BPX.FILEATTR.PROGCTL FACILITY class profile.

4. Set the permissions so that the file is owned and executable by UID 0 and with no group or other permissions.

**Example:**

```
su
chown 0 /usr/lpp/IBM/PrintXform/V1R2/lib/mypdfexit.dll
chmod 700 /usr/lpp/IBM/PrintXform/V1R2/lib/mypdfexit.dll
```

**Tip:** To use the **chown** command, you must have an effective UID of 0. You can use the **su** command to switch to an effective UID of 0 if you can access the BPX.SUPERUSER profile in the FACILITY class in RACF.

5. Specify the name of the Password exit and any optional arguments in the AOP\_PASSWORD\_EXIT environment variable in the transform configuration file, **aopxfd.conf**. For information, see [“Environment variables for the AFP to PDF transform”](#) on page 90.

**Example:**

```
environment={AOP_PASSWORD_EXIT -> "/usr/lpp/IBM/PrintXform/V1R2/lib/
mypdfexit.dll"}
```

**Tip:** To edit the transform configuration file, you must have an effective UID of 0.

6. If you switched to an effective UID of 0 in step 4, switch back to your own user ID.

**Example:** exit

7. Restart the Transform Manager to pick up the changes to the transform configuration file and to load your Password exit. For example, use the AOPSTOP and AOPSTART JCL procedures to stop and restart the Transform Manager:

```
START AOPSTOP,OPTIONS='-d xfd'
START AOPSTART
```

**Rule:** If you modify the Password exit in the future, restart the Transform Manager to reload it.

**Steps for writing a Password database**

1. Create the password database. If you want to use the sample password database, copy it from **/usr/lpp/IBM/PrintXform/V1R2/samples/samples/aokpdfexit.db** to another directory and follow instructions in the sample database to add the user identifiers, owner identifiers, and passwords for your installation.

**Example:**

```
su
cp /usr/lpp/IBM/PrintXform/V1R2/samples/aokpdfexit.db /etc/Printsrv/aokpdfexit.db
```

**Tip:** To copy the sample password database, you must have an effective UID of 0. You can use the **su** command to switch to an effective UID of 0 if you are permitted to the BPX.SUPERUSER profile in the FACILITY class in RACF.

2. Set the z/OS UNIX permissions of the database so that it is owned by UID 0 and with no group or other permissions.

**Example:**

```
su
chown 0 /usr/lpp/IBM/PrintXform/V1R2/lib/mypdfexit.db
chmod 700 /usr/lpp/IBM/PrintXform/V1R2/lib/mypdfexit.db
```

**Tip:** To use the **chown** command, you must have an effective UID of 0. You can use the **su** command to switch to an effective UID of 0 if you are permitted to the BPX.SUPERUSER profile in the FACILITY class in RACF.

3. (Optional) If your password exit accepts the name of the password database as an argument, specify the argument in the AOP\_PASSWORD\_EXIT environment variable in the transform configuration file, **aopxfd.conf**.

**Example:** The backslash in the following example indicates that the text within the quotation marks continues on the next line.

```
environment={AOP_PASSWORD_EXIT -> "/usr/lpp/IBM/PrintXform/V1R2/lib/mypdfexit.dll
\
/etc/Printsrv/mypdfexit.db"}
```

**Tip:** To edit the transform configuration file, you must have an effective UID of 0.

4. If you switched to an effective UID of 0 in step 1 or step 2, switch back to your own user ID.

**Example:** `exit`

5. If you modified the transform configuration file, restart the Transform Manager to pick up the changes. For example, use the AOPSTOP and AOPSTART JCL procedures to stop and restart the Transform Manager:

```
START AOPSTOP,OPTIONS='-d xfd'
START AOPSTART
```

**Tip:** If you modify the Password database without changing the transform configuration file, you do not need to restart the Transform Manager.

## Customizing the AFP to PostScript transform

To customize the AFP to PostScript transform, do the tasks listed in [Table 17 on page 112](#). Required tasks are required by all installations. Optional tasks are required only if the listed condition applies to your installation.

Task	Condition	Reference
<a href="#">“Specifying transform options” on page 112</a>	Required	<a href="#">“Specifying transform options” on page 112</a>
<a href="#">“Setting up security for AFP resource libraries” on page 127</a>	Required	<a href="#">“Setting up security for AFP resource libraries” on page 127</a>
<a href="#">“Starting Infoprint Server with sufficient memory” on page 129</a>	Required	<a href="#">“Starting Infoprint Server with sufficient memory” on page 129</a>
<a href="#">“Installing and configuring the XML Toolkit” on page 129</a>	Optional: To transform XML input	<a href="#">“Installing and configuring the XML Toolkit” on page 129</a>

### Specifying transform options

You must create at least one transform entry in the Infoprint Server transform configuration file (**aopxfd.conf**) for the AFP to PostScript transform. In the transform entry, you can specify:

- Environment variables that control the transform
- Attributes that control how the Infoprint Server Transform Manager manages the transform.

For information about how to create and edit the Infoprint Server transform configuration file, see [Creating the transform configuration file in z/OS Infoprint Server Customization](#). After you update the transform configuration file, you must restart the Infoprint Server Transform Manager.

**Tip:** After the Transform Manager starts, check for error messages in the transform's **stderr** file or in the Infoprint Server common message log if the common message log is enabled in Infoprint Server. If you

find any error messages, fix the errors and restart the Transform Manager. For more information about how to find the transform message logs, see [“Finding the transform stderr file” on page 159](#).

## Transform classes

If you need to specify different transform options for different printers, you can create different classes of the AFP to PostScript transform. For example, you might create classes for printers that print on different paper sizes.

For each transform class, you must create a separate transform entry. You select a name for the transform class in the transform entry (see the **transform** attribute).

To use a transform class, job submitters must specify the class name as an option (-c) on the **afpxps** transform command or in the filter-options job attribute. Administrators must specify the class name as a filter option (-c) in the printer definition. For example, these z/OS UNIX commands use the "eu" transform class:

```
afpxps c eu -o myfile.ps myfile.afp
lp -d myprinter -o "filter-options='-c eu'" myfile.afp
```

**Tip:** The sample transform configuration file, `/usr/lpp/IBM/PrintXform/V1R2/samples/aopxfd.afpx.conf`, shows examples of transform entries with different transform classes. Also, see [“Examples -- Transform configuration file entries for the AFP to PostScript transform” on page 127](#).

## Default AFP resources

AFP resources are collections of data and control information that the transforms use to create PostScript documents. You can specify default AFP resources (such as a default font, form definition, and page definition) in the transform configuration file and in printer definitions. AFP resources specified in a printer definition override default resources specified in the transform entry. If only a few printers use different default AFP resources, you might want to specify these default AFP resources in the printer definitions.

In most situations, you should specify the same default AFP resources that your AFP printers use. These default resources are specified either in the PSF startup procedures (in the PRINTDEV statements) or, if PSF is configured to obtain PRINTDEV values from the Printer Inventory, in the PSF FSA definitions in the Printer Inventory.

Use these environment variables to specify default AFP resources in the transform configuration file:

- AOP\_CHARS: The default font used for transform error messages and for line data and AFP data that does not specify another font.
- AOP\_FORMDEF: The default form definition used when no other form definition is specified.
- AOP\_PAGDEF: The default page definition used when no other page definition is specified.

## Search hierarchy for form definitions

The transform uses this hierarchy to select the name of the form definition:

1. The form definition specified in the **form-definition** job attribute or FORMDEF JCL parameter.
2. The form definition specified in the **Form definition** field in the printer definition.
3. The first inline form definition.
4. The form definition specified in the AOP\_FORMDEF environment variable in the transform configuration file.
5. Form definition F1CP0111. This default is coded in the transform.

## Tips:

1. If form definition name **dummy** is specified, the transform uses the first inline form definition.
2. After the transform determines the name of the form definition, the transform first searches for the form definition inline in the data set, and then searches in the user and system resource libraries.

### ***Search hierarchy for page definitions***

The transform uses the following hierarchy to select the name of the page definition:

1. The page definition specified in the **page-definition** job attribute or the PAGEDEF or FCB JCL parameter. (The PAGEDEF parameter overrides the FCB parameter.)
2. The default page definition supplied by JES to IP PrintWay basic mode. (See Tips.)
3. The page definition specified in the **Page definition** field in the printer definition.
4. The first inline page definition.
5. The page definition specified in the AOP\_PAGEDEF environment variable in the transform configuration file.
6. Page definition P1P08682. This default is coded in the transform.

#### **Tips:**

1. If page definition name **dummy** is specified, the transform uses the first inline page definition.
2. After the transform determines the name of the page definition, the transform first searches for the page definition inline in the data set, and then searches in the user and system resource libraries.
3. JES supplies a default page definition for batch jobs submitted to IP PrintWay basic mode with OUTPUT and DD JCL statements. If you want to use the default page definition specified in the transform configuration file, you can request that JES not supply a default page definition to the IP PrintWay basic mode FSA. For more information about the JES initialization parameters to do this, see [\*z/OS Infoprint Server Customization\*](#).

### ***Search hierarchy for the default font***

The transform uses the following hierarchy to select a font for line data and AFP data that does not specify a font:

1. The font that is named in the page definition.
2. The font that is specified in the chars job attribute or the CHARS or UCS JCL parameter. (The CHARS JCL parameter overrides the UCS parameter.)
3. The default font that is supplied by JES to IP PrintWay basic mode. (See the Tip.)
4. The font that is specified in the **Character set** field in the printer definition.
5. The font that is specified in the AOP\_CHARS environment variable in the transform configuration file. The transform prefixes X0 to the font named in the variable if you do not specify a prefix.
6. Font X060D9. This default is coded in the transform.

**Note:** If the page definition specifies a font ID of x'FF' to indicate the use of the presentation system default, the transform uses a font value of character set C0D0GT10 and code page T1D0BASE. The transform also uses the same font in some error situations.

**Tip:** JES supplies a default font for jobs that are submitted to IP PrintWay basic mode with OUTPUT and DD JCL statements. If you want to use the default font that is specified in the transform configuration file, you can request that JES not supply a default font to the IP PrintWay basic mode FSA. For more information about the JES initialization parameters to do this, see [\*z/OS Infoprint Server Customization\*](#).

### ***Search hierarchy for the message font***

The transform uses the following hierarchy to select a font for transform error messages:

1. The font named in the page definition specified in the AOP\_MSGPAGEDEF environment variable.
2. The font specified in the AOP\_CHARS environment variable in the transform configuration file. The transform prefixes X0 to the font named in the variable if you do not specify a prefix.
3. Font X060D9. This default is coded in the transform.



## AFP system resource libraries

In the transform entry, you can specify from 1 to 8 or more AFP system resource libraries for fonts, page definitions, form definitions, page segments, and overlays. You can specify from 1 to 8 AFP user resource libraries in printer definitions.

In most situations, you should specify the same AFP system resource libraries in the transform configuration file as you currently specify in your PSF startup procedures. If only a few printers require different resource libraries, you can specify those libraries in the printer definitions for the printers.

Use the following environment variables to specify system resource libraries in the transform configuration file:

- AOP\_FONTLIB: The names of 1 to 8 or more system font libraries.
- AOP\_FORMDEFLIB: The names of 1 to 8 or more system form definition libraries.
- AOP\_OVERLAYLIB: The names of 1 to 8 or more system overlay libraries.
- AOP\_PAGEDEFLIB: The names of 1 to 8 or more system page definition libraries.
- AOP\_PAGESEGLIB: The names of 1 to 8 or more system page segment libraries.

AFP user resource libraries can be specified in job attributes, JCL parameters, environment variables, and in the printer definition.

**Note:** The libraries listed in the environment variables are treated as permanent resources, and a shared lock is held to prevent deletion of the libraries while they are in use. The transforms obtain a shared lock for the system resources for the life of the transform daemon. The lock occurs when the first transform is executed for a given class and lasts for the life of the transform daemon (**maximum-idle-time**).

The lock is intended to help improve the transform performance for subsequent transform invocations. You can specify as many resource libraries as your system allows. Use only the required set of libraries that are needed. Additional resource libraries, beyond the initial eight, result in non-linear increase of I/O and CPU resource consumption.

The transforms use the following hierarchy when searching the AFP resource libraries:

1. User resource libraries specified in the **resource-library** job attribute or the **USERLIB** JCL parameter.
2. Default user resource libraries specified in the **Resource library** field in the printer definition. These libraries are searched only when the job submitter does not specify any user resource libraries (see step 1).
3. System resource libraries specified in environment variables in the transform configuration file.
4. Default system resource libraries that are hard-coded in the transform. These libraries are searched only if no system resource libraries are specified in the transform configuration file (in step 3).

## AFP system resource directories

In the transform entry, you can specify from one to eight UNIX file resource path directories that contain TrueType, OpenType, and WorldType fonts. The directory path can be up to 255 characters. The fonts must be installed in each directory with a resource installer that builds a resource access table (RAT) to describe the fonts in that directory. You can also specify the resource directories in printer definitions.

In most situations, you should specify the same AFP resource directories in the transform configuration file as you currently specify in your PSF startup procedures. If only a few printers require different resource directories, you can specify those libraries in the printer definitions for the printers.

Use the AOP\_FONTPATH environment variable to specify the resource directories in the transform configuration file:

AFP user resource directories can be specified in job attributes, JCL parameters, environment variables, and in the printer definition.

The transform uses this hierarchy when searching AFP resource directories:

1. User resource directories specified in the resource-directories job attribute or **USERPATH** JCL parameter.

2. Default user resource directories specified in the Resource directories field in the printer definition. These directories are searched only when the job submitter does not specify any user resource directories (see step 1).
3. Resource directories specified in the AOP\_FONTPATH environment variable in the transform configuration file.
4. Default resource directory that is hard-coded in the transform, which is (/usr/lpp/fonts/worldtype). This directory is searched only if no resource directories are specified in the transform configuration file (in step 3).

### Format of an AFP to PostScript transform entry

The format of an AFP to PostScript transform entry in the transform configuration file (**aopxfd.conf**) is:

```
transform afpxps[_transformclass]
  start-command = afpxpsd
  [ environment = {name -> value [ name -> value]... } ]
  [ maximum-active = number ]
  [ maximum-idle-time = seconds ]
  [ minimum-active = number ]
;
```

#### transform afpxps[\_transformclass]

This statement indicates the beginning of a transform entry.

#### afpxps

The name of the transform.

#### transformclass

The name of an optional transform class. Specify from 1 to 56 characters, including letters, numbers, or special characters. The name of the transform class is case-sensitive.

**Default:** No transform class.

**Example:** transform afpxps\_us

#### start-command = afpxpsd [-n | -l]

The name of the transform daemon. If the transform daemon is not in a directory identified in the PATH environment variable specified in the **aopstart** EXEC, specify the full directory path name of the daemon. This attribute is required. (The **afpxpsd** daemon is installed in /usr/lpp/IBM/PrintXform/V1R2/AFPxPS/bin.)

#### -n OR parameter not specified

This option disables any job information from being logged to the stderr file. The transform attempts to write job information only when data stream errors are generated. Otherwise, no messages are written to the stderr file. This is the default behavior.

#### -l

This option allows the user to specify that the transform can write available job information to the stderr file.

**Tip:** Use of the trace options (-T <option-value>) overrides the use of **-n** option on the start command.

**Default:** None.

**Example:** start-command=/usr/lpp/IBM/PrintXform/V1R2/AFPxPS/bin/afpxpsd

#### environment = {name -> value [name -> value]... }

Environment variables that specify transform options. Enclose the entire set of environment variables in braces. The values in these environment variables override environment variables with the same name that are set in the **aopstart** EXEC. If a value contains special characters or spaces, enclose the value in single or double quotation marks.

For information about the environment variables you can specify, see [“Environment variables for the AFP to PostScript transform”](#) on page 117.

**Default:** None.

**Example:** environment={AOP\_FORMDEF -> F1CP0111}

**maximum-active = number**

The maximum number of transform daemons that the Transform Manager activates concurrently. Specify a number greater than 0 and greater than or equal to the number specified in the **minimum-active** attribute. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** No maximum number. Transform daemons are started when needed.

**maximum-idle-time = seconds**

The number of seconds before the Transform Manager shuts down an idle transform daemon and system resources are freed. Specify a number greater than 0. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** Idle transform daemons are not shut down.

**minimum-active = number**

The minimum number of transform daemons that the Transform Manager activates concurrently. Specify a number less than or equal to the number specified in the **maximum-active** attribute. For more information, see [Format of a transform entry in z/OS Infoprint Server Customization](#).

**Default:** minimum-active = 0

**Environment variables for the AFP to PostScript transform**

You can specify environment variables to:

- Specify default AFP resources, such as the default form definition and page definition.
- Specify AFP system resource libraries.
- Select transform functions, such as whether to create color output.
- Name the paper sizes in AFP input trays, and map AFP input tray IDs to PostScript input trays.

You can optionally specify the following environment variables.

**\_BPX\_JOBNAME**

The job name for this transform. When you assign a different job name to each class of transform, the operator can manage the transform daemons more effectively. Specify a job name of 1 to 8 alphanumeric characters. Incorrect job names are ignored. For more information about the `_BPX_JOBNAME` variable, see [z/OS UNIX System Services Planning](#).

**Default:** The job name is AOPXFD.

**Example:** environment={\_BPX\_JOBNAME -> afpxpsD}

**AOP\_ASSUME\_RIDIC\_UNPAD**

Indicates whether all G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) images are unpadded RIDIC. In some IOCA images the RECID incorrectly states that the encoding is RIDIC when it is actually unpadded RIDIC. If the RECID for the G4 MMR image specifies RIDIC, but the width of the image is not padded with zeros, set `AOP_ASSUME_RIDIC_UNPAD-> yes`.

Valid values are:

**yes**

Ignore the G4 MMR RECID setting and process all G4 MMR images as unpadded.

**no**

Decode G4 MMR images as specified in the RECID.

**Default:** `AOP_ASSUME_RIDIC_UNPAD -> no`

**Example:** environment={AOP\_ASSUME\_RIDIC\_UNPAD -> yes}

## AOP\_CHARS

The default coded font. The transforms use this font to format error messages unless the page definition specified in the AOP\_MSGPAGEDEF variable names a font. The transforms also use this font for (1) line data when no other font is specified in the page definition used to print the document and (2) AFP data when no other font is specified in the AFP data stream.

If this environment variable is not specified, the default font is X060D9. The default font you specify, or font X060D9, must exist in one of the AFP font libraries so that the transform can write error messages in the output.

Specify the 1 to 4 character coded font name. You can specify the X0 or XZ prefix of the coded font name. If you do not specify a prefix, the transform adds an X0 prefix. Some coded fonts have 6-character names, not counting the X0 or XZ prefix. For these fonts, use the 4-character alternate coded font name. For font names and alternate font names, see [z/OS Font Collection](#).

### Rules:

1. Specify only one default coded font in this environment variable.
2. The font you specify, or default font X060D9, must exist in one of the AFP font libraries so that the transform can write error messages in the output. The coded font member for a raster font, for example X060D9, must exist in an AFP font library specified to the transform.
3. The code page associated with this coded font must be an EBCDIC code page.

### Tips:

1. You might want to specify the same font as the resident font in the AFP printer to which output is typically printed.
2. Specify an outline font because outline fonts provide higher quality output for printing and viewing.

**Default:** AOP\_CHARS -> 60d9 (This is font X060D9 because the transform adds prefix X0.)

**Example:** environment={AOP\_CHARS -> 60d8}

## AOP\_COLOR

Indicates whether the transform is to produce color output. The transform supports the MO:DCA OCA color commands. Specify **yes** if the printer supports color. Valid values are:

### yes

The transform produces color output.

### no

The transform does color simulation.

**Default:** AOP\_COLOR -> no

**Example:** environment={AOP\_COLOR -> yes}

## AOP\_CUTSHEET

Indicates whether the transform is to prepare the output for printing on a cutsheet printer. Valid values are:

### yes

The output is to be printed on a cutsheet printer. Therefore, the transform uses the cutsheet and N\_UP specifications in the form definition to determine whether to send medium orientation information to the printer. For more information, see the **CUTSHEET** and **N\_UP** commands in [Page Printer Formatting Aid: User's Guide](#).

**Tip:** Select this option if your output is incorrectly printing in the down direction on a cutsheet printer.

### no

The output is not to be printed on a cutsheet printer. Therefore, the transform always sends medium orientation information to the printer.

Table 13 on page 72 shows how the value of the AOP\_CUTSHEET environment variable and values set in the form definition determine the orientation of the output. The shaded row is the only scenario where the orientation specified in the form definition results in a different output orientation.

**Default:** AOP\_CUTSHEET -> no

**Example:** environment={AOP\_CUTSHEET -> yes}

### AOP\_EMBED\_OUTLINES

Indicates whether the transform includes outline fonts in the PostScript output. Valid values are:

#### yes

The transform includes outline fonts in the PostScript output. This option provides improved output fidelity; however, each typeface increases the size of the PostScript output file by approximately 175 KB.

#### no

The transform converts outline fonts to equivalent raster fonts and includes them in the PostScript data stream. This option produces smaller output files than when outline fonts are included in the PostScript output.

**Default:** AOP\_EMBED\_OUTLINES -> yes

**Example:** environment={AOP\_EMBED\_OUTLINES -> no}

### AOP\_FAIL\_ON\_ERROR

Specifies whether the transform stops processing when a warning or data stream error occurs during the transform. Warnings can indicate degraded output.

Valid values are:

#### error

The transform fails when a data stream error occurs and does not create an output document. However, the transform continues if warnings occur. This is the default.

#### no

The transform attempts to continue processing and create an output document when a warning or data stream error occurs.

#### warning

The transform fails when a warning or data stream error occurs and does not create an output document.

#### Tips:

1. The **fail-on-transform-error** job attribute and the **Fail on error** field in the printer definition override this value.
2. You can specify the value using lowercase or uppercase letters (for example, no or NO).
3. The **Fail on error** printer definition attribute can also be set using the ISPF panel in the processing section.

**Default:** AOP\_FAIL\_ON\_ERROR -> error

**Example:** environment={AOP\_FAIL\_ON\_ERROR -> no}

### AOP\_FAIL\_ON\_IMAGE\_ERROR

Indicates whether the transform continues to process the document when the transform cannot decode an IOCA image because of certain compression padding errors. Some compression algorithms cause unpadded RIDIC images to be read as padded RIDIC by the transform.

Valid values are:

#### yes

If the transform cannot decode an IOCA image, it issues a message and stops processing the document.

**no**

If the transform cannot decode an IOCA image, it issues a message, stops processing the image, and continues with the next MO:DCA statement.

**retrycont**

If the transform cannot decode a G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) image, it proceeds one of two ways:

- If the RECID indicates RIDIC and the transform fails to decode it as RIDIC, it tries to decode it again as unpadded RIDIC.
- If the RECID indicates unpadded RIDIC, and the transform fails to decode the image that way, it tries to decode it again as RIDIC.

If the transform still cannot decode the G4 MMR image, or if the image is not a G4 MMR image, the transform issues an error message, stops processing the image, and continues with the next MO:DCA statement.

**retryfail**

If the transform cannot decode a G4 MMR (Modified Modified READ (ITU-TSS T.6 Group 4 two-dimensional coding standard for facsimile)) image, it proceeds one of two ways:

- If the RECID indicates RIDIC and the transform fails to decode it as RIDIC, it tries to decode it again as unpadded RIDIC.
- If the RECID indicates unpadded RIDIC, and the transform fails to decode the image that way, it tries to decode it again as RIDIC.

If the transform still cannot decode the G4 MMR image, or if the image is not a G4 MMR image, the transform issues a message and stops processing the document.

**Default:** AOP\_FAIL\_ON\_IMAGE\_ERROR -> yes

**Example:** environment={AOP\_FAIL\_ON\_IMAGE\_ERROR -> no}

**AOP\_FONTLIB**

The AFP system resource libraries that contain fonts. Specify 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order that they are listed.

Specify the AFP 240-pel or 300-pel raster and outline font libraries used by your installation:

- Specify AFP 240-pel or 300-pel raster font libraries if either (1) you specify a raster font in the AOP\_CHARS environment variable or (2) documents to be transformed reference raster fonts.
- Specify AFP outline font libraries if data to be transformed references outline fonts.

**Default:** AOP\_FONTLIB -> "sys1.font300 SYS1.SFNTILIB"

**Examples:**

1. environment={AOP\_FONTLIB -> "sys1.font300"}
2. The backslash in the example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_FONTLIB -> "sys1.font300 \
SYS1.SFNTILIB inst.font300"}
```

**AOP\_FONTMAP\_TABLE**

The full path name of a UNIX file that contains a font-mapping table.

**Default:** No file path.

**Example:**

```
environment={AOP_FONTMAP_TABLE -> /usr/lpp/IBM/PrintXform/V1R2/samples/aokfontmap.samp}
```

**AOP\_FONTPATH**

The directories that contain TrueType, OpenType, and WorldType fonts that the transform uses to process data sets. The directory path can be up to 255 characters and you can specify from one to

eight UNIX file resource path directories. The transform searches for fonts in the directories in the order they are specified. The fonts must be installed in each directory with a resource installer that builds a resource access table (RAT) to describe the fonts in that directory. To find out how to install fonts, see [“Using TrueType, OpenType, and WorldType fonts”](#) on page 133.

**Default:** AOP\_FONTPATH -> "/usr/lpp/fonts/worldtype"

**Examples:**

1. Single directory specified:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/collections"}
```

2. Multiple directories specified with a blank between the paths:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/myfonts /jdoe/fonts/truetype"}
```

**Tip:** Separate directory paths with a space. Spaces are not allowed within the directory path name.

3. The backslash in the example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_FONTPATH -> "/usr/lpp/fonts/collections \  
/usr/lpp/fonts/wt_ttf"}
```

**AOP\_FORMDEF**

The default form definition used to format the input data stream. Specify the 1 to 8 character form definition name, with or without the F1 prefix. If you omit the F1 prefix, the transform adds it.

The transform uses this form definition only if no other form definition is specified.

**Default:** AOP\_FORMDEF -> F1CP0110

**Example:** environment={AOP\_FORMDEF -> F1CP0111}

**AOP\_FORMDEFLIB**

The AFP system resource libraries that contain form definitions. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_FORMDEFLIB -> "sys1.fdeflib"

**Example:** environment={AOP\_FORMDEFLIB -> "sys1.fdeflib inst.fdeflib"}

**AOP\_JPEGQUALITY**

Indicates the JPEG image quality that is used in the transformed output as a percentage of the original image quality. A higher number results in a better quality image, yet a larger output file size. For smaller images, a small value such as 5 or 10 might not result in poor image output quality. Adjusting the value can help reduce the size of the resulting output files that contains images.

Valid values are:

**100**

Keep the original image quality as is.

**1-100**

Specify the JPEG image quality to be used in the transformed output as a percentage of the original image quality.

**Tip:** To reduce the image quality to that percentage of the original image quality, specify a value less than 100.

**Default:** AOP\_JPEGQUALITY -> 100

**Example:** environment={AOP\_JPEGQUALITY -> 10}

**AOP\_MAXIMAGERESOLUTION**

Specifies the maximum resolution to be used to print images in the document. If you specify a resolution, the transform scales all images in the document to the specified resolution. Adjusting the

maximum resolution value can help reduce the size of the output files that contain the images. This environment variable has minimal impact for AFP to PostScript transform, unless it is set to a value less than 300.

Valid values are:

**0**

Keep the input image resolution unchanged.

**150-600**

Specify the maximum resolution to use to print images in the document. Typically you want to choose 300 or 600 DPI.

**Default:** AOP\_MAXIMAGERESOLUTION -> "0"

**Example:** environment={AOP\_MAXIMAGERESOLUTION -> "300"}

**Tip:** Choose a value between 150 to 600 DPI as an image resolution in the output document. Typically choose 300 or 600 DPI.

### **AOP\_MAX\_RECORD\_LENGTH**

This value is used internally for data transfer. If transforming output to an MVS data set, specify a value that represents the smallest record length for MVS data sets that will be used for transform output. A larger value will result in better transform throughput and performance. Specify MAX if not transforming output to MVS data sets.

Valid values are:

**696 - 32756**

Specify the record length of the MVS data set used to receive transform output.

**MAX**

The maximum record length of 32756 will be used.

**Tips:**

1. A record length of 32756 for the MVS data set is recommended.
2. If 32756 is specified, use MAX for this environment variable.

**Default:** AOP\_MAX\_RECORD\_LENGTH ->1024

**Example:** environment={AOP\_MAX\_RECORD\_LENGTH-> MAX}

### **AOP\_MSGFORMDEF**

The form definition used to format transform error messages. Specify the 1 to 8 character form definition name, with or without the F1 prefix. If you omit the F1 prefix, the transform adds it. This form definition must be located in one of the libraries specified in the AOP\_FORMDEFLIB variable.

**Default:** AOP\_MSGFORMDEF -> F1CP0110

**Example:** environment={AOP\_MSGFORMDEF -> F1CP0111}

### **AOP\_MSGPAGEDEF**

The page definition used to format transform error messages. Specify the 1 to 8 character page definition name, with or without the P1 prefix. If you omit the P1 prefix, the transform adds it. This page definition must be located in one of the libraries specified in the AOP\_PAGEDEFLIB variable. The transform formats messages for the first paper size defined in the AOP\_PAPER variable.

**Recommendation:** Use page definition P1P08682 for letter size paper, and page definition P1Q09182 for A4 paper.

**Default:** AOP\_MSGPAGEDEF -> P1P08682

**Example:** environment={AOP\_MSGPAGEDEF -> P1P06362}

### **AOP\_OFFSET\_JOGGING**

Indicates how the transform supports offset stacking (also called jogging). Offset stacking is requested in the form definition (medium map). If the form definition requests offset stacking, the



transform can offset, shift, or rotate each subset in the output depending on the printer support. The printer must support PDL commands.

Valid values are:

**no**

The transform ignores offset stacking requested in the form definition.

**rotate**

The transform rotates the output by creating a new printer job for each subset and specifying the PDL DEFAULT JOBOFFSET=ROTATE command for the job. Printers that support this PDL command include some Ricoh printers.

**shift**

The transform shifts the output by creating a new printer job for each subset and specifying the PDL DEFAULT JOBOFFSET=SHIFT command for the job. Printers that support this PDL command include some Ricoh printers.

**yes | on**

The transform offsets the output by creating a new printer job for each subset and specifying the PDL DEFAULT JOBOFFSET=ON command for the job. (Value "yes" is the same as "on".)

**Rule:** If you specify rotate, shift, yes, or on, the printer must support PDL commands. In addition, you must specify the AOP\_PDL -> yes environment variable.

If you specify AOP\_PDL -> yes and use the IP PrintWay extended mode Direct Sockets protocol to send documents to the printer, do not select the "Record pages printed for accounting" and "Restart printing after last successful page" options in the printer definition for the printer. This is because a PDL JOB command in the document can conflict with the PDL JOB command that IP PrintWay adds to the document to track the number of pages that print successfully.

**Default:** AOP\_OFFSET\_JOGGING -> no

**Example:** environment={AOP\_OFFSET\_JOGGING -> yes}

**Note:** If you specify rotate, shift, yes, or on, fonts are sent to the printer again for each new printer job, which can adversely affect performance. In addition, other documents might print between the printer jobs.

**AOP\_OVERLAYLIB**

The AFP system resource libraries that contain overlays. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_OVERLAYLIB -> "sys1.overlay"

**Example:** environment={AOP\_OVERLAYLIB -> "sys1.overlay inst.overlay"}

**AOP\_PAGEDEF**

The default page definition used to format line data. Specify the 1 to 8 character page definition name, with or without the P1 prefix. If you omit the P1 prefix, the transform adds it. The transform uses this page definition only if no other page definition is specified.

**Recommendation:** Use page definition P1P08682 for letter size paper, and page definition P1Q09182 for A4 paper.

**Default:** AOP\_PAGEDEF -> P1P08682

**Example:** environment={AOP\_PAGEDEF -> P1Q09182}

**AOP\_PAGEDEFLIB**

The AFP system resource libraries that contain page definitions. Specify from 1 to 8 or more data set names. Separate each name with a space. Libraries are searched in the order listed.

**Default:** AOP\_PAGEDEFLIB -> "sys1.pdeflib"

**Example:** environment={AOP\_PAGEDEFLIB -> "sys1.pdeflib inst.pdeflib"}

## **AOP\_PAGESEGLIB**

The AFP system resource libraries that contain page segments. Specify from 1 to 8 or more data set names. Separate each name with a space.

**Default:** AOP\_PAGESEGLIB -> "sys1.pseglib"

**Example:** environment={AOP\_PAGESEGLIB -> "sys1.pseglib inst.pseglib"}

## **AOP\_PAPER**

The name of the paper that is typically installed in each AFP input tray. The transform formats the PostScript output for the paper in the AFP input tray ID the document selects.

The position (1 through 9) of each paper name represents the number of the AFP input tray. The 10th position represents any AFP input tray number greater than 9.

You can specify from 1 to 10 paper names. Separate each name with a space. If you specify fewer than 10 paper names, the transform uses the paper name in position 1.

For more information about the paper names you can specify, see [“Paper names” on page 134](#).

Valid paper names and their sizes (width x height) are:

### **Paper Name**

#### **Size**

#### **auto**

The transform uses the page size in the Page Descriptor (PGD) structured field.

#### **a3**

297 x 420 mm

#### **a4**

210 x 297 mm

#### **a5**

148.3 x 210 mm

#### **b4**

250 x 353 mm

#### **b5**

176 x 250 mm

#### **c5**

162 x 229 mm (6.48 x 9.16 in.)

#### **com10**

4.125 x 9.5 in. (104.8 x 241.3 mm)

#### **dl**

110 x 220 mm (4.4 x 8.8 in)

#### **executive**

7.25 x 10.5 in (185 x 267 mm)

#### **ledger**

11 x 17 in (279 x 432 mm)

#### **legal**

8.5 x 14.0 in (216 x 356 mm)

#### **letter**

8.5 x 11.0 in (216 x 279 mm)

#### **monarch**

3.875 x 7.5 in. (98.4 x 190.5 mm)

**Default:** AOP\_PAPER -> "letter letter letter letter letter letter letter letter letter letter"

**Example:** The backslash in the example indicates that the text within the quotation marks continues on the next line:

```
environment={AOP_PAPER -> "letter legal letter letter \  
letter letter letter letter letter letter"}
```

In this example, if the document to be transformed specifies:

- AFP input tray 1, the transform formats the output for letter size paper.
- AFP input tray 2, the transform formats the output for legal size paper.
- AFP input tray greater than 9, the transform formats the output for letter size paper.

### AOP\_PJL

Indicates whether the printer accepts all PCL 5 commands, including PJL commands. All printers that support PCL 5 support PCL 5 commands. Some printers that support only PCL 4 do not support PCL 5 commands. Sometimes, a printer that does not support PCL 5 commands prints a smiley face where a PCL 5 command occurs in the data stream or prints the PCL 5 command on the first page. Valid values are:

#### yes

The printer accepts PCL 5 commands.

#### no

The printer does not accept PCL 5 commands. Therefore, the AFP to PostScript transform does not create PCL 5 commands.

**Default:** AOP\_PJL -> no

**Example:** environment={AOP\_PJL -> yes}

**Tip:** If you use IP PrintWay extended mode, specify AOP\_PJL -> no because a PCL JOB command in the document can conflict with the PCL JOB command that IP PrintWay adds to the document to track the number of pages that print successfully.

### AOP\_PSPRINTERPOLICY

Specify the PostScript policy settings string to be inserted "as is" into the resulting PostScript output by the AFP to PS transform instead of the default policy settings. Valid values are:

#### none

The transform does not insert any PostScript policy settings.

#### string

A PostScript policy string that is inserted "as is" in the PostScript output. A maximum of 127 characters are allowed for this string.

**Default:** By default, the transform inserts the following PostScript policy settings: "<</PolicyNotFound 1 /PageSize 2 /ManualFeed 2 /DeferredMediaSelection 1>>"

**Example:** environment="{<</PolicyNotFound 1 /PageSize 2 /ManualFeed 1 /DeferredMediaSelection 1>>"}

**Note:** The default policy settings are appropriate for most PostScript printers. However, if customization is required for a specific printer make and model, see *PostScript Language Reference* from Adobe and any printer-specific documentation for policy handling from the printer vendor. The transform does not perform any validation of the custom policy string supplied.

### AOP\_RESOURCE\_CACHE

Specifies how the transform caches resources during execution, which can be in memory or in a UNIX directory. The **AOP\_RESOURCE\_CACHE** environment variable applies when the input data contains one or more of the following embedded AFP resources:

- Overlays
- Page Segments
- Objects (such as graphics and images)
- Fonts

Valid values are:

**memory**

By default, this transform caches all resource in memory.

**base**

This transform caches resources in the directory named <base-directory>/xpd/transform[\_class].#.d. The base-directory is /var/Printsrv.

**Default:** AOP\_RESOURCE\_CACHE -> memory

**Example:** environment={AOP\_RESOURCE\_CACHE -> base}

**AOP\_TRAILER\_ERROR\_PAGE**

Specifies whether the transform writes messages for transform warnings and data stream errors to a trailer error page. The trailer error page is the last page in the output document. Warnings can indicate degraded output.

Valid values are:

**error**

The transform writes error messages, but not warning messages, to a trailer error page. This option does not apply when AOP\_FAIL\_ON\_ERROR-> error or AOP\_FAIL\_ON\_ERROR->warning because no output document is created when an error occurs.

**no**

No trailer error page is produced.

**warning**

The transform writes warning and error messages to a trailer error page. This option does not apply when AOP\_FAIL\_ON\_ERROR->warning because no output document is created when an error or warning occurs. This is the default.

**Tips:**

1. The **trailer-transform-error-page** job attribute and the **Trailer error page** field in the printer definition override this value.
2. You can specify the value using lowercase or uppercase letters (for example, no or NO).
3. The **Trailer error page** printer definition attribute can also be set using the ISPF panel in the processing section.

**Default:** AOP\_TRAILER\_ERROR\_PAGE -> warning

**Example:** environment={AOP\_TRAILER\_ERROR\_PAGE -> error}

**AOP\_TRAYID**

A mapping of AFP input tray numbers to PostScript tray IDs. The position (1 - 9) of each PostScript tray ID corresponds to the AFP tray number. The 10th position corresponds to all AFP input tray numbers greater than 9.

Specify 1 to 10 PostScript tray numbers, separating each number with a space. Number 0 (zero) indicates that an input tray is not installed in the printer. A value of **M** indicates the manual input tray. If the input document requests an input tray that is not installed, the transform writes an error message in the output file and uses the tray ID in position 1.

**Tip:** Specify the ID used by the PostScript printer to select each tray. This value, minus 1, corresponds to an entry in the **Priority** array in the **InputAttributes** dictionary for the PostScript printer. Printer-specific values are described in the PostScript PPD file for the printer.

**Default:** AOP\_TRAYID -> "1 2 0 0 0 0 0 0 0 M"

**Example:** environment={AOP\_TRAYID -> "1 4 1 1 1 1 1 1 1 M"}

In this example, if the AFP document specifies:

- AFP input tray 1, the transform uses PostScript tray 1.
- AFP input tray 2, the transform uses PostScript tray 4.
- AFP input tray 3 through 9, the transform uses PostScript tray ID 1.

- AFP input tray greater than 9, the transform uses the manual input tray.

### Examples -- Transform configuration file entries for the AFP to PostScript transform

The following topic shows sample transform entries in the Infoprint Server transform configuration file (**aopxfd.conf**) for the AFP to PostScript transform.

#### Print on letter and legal size paper

This transform entry can be used for printers that print on letter and legal size paper. To use this entry, do not specify a transform class.

```
transform afpxps
start-command = afpxpsd
minimum-active = 1
maximum-active = 2
maximum-idle-time = 300 # 5 minutes
environment = {
  _BPX_JOBNAME -> afpxpsD
  AOP_CHARS -> 60d9
  AOP_FONTLIB -> "sys1.font300"
  AOP_FORMDEF -> F1CP0110
  AOP_FORMDEFLIB -> "sys1.fdeflib"
  AOP_MSGFORMDEF -> F1CP0110
  AOP_MSGPAGEDEF -> P1P08682
  AOP_OVERLAYLIB -> "sys1.overlib"
  AOP_PAGEDEF -> P1P08682
  AOP_PAGEDEFLIB -> "sys1.pdeflib"
  AOP_PAGESEGLIB -> "sys1.pseglib"
  AOP_PAPER ->
    "letter legal letter letter letter letter letter letter letter"
  AOP_TRAYID -> "1 4 1 1 1 1 1 1 1 2"
}
;
```

#### Print on A3, A4, and C5 paper

This transform entry can be used for printers that print on A3, A4, and C5 paper. This transform entry creates transform class "eu". To use this transform class, specify the class in the -c transform option as shown in these two examples:

- ```
afpxps -c eu -o myfile.ps myfile.afp
lp -o "filter-options='-c eu'" -d myprinter myfile.afp
```

- ```
transform afpxps_eu
start-command = afpxpsd
minimum-active = 1
maximum-active = 2
maximum-idle-time = 300 # 5 minutes
environment = {
  _BPX_JOBNAME -> afpxpsD
  AOP_CHARS -> 60d9
  AOP_FONTLIB -> "sys1.font300"
  AOP_FORMDEF -> F1CP0110
  AOP_FORMDEFLIB -> "sys1.fdeflib"
  AOP_MSGFORMDEF -> F1CP0110
  AOP_MSGPAGEDEF -> P1P08682
  AOP_OVERLAYLIB -> "sys1.overlib"
  AOP_PAGEDEF -> P1P08682
  AOP_PAGEDEFLIB -> "sys1.pdeflib"
  AOP_PAGESEGLIB -> "sys1.pseglib"
  AOP_PAPER -> "a4 a3 a4 a4 a4 a4 a4 a4 a4 c5"
  AOP_TRAYID -> "1 4 1 1 1 1 1 1 1 2"
}
;
```

## Setting up security for AFP resource libraries

The following topic describes the RACF access that is required for AFP system resource libraries and user resource libraries.

- System resource libraries are libraries specified in the transform configuration file.

- User resource libraries are libraries that are specified in the (1) **Resource libraries** field in the printer definition, (2) **USERLIB** parameter of the OUTPUT JCL statement, or (3) **resource-library** job attribute.

This RACF access is required:

- The user ID that starts Infoprint Server must have RACF READ access to all system resource libraries and user resource libraries that the transform uses.

Users who start Infoprint Server must be members of the AOOPER RACF group, or have a UID of 0. (AOOPER is the default group name for Infoprint Server operators. However, your installation can assign a different name to this group.) Therefore, you should give the AOOPER group READ access to the resource libraries. If someone with a user ID of 0 who is not a member of the AOOPER group can start Infoprint Server (for example, using the **aopstart** command), you must also give this user READ access to the resource libraries.

- Job submitters must have RACF READ access to all user AFP resource libraries that are specified in the printer definition, JCL statements, or job attributes.

In addition, job submitters must use a job submission method that authenticates their z/OS user IDs so that Infoprint Server can use the user ID to check RACF access to the resource libraries. Job submission methods that can authenticate z/OS user IDs include:

- **lp**, **afpxpcl**, **afpxpdf**, and **afpxps** commands
- Windows SMB protocol
- AOPPRINT and AOPBATCH JCL procedures
- z/OS JCL that submits a print job to the Infoprint Server subsystem
- z/OS JCL that submits a print job to IP PrintWay extended mode

Job submitters who use other job submission methods, such as the Infoprint Port Monitor for Windows, can only use user AFP resource libraries that have universal READ access.

#### Tips:

1. To limit access to AFP resources, your installation should use the AOPSTART JCL procedure (instead of the **aopstart** command) to start Infoprint Server. This is because you can associate one user ID with the AOPSTART JCL procedure, and this user ID can be the sole member of the AOOPER group.
2. Specify the RACF NOTIFY parameter in the RACF profiles for AFP resource libraries so that you can receive RACF messages when a user does not have READ access to an AFP resource library. Infoprint Server writes a message (AOP092E) to the common message log and job submitter (if the job submission method allows messages to be returned) when the user does not have READ access to the AFP resource libraries. However, Infoprint Server suppresses RACF messages for failed access checks if you do not request RACF notification in the RACF NOTIFY parameter (on the RDEFINE or RALTER command).

## Setting up security for AFP user path directories

---

The transform must have read permissions set for each user path directory and file it is accessing. If the permissions for each directory or file are not set correctly, the transform cannot access the path directory or file.

The user or system administrator uses z/OS UNIX System Services to set access permissions to path directories and files specified in:

- **resource-directories** job attribute
- **Resource directories** field in the printer definition
- USERPATH parameter of the OUTPUT JCL statement

For more information about z/OS UNIX System Services, see [z/OS UNIX System Services Command Reference](#).

## Starting Infoprint Server with sufficient memory

---

When you use the print transforms, the amount of available memory for Infoprint Server must be at least 256 megabytes. To make sure that sufficient memory is available:

- In the Infoprint Server AOPSTART JCL procedure, specify a region size of at least 256 megabytes in the REGION parameter on the EXEC statement. If the REGION parameter is not specified, the default region size defined for your installation is used.
- Make sure that the maximum address space size for Infoprint Server is at least 256 megabytes.

You can set the system-wide maximum address space size in the BPXPRMxx member or with the SETOMVS command.

### Examples:

- This statement in the BPXPRMxx member sets the maximum address space size to 256 megabytes:

```
MAXASSIZE(268435456) /* 256*1024*1024 = 256MB */
```

- This command sets the maximum address space size to 256 megabytes:

```
SETOMVS MAXASSIZE=268435456
```

- This command checks the MAXASSIZE value from the operator console:

```
d omvs,o
```

You can set the maximum address space for Infoprint Server higher than the system-wide maximum in the ASSIZEMAX parameter of the RACF ADDUSER and ALTUSER command for the user that starts Infoprint Server. The ASSIZEMAX value overrides the MAXASSIZE value.

If you enter the Infoprint Server **aopstart** command from the z/OS UNIX command line during a TSO session, the SIZE parameter on the TSO/E LOGON panel determines the maximum region size for an address space. Specify a SIZE parameter of at least 256 megabytes.

If you start Infoprint Server using the **aopstart** command, the z/OS UNIX **ulimit** command can limit the maximum size of the Infoprint Server address space.

- The z/OS IEFUSI user exit can modify the region size of an address space. IBM strongly discourages you from altering the region size of address spaces in the OMVS subsystem category.

### Related information:

- For information about how to edit the AOPSTART JCL procedure, see "Editing the AOPSTART startup procedure" in *z/OS Infoprint Server Customization*.
- For information about the IEFUSI exit, see *z/OS MVS Installation Exits*.

## Installing and configuring the XML Toolkit

---

When transforming XML files, you must install and configure the IBM XML Toolkit for z/OS, C++ edition, V1.10. For information about the XML Toolkit, including installation instructions and the Program Directory, see the Toolkit home page, [XML Toolkit for z/OS \(www.ibm.com/systems/z/os/zos/tools/xml\)](http://www.ibm.com/systems/z/os/zos/tools/xml).

To configure the XML toolkit, add the path to locate the XML DLLs to the LIBPATH environment variable in the **aopstart** EXEC. Add the IBM XML Toolkit for z/OS, C++ edition, V1.10 and Infoprint Server libraries before any existing values in LIBPATH. For example:

```
LIBPATH=/usr/lpp/ixm/IBM/xml4c-5_7/lib:/usr/lpp/ixm/IBM/xs1t4c-1_11/lib:...
```

After editing the **aopstart** EXEC, stop and restart the Infoprint Server.

For information about how to edit the **aopstart** EXEC, see *z/OS Infoprint Server Customization*.

## Mapping raster fonts to outline fonts

The AFP to PCL transform includes all raster fonts in the output data stream. This transform rasterizes outline fonts to 300-dpi raster fonts and includes them in the output data stream.

The AFP to PDF transform includes all outline and raster fonts in the output data stream to make sure they are available. You can use the AOP\_OUTLINES environment variable to control which fonts are included in PDF output.

The AFP to PostScript transform includes all outline fonts in the PostScript output when the AOP\_EMBED\_OUTLINES environment variable is set to **yes**, which is the default. When AOP\_EMBED\_OUTLINES is set to **no**, the transform rasterizes outline fonts to 300-dpi raster fonts and includes them in the output data stream. When the transform includes outline fonts in the PostScript output, the output fidelity is improved; however, each typeface increases the size of the PostScript output file by approximately 175 KB. When the transform includes raster fonts in the output data stream, the output files are smaller than when outline fonts are included.

Because the transforms include all required fonts in the data streams or the output, there is typically no need for font mapping. However, the AOP\_FONTMAP\_TABLE environment variable lets you improve the output quality of the AFP to PDF transform by mapping raster fonts to outline fonts. Mapping raster fonts to outline fonts provides sharper characters when viewing PDFs on a monitor or printing on a high resolution printer. You can specify the AOP\_FONTMAP\_TABLE environment variable to point to the location of a file that contains a font-mapping table.

### Limitations to font-mapping:

1. Double byte outline fonts are not supported.
2. Only Type 1 outline fonts are supported.

## Font-mapping table format

The font-mapping table is a UNIX text file that can be stored anywhere in the z/OS file system. The font-mapping table has the following syntax:

```
MAPFONT RFONT=raster charset, OFONT=outline charset,  
[VSIZE=point size,] [HSCALE=width %];
```

### **raster charset**

The name of the raster font character set resource name. If the input AFP print file specifies this character set name, the transform uses the outline font specified in the OFONT parameter. The raster font name is typically prefixed with the characters C0.

You can use a wildcard (\*) in the name of the raster font to map a typeface family of raster fonts to a corresponding typeface family of outline fonts.

**Note:** Be sure you understand character set names and font mapping before you use the wildcard because the transform does not check for mapping consistency.

### **Examples:**

1. To map the raster AFP font "normal typeface Helvetica 11 point" to the corresponding outline AFP font "normal typeface Helvetica", specify:

```
MAPFONT RFONT=C0H200A0, OFONT=CZH200;
```

2. To map all raster Helvetica bold typeface to the corresponding outline Helvetica bold typeface:

```
MAPFONT RFONT=C0H40*, OFONT=CZH400;
```

### **outline charset**

The name of the outline font character set that you want to use in place of the font specified in RFONT. File names for outline font character set names typically begin with the letters CZ.



**Example:** To map a raster font to the outline AFP font Helvetica Normal, specify OFONT=CZH200.

**point size**

The size, in points, that the outline font is to be rendered at. Specify a number with up to three decimal points.

**Default:** The point size extracted from the font specified by the RFONT parameter.

**Example:** To indicate that the outline font is to be rendered at 17 and one half points, specify VSIZE=17.5.

**width %**

How the transform scales the widths of the characters, specified as a percentage.

**Default:** 100 (normal width)

**Example:** To produce outline fonts at half their regular width, specify HSCALE=50. Similarly, to produce output that is twice the normal width, specify HSCALE=200.

For the best font substitutions, match a raster font with an outline font of the same font family, and then use HSCALE and VSIZE as necessary to fine-tune any differences that might occur. For information about matching raster and outline fonts, see *IBM AFP Fonts: Font Summary for AFP Font Collection* and [z/OS Font Collection](#).

**Note:**

1. Code the VSIZE parameter when the RFONT parameter specifies a fixed metric AFP raster font.
2. If HSCALE is used incorrectly it can produce incorrect output. Too large a value could cause character overlap.
3. If you want the outline font characters to have the same appearance as the raster font characters, use the same font family for the RFONT and OFONT character sets. If you are using fonts from an installed AFP library, positions 3-6 of the character set name are identical for both the raster and outline font. For example, COB20C\*\* is the Bookmaster raster font character set name (first six characters), and CZB20C is the character set name for the Bookmaster outline font.
4. Code a MAPFONT statement for each font that you want to map. If duplicate RFONT statements exist, the first statement found is used.
5. Specify a comma between the parameters, and end each MAPFONT statement with a semicolon.
6. Start comments with a semicolon in column 1, for example:

```
;This is a comment
```

## Sample font-mapping table

Figure 4 on page 132 shows an example of a font-mapping table. Also, see the font-mapping sample provided in `/usr/lpp/IBM/PrintXform/V1R2/samples/aokfontmap.samp`.

```
*****
; Sample Mappings *
*****
; All are just normal typeface except for the BOLDFACE font.
;
; Map Specials Bookmaster 12 point normal raster to Bookmaster outline font.
mapfont RFONT=C0B20CB0, OFONT=CZB20C;
;
; Map Latin1 Bookmaster 12 point normal raster to Bookmaster outline font.
mapfont RFONT=C0B200B0, OFONT=CZB200;
;
; Map Latin1 Helvetica 12 point normal raster to Helvetica outline font.
mapfont RFONT=C0H200B0, OFONT=CZH200;
;
; Map Cyrillic Greek Helvetica 12 point normal raster to Helvetica outline font.
mapfont RFONT=C0H203B0, OFONT=CZH203;
;
; Map ITC BOUTROS MODERN ROKAA ARABIC 12 point normal raster to ITC BOUTROS MODERN ROKAA ARABIC
outline
mapfont RFONT=C0H204B0, OFONT=CZH204;
;
; Map IBM Logo 12 point normal raster to IBM Logo outline font
mapfont RFONT=C0IBM0B0, OFONT=CZIBM0;
;
; Map Latin1 Times New Roman 12 point normal raster to Latin1 Times New Roman outline font.
mapfont RFONT=C0N200B0, OFONT=CZN200;
.
.
.
*****
; Sample Mappings with Wildcards *
*****
; BookMaster Special Normal
mapfont RFONT=C0B20C* OFONT=CZB20C;
; BookMaster Special Bold
mapfont RFONT=C0B40C* OFONT=CZB40C;
; BookMaster Special Italic
mapfont RFONT=C0B30C* OFONT=CZB30C;
; BookMaster Special Italic Bold
mapfont RFONT=C0B50C* OFONT=CZB50C;
; BookMaster Special Reverse
mapfont RFONT=C0B60C* OFONT=CZB60C;
; Courier Normal
mapfont RFONT=C04200* OFONT=CZ4200;
; Courier Italic
mapfont RFONT=C04300* OFONT=CZ4300;
; Gothic Text Normal
mapfont RFONT=C06200* OFONT=CZ6200;
; Helvetica Normal
mapfont RFONT=C0H200* OFONT=CZH200;
; Helvetica Bold
mapfont RFONT=C0H400* OFONT=CZH400;
; Helvetica Italic
mapfont RFONT=C0H300* OFONT=CZH300;
; Helvetica Italic Bold
mapfont RFONT=C0H500* OFONT=CZH500;
; Latin1 BookMaster Normal
mapfont RFONT=C0B200* OFONT=CZB200;
; Latin1 BookMaster Italic
mapfont RFONT=C0B300* OFONT=CZB300;
.
.
.
```

Figure 4. Sample font-mapping table

## Creating a font-mapping table

To create a font-mapping table:

1. Edit the font-mapping entries in the sample font-mapping table provided in `/usr/lpp/IBM/PrintXform/V1R2/samples/aokfontmap.samp`.

**Tip:** Before editing, copy the sample font-mapping table to another directory.

2. In the font-mapping table, specify as many MAPFONT statements as there are raster fonts you want to map to outline fonts. See [“Font-mapping table format”](#) on page 130 for the format of the MAPFONT statement.
3. Set the file permissions so that the font-mapping table is readable by everyone.
4. Set the AOP\_FONTMAP\_TABLE environment variable in the Infoprint Server transform configuration file (aopxfd.conf) to the file path for the font-mapping table.

**Note:** Set AOP\_FONTMAP\_TABLE for each transform class that uses font mapping.

5. Restart the Infoprint Server Transform Manager. For example, use the AOPSTOP and AOPSTART JCL procedures to stop and restart the Transform Manager:

```
START AOPSTOP,OPTIONS='-d xfd'  
START AOPSTART
```

6. Check for error messages in the transform's **stderr** file or in the Infoprint Server common message log. If you find any error messages, fix the errors and restart the Transform Manager. For more information about how to find the transform message logs, see [“Finding the transform stderr file”](#) on page 159.

## Using TrueType, OpenType, and WorldType fonts

TrueType, OpenType, and WorldType fonts are stored in UNIX files (HFS or zFS files). These fonts can reside in the printer, inline in the print data set, in user path directories, or in system font path directories. TrueType, OpenType, and WorldType fonts are referenced in the print data set by using the Map Data Resource (MDR) structured field.

To use TrueType, OpenType, and WorldType fonts with a transform, you or the system administrator must perform these steps:

1. Install the IBM WorldType Fonts for AFP Print Servers optional feature of Infoprint Fonts for Multiplatforms (Program Number 5648-E77) or TrueType, OpenType, and WorldType font package from a company such as Agfa, Monotype, or Linotype.
  - For more information about Infoprint Fonts for Multiplatforms, see *IBM Infoprint Fonts: Font Summary*, G544-5846 in the [IBM Publications Center \(www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss\)](http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss).
  - WorldType fonts are included in the z/OS Font Collection as a base element of z/OS. For more information, see [z/OS Font Collection](#). By default, the WorldType fonts are available in: /usr/lpp/fonts/worldtype.
2. Use a resource installer program, such as the Font Installer for AFP Systems (an optional feature of Infoprint Fonts for Multiplatforms) or the InfoPrint AFP Resource Installer (Program Number 5639-EE2), to install and build resource access tables (RATs) for the TrueType, OpenType, and WorldType fonts from step “1” on page 133 and install the fonts in path directories (linked fonts are not supported). Be sure the resource installer is set up with the correct permissions to access the path directories.



**Attention:** The transform can successfully process RATs that are created with either the Font Installer for AFP Systems or the InfoPrint AFP Resource Installer. However, a RAT created with the Font Installer for AFP Systems is not compatible with a RAT created with the AFP Resource Installer. Though the AFP Resource Installer can process a RAT created with the Font Installer for AFP Systems and migrate it into the new format, the opposite is not true. When the Font Installer for AFP Systems processes a RAT created with the AFP Resource Installer, it might lose the RAT information or an error might occur. Therefore, IBM recommends that you do not use the Font Installer for AFP Systems after you have created a RAT with the AFP Resource Installer.

3. Identify the path directories where the fonts are found:

- Identify the resource font path directories in the transform configuration file with the AOP\_FONTPATH environment variable.
  - Identify user path directories with the USERPATH parameter on the OUTPUT JCL statement. See the USERPATH parameter in “USERPATH=(path\_name[,...])” on page 61.
4. Use z/OS UNIX System Services to set access permissions to the directories and files in the user path and font path directories. The transform must have read permissions set for each path directory and file it is accessing. If the permissions for each directory or file are not set correctly, the transform cannot access the path directories. For more information about z/OS UNIX System Services, see [z/OS UNIX System Services Command Reference](#).

## Paper names

Table 18 on page 134 summarizes the paper names and sizes that all the transforms support. You can specify these paper names in the AOP\_PAPER environment variable in the transform configuration file.

**Note:** If the AOP\_PAPER environment variable is set to AUTO, the transform uses the page size in the Page Descriptor (PGD) structured field.

Most values in the table are expressed in 300 dots per inch (dpi). (To convert values to inches, divide the values by 300.) The origin of the X (width) and Y (height) coordinates is the top, left corner of the page.

The columns in the table are:

### Paper name

The paper name, which you specify in the AOP\_PAPER environment variable.

### Paper size (in or mm)

The size in inches or millimeters of the entire media. The transforms use this value as the logical page to determine the area of the page that can be toned or printed.

### Paper size (300 dpi)

The size in 300 dots per inch (dpi) of the entire media. The transforms use this value as the logical page to determine the area of the page that can be toned or printed.

### Printable area origin (dpi)

The X (width) and Y (height) coordinates of the top left corner of the printable area in relation to the physical medium.

### Printable area size (dpi)

The area of the page that can be toned or printed.

### Logical page origin (dpi)

The X (width) and Y (height) coordinates of the top left corner of the logical page in relation to the physical medium.

### Logical page size (300 dpi)

The area of the page that can be addressed (positioned by the printer). The AFP to PCL transform uses this value.

### PCL paper type ID

The paper type identifier assigned by PCL and used to select this paper name.

Paper name	Paper size (in or mm)	Paper size (300 dpi)	Printable area origin (300 dpi)	Printable area size (300 dpi)	Logical page origin (300 dpi)	Logical page size (300 dpi)	PCL paper type ID
a3	297 x 420 mm	3507,4960	50,50	3407,4860	71,0	3365,4960	27
a4	210 x 297 mm	2480,3507	50,50	2380,3407	71,0	2338,3507	26

Table 18. Paper names and dimensions (continued)

Paper name	Paper size (in or mm)	Paper size (300 dpi)	Printable area origin (300 dpi)	Printable area size (300 dpi)	Logical page origin (300 dpi)	Logical page size (300 dpi)	PCL paper type ID
a5	148.3 x 210 mm	1748,2480	50,50	1648,2380	71,0	1606,2480	25
b4	250 x 353 mm	3035,4299	50,50	2935,4199	71,0	2893,4299	46
b5	176 x 250 mm	2149,3035	50,50	2049,2935	71,0	2007,3035	45
c5	162 x 229 mm (6.48 x 9.16 in.)	1913,2704	50,50	1813,2604	71,0	1771,2704	91
com10	4.125 x 9.5 in. (104.8 x 241.3 mm)	1237,2850	50,50	1137,2750	75,0	1087,2850	81
dl	110 x 220 mm (4.4 x 8.8 in)	1299,2598	50,50	1199,2498	71,0	1157,2598	90
executive	7.25 x 10.5 in (185 x 267 mm)	2175,3150	50,50	2075,3050	75,0	2025,3150	1
ledger	11 x 17 in (279 x 432 mm)	3300,1500	50,50	3200,5000	75,0	3150,5100	6
legal	8.5 x 14.0 in (216 x 356 mm)	2550,4200	50,50	2450,4100	75,0	2400,4200	3
letter	8.5 x 11.0 in (216 x 279 mm)	2550,3300	50,50	2450,3200	75,0	2400,3300	2
monarch	3.87 x 7.5 in (98.4 x 190.5 mm)	1162,2250	50,50	1062,2150	75,0	1012,2250	80

**Tips:**

1. When you customize the AFP to PCL transform, set the **AOP\_EDGETOEDGE** environment variable to YES if the printer is configured for edge-to-edge printing. However, if the printer does not support edge-to-edge printing, documents created for edge-to-edge printing have the outside 50 pels, approximately 4 millimeters, of output cut off. Edge-to-edge printing is only valid when transforming to PCL.
2. If the job submitter specifies logical-page dimensions that are different from the paper dimensions, the transforms use the user-specified logical-page dimensions. Therefore, the transforms can create output that attempts to print outside of the paper dimensions. In this case, loss of output data and unpredictable formatting results can occur. Job submitters can specify the size of the logical page in the AFP input data stream and in a page definition (for line data and XML input).

## Customizing paper sizes using the paper stock table (AFP to PCL transform)

Use the paper stock table to customize the paper sizes for the AFP to PCL transforms.

The paper stock table is a UNIX text file that can be stored anywhere in the z/OS file system. The paper stock table has the following syntax.

### Paper stock syntax

```
STOCK NAME=<paper name>, WIDTH=<paper width>,  
HEIGHT=<paper height>, PCLPAPERCODE=<PCL paper type ID>,  
LGPGOFFSETPORT=<logical page origin portrait>,  
LGPGOFFSETLAND=<logical page origin landscape>,  
[DESCRIPTION=paper description];
```

#### Paper name (NAME)

The name of the paper entry. The name can contain 1 to 16 letters or numbers.

#### Paper width (WIDTH)

The width of the physical page in 300 dpi.

#### Paper height (HEIGHT)

The height of the physical page in 300 dpi.

#### PCL paper type ID (PCLPAPERCODE)

See the documentation for your printer. The AFP to PCL transform uses the PCLPAPERCODE value.

#### Logical page offset portrait (dpi) (LGPGOFFSETPORT)

The start of the addressable area of the page relative to the long edge of the physical medium. The default is 75. The AFP to PCL transform uses the LGPGOFFSETPORT value.

#### Logical page offset landscape (dpi) (LGPGOFFSETLAND)

The start of the addressable area of the page relative to the short edge of the physical medium. The default is 60. The AFP to PCL transform uses the LGPGOFFSETLAND value.

#### Paper description (DESCRIPTION)

An optional description of the paper size. When using the description, enclose the string in single quotation marks.

**Note:** See your PCL printer documentation for the required values for PCLPAPERCODE, LGPGOFFSETPORT, and LGPGOFFSETLAND.

#### Sample paper stock table

Figure 5 on page 136 shows an example of a paper stock table. You can also see a paper stock sample that is provided in `/usr/lpp/IBM/PrintXform/V1R2/samples/aokstocktable.samp`.

```
;*****  
; Custom Paper Size Sample *  
;*****  
stock name=FOLIO, description='8.5x5.5', width=2550,  
height=1650, lgpgoffsetport=75, lgpgoffsetland=60,  
PCLPaperCode=101;  
;  
stock name=PHOTO, description='8x10', width=2400, height=3000,  
lgpgoffsetport=75, lgpgoffsetland=60, PCLPaperCode=101;  
;
```

Figure 5. Sample custom paper stock table

## Creating custom paper names and sizes

This procedure explains how you can create custom paper names and sizes that the transforms support.

### Before you begin

Before you edit the paper stock table, copy the sample table to another directory.

### About this task

Use the following procedure to add custom paper names and sizes to the paper stock table.

## Procedure

1. Edit the paper stock table entries in the sample paper stock table in `/usr/lpp/IBM/PrintXform/V1R2/samples/aokstocktable.samp`.  
To add a paper size, you must add an entry with the paper name and its dimensions to the paper stock table.  
For example, you can create a paper that is named "folio" that is 5.5 x 8.5.
2. Specify as many custom paper size entries as you need in the paper stock table.  
For the format of the STOCK entry, see [“Customizing paper sizes using the paper stock table \(AFP to PCL transform\)”](#) on page 135.
3. Set the file permissions to make the paper stock table readable by everyone.
4. Set the AOP\_PAPERSTOCK\_TABLE environment variable in the Infoprint Server transform configuration file (`aopxfd.conf`) to the file path for the paper stock table.

**Note:** You must set AOP\_PAPERSTOCK\_TABLE for each transform class that uses custom paper sizes. Specify the new paper name in the AOP\_PAPER environment variable with the same transform class.

For example, the following transform class uses folio paper size. Only tray 1 provides folio paper size.

```
transform_afpxpcl_foliopaper
start-command = afpxpcl
...
...
AOP_PAPERSTOCK_TABLE -> mypath/mypaperstock.tab
...
AOP_PAPER -> "folio letter letter letter letter letter letter letter letter
letter"
...
} ;
```

5. Restart the Infoprint Server Transform Manager.  
For example, use the AOPSTOP and AOPSTART JCL procedures to stop and restart the Transform Manager.

```
START AOPSTOP,OPTIONS='-d xfd'
START AOPSTART
```

6. Check for error messages in the transform's stderr file or in the Infoprint Server common message log.  
If you find any error messages, fix them, and then restart the Infoprint Server Transform Manager. For more information about how to find the transform message logs, see [“Finding the transform stderr file”](#) on page 159.





## Chapter 4. Administering transforms

This information describes how Infoprint Server administrators can set up printer definitions in the Infoprint Server Printer Inventory so that Infoprint Server automatically transforms documents from AFP format to other data formats before sending the documents to printers or email destinations.

Do the tasks listed in [Table 19](#) on page 139. Required tasks are required by all installations that want to use the transform. Optional tasks are required only if the listed condition applies to your installation.

<b>Task</b>	<b>Condition</b>	<b>Reference</b>
<a href="#">“Requesting the AFP to PCL transform” on page 139</a>	Required	<a href="#">“Requesting the AFP to PCL transform” on page 139</a>
<a href="#">“Requesting the AFP to PDF transform” on page 142</a>	Required	<a href="#">“Requesting the AFP to PDF transform” on page 142</a>
<a href="#">“Requesting the AFP to PostScript transform” on page 150</a>	Required	<a href="#">“Requesting the AFP to PostScript transform” on page 150</a>
<a href="#">“Specifying AFP resources and resource libraries” on page 153</a>	Optional: To specify AFP attributes	<a href="#">“Specifying AFP resources and resource libraries” on page 153</a>

### Requesting the AFP to PCL transform

The following topic describes how to set up printer definitions for PCL printers so that Infoprint Server automatically calls the AFP to PCL transform.

#### AFP to PCL transform filter

In the printer definitions for PCL printers, you can specify the AFP to PCL transform filter and associate it with the line-data, MO:DCA-P data formats, and XML data formats. (A filter is a program that modifies the input data before it is sent to the printer or email destination.) When you associate the transform filter with these data formats, Infoprint Server automatically calls the AFP to PCL transform when it processes documents with these formats.

**Tip:** If you run IP PrintWay basic mode, you must also select the resubmit for filtering function in the printer definition. IP PrintWay basic mode calls transform filters only when you select the IP PrintWay resubmit for filtering function.

[Table 20](#) on page 139 shows the filter name and filter options that you can specify in the **Filter** field of a printer definition.

<b>Field name (PIDU attribute)</b>	<b>Filter name</b>	<b>Filter options</b>
Filter (filters)	afpxpcl.dll	<code>[%filter-options] [-c transformclass] [-i inputcodepage] [-F tracefile] [-T traceoptions]</code>

The filter options mean:

## **%filter-options**

Causes options that are specified in the filter-options job attribute to be passed to the transform.

You can type the **%filter-options** option in any position relative to the other filter options. If you specify filter options to the right of **%filter-options**, those options override the same options specified in the **filter-options** job attribute.

## **-c transformclass**

Specifies the name of a transform class that is defined in the transform configuration file, **aopxfd.conf**. The name is case-sensitive. The job submitter can also specify this option in the **filter-options** job attribute.

## **-i inputcodepage**

This option applies only to the **Line data** data format. If you specify this option for any other data formats, it is ignored.

This option identifies the code page to which line data is converted before it is transformed. Specify a code page that corresponds to the coded fonts that the transform uses to transform the line data. (Coded fonts can be specified in the page definition, in the **chars** job attribute or CHARS JCL parameter, and in the **Character sets** field of the printer definition.)

To transform line data that is already encoded in the code page that corresponds to the coded fonts, do *not* specify this option. When this option is not specified, line data is not converted from one code page to another before it is transformed. For example, to transform line-data documents that specify coded fonts (for example, in the CHARS JCL parameter) and currently print correctly on an AFP printer, do *not* specify this option.

You must specify this option to correctly transform documents that are encoded in code pages that do not correspond to the code page for the coded fonts. This is most likely to occur when the Print Interface LPD receives print requests with a print command of **x** in the LPD control file. Print command **x** indicates that the file contains ANSI carriage control characters (FORTRAN carriage control) and is, therefore, line data.

To determine the code page to specify, first determine the AFP code page for each character set. For AFP code pages, see *IBM Infoprint Fonts: Font Summary, z/OS Font Collection*, or both. Then determine the name of the corresponding code page that IBM provides and that the iconv utility supports. For valid code page names, see *z/OS XL C/C++ Programming Guide*.

The AFP code page and the name of the code pages that iconv uses are different. For example, if the coded fonts in [Table 9 on page 26](#) are specified (for example, in the CHARS JCL parameter), specify the IBM-500 code page in the **-i** option: **-i IBM-500**.

When you specify this option, also ensure that the code page specified in the **Document code page** field of the printer definition identifies the code page in which input documents are encoded. (See the ISPF help for information about the **Document code page** field.) A job submitter can also specify a document code page for a specific print job in the **document-codepage** job attribute.

**Tip:** When you specify this option, you might need to create a separate printer definition for use only by those applications that require the **-i** option and code page conversion.

## **-F tracefile -T traceoptions**

These options trace the transforms. Your IBM service representative might ask you to specify these options to help IBM diagnose problems. These options can also be specified in the **filter-options** job attribute. For an explanation of these options, see [“Finding the transform stderr file” on page 159](#).

## **Steps for editing printer definitions for the AFP to PCL transform**

To edit printer definitions, you can use either Infoprint Server ISPF panels or the Printer Inventory Definition Utility (PIDU) program. The following topic describes how to use the ISPF panels. For information about the PIDU program, see "Using the PIDU program to manage the Printer Inventory" in *z/OS Infoprint Server Operation and Administration*.

**Before you begin:** To edit the Printer Inventory, you must have UPDATE access to the AOP.ADMINISTRATOR profile in the RACF PRINTSRV class.

To edit printer definitions:

1. (Optional) Create a Processing component. If you need to specify the AFP to PCL transform in a large number of printer definitions, a component can simplify administration. If you need to change your transform filter in the future, you can make the change in your Processing component.
2. On the Processing panel of either the printer definition or the component, select the **Line data**, **MO:DCA-P**, and **XML** data formats.
3. Next to these data formats, specify the **afpxpcl.dll** filter and filter options in the **Filter** field. Type the absolute path name if the filter is not in a directory named in the LIBPATH environment variable. For filter options, see “AFP to PCL transform filter” on page 139.
4. If you run IP PrintWay basic mode, select the **Resubmit for filtering** field. IP PrintWay extended mode ignores this field because it calls transforms directly. For more information about this field, see “Resubmitting documents to Print Interface for filtering” in *z/OS Infoprint Server Operation and Administration*.
5. (Optional) In the **Fail on error** field, select whether you want the transform to fail when a transform warning or data stream error occurs during the transform. When a transform fails, the transform does not produce an output document.

The Infoprint Server **fail-on-transform-error** job attribute overrides this field.

If you do not select an option in this field and **fail-on-transform-error** is not specified, the AOP\_FAIL\_ON\_ERROR environment variable determines when the transform fails. Otherwise, the default is to fail on error.

6. (Optional) In the **Trailer error page** field, select the type of messages you want the transform to write on a page at the end of the AFP output (called the **trailer error page**).

The Infoprint Server **trailer-transform-error-page** job attribute overrides this value.

If you do not select an option in this field, the AOP\_TRAILER\_ERROR\_PAGE environment variable determines the type of messages the transform writes. Otherwise, the default action is to place informational, warning, or error messages on the trailer page as part of the output document.

7. (Optional) If you created a Processing component, specify the name of the Processing component in the **Component name** field on the IP PrintWay printer definition panel. Do this in all printer definitions to which the transform applies.

After you include a Processing component, check the Processing panel in the printer definition to make sure the transform is specified correctly. You might need to remove (space over) any filters that are specified on the Processing panel of the printer definition itself. If any filters are specified in the printer definition, the filters specified in the component are not used.

**Tip:** If you remove the **aopfiltr.so** or **lpd\_compat.so** filter for the **Text** data format from the **Filter** field of the printer definition, be sure to specify the same filter in the Processing component. (Print Interface uses these filters.)

## Example -- ISPF Processing panel for the AFP to PCL transform

Figure 6 on page 142 shows the ISPF panel that you use to specify the AFP to PCL transform in a printer definition. Only a portion of the Processing panel is shown. This example uses the afpxpcl\_eu transform class from the aopxfd.conf file.

```

Edit                                     Processing
Command ==> -----

Printer definition name . pcl1
:

Supported data formats and associated filters:
Data format:  Filter:

/ Line data  afpxpcl.dll -c eu %filter-options      (extend)
/ MO:DCA-P  afpxpcl.dll -c eu %filter-options      (extend)
PostScript  ----- (extend)
/ Text      aopfiltr.so                          (extend)
/ PCL      ----- (extend)
- PDF      ----- (extend)
- SAP      ----- (extend)
/ XML      afpxpcl.dll -c eu %filter-options      (extend)
- TIFF     ----- (extend)
- JPEG     ----- (extend)
- Other    ----- (extend)

/ Resubmit for filtering

Transforms:
  Fail on error . . . . 2  1. No  2. Error  3. Warning
  Trailer error page. . 1  1. No  2. Error  3. Warning
:

```

Figure 6. Example of the ISPF Processing panel for the AFP to PCL transform

Explanation of fields:

- The **Line data**, **MO:DCA-P**, and **XML** data formats are selected because the **afpxpcl.dll** filter can transform these data formats to PCL format. The transform options are:
  - The **-c** filter option causes the transform to use the **eu** transform class, which is defined in the transform configuration file.
  - The **%filter-options** filter option lets the job submitter override the transform class because it is specified to the right of the **-c** filter option.
- The **Text** and **PCL** data formats are selected because the printer can accept these data formats without any transform. The **aopfiltr.so** filter is specified for **Text** data because Print Interface uses this filter.
- The **Resubmit for filtering** field is selected so that IP PrintWay basic mode calls Print Interface to transform documents submitted from batch applications.
- In the **Fail on error** field, option **Error** is selected. If a data stream error occurs during the transform, the transform fails and does not create an output document.
- In the **Trailer error page** field, option **No** is selected. The transform does not write any warning or error messages to a trailer error page.

## Requesting the AFP to PDF transform

The following topic describes how to set up printer definitions for email destinations so that Infoprint Server automatically calls the AFP to PDF transform.

### AFP to PDF transform filter

In the printer definitions for PDF printers or email destinations, you can specify the AFP to PDF transform filter and associate it with the line-data, MO:DCA-P, and XML data formats. (A filter is a program that modifies the input data before it is sent to the printer or email destination.) When you associate the transform filter with these data formats, Infoprint Server automatically calls the AFP to PDF transform when it processes documents with these data formats.

**Tip:** If you run IP PrintWay basic mode, you must also select the resubmit for filtering function in the printer definition. IP PrintWay basic mode calls transform filters only when you select the IP PrintWay resubmit for filtering function.

Table 21 on page 143 shows the filter name and filter options that you can specify in the **Filter** field of a printer definition.

Table 21. AFP to PDF filter name and filter options		
Field name (PIDU attribute)	Filter name	Filter options
Filter (filters)	afpxpdf.dll	[%filter-options] [-c transformclass] [-i inputcodepage] [-F tracefile] [-T traceoptions]

The filter options mean:

#### %filter-options

Causes options that are specified in the **filter-options** job attribute to be passed to the transform.

You can type the **%filter-options** option in any position relative to the other filter options. If you specify filter options to the right of **%filter-options**, those options override the same options specified in the **filter-options** job attribute.

#### -c transformclass

Specifies the name of a transform class that is defined in the transform configuration file, **aopxfd.conf**. The name is case-sensitive. The job submitter can also specify this option in the **filter-options** job attribute.

#### -i inputcodepage

This option applies only to the **Line data** format. If you specify this option for any other data formats, it is ignored.

This option identifies the code page to which line data is converted before it is transformed. Specify a code page that corresponds to the coded fonts that the transform uses to transform the line data. (Coded fonts can be specified in the page definition, in the **chars** job attribute or CHARS JCL parameter, and in the **Character sets** field of the printer definition.)

To transform line data that is already encoded in the code page that corresponds to the coded fonts, do *not* specify this option. When this option is not specified, line data is not converted from one code page to another before it is transformed. For example, to transform line-data documents that specify coded fonts (for example, in the CHARS JCL parameter) and currently print correctly on an AFP printer, do *not* specify this option.

You **must** specify this option to correctly transform documents that are encoded in code pages that do not correspond to the code page for the coded fonts. This is most likely to occur when the Print Interface LPD receives print requests with a print command of **r** in the LPD control file. Print command **r** indicates that the file contains ANSI carriage control characters (FORTRAN carriage control) and is, therefore, line data.

To determine the code page to specify, first determine the AFP code page for each character set. For AFP code pages, see *IBM Infoprint Fonts: Font Summary*. Then determine the name of the corresponding code page that IBM provides and that the iconv utility supports. For valid code page names, see *z/OS XL C/C++ Programming Guide*.

The AFP code page and the name of the code pages that iconv uses are different. For example, if the coded fonts in [Table 9 on page 26](#) are specified (for example, in the CHARS JCL parameter), specify the IBM-500 code page in the **-i** option.

```
-i IBM-500
```

When you specify this option, also make sure that the code page specified in the **Document code page** field of the printer definition identifies the code page in which input documents are encoded. (See the ISPF help for information about the **Document code page** field.) A job submitter can also specify a document code page for a specific print job in the **document-codepage** job attribute.

**Tip:** When you specify this option, you might need to create a separate printer definition for use only by those applications that require the **-i** option and code page conversion.

**-F tracefile -T traceoptions**

These options trace the transforms. Your IBM service representative might ask you to specify these options to help IBM diagnose problems. These options can also be specified in the **filter-options** job attribute. For an explanation of these options, see [“Finding the transform stderr file”](#) on page 159.

## PDF encryption options

In the printer definition, you can specify options that the AFP to PDF transform uses when it encrypts PDF documents with passwords. The transform encrypts PDF documents with passwords when you specify a user identifier or owner identifier in the printer definition or when the job submitter specifies one of these identifiers in job attributes.

**Tip:** If no user identifier or owner identifier is specified, the transform does not use any of the other encryption options in the printer definition.

Values specified in job attributes override the same values in the printer definition. For example, the **pdf-user-identifier** job attribute overrides the **User identifier** field in the printer definition.

Table 22 on page 144 describes the printer definition fields (and the corresponding PIDU attributes) that let you specify encryption options. For a description of the PIDU attributes, see [“Printer attributes for encrypting PDF documents”](#) on page 145.

<i>Table 22. PDF encryption fields in the printer definition</i>		
<b>Field name (PIDU attribute)</b>	<b>Description</b>	<b>Default</b>
Encryption level (pdf-encryption-level)	<p>The level of encryption used to encrypt PDF documents. A high level of encryption provides enhanced security and lets you restrict more actions on PDF documents. However, some users might not be able to open PDF documents that use a high level of encryption. You can select:</p> <p><b>Low (40-bit key)</b> A low level of encryption (a 40-bit encryption key) is used. Select this value if you send PDF documents in an email to countries that do not use 128-bit encryption, or for users with Adobe Reader 3.0 - 4.x.</p> <p><b>High (128-bit key)</b> A high level of encryption (a 128-bit encryption key) is used.</p> <p><b>aes128</b> AES (Advances Encryption Standard) 128-bit encryption is used. AES is a modern block cipher that is documented in the FIPS-197 Publication. Select this value for sensitive PDF documents.</p> <p><b>aes256</b> AES (Advanced Encryption Standard) 256-bit encryption is used. AES is a modern block cipher that is documented in the FIPS-197 Publication. Select this value for sensitive PDF documents.</p>	High (128-bit key).

Table 22. PDF encryption fields in the printer definition (continued)

Field name (PIDU attribute)	Description	Default
Owner identifier (pdf-owner-identifier)	<p>The identifier of the owner of an encrypted PDF document. The owner identifier is associated with a password that is stored in a separate database. An owner password is required to restrict actions in the <b>Protected actions</b> field.</p> <p>You can enter from 1 - 256 characters, with any combination of letters, numbers, blanks, and special characters that the Password exit allows. This text string might be case-sensitive, depending on the Password exit.</p> <p><b>Tip:</b> The user and owner identifiers should be different because the user and owner passwords must be different.</p>	None.
Protected actions (pdf-protect)	<p>The actions that are restricted in encrypted PDF documents:</p> <p><b>Copy</b> Users cannot:</p> <ul style="list-style-type: none"> <li>• Copy or extract content to another document</li> <li>• Extract content for accessibility</li> </ul> <p><b>Print</b> Users cannot:</p> <ul style="list-style-type: none"> <li>• Print at low resolution (150 dpi)</li> <li>• Print at high resolution</li> </ul> <p><b>Update</b> Users cannot:</p> <ul style="list-style-type: none"> <li>• Change the document</li> <li>• Assemble (insert, rotate, and delete pages)</li> <li>• Add comments</li> <li>• Fill in form fields or sign</li> <li>• Create template pages</li> </ul>	No actions are restricted.
User identifier (pdf-user-identifier)	<p>The identifier of the user of an encrypted PDF document. The user identifier is associated with a password that is stored in a separate database. The user password is required to open encrypted PDF documents.</p> <p>You can enter from 1 - 256 characters, with any combination of letters, numbers, blanks, and special characters that the Password exit allows. This text string might be case-sensitive, depending on the Password exit.</p> <p><b>Tip:</b> The user and owner identifiers should be different because the user and owner passwords must be different.</p>	None. Anyone can open the PDF documents without a password.

## Printer attributes for encrypting PDF documents

The following topic describes the printer attributes related to encryption that you can specify in the **processing** and **printer** object classes when you use the Printer Inventory Definition Utility (PIDU) to create or edit printer definitions. For information about PIDU and the other Infoprint Server printer

attributes you can specify, see "Using the PIDU program to manage the Printer Inventory" in [z/OS Infoprint Server Operation and Administration](#).

### **pdf-encryption-level**

This **single-valued** attribute specifies the level of encryption used to encrypt PDF documents. A high level of encryption provides enhanced security. However, some users might not be able to open PDF documents that use a high level of encryption.

#### **Allowed values**

You can enter one of these fixed values:

##### **bits40**

A low level of encryption (a 40-bit encryption key) is used. Select this value if you send PDF documents in an email to countries that do not use 128-bit encryption, or for users with Adobe Reader 3.0 - 4.x.

##### **bits128**

A high level of encryption (a 128-bit encryption key) is used.

##### **aes128**

AES (Advanced Encryption Standard) 128-bit encryption is used. AES is a modern block cipher that is documented in the FIPS-197 Publication. Select this value for sensitive PDF documents.

##### **aes256**

AES (Advanced Encryption Standard) 256-bit encryption is used. AES is a modern block cipher that is documented in the FIPS-197 Publication. Select this value for sensitive PDF documents.

#### **Default value**

bits128

#### *Usage guidelines*

- When encrypting with bits128, aes128 or aes256, a user identifier, an owner identifier, or both are required.

### **pdf-owner-identifier**

This **single-valued** attribute specifies the identifier of the owner of an encrypted PDF document. The owner identifier is associated with a password that is stored in a separate database. An owner password is required to restrict actions with the **pdf-protect** attribute.

#### *Allowed values*

You can enter a text string of 1 - 256 characters. You can enter any combination of letters, numbers, blanks, and special characters that the Password exit allows. This text string might be case-sensitive, depending on the Password exit. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks. For example:

```
pdf-owner-identifier='Nurse-Lee@hospital.com'
```

If the string contains double quotation marks, enclose the string in single quotation marks.

#### *Default value*

None.

#### *Usage guidelines*

- The transform encrypts a PDF document when you specify a user identifier, an owner identifier, or both. Encrypting a PDF document protects it from unauthorized access.
- The user and owner identifiers should be different because the user and owner passwords must be different.



## **pdf-protect**

This **multi-valued** attribute specifies one or more actions that users cannot do on encrypted PDF documents.

### *Allowed values*

You can enter one or more fixed values to restrict actions (see [Table 23 on page 147](#)). If you specify more than one value, separate the values with spaces and enclose the list of values in braces {}. For example:

```
-j "pdf-protect=all"  
-j "pdf-protect={copy update}"
```

<b>Value:</b>	<b>Actions users cannot do:</b>
<b>all</b>	<ul style="list-style-type: none"><li>• All actions (copy, print, update)</li></ul>
<b>copy</b>	<ul style="list-style-type: none"><li>• Copy or extract content to another document</li><li>• Extract content for accessibility</li></ul>
<b>print</b>	<ul style="list-style-type: none"><li>• Print at low resolution (150 dpi)</li><li>• Print at high resolution</li></ul>
<b>update</b>	<ul style="list-style-type: none"><li>• Change the document</li><li>• Assemble the document (insert, delete, rotate pages)</li><li>• Add comments</li><li>• Fill in form fields or sign</li><li>• Create template pages</li></ul>

### *Default value*

None.

## **pdf-user-identifier**

This **single-valued** attribute specifies the identifier of the user of an encrypted PDF document. The user identifier is associated with a password that is stored in a separate database. The user enters the user password when opening the encrypted PDF document.

### *Allowed values*

You can enter a text string of 1 - 256 characters. You can enter any combination of letters, numbers, blanks, and special characters that the Password exit allows. This text string might be case-sensitive, depending on the Password exit. If the text string you specify contains blanks or special characters (such as @ \$ & ( ) > < | ' " #), enclose the text string in single or double quotation marks. For example:

```
pdf-user-identifier='Dr-Smith@hospital.com'
```

If the string contains double quotation marks, enclose the string in single quotation marks.

### *Default value*

None.

## Usage guidelines

- The transform encrypts a PDF document when you specify a user identifier, an owner identifier, or both. Encrypting a PDF document protects it from unauthorized access.
- The user and owner identifiers should be different because the user and owner passwords must be different.

## Steps for editing printer definitions for the AFP to PDF transform

To edit printer definitions, you can use either Infoprint Server ISPF panels or the Printer Inventory Definition Utility (PIDU) program. The following topic describes how to use the ISPF panels.

For information about the PIDU program, see "Using the PIDU program to manage the printer inventory" in *z/OS Infoprint Server Operation and Administration*.

**Before you begin:** To edit the Printer Inventory, you must have UPDATE access to the AOP.ADMINISTRATOR profile in the RACF PRINTSRV class.

To edit printer definitions:

1. (Optional) Create a Processing component. If you need to specify the AFP to PDF transform in a large number of printer definitions, a component can simplify administration. If you need to change your transform filter in the future, you can make the change in your Processing component.  

---
2. On the Processing panel of either the printer definition or the component, select the **Line data**, **MO:DCA-P**, and **XML** data formats.  

---
3. Next to these data formats, specify the **afpxpdf.dll** filter and filter options in the **Filter** field. Type the absolute path name if the filter is not in a directory named in the LIBPATH environment variable. For filter options, see "AFP to PDF transform filter" on page 142.  

---
4. If you run IP PrintWay basic mode, select the **Resubmit for filtering** field. IP PrintWay extended mode ignores this field because it calls transforms directly. For more information about this field, see "Resubmitting documents to Print Interface for filtering (basic mode)" in *z/OS Infoprint Server Operation and Administration*.
5. (Optional) On the Processing panel, specify any of these fields used for encrypting PDF documents:
  - **User identifier**
  - **Owner identifier**
  - **Encryption level**
  - **Protected actions**For information about these fields, see "PDF encryption options" on page 144.
6. (Optional) In the **Fail on error** field, select whether you want the transform to fail when a transform warning or data stream error occurs during the transform. When a transform fails, the transform does not produce an output document.  
The Infoprint Server **fail-on-transform-error** job attribute overrides this field.  
If you do not select an option in this field and **fail-on-transform-error** is not specified, the AOP\_FAIL\_ON\_ERROR environment variable determines when the transform fails. Otherwise, the default is to fail on error.
7. (Optional) In the **Trailer error page** field, select the type of messages you want the transform to write on a page at the end of the AFP output (called the **trailer error page**).  
The Infoprint Server **trailer-transform-error-page** job attribute overrides this value.

If you do not select an option in this field, the AOP\_TRAILER\_ERROR\_PAGE environment variable determines the type of messages the transform writes. Otherwise, the default action is to place informational, warning, or error messages on the trailer page as part of the output document.

8. (Optional) If you created a Processing component, specify the name of the Processing component in the **Component name** field on the IP PrintWay printer definition panel. Do this in all printer definitions to which the transform applies.

After you include a Processing component, check the Processing panel in the printer definition to make sure the transform is specified correctly. You might need to remove (space over) any filters that are specified on the Processing panel of the printer definition itself. If any filters are specified in the printer definition, the filters specified in the component are not used.

**Tip:** If you remove the **aopfiltr.so** or **lpd\_compat.so** filter for the **Text** data format from the **Filter** field of the printer definition, be sure to specify the same filter in the Processing component. (Print Interface uses these filters.)

## Example -- ISPF Processing panel for the AFP to PDF transform

Figure 7 on page 149 shows the ISPF panel that you use to specify the AFP to PDF transform in a printer definition. Only a portion of the Processing panel is shown. This example uses the `afpxpdf_encrypt` transform class from the `afpxfd.conf` file.

```

Edit                                     Processing
Command ==> _____

Printer definition name . mail _____
:

Supported data formats and associated filters:
Data format:  Filter:

/ Line data  afpxpdf.dll -c encrypt %filter-options          (extend)
/ MO:DCA-P   afpxpdf.dll -c encrypt %filter-options          (extend)
PostScript  _____ (extend)
/ Text      aopfiltr.so                                     (extend)
- PCL      _____ (extend)
/ PDF      _____ (extend)
- SAP      _____ (extend)
/ XML      afpxpdf.dll -c encrypt %filter-options          (extend)
- TIFF     _____ (extend)
- JPEG     _____ (extend)
- Other    _____ (extend)

/ Resubmit for filtering

Transforms:
  Fail on error . . . . 2  1. No  2. Error  3. Warning
  Trailer error page. . 1  1. No  2. Error  3. Warning
:
AFP to PDF Transform Encryption:
  User identifier . Dr-Smith@hospital.com                    (extend)
  Owner identifier. Nurse-Lee@hospital.com                  (extend)
  Encryption level 2  1. Low (40-bit key) 2. High (128-bit key)
Protected actions:
  Restrict print. . . . 2  1. Yes  2. No
  Restrict copy . . . . 1  1. Yes  2. No
  Restrict update . . . 1  1. Yes  2. No
:

```

Figure 7. Example of the ISPF Processing panel for the AFP to PDF transform

Explanation of fields:

- The **Line data**, **MO:DCA-P**, and **XML** data formats are selected because the **afpxpdf.dll** filter can transform these data formats to PDF format. The transform options are:
  - The **-c** filter option causes the transform to use the **encrypt** transform class, which is defined in the transform configuration file.

- The **%filter-options** filter option lets the job submitter override the transform class because it is specified to the right of the **-c** filter option.
- The **Text** and **PDF** data formats are selected because the email destination can accept these data formats. The **aopfiltr.so** filter is specified for **Text** data because Print Interface uses this filter.
- The **Resubmit for filtering** field is selected so that IP PrintWay basic mode calls Print Interface to transform documents submitted from batch applications.
- In the **Fail on error** field, option **Error** is selected. If a data stream error occurs during the transform, the transform fails and does not create an output document.
- In the **Trailer error page** field, option **No** is selected. The transform does not write any warning or error messages to a trailer error page.
- The **User identifier** and **Owner identifier** fields specify user and owner identifiers for the PDF encryption function.
- The **Encryption level** field selects the high encryption option.
- The **Protected actions** field restricts all actions except for printing in encrypted PDF documents.

## Requesting the AFP to PostScript transform

The following topic describes how to set up printer definitions for PostScript printers so that Infoprint Server automatically calls the AFP to PostScript transform.

### AFP to PostScript transform filter

In the printer definitions for PostScript printers, you can specify the AFP to PostScript transform filter and associate it with the line-data, MO:DCA-P, and XML data formats. (A filter is a program that modifies the input data before it is sent to the printer or email destination.) When you associate the transform filter with these data formats, Infoprint Server automatically calls the AFP to PostScript transform when it processes documents with these data formats.

**Tip:** If you run IP PrintWay basic mode, you must also select resubmit for the filtering function in the printer definition. IP PrintWay basic mode calls transform filters only when you select the IP PrintWay resubmit for filtering function.

The following table shows the filter name and filter options that you can specify in the **Filter** field of a printer definition.

<i>Table 24. AFP to PostScript filter name and filter options</i>		
<b>Field name (PIDU attribute)</b>	<b>Filter name</b>	<b>Filter options</b>
Filter (filters)	afpxps.dll	[%filter-options] [-c <i>transformclass</i> ] [-i <i>inputcodepage</i> ] [-F <i>tracefile</i> ] [-T <i>traceoptions</i> ]

The filter options mean:

#### **%filter-options**

Causes options that are specified in the **filter-options** job attribute to be passed to the transform.

You can type the **%filter-options** option in any position relative to the other filter options. If you specify filter options to the right of **%filter-options**, those options override the same options that are specified in the **filter-options** job attribute.

#### **-c transformclass**

Specifies the name of a transform class that is defined in the transform configuration file, **aopxfd.conf**. The name is case-sensitive. The job submitter can also specify this option in the **filter-options** job attribute.

### **-i inputcodepage**

This option applies only to the **Line data** data format. If you specify this option for any other data formats, it is ignored.

This option identifies the code page to which line data is converted before it is transformed. Specify a code page that corresponds to the coded fonts that the transform uses to transform the line data. (Coded fonts can be specified in the page definition, in the **chars** job attribute or CHARS JCL parameter, and in the **Character sets** field of the printer definition.)

To transform line data that is already encoded in the code page that corresponds to the coded fonts, do *not* specify this option. When this option is not specified, line data is not converted from one code page to another before it is transformed. For example, to transform line-data documents that specify coded fonts (for example, in the CHARS JCL parameter) and currently print correctly on an AFP printer, do *not* specify this option.

You *must* specify this option to correctly transform documents that are encoded in code pages that do not correspond to the code page for the coded fonts. This is most likely to occur when the Print Interface LPD receives print requests with a print command of **r** in the LPD control file. Print command **r** indicates that the file contains ANSI carriage control characters (FORTRAN carriage control) and is, therefore, line data.

To determine the code page to specify, first determine the AFP code page for each character set. For AFP code pages, see *IBM Infoprint Fonts: Font Summary* or *z/OS Font Collection*. Then determine the name of the corresponding code page that IBM provides and that the iconv utility supports. For valid code page names, see *z/OS XL C/C++ Programming Guide*.

The AFP code page and the name of the code pages that iconv uses are different. For example, if the coded fonts in [Table 9 on page 26](#) are specified (for example, in the CHARS JCL parameter), specify the IBM-500 code page in the **-i** option: **-i IBM-500**.

When you specify this option, also make sure that the code page specified in the **Document code page** field of the printer definition identifies the code page in which input documents are encoded. (See the ISPF help for information about the **Document code page** field.) A job submitter can also specify a document code page for a specific print job in the **document-codepage** job attribute.

**Tip:** When you specify this option, you might need to create a separate printer definition for use only by those applications that require the **-i** option and code page conversion.

### **-F tracefile -T traceoptions**

These options trace the transforms. Your IBM service representative might ask you to specify these options to help IBM diagnose problems. These options can also be specified in the **filter-options** job attribute. For an explanation of these options, see ["Finding the transform stderr file" on page 159](#).

## **Steps for editing printer definitions for the AFP to PostScript transform**

To edit printer definitions, you can use either Infoprint Server ISPF panels or the Printer Inventory Definition Utility (PIDU) program. The following topic describes how to use the ISPF panels. For information about the PIDU program, see "Using the PIDU program to manage the Printer Inventory" in [z/OS Infoprint Server Operation and Administration](#).

**Before you begin:** To edit the Printer Inventory, you must have UPDATE access to the AOP.ADMINISTRATOR profile in the RACF PRINTSRV class.

To edit printer definitions:

1. (Optional) Create a Processing component. If you need to specify the AFP to PostScript transform in a large number of printer definitions, a component can simplify administration. If you need to change your transform filter in the future, you can make the change in your Processing component.
2. On the Processing panel of either the printer definition or the component, select the **Line data**, **MO:DCA-P**, and **XML** data formats.
3. Next to these data formats, specify the **afpxps.dll** filter and filter options in the **Filter** field. Type the absolute path name if the filter is not in a directory named in the LIBPATH environment variable. For filter options, see ["AFP to PostScript transform filter" on page 150](#).

4. If you run IP PrintWay basic mode, select the **Resubmit for filtering** field. IP PrintWay extended mode ignores this field because it calls transforms directly. For more information about this field, see "Resubmitting documents to Print Interface for filtering" in *z/OS Infoprint Server Operation and Administration*.

- 
5. (Optional) In the **Fail on error** field, select whether you want the transform to fail when a transform warning or data stream error occurs during the transform. When a transform fails, the transform does not produce an output document.

The Infoprint Server **fail-on-transform-error** job attribute overrides this field.

If you do not select an option in this field and **fail-on-transform-error** is not specified, the AOP\_FAIL\_ON\_ERROR environment variable determines when the transform fails. Otherwise, the default is to fail on error.

6. (Optional) In the **Trailer error page** field, select the type of messages you want the transform to write on a page at the end of the AFP output (called the **trailer error page**).

The Infoprint Server **trailer-transform-error-page** job attribute overrides this value.

If you do not select an option in this field, the AOP\_TRAILER\_ERROR\_PAGE environment variable determines the type of messages the transform writes. Otherwise, the default action is to place informational, warning, or error messages on the trailer page as part of the output document.

7. (Optional) If you created a Processing component, specify the name of the Processing component in the **Component name** field on the IP PrintWay printer definition panel. Do this in all printer definitions to which the transform applies.

After you include a Processing component, check the Processing panel in the printer definition to make sure the transform is specified correctly. You might need to remove (space over) any filters that are specified on the Processing panel of the printer definition itself. If any filters are specified in the printer definition, the filters specified in the component are not used.

**Tip:** If you remove the **aopfiltr.so** or **lpd\_compat.so** filter for the **Text** data format from the **Filter** field of the printer definition, be sure to specify the same filter in the Processing component. (Print Interface uses these filters.)

## Example -- ISPF Processing panel for the AFP to PostScript transform

Figure 8 on page 153 shows the ISPF panel that you use to specify the AFP to PostScript transform in a printer definition. Only a portion of the Processing panel is shown. This example uses the `afpxps_eu` transform class from the `aopxfd.conf` file.

```

Edit                                     Processing
Command ==> -----
Printer definition name . postscript1
:

Supported data formats and associated filters:
Data format:  Filter:

/ Line data  afpxps.dll -c eu %filter-options      (extend)
/ MO:DCA-P  afpxps.dll -c eu %filter-options      (extend)
/ PostScript ----- (extend)
/ Text      aopfiltr.so                          (extend)
- PCL      ----- (extend)
- PDF      ----- (extend)
- SAP      ----- (extend)
/ XML      afpxps.dll -c eu %filter-options      (extend)
- TIFF     ----- (extend)
- JPEG     ----- (extend)
- Other    ----- (extend)

/ Resubmit for filtering

:
Transforms:
  Fail on error . . . . 2  1. No  2. Error  3. Warning
  Trailer error page. . 1  1. No  2. Error  3. Warning
:

```

Figure 8. Example of the ISPF Processing panel for the AFP to PostScript transform

Explanation of fields:

- The **Line data**, **MO:DCA-P**, and **XML** data formats are selected because the **afpxps.dll** filter can transform these data formats to PostScript format. The transform options are:
  - The **-c** filter option causes the transform to use the **eu** transform class, which is defined in the transform configuration file.
  - The **%filter-options** filter option lets the job submitter override the transform class because it is specified to the right of the **-c** filter option.
- The **Text** and **PostScript** data formats are selected because the printer can accept these data formats. The **aopfiltr.so** filter is specified for **Text** data because Print Interface uses this filter.
- The **Resubmit for filtering** field is selected so that IP PrintWay basic mode calls Print Interface to transform documents submitted from batch applications.
- In the **Fail on error** field, option **Error** is selected. If a data stream error occurs during the transform, the transform fails and does not create an output document.
- In the **Trailer error page** field, option **No** is selected. The transform does not write any warning or error messages to a trailer error page.

## Specifying AFP resources and resource libraries

In the printer definition, you can specify AFP resources (such as the form definition, page definition, and font) and AFP user resource libraries. In addition, you can specify other AFP options (such as the type of duplexing).

AFP resources, resource libraries, and AFP options can be specified in other ways:

- You can specify AFP resources, AFP user resource libraries, and other AFP options in Infoprint Server job attributes and OUTPUT statement (JCL) parameters. Values specified in job attributes and OUTPUT parameters override the same values in the printer definition. For example, the **form-definition** job attribute and the FORMDEF JCL parameter override the the **Form definition** field in the printer definition.
- You can specify AFP resources in the transform configuration file. The AFP resources specified in the printer definition override the same resources specified in the transform configuration file.

- You can specify AFP system resource libraries in the transform configuration file. The transform searches the AFP user resource libraries specified in the printer definition before searching the AFP system resource libraries specified in the transform configuration file.

Table 25 on page 154 describes the printer definition fields (and the corresponding PIDU attributes). For a description of the PIDU attributes, see *z/OS Infoprint Server Operation and Administration*.

<i>Table 25. AFP fields in the printer definition</i>		
<b>Field name (PIDU attribute)</b>	<b>Description</b>	<b>Default</b>
Carriage control type (carriage-control-type)	The type of carriage controls in the document (none, ANSI, machine).	Infoprint Server automatically detects the type of carriage controls. Therefore, in most cases, leave this field blank.
Character sets ((chars))	One to four coded font names. The transforms use this font for line data when no font is specified in the page definition. X0 is prefixed to the font.	The font in the transform configuration file or the system default font X060D9. (See Note 2.)
Duplex (duplex)	The duplexing option (simplex, normal, tumble) used to format output and control printing on PCL and PostScript printers. (See Note 1.)  <b>Tip:</b> Also select the duplex option in the <b>Duplex supported</b> field.	The duplex value in the form definition.
Form definition (form-definition)	The form definition used to format line-data and AFP documents. If <b>dummy</b> is specified, the last inline form definition or the default for your printer if no inline form definition is specified.	The first inline form definition. If none exists, the form definition in the transform configuration file or F1CP0110.
Image shift x-direction back  (x-image-shift-back)	The offset in the x direction for the back side of a page. (See Note 1.)	The offset value in the form definition.
Image shift x-direction front  (x-image-shift-front)	The offset in the x direction for the front side of a page. (See Note 1.)	The offset value in the form definition.
Image shift y-direction back  (x-image-shift-back)	The offset in the y direction for the back side of a page. (See Note 1.)	The offset value in the form definition.
Image shift y-direction front  (y-image-shift-front)	The offset in the y direction for the front side of a page. (See Note 1.)	The offset value in the form definition.



Table 25. AFP fields in the printer definition (continued)

Field name (PIDU attribute)	Description	Default
Input tray (input-tray-number)	The input tray number on the AFP printer. The transforms map this number to the printer tray number by using mapping values specified in the AOP_TRAYID environment variable in the transform configuration file. (See Note 1.)	None
Output bin (output-bin-number)	The output bin number on the AFP printer. This attribute does not apply to the AFP to PDF transform. (See Note 1.)	None
Overlay back (overlay-back)	The overlay for the back side of each page, used in addition to overlays named in the form definition.	None.
Overlay front (overlay-front)	The overlay for the front side of each page, used in addition to overlays named in the form definition.	None.
Page definition (page-definition)	The default page definition for line-data documents. If <b>dummy</b> is specified, the first inline page definition.	The first inline page definition. If none exists, the page definition in the transform configuration file or P1P08682. (See Note 2.)
PRMODE (process-mode)	Specifies the type of data in the print data set and whether these transforms must do optional processing of the data.  <b>Note:</b> The transforms only support SOSI1, SOSI2, SOSI3 and SOSI4; all other values are ignored.	<ul style="list-style-type: none"> <li>• If the Print Interface subsystem processes the data set, the value in the printer definition is used. If none is specified in the printer definition, JES provides a default value. However, the transforms do not use the JES default value.</li> <li>• If the Print Interface subsystem does not process the data set, JES provides a default value.</li> </ul>
Resource directories (resource-directories)	The directories that contain TrueType, WorldType, and OpenType fonts that the transforms use to process data sets. The transforms search these directories before searching resource directories named in the transform configuration file.  <b>Tip:</b> The transform must have read access to these directories and files. See <a href="#">“Setting up security for AFP user path directories”</a> on page 128.	None

Table 25. AFP fields in the printer definition (continued)

Field name (PIDU attribute)	Description	Default
Resource library (resource-library)	<p>Libraries that contain AFP resources, such as fonts, page segments, form definitions, and page definitions. The transforms search these libraries before searching resource libraries named in the transform configuration file.</p> <p><b>Tip:</b> The user ID that starts Infoprint Server daemons must have read access to these libraries. See <a href="#">“Setting up security for AFP resource libraries”</a> on page 127.</p>	None.
Table reference characters (table-reference-characters)	Specifies whether the document contains table reference characters (TRCs).	No TRCs.
<p><b>Note:</b></p> <ol style="list-style-type: none"> <li>Some values, such as duplex, can be specified in the form definition. The value in the printer definition overrides the value in the form definition even if the form definition was specified by the job submitter. Therefore, if you want the transform to use the value specified in a user-specified form definition, leave the field in the printer definition blank and specify a form definition that contains the desired value.</li> </ol> <p>For example, if you want to specify duplex as the default, but do not want the duplex default to override the value in a user-specified form definition, do this:</p> <ul style="list-style-type: none"> <li>Leave the <b>Duplex</b> field blank.</li> <li>Specify a form definition that contains the duplex option, such as F1CP0111, in the <b>Form definition</b> field.</li> </ul> <ol style="list-style-type: none"> <li>If JES provides a default font and page definition to IP PrintWay basic mode, the font and page definition specified in the printer definition or transform configuration file are not used. When you define the IP PrintWay basic mode functional subsystem (FSS), you can request that JES not provide a default font and page definition. For more information, see <a href="#">z/OS Infoprint Server Customization</a>.</li> </ol>		

## Editing printer definitions to specify AFP options

To edit printer definitions, you can use either Infoprint Server ISPF panels or the Printer Inventory Definition Utility (PIDU) program. The following topic describes how to use the ISPF panels. For information about the PIDU program, see "Using the PIDU program to manage the Printer Inventory" in [z/OS Infoprint Server Operation and Administration](#).

**Before you begin:** You must be authorized to edit the Printer Inventory: For information, see [z/OS Infoprint Server Customization](#).

Use the Infoprint Server ISPF panels to edit the printer definition for a printer or email destination. On the Allocation panel, specify any of these fields:

- Carriage control type
- Character sets
- Duplex
- Form definition
- Image shift x-direction back, Image shift x-direction front, Image shift y-direction back, Image shift y-direction front
- Input tray
- Output bin

- Overlay back, Overlay front
- Page definition
- Resource directories
- Resource library
- Table reference characters

For information about the Allocation fields, see [“Specifying AFP resources and resource libraries”](#) on page 153.

**Example -- ISPF Allocation panel for AFP transforms**

Figure 9 on page 157 shows the ISPF panel that you use to specify AFP resources in a printer definition. This example applies to all the AFP transforms. Only a portion of the Allocation panel is shown.

```

Allocation
Printer definition name . pc11_____
:
Resource Related Values:
  Form definition . F1CP0111
  Character sets . _____
  Overlay front . . _____ Back . . _____
  Input tray . . . _____
  Output bin . . . _____
  Page definition . P1P06362
  Resource library. _____ (extend)
:
  Image shift x-direction front . . _____ Back . . _____
                y-direction front . . _____ Back . . _____
:
Other Values:
:
  Duplex . . . . . _ 1. Simplex 2. Duplex 3. Tumble
:
  _ Table reference characters
:

```

Figure 9. Example of the ISPF Allocation panel for AFP transforms

Explanation of fields:

- The transforms use default form definition F1CP0111.
- The transforms use default page definition P1P06362.



---

## Chapter 5. Diagnosing errors

The following information describes the diagnostic facilities that the transforms provide.

### Submitting APARs

---

Report any difficulties using the transforms to your IBM Support Center. If an APAR is required, the Support Center can tell you where to send the required diagnostic information.

When submitting an APAR, use the component ID **5655TFX00**.

### Using error messages

---

The transforms write error messages to these locations:

#### Trailer error page

The trailer error page is a page that the transforms add to the end of the output when a warning or data stream error occurs during the transform. The trailer error page contains warning and error messages from the transform to help you diagnose problems.

To print output without transform messages, you can suppress all messages on the trailer error page. Or, you can choose to suppress only transform warning messages. The transform always writes warning and error messages to the Infoprint Server common message log and the transform's **stderr** file so that you can find messages even if the transform does not write a trailer error page.

You can use these methods to suppress messages on a trailer error page:

- Specify the Infoprint Server **trailer-transform-error-page** job attribute with the print request.
- Set the **Trailer error page** field to NO by using PIDU, the ISPF panel, or in the printer definition used to print the document.
- Set the **AOP\_TRAILER\_ERROR\_PAGE** environment variable in the Infoprint Server transform configuration file, **aopxfd.conf**.

#### Infoprint Server common message log

The transforms write some warning and error messages to the Infoprint Server common message log if the common message log is enabled in Infoprint Server. For information about how to use the **aoplogu** command to see messages in the common message log, see *z/OS Infoprint Server Operation and Administration*.

#### Transform stderr file

The transform's **stderr** file is a file that Infoprint Server administrators can access. In general, the transforms write messages in both the **stderr** file and the Infoprint Server common message log.

For some error conditions, the transforms write more detailed error messages to the **stderr** file when tracing is turned on. If you have trouble diagnosing a problem, you can turn tracing on and look for additional messages in the **stderr** file.

### Finding the transform stderr file

---

You can find a transform's **stderr** file in the directory that is named *base-directory/xfd*, where *base-directory* is determined by the value of the *base-directory* attribute in the Infoprint Server configuration file (**aopd.conf**). The default base directory is named */var/Printsrv*.

The **stderr** file-naming convention is as follows.

```
transform[_class].#.stderr
```

### **transform**

Specifies the transform name, which is defined in the Infoprint Server Transform Manager configuration file, **aopxfd.conf**. For example, **afpxpcl**.

### **class**

Specifies the transform class, which is specified in the -c option when the transform is called. Transform classes are defined in the Infoprint Server Transform Manager configuration file, **aopxfd.conf**.

### **#**

A unique number that the transform assigns. This number is incremented each time that a new transform is started.

**Tip:** To read the transform's **stderr** file, you must be a member of the AOPADMIN group. For information about how to establish security for Infoprint Server administrators, see [z/OS Infoprint Server Customization](#).

## **How to use the start command options to log job trace data in stderr files**

Based on the options that are used on the start-command and available job information, transforms can write some job information to the **stderr** file for each transform job.

**Example:** start-command = "afpxXXXd [-n | -l]"

The logged information can be used to monitor and observe the transform activity and progress, which can help system programmers and IBM Support Center representatives locate and isolate a transform problem.

The following types of job information can be logged. The list entries that are marked with an asterisk (\*) are only logged when that specific information is available.

- \*JOB: sysout-job-name - sysout-job-id
- \* Printer Destination: printer definition name used
- \* File: sysout-dataset-name
- AOKxxxx Messages: AFP data stream error, warning, or informational messages if any are generated by the transform
- Transform job start time
- Transform job stop time
- CPU time, in seconds, used for the transform
- I/O service units that are used by the transform

The following examples show the job information that is logged in the **stderr** file based on how a transform is requested:

### **A transform is requested during IP Printway processing of a JES spool job:**

```
Starting Transform @ 2014/10/25 16:08:27.620293
Performing Transform for Job JOBNAME - JOB60742 for Printer Destination
fmailc for File USERNAME.JOBNAME.JOB60742.D0000102.?
Transform Terminated @ 2014/10/25 16:08:30.470885, used 0.550555 cpu seconds,
2557 I/O service units.
```

### **A transform is requested during Printer Interface processing:**

```
Starting Transform @ 2014/06/25 16:21:45.707049
Performing Transform for Job USERNAME - PS275011 for Printer Destination fmailc
for File HLQNAME.LLQ.NAME(MEMBER1)
Transform Terminated @ 2014/10/25 16:21:48.215669, used 0.527835 cpu seconds,
2545 I/O service units.
```

**Note:** The information that is logged and the format might change over time.

## Running traces

---

The following topic describes how to run a trace of a transform. The service representative in the IBM Support Center might ask you to run a trace to aid in diagnosing a problem. If so, the representative will tell you how and where to send the trace information. You do not have to interpret the trace. Send it to your service representative.

You can run a trace of a transform in these ways:

### In a printer definition:

Use the **Filter** field in a printer definition.

Run the job that you want to trace, and then either remove the trace options or specify a different trace file name in the **-F** option before you run the next job. A different trace file name should be used or the transform will overwrite the old trace data. For more information about the **-F** option, see [“Trace options” on page 161](#).

### In the filter-options job attribute:

Use the **filter-options** job attribute specified with the **lp** command, or use any other job-submission method that lets you specify Infoprint Server job attributes (such as when you submit a job by using the Infoprint Port Monitor).

### On the transform command:

Use the **afpxpcl**, **afpxpdf**, or **afpxps** command.

With each of these methods, you can use the trace options that are explained in [“Trace options” on page 161](#).

For examples, see [“Examples of running traces” on page 162](#).

## Trace options

These trace options let you run a trace of a transform and specify where you want the trace information written:

### **-F tracefile**

Specifies the name of the file where the transform writes all messages and trace information when the **-T trans** or **-T all** trace option is specified.

The file name can contain up to 120 characters and can include an extension.

The *tracefile* is created in a directory with the format:

```
base-directory/xfid/transform[_class].#.d
```

where:

#### **base-directory**

Specifies the Infoprint Server base directory, which is determined by the value of the **base-directory** attribute in the Infoprint Server configuration file, **aopd.conf**. The default base directory is **/var/Printsrv**.

#### **transform**

Specifies the transform name, which is defined in the Infoprint Server Transform Manager configuration file, **aopxfd.conf**.

#### **class**

Specifies the transform class, which is specified in the **-c** option when the transform is called. Transform classes are defined in the Infoprint Server Transform Manager configuration file, **aopxfd.conf**.

#### **#**

A unique number that the transform assigns. This number is incremented each time a new transform is started.

**Tips:**

- If the file specified already exists, the transform overwrites the old trace data.
- To write the trace file to a location other than the base directory, specify the trace file name with a fully qualified path name. For example, `/u/mydocs/myfile.trace`. This file is not deleted when the **aopxfd** daemon is stopped and restarted.
- To read the trace file in the base directory or a user supplied directory, you must be a member of the AOPADMIN group. For information about how to establish security for Infoprint Server administrators, see *z/OS Infoprint Server Customization*.
- When the Infoprint Server transform daemon (**aopxfd**) is stopped and restarted, all sub-directories of **xfd** are deleted.

**Default:** The trace is written to the **stderr** file.

**Example: -F myfile.trace**

**-T traceoptions**

Specifies the type of trace you want. To request more than one type of trace, specify the **-T** option multiple times. Allowed values are:

**all**

All trace options (generates a lot of output).

This also includes file and memory allocations and input output trace.

**trans**

File and memory allocations

By default, the trace is written to the standard error (**stderr**) file, which contains everything needed for debugging any problems with the transform request. When **-T all** is specified, the transform also logs additional information in the **stderr** file, even when the **-F** option specifies that the trace output is sent to a user supplied file name. Therefore, if you use the **-F** option, you need to use the trace information in the user supplied file name and the trace information in the **stderr** file to debug any problems with the transform request.

**Tip:** Using the **-T** option without the use of **-F** results in all of the trace data written to the **stderr** file. When you use the **-T** and **-F** options together, most of the data is written to the trace file and a small amount of trace data is written to the **stderr** file. The use of **-T** is recommended to get a complete trace of the failure.

**Default:** No tracing is done.

**Example: -T all**

## Examples of running traces

**In a printer definition**

Figure 10 on page 163 shows how to run a trace of the AFP to PCL transform in the Processing section of a printer definition. Only a portion of the ISPF panel is shown. The trace is written to file **/var/Printsrv/xfd/afpxpcl.n.d/myfile.trace**.



```

Processing
:
Supported data formats and associated filters:
Data format:  Filter:
/ Line data  afpxpcl.dll %filter-options -F myfile.trace -T all (extend)
/ M0:DCA-P   afpxpcl.dll %filter-options -F myfile.trace -T all (extend)
- PostScript ----- (extend)
/ Text      ----- (extend)
/ PCL       ----- (extend)
- PDF       ----- (extend)
- SAP       ----- (extend)
/ XML       afpxpcl.dll %filter-options -F myfile.trace -T all (extend)
- TIFF      ----- (extend)
- JPEG      ----- (extend)
- Other     ----- (extend)
:

```

Figure 10. Example ISPF panel for running traces

### In the filter-options job attribute

The following example shows how to run a trace by using the **lp** command.

In the example, the printer definition `myprinter` specifies the AFP to PCL transform (**afpxpcl**). The transform writes the trace and **stderr** output to file `/var/Printsrv/xfd/afpxpcl.n.d/myfile.trace`.

```
lp -d myprinter -o "filter-options='-T all -F myfile.trace'" myfile.afp
```

### On the transform command

The following example shows how to run a trace on a transform command.

In this example, the AFP to PostScript transform (**afpxps**) writes a full trace and **stderr** output for file **myfile.afp** to file `/var/Printsrv/xfd/afpxps.n.d/myfile.trace`.

```
afpxps -o myfile.ps -T all -F myfile.trace myfile.afp
```

## Finding the current level of support

You can use the **amblist** command to find the current level of support for a transform. For example, to find the level of support for the AFP to PDF transform, enter the following command on the z/OS UNIX command line.

```
su
echo " LISTIDR" | amblist /usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/lib/afpxpdfd.dll | grep -i Build_Id
```

The **amblist** output looks like the following example.

```
10/16/2016 0A35704 BUILD_ID=nnnn 20161016
```

If the transforms are installed in the default directories, specify these paths to find the support levels for the transforms:

- `/usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/lib/afpxpdfd.dll`
- `/usr/lpp/IBM/PrintXform/V1R2/AFPxPCL/lib/afpxpcld.dll`
- `/usr/lpp/IBM/PrintXform/V1R2/AFPxPS/lib/afpxpsd.dll`
- `/usr/lpp/IBM/PrintXform/V1R2/lib/afpxgum.dll`
- `/usr/lpp/IBM/PrintXform/V1R2/lib/afpxxml.dll`
- `/usr/lpp/IBM/PrintXform/V1R2/AFPxPCL/bin/afpxpcld`

- /usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/bin/afpxpdf
- /usr/lpp/IBM/PrintXform/V1R2/AFPxPS/bin/afpxpsd

**Note:** If you run the **amblist** command from the lib or bin directory where the transform is installed, you need to specify only the file name.

You can use the following sample script file to gather the current support level information for all three transform products.

```
/usr/lpp/IBM/PrintXform/V1R2/samples/aokbuildinfo.sh
```

When the transforms are installed in the default location, /usr/lpp/IBM/PrintXform/V1R2/, the aokbuildinfo.sh script file dumps the amblist information for all of the appropriate transform parts.

---

## Chapter 6. Messages

This information describes the messages related to the transforms that come from Infoprint Server and from the transforms.

For information about all the messages from Infoprint Server, see *z/OS Infoprint Server Messages and Diagnosis*.

### Message format

---

The messages have this format:

**AO***xnnnnt message\_text*

where:

**AO***x*

Identifies transform messages, where:

**AOK**

Identifies messages from the transforms.

**AOP**

Identifies messages from Infoprint Server.

**nnnn**

Four- or five-digit message number.

**t**

One-character type code:

**Type code**

**Meaning**

**E**

An error occurred.

**I**

An information message.

**W**

A warning situation occurred.

**message\_text**

The text of the message.

### Messages

---

**AOK00002E**      **Cannot open file *file* error code**  
**(*error\_number*, *message*)**

#### Explanation

The file could not be opened because it does not exist or it cannot be accessed.

In the message text:

***file***

The name and path of the file.

***error\_number***

The operating system code that describes the error that occurred.

***message***

The operating system message describing the error that occurred.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the file name and reenter the command.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK0003W**    **File *file* is not a recognizable font file.**

**Explanation**

The AFP input file, *file*, could not be opened because of an unsupported font. The file might have been corrupted during font installation.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the font file is in the correct format.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK0004E**    **Error reading file *file error\_details***

**Explanation**

The transform could not read the AFP data file. The message might display the file name and a description of the error. In the message text:

***file***

The name of the file being read.

***error\_details***

A description of the error.

**System action**

The transform stops processing and the job ends.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

If the message includes the file name and error description, verify that the file is a valid AFP file and is

not corrupted. If it is valid and complete and you cannot find the error, contact your system programmer.

---

**AOK00005E      Unable to write file**

**Explanation**

The transform could not write to the output file because an error occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Ensure that the subdirectory exists, the file system is not full or write-protected, and you are authorized to access the subdirectory. If you cannot find the error, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00006E      Error writing file.**

**Explanation**

An I/O error occurred while the transform was attempting to write a temporary file. The error might be due to insufficient space in the file system or insufficient permission to write to the file system. If using the default product installation options, temporary files are written to the `/var/Printsrv/xfd` subdirectories.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Review the SYSLOG for messages relating to a full file system or RACF permission exceptions, or contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00006W      Error writing file.**

**Explanation**

An I/O error occurred while the transform was attempting to write a temporary file. The error might be due to insufficient space in the file system or insufficient permission to write to the file system. If using the default product installation options, temporary files are written to the /var/Printsrv/xfd subdirectories.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Review the SYSLOG for messages relating to a full file system or RACF permission exceptions, or contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00007W**     **Seek error *bytes\_read*, *offset=offset*, *whence= where***

**Explanation**

An error occurred during the file seek.

In the message text:

***bytes\_read***

The number of bytes read.

***offset***

The number of bytes that the seek is to offset in the file.

***where***

A code that specifies where in the file the seek begins.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Run the transform again. If the problem persists, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00008E**      **Memory allocation failed for *buffer*****Explanation**

A memory allocation failed due to insufficient heap memory. In the message text, *buffer* is a memory control block that is being allocated.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Increase the size of the virtual storage region available to the transform.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00008W**      **Memory allocation failed for *buffer*****Explanation**

A memory allocation failed due to insufficient heap memory. In the message text, *buffer* is a memory control block that is being allocated.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Increase the size of the virtual storage region available to the transform.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00013E**      **Unexpected NULL memory address encountered****Explanation**

The transform encountered an unexpected NULL memory address.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00013W Unexpected NULL memory address encountered**

**Explanation**

The transform encountered an unexpected NULL memory address.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00014I Open or fldata call failed for file *file*, mode *mode*, with return code *LE\_error\_number*:*LE\_message\_text*. An attempt was made to open a nonexistent file for read.**

**Explanation**

The transform was unable to open or query the primary or secondary input file. In the message text:

***file***

The name of the file.

***mode***

The file mode—either read or write.

***LE\_error\_number***

The error number returned from Language Environment.

***LE\_message\_text***

The error message text returned from Language Environment.

**System action**

This message is informational and does not effect the program's operation. If necessary, see the preceding message for additional information.

**Operator response**

Not applicable.



**System programmer response**

None.

**User response**

Correct the problem that caused the input file to not be found.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK00014E**    **Open or fldata call failed for file *file*, mode *mode*, with return code *LE\_error\_number*:*LE\_message\_text*. An attempt was made to open a nonexistent file for read.**

**Explanation**

The transform was unable to open or query the primary or secondary input file. In the message text:

***file***

The name of the file.

***mode***

The file mode—either read or write.

***LE\_error\_number***

The error number returned from Language Environment.

***LE\_message\_text***

The error message text returned from Language Environment.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable

setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK00017W**    **I/O block size is less than maximum AFP structured field size of *blksize*, resetting to *blksize***

**Explanation**

The block size specified is not valid. In the message text, *blksize* is the required minimum block size for AFP structured fields.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

None.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00022E**     **The configuration value is too long and has caused a memory overflow.**

**Explanation**

An invalid configuration parameter is specified.

**System action**

The application displays an error message. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None

**User response**

Change the configuration value to a valid length.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

AOK09081W

Not applicable.

**Automation**

Not applicable.

---

**AOK00022W**     **Configuration parameter *parameter=value* is truncated because it is too long.**

**Explanation**

The configuration parameter *parameter=value* is truncated because it is too long, value for the parameters should be no longer than maximum allowed characters.

**parameter**

Parameter name with longer than allowed value. See list of parameter names below and the corresponding environment variables used in aopxfd.conf class or job attribute name.

Parameter name	Environment variable
DocumentAuthor	AOP_PDF_AUTHOR or pdf-author
DocumentTitle	AOP_PDF_TITLE or pdf-title
DocumentSubject	AOP_PDF_SUBJECT or pdf-subject
DocumentKeywords	AOP_PDF_KEYWORD S or pdf-keywords

Parameter name	Environment variable
DOCUMENTISOLANGCODE	AOP_PDF_LANGUAGE
INDEXCOMMANDFILE	AOP_UACF_LOCATION
DOCUMENTISOLANGCODE	AOP_PDF_LANGUAGE
INDEXCOMMANDFILE	AOP_UACF_LOCATION
CERTIFICATELABEL	pdf-digital-certificate-name
CERTIFICATE_REPOSITORY	AOP_DIGITAL_CERTIFICATE_LOCATION
CERTIFICATE_REPOSITORY_PASSWORD	AOP_GSKKMAN_DB_PASSWORD
SIGNATURENAME	AOP_SIGNATURE_NAME
SIGNATUREREASON	AOP_SIGNATURE_REASON
SIGNATURECONTACT	AOP_SIGNATURE_CONTACT
SIGNATURELOCATION	AOP_SIGNATURE_LOCATION

**value**

Value supplied for the listed parameter.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Verify the parameter length specified in the aopxfd.conf class environment variable and correct the length based on maximum allowed value for the parameter.

**User response**

Correct the parameter and try again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00024E Error occurred while adding text data to the infrastructure**

**Explanation**

An internal error occurred while adding text data to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00025E      Failed to find font resource with matching ID**

**Explanation**

The transform could not find a font resource with the matching ID.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00026W      Font ID not found in MCF.**

**Explanation**

The transform could not find the font ID listed in the Map Coded Font (MCF) structured field. The transform uses the default font.

**System action**

The transform uses the default font and continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Verify that the font IDs specified in the page definition are correct.

**User response**

Verify that the document has been created correctly. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00026E      Font ID not found in MCF or MDR.****Explanation**

Failed to find font ID listed in the Map Coded Font or Map Data Resource structured field.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00027E      Character set not found****Explanation**

The transform could not find the character set for the font ID.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00028E      Code page not found****Explanation**

The transform could not find the code page for the font ID.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK00029E      Error adding font to infrastructure****Explanation**

An internal error occurred while adding font object to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00030E      Error calling non-IOCA image interpreter from infrastructure****Explanation**

An internal error occurred while calling the non-IOCA image interpreter from the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK00031E**      **Invalid or unexpected AFP structured field (*sfid*).**

**Explanation**

The transform did not recognize the internal format of the AFP structured field.

**sfid**

Structured Field Identifier (hexadecimal value)

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact your system programmer.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00032E**      **Error adding bar code to infrastructure**

**Explanation**

An internal error occurred while adding a bar code object to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00033E Error occurred while adding TLE indexing data to the infrastructure**
**Explanation**

An internal error occurred while adding TLE indexing data to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00034E Error adding AFP structured field ids to array. Array is full**
**Explanation**

An internal error occurred while adding AFP structured field IDs to an array.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00035E Error occurred while adding AFP structured field to the infrastructure**
**Explanation**

An internal error occurred while adding an AFP structured field to the infrastructure.



**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00036E      Error occurred while buffering one or more AFP structured fields.**

**Explanation**

An internal error occurred while buffering one or more AFP structured fields.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00037E      Data Map does not exist in memory**

**Explanation**

An internal logic error occurred while processing an AFP Data Map. An unexpected combination of internal data was found when the transform tried to load the AFP Data Map to the memory.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00038E      Unsupported non- MO:DCA line data feature****Explanation**

A non- MO:DCA line data feature is currently unsupported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00039E      Error processing TIFF image****Explanation**

A TIFF image contains an error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00041E Error adding form to infrastructure**
**Explanation**

An internal error occurred while adding an overlay object to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00043W Error opening file, error number=error\_code, reason=LE\_error\_number, message=LE\_message\_text.**

**Explanation**

An error occurred while opening the AFP file. The transform could not open the AFP data file or data set. In the message text:

**file**

The name of the file or data set.

**error\_code**

The internal transform error code.

**LE\_error\_number**

The error number returned from Language Environment.

**LE\_message\_text**

The error message text returned from Language Environment.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

If the input is a hierarchical file system (HFS) file, ensure that you entered the correct file name and directory path and check the file and directory permissions. If the input is a data set, ensure that you entered the correct data set name and have the appropriate RACF permissions to read it. Verify that the file is a valid AFP file and is not truncated. If the file is valid and complete, contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00044E Unexpected EOF****Explanation**

An error occurred due to an early and unexpected end of file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00045W Unknown or unsupported AFP command (*sfid*) in file.****Explanation**

An error occurred while processing an AFP structured field. The transform did not recognize the structured field. An unrecognized structured field can occur for these reasons:

- Bad AFP syntax. The application that created the AFP might have specified a structured field incorrectly.
- A truncated or otherwise damaged AFP data file; for example, character translation during the transfer altered the file.
- The transform does not support the AFP structured field.

The message might display **(*sfid*) in file**. In the message text:

***file***

The name of the input file the transform is processing.

***sfid***

A three-byte, hexadecimal structured field identifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00047W**      **Resolution format error *error\_code*, defaulting to 300 dpi**

**Explanation**

The resolution parameter in the image header is invalid. In the message text, *error\_code* is the error code of the resolution format error:

- 1**      Invalid IMG header.
- 2**      Improper Short\_Seq length.
- 3**      Denominator that is zero or negative.
- 4**      Denominator that is greater than the numerator.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

If the output is invalid, correct the bad image file and submit the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00049E**      **IM1/IOCA resource does not exist in memory**

**Explanation**

An internal logic error occurred. The transform found an unexpected combination of internal data while it attempted to load the IM1/IOCA resource to memory.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00050E**      **Page Segment does not exist in memory****Explanation**

An internal logic error occurred. An unexpected combination of internal data was found when the transform tried to load the AFP Page Segment to the memory.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00051E**      **Channel code does not exist in Data Map.****Explanation**

Channel code could not be found in an AFP Data Map. A Data Map exists within the page definition.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the problem and run the transform again. If you cannot correct the problem, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00052E**      **LND structured field specifies a CCPID that does not exist in Data Map**

**Explanation**

A conditional processing control (CCP) could not be found in an AFP Data Map. A Data Map exists within the page definition.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the correct page definition has been specified. If the page definition is correct, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00053E**      **CCPID comparison string mismatch**

**Explanation**

For a conditional processing control (CCP) to take effect, a comparison must occur. However, the length of the data in the data record does not match the length of the comparison string in the CCP.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Correct the problem and run the transform again. If you cannot correct the problem, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00054E Error adding image to infrastructure**
**Explanation**

An internal error occurred while adding an image object to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00055E Error calling image from infrastructure**
**Explanation**

An internal error occurred while calling an image object from the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00056E Error calling form from infrastructure**



**Explanation**

An internal error occurred while calling an overlay object from the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00057E Pagedef has not been specified.**

**Explanation**

The input file contains line data but either no page definition parameter was specified, or the resource could not be found.

**System action**

This is a critical error that occurs when a **pagedef** is required for formatting a line data or mixed mode file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Specify a page definition on the transform command or in the configuration file.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00058E AEG overflow**

**Explanation**

An error occurred while processing the AFP data file. The Active Environment Group (AEG) stack has overflowed. This typically indicates that the AEG structured fields format is invalid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable

setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the correct page definition and form definition are specified. If they are correct, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00059E      Error adding comment to infrastructure**

**Explanation**

An internal error occurred while adding a comment object to the infrastructure. The comment might have been extracted from a No Operation structured field record before being added to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00060E      Error adding shading pattern to infrastructure**

**Explanation**

An internal error occurred while adding the shading pattern to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00061E      Error adding vector graphic to infrastructure**

**Explanation**

An internal error occurred while adding a vector graphic object to the infrastructure.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00062E      Medium Map does not exist in memory**

**Explanation**

An internal logic error occurred while processing an AFP medium map. An unexpected combination of internal data was found when the transform tried to load the AFP medium map to memory.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00063E**      **Unsupported line data feature**

**Explanation**

A record data feature is currently unsupported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00064E**      **Missing resource name**

**Explanation**

A resource in a resource group does not have a name.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the correct page definition and form definition are specified. If they are correct, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00065E**      **Unable to find entry in font RAT file**

**Explanation**  
A font entry was not found in the resource access table (RAT).

**System action**  
The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**  
Not applicable.

**System programmer response**  
Contact an IBM service representative.

**User response**  
Make sure that the required TrueType, OpenType, and WorldType fonts are installed. If they are installed, contact your system programmer.

**Problem determination**  
Not applicable.

**Module**  
Not applicable.

**Source**  
Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**  
Not applicable.

**Descriptor code**  
Not applicable.

**Automation**  
Not applicable.

---

**Explanation**  
An error occurred while extracting an IOCA object in the AFP file. The AFP data file contains a compressed IOCA object that cannot be extracted by the transform.

**System action**  
The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**  
Not applicable.

**System programmer response**  
None.

**User response**  
Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact an IBM service representative.

**Problem determination**  
Not applicable.

**Module**  
Not applicable.

**Source**  
Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**  
Not applicable.

**Descriptor code**  
Not applicable.

**Automation**  
Not applicable.

---

**AOK00066E**      **Unable to decompress IOCA Image.**

---

**AOK00067E**      **Unable to find required RAT file.**

**Explanation**  
Unable to find required resource access table (RAT) file. The RAT file is needed to process TrueType and

OpenType fonts in an AFP environment. It must be installed in the same directory as the fonts.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

#### Operator response

Not applicable.

#### System programmer response

None.

#### User response

Confirm that the required TrueType and OpenType fonts were installed. Contact an IBM service representative.

#### Problem determination

Not applicable.

#### Module

Not applicable.

#### Source

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

#### Routing code

Not applicable.

#### Descriptor code

Not applicable.

#### Automation

Not applicable.

---

**AOK00068E**      **Font character set contains extension triplet**

#### Explanation

The font character set contains an FNC structured field with an extension font triplet (x'6D'). An extension font contains user defined characters to be used with another font resource designated by the user. Extension fonts are not supported in the AFP transform.

#### System action

This is a critical error that causes the application to halt. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

#### Operator response

Not applicable.

#### System programmer response

None.

#### User response

Contact an IBM service representative.

#### Problem determination

Not applicable.

#### Module

Not applicable.

#### Source

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

#### Routing code

Not applicable.

#### Descriptor code

Not applicable.

#### Automation

Not applicable.

---

**AOK00101W**      **Missing BDT**

#### Explanation

An error occurred while processing the AFP file. The specified AFP data file contains an invalid Begin Document (BDT) structured field, the field is missing, or the field is incorrectly formatted.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00102W      Unexpected BDT**

**Explanation**

An error occurred while processing the AFP file. An unexpected Begin Document (BDT) structured field was found when the transform tried to process the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00103W      Too many BAG**

**Explanation**

An error occurred while processing the AFP file. More than one Begin Active Environment Group (BAG) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00104W      Too many PGD**

**Explanation**

An error occurred while processing the AFP file. More than one Page Descriptor (PGD) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00105W      Too many PTD**

**Explanation**

An error occurred while processing the AFP file. More than one Presentation Text Descriptor (PTD) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a



new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00106W      Too many OBD**

**Explanation**

An error occurred while processing the AFP file. More than one Object Area Descriptor (OBD) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00107W      Too many OBP**

**Explanation**

An error occurred while processing the AFP file. More than one Object Area Position (OBP) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00108W      Too many IOC**
**Explanation**

An error occurred while processing the AFP file. More than one Image Output Control (IOC) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00109W      Too many IID**
**Explanation**

An error occurred while processing the AFP file. More than one Image Input Descriptor (IID) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00110W      Too many BOG****Explanation**

An error occurred while processing the AFP file. More than one Begin Object Environment Group (BOG) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00111W      Too many MIO****Explanation**

An error occurred while processing the AFP file. More than one MAP IO Image Object (MIO) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00112W      Too many IDD**
**Explanation**

An error occurred while processing the AFP file. More than one Image Data Descriptor (IDD) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00113W      Unknown PTX control sequence**
**Explanation**

An error occurred while processing the AFP file. An incorrect control sequence in the Presentation Text (PTX) structured field was encountered when the transform was processing the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00114W      Unsupported PTX control sequence**

**Explanation**

An error occurred while processing the AFP file. An incorrect control sequence in the Presentation Text (PTX) structured field was encountered when the transform was processing the AFP data file. Incorrect PTX control sequences can occur for these reasons:

- A bad PTX control sequence syntax.
- A truncated AFP data file.
- The PTX control sequence is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00115W**    **Error getting triplet**

**Explanation**

An error occurred while processing the triplet from an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00117W**    **Invalid triplet data**

**Explanation**

An error occurred while processing the AFP file. An incorrect value for triplet data was encountered when the transform was processing the AFP data file..

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00118W      Unsupported triplet data**
**Explanation**

An error occurred while processing the AFP file. An unsupported value for triplet data was encountered when the transform was processing the AFP data file. Unsupported triplet data values can occur for these reasons:

- Invalid format for triplet data.
- A truncated AFP data file.

- A control sequence in the Presentation Text (PTX) structured field is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00119W      Invalid triplet**
**Explanation**

An error occurred while processing the AFP file. An incorrect value for the triplet type was encountered when the transform was processing the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the AFP data file is a valid AFP file, and that it is not truncated or corrupted. If there is a problem with the file, get a new copy of the AFP data file. If there is nothing wrong with the state of the AFP data file, then correct the AFP input data. If the AFP data is correct and the error persists, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00120W      Unsupported triplet**

**Explanation**

An error occurred while processing AFP data file. An unsupported triplet was encountered on an AFP structured field and will be ignored. The triplet is valid in MO:DCA but its function is not supported by the transform.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the AFP data file is a valid AFP file, and that it is not truncated or corrupted. If there is a problem with the file, get a new copy of the AFP data file. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00121W      Error getting repeating group**

**Explanation**

An error occurred while processing the AFP file. An error in the repeating group structure was encountered when the transform was processing the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00122E**      **Error occurred while processing file**

**Explanation**

An error occurred while the transform was processing a file named *file*.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Look for one or more messages that give details about the processing error.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00123W**      **Field data is invalid or unsupported**

**Explanation**

An error occurred while processing the AFP file. Unsupported or invalid data in a structured field was encountered when the transform was processing the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.



**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00124W      Size of field data is invalid**

**Explanation**

An error occurred while processing the AFP file. Excessive or insufficient data in a structured field was encountered when the transform was processing the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00125W      Field data is invalid**

**Explanation**

An error occurred while processing the AFP file. Invalid data in a structured field was encountered when the transform was processing the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a

new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00126W      Missing PGD**

**Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains an invalid Page Descriptor (PGD) structured field, the field is missing, or the field is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00127W      Missing PTD**

**Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains an invalid Presentation Text Descriptor (PTD) structured field, the field is missing, or the field is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00128W**      **Page size not supported****Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains a page size that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00130W**      **No support for double-byte code pages****Explanation**

An error occurred while processing the AFP file. Double-byte code pages are not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Apply the PTF for the latest APAR. If the problem persists, contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00131W**      **Page segment requires MPS structured field**
**Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains an invalid Map Page Segment (MPS) structured field, the field is missing, or the field is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00132W**      **Too many MGO**
**Explanation**

An error occurred while processing the AFP file. More than one Map Graphic Object (MGO) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00133W**      **Too many GDD**

**Explanation**

An error occurred while processing the AFP file. More than one Graphic Data Descriptor (GDD) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00134W    Unsupported GOCA**

**Explanation**

An error occurred while processing the AFP file. Graphics Object Content Architecture (GOCA) objects are not supported in page segments.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00135W    Too many MBC**

**Explanation**

An error occurred while processing the AFP file. More than one Map Bar Code (MBC) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00136W    Too many BDD**

**Explanation**

An error occurred while processing the AFP file. More than one Bar Code Data Descriptor (BDD) structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable

setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00137W    Unknown IOCA function set**

**Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains unknown Image Object Content Architecture (IOCA) function sets.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00138W**      **Unknown IOCA compression, image ignored****Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains a method for compressing the Image Object Content Architecture (IOCA) object that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00139W**      **Unknown IOCA self-defining field for FS10****Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains an Image Object Content Architecture (IOCA) function set, FS10, that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00140W      Unsupported BCOCA**
**Explanation**

An error occurred while processing the AFP data file. Bar Code Object Content Architecture (BCOCA) objects are not supported in page segments.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a

new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK00141W      Too many X'43' Triplets**
**Explanation**

An error occurred while processing the AFP file. More than one X'43' triplet in a structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.



**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00142W      Too many X'4B' Triplet****Explanation**

An error occurred while processing the AFP file. More than one X'4B' triplet in a structured field was found when the transform was processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00143W      Too many X'4C' Triplets****Explanation**

An error occurred while processing the AFP file. The transform found more than one X'4C' triplet in a structured field. This is not permitted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00144W      Too many X'04' Triplet**

**Explanation**

An error occurred while processing the AFP file. The transform found more than one X'04' triplet in a structured field while processing an AFP object in the AFP data file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00145W      Overlay size not supported**

**Explanation**

An error occurred while processing the AFP file. The size of the overlay object is not valid or is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00146W      Unsupported GOCA command**
**Explanation**

An error occurred while processing the AFP file. The AFP data file contains a Graphics Object Content Architecture (GOCA) command that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00147W      Invalid GOCA command**
**Explanation**

An error occurred while processing the AFP file. An unknown Graphics Object content Architecture (GOCA) command or a GOCA command with an incorrect specification or format was found.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00148W      GOCA command is missing data**
**Explanation**

An error occurred while processing the AFP file. The required data for processing a Graphics Object content

Architecture (GOCA) command is missing or incorrectly formatted.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

#### Operator response

Not applicable.

#### System programmer response

Contact an IBM service representative.

#### User response

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

#### Problem determination

Not applicable.

#### Module

Not applicable.

#### Source

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

#### Routing code

Not applicable.

#### Descriptor code

Not applicable.

#### Automation

Not applicable.

---

**AOK00149W    Unsupported GOCA parameter**

#### Explanation

An error occurred while processing the AFP file. The transform found an incorrect or unsupported Graphics Object content Architecture (GOCA) parameter for the invoked GOCA command.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

#### Operator response

Not applicable.

#### System programmer response

Contact an IBM service representative.

#### User response

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

#### Problem determination

Not applicable.

#### Module

Not applicable.

#### Source

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

#### Routing code

Not applicable.

#### Descriptor code

Not applicable.

#### Automation

Not applicable.

---

**AOK00150W    Too many MCF2**

#### Explanation

An error occurred while processing the AFP file. More than one Medium Finishing Control (MFC) structured field was found when the transform was processing an AFP object in the AFP data file.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable

setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00151W      Missing Medium Map**

**Explanation**

An error occurred while processing the AFP file. The specified AFP data file does not contain a valid medium map, the medium map is missing, or it is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00152W      IOCA mapping option not supported, image ignored**

**Explanation**

An error occurred while processing the AFP file. The AFP data file contains an Image Object Content Architecture (IOCA) mapping option that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00153W IOCA decompression failed, image ignored**

**Explanation**

An error occurred while extracting the Image Object Content Architecture (IOCA) object in the AFP file. The specified AFP data file contains a method of compressing the IOCA object that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00154W IOCA function set not supported**

**Explanation**

An error occurred while processing the AFP file. The specified AFP data file contains Image Object Content Architecture (IOCA) function sets that are not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a

new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00155W**    **MMC code not supported**

**Explanation**

An error occurred while processing the AFP file. The AFP data file contains Medium Modification Control code that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00156W**    **MMC value not supported**

**Explanation**

An error occurred while processing the AFP file. The AFP data file contains a Medium Modification Control value that is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00157W**      **Number of MMC overlay ids exceed limit**

**Explanation**

An error occurred while processing the AFP file. The number of MMC overlay IDs exceeds the maximum number the transform allows.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00158W**      **Number of MMC text suppressions exceeds limit**

**Explanation**

An error occurred while processing the AFP file. The number of MMC text suppressions exceeds the maximum number the transform allows.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00159W**      **Character rotation metrics do not exist**



**Explanation**

An error occurred while processing the AFP file. The AFP data file does not contain character rotation metrics.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00161W**      **Unsupported IOCA self-defining field for FS11**

**Explanation**

An error occurred while processing the AFP file. The function set 11 self-defining field in the AFP data file is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00162W**      **IM1 image rotation unsupported**

**Explanation**

An error occurred while processing the AFP file. The image rotation value found in the IM1 object is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00163W**      **GOCA coordinate system unsupported**

**Explanation**

An error occurred while processing the AFP file. The coordinate system used in the Graphics Object Content Architecture (GOCA) object is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00164W**      **Unsupported IOCA self-defining field for FS10**

**Explanation**

An error occurred while processing the AFP file. The function set 10 self-defining field in the AFP data file is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00165W Character set rotation not supported****Explanation**

An error occurred while processing the AFP file. The value of the character set rotation is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00166W Overlay rotation unsupported****Explanation**

An error occurred while processing the AFP file. The value of the overlay object rotation is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00167W**      **character set is missing data in FNN**

**Explanation**

An error occurred while processing the AFP file. The AFP data file does not contain valid character set data in the Font Name Map (FNN) structure, the character set data is missing, or it is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00168W**      **PFB fontname parameter is missing in FNG**

**Explanation**

An error occurred while processing the AFP file. The AFP data file does not contain a valid Printer Font Binary (PFB) font name parameter in the Font Patterns (FNG) structured field, the PFB font name parameter is missing, or it is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00169W**      **Unsupported IOCA self-defining field for FS45**

**Explanation**

An error occurred while processing the AFP file. The function set 45 self-defining field in the AFP data file is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00170W**      **Error occurred while processing FS45 JPEG image data**

**Explanation**

An error occurred while compressing or extracting FS45 JPEG image data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00171W**     **PFB fontname parameter is missing in FNG**

**Explanation**

An error occurred while processing the AFP file. The AFP data file does not contain a valid Print Font Binary (PFB) encoding parameter in the Font Patterns (FNG) structured field, the PFB encoding parameter is missing, or it is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00172W**     **Missing Data Map**

**Explanation**

An error occurred while processing the AFP file. The specified AFP data file does not contain a valid Data Map, the Data Map is missing, or it is incorrectly formatted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the correct page definition has been specified. If the page definition is correct, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00173W      Error with outline font data in FNG**
**Explanation**

An error occurred while processing the data for an outline character set in the Font Patterns (FNG) structured field.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00174W      IOCA unitbase not supported,  
image ignored**
**Explanation**

An error occurred while processing the AFP file. The unit base value used to compress Image Object Content Architecture (IOCA) objects in the AFP data file is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure that the AFP data file is a valid AFP file. If the file is not valid or it is truncated or corrupted, get a new copy of the AFP file. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00175W      Invalid FQN triplet on TLE:  
attribute name or value is missing.**

**Explanation**

An error occurred while processing AFP data file. The file contains TLE structured fields that have at least one Fully Qualified Name (FQN) triplet with a length of less than 5 bytes.

**System action**

The application continues processing, and the TLE is passed to the output driver with no data. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the AFP data file is a valid AFP file, and that it is not truncated or corrupted. If there is a problem with the file, get a new copy of the AFP data file. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00176W**    **Too many Full Font Name entries**

**Explanation**

An error occurred while processing the AFP Resource Access Table (RAT) file. There is an entry in the RAT file that contains more than 100 full font names for a given TrueType font. This is a programming restriction.

**System action**

The remainder of the RAT file is ignored. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Confirm that the required RAT file is installed and valid. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00177W**    **FNG length field does not match FNC Raster Pattern Data Count**

**Explanation**

An error occurred while processing an AFP outline font character set. The AFP outline font contains a Font



Pattern (FNG) FNG structured field where the length of the first PFB section is greater than the Raster Pattern Data Count specified in the Font Control (FNC) structured field (bytes 17-19).

**System action**

The resulting output file may be invalid because the font request is ignored. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the input AFP outline font is a valid file, and that it is not truncated or corrupted. If the font object appears correct, contact your vendor for support.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00178I**    **Preceding error occurred in or after afpcmd at offset docoffset (page = pagenum) in afpfile.**

**Explanation**

Issued after an error occurred, this message provides information about the location within the document where that error was detected.

**afpcmd**

The AFP command being interpreted. May be an AFP structured field name like "Begin Page", or a logical description like "Record Data" if no specific structured field is applicable.

**docoffset**

The byte offset within the input document (which can be a resource) where the error occurred.

**pagenum**

The logical page number within the input document where the error occurred.

**afpfile**

The external file name of the data being processed when the error occurred.

**System action**

This message is informational and does not effect the program's operation. However, refer to the preceding error for any effect that message might have.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Refer to the preceding error for a description of the appropriate action to take.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00197I**      **Preceding error occurred in/after  
afpcmd at offset doc\_offset (page =  
pagenum) in afffile**

**Explanation**

This message provides information about the location of the error in the document.

**afpcmd**

The AFP command being interpreted. This might be an AFP structured field such as "Begin Page" or, if no specific structured field is applicable, a logical description such as "Record Data".

**afffile**

The external file name of the data being processed when the error occurred.

**doc\_offset**

The byte offset within the input document where the error occurred (this might be a resource).

**pagenum**

The logical page number within the input document where the error occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Refer to the preceding error description for the appropriate action to take.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00198I**      **Preceding AFP error occurred  
within afpcmd**

**Explanation**

This message provides additional information about the location of the error in the document's logical structure. If the error occurred in a logically nested AFP sequence, this message provides information about the structured fields. You might see this message more than once. In the message text:

**afpcmd**

The AFP command being interpreted. This might be an AFP structured field such as "Begin Page" or, if no specific structured field is applicable, a logical description such as "Record Data".

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Refer to the preceding error description for the appropriate action to take.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00199E**      **S370 Packed Decimal field error (S0C7) field length length value field**

**Explanation**

An S370 Packed Decimal error occurred in a data field (also called an S0C7 abend), where:

**length**

Length of the Packed Decimal field.

**field**

Contents of the Packed Decimal field in hexadecimal.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the data field contents and length.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00200W**      **File file open failed Error (Error\_number, message)**

**Explanation**

The UACF file, *file*, could not be opened. The file might be missing, in the wrong location, or have incorrect security permissions.

**file**

Name and path of the file that failed to open.

**Error\_number**

Operating system code that describes the error that occurred.

**message**

Operating system message describing the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Determine why the file cannot be opened and correct the error.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00202E**     **Invalid option - *option\_value*****Explanation**

The command you are running has an invalid parameter, too many parameters, or not enough parameters. In the message text, *option\_value* is the value of the parameter that is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

See Chapter 2, "Using transforms," on page 25 for information about the command parameter. Select the correct parameters and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00203w**     **Failed to build the index descriptors****Explanation**

Failed to build Index descriptor during PDF/UA processing

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the ICF file and correct the reported command and try the operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00204E**     **Unable to open *filetype* file for read *filename* error(*error\_number*,*reason*,*message*).**

**Explanation**

The transform cannot open an input or resource file. The message might display **error(*error\_number*,*reason*,*message*)**. In the message text:

***error\_number***

The number of the error.

***filename***

The name of the file.

***filetype***

The type of file: input or resource.

***message***

A description of the error.

***reason***

The error reason code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

If provided, use the error information to determine the problem. See Chapter 5, “[Diagnosing errors](#),” on page 159 for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00204W**     **Unable to open *filetype* file for read *filename* error(*error\_number*,*reason*,*message*).**

**Explanation**

The transform cannot open an input or resource file. The message might display **error(*error\_number*,*reason*,*message*)**. In the message text:

***error\_number***

The number of the error.

***filename***

The name of the file.

***filetype***

The type of file: input or resource.

***message***

A description of the error.

***reason***

The error reason code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

If provided, use the error information to determine the problem. See Chapter 5, “Diagnosing errors,” on page 159 for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00209W**    **TRIGGER or STARTTRIGGER parameter *parameter* not defined prior to FIELD statement *statement* .**

**Explanation**

The main ICF file or one of the files included in the main ICF contain an error. In the message text:

***parameter***

TRIGER or STARTTRIGGER parameter being used before it is defined

***statement***

Location where undefined parameter is being used.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Review the ICF file, correct the error condition and try the operation again.

**User response**

Check the ICF file and correct the reported command and try the operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00215E**    **The *parameter* parameter required on *command* statement**

**Explanation**

A required parameter is missing from the command statement. In the message text:

***command***

The name of the command statement.

***parameter***

The name of the missing parameter.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Reissue the command statement with the missing parameter.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00215W**     **The *parameter* parameter required on *command* statement**

**Explanation**

A required parameter is missing from the command statement. In the message text:

***command***

The name of the command statement.

***parameter***

The name of the missing parameter.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00216E**     **\*\*\*CRITICAL ERROR Cannot Open converted substituted font file *file***

**Explanation**

An internal error prevented the transform from opening the default font file, *file*, for the converted font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the error message from the called functions for more information about the failure. Ensure that the default converted font file is not corrupted or deleted. If it is, obtain a new copy of the file and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00220E**     **Unable to open output pcl file**  
*filename*  
**error(*error\_number*,*reason*,*message*)**  
*e*).

**Explanation**

The transform cannot open an output PCL file. In the message text:

***error\_number***

The number of the error.

***filename***

The name of the PCL output file.

***message***

A description of the error.

***reason***

The error reason code.

**System action**

The transform ends without creating an output file.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error information to determine the problem. See Chapter 5, “[Diagnosing errors](#),” on page 159 for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00237E**     **Error *error\_number*, *message* while**  
**closing output file *file***

**Explanation**

An error occurred while the transform was closing the output file. In the message text:

***error\_number***

The error reason code.

***file***

The name of the output file.

***message***

A description of the error.



**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error descriptor message and the reason code to determine the problem.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00237W**     **Error *error\_number*, message while closing output file *file***

**Explanation**

An error occurred while the transform was closing the output file. In the message text:

***error\_number***

The error reason code.

***file***

The name of the output file.

***message***

A description of the error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error descriptor message and the reason code to determine the problem.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00242E**     **Error parsing RAT file, corrupt data detected**

**Explanation**

The transform cannot parse the resource access table (RAT) file because it is corrupt.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Confirm that the required RAT file is installed and valid. If it is not, contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00243E**    **Unable to load *dllname*.  
Accessibility processing is  
unavailable. *dllloadmsg*.**

**Explanation**

The DLL required for PDF accessibility feature processing could not be loaded successfully.

***dllname***

The name of the DLL or the DLL method for which loading failed.

***dllloadmsg***

Error message provided by the system.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Verify afpxpdfua.dll is in the same directory as afpxpdf.dll. The default directory location is /usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/lib.

**User response**

Determine why the DLL could not be loaded. Correct and rerun.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00244E**    **The input file *filename* does not  
contain data.**

**Explanation**

The input file contains no data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF or Postscript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00290E**      **Unable to open output pcl file**  
**OutputFileName error**  
**(error\_number, Reason, message).**

**Explanation**

Unable to open output pcl file. Processing continues, but cannot create an output file. In the message text:

**error\_number**

The error number.

**Reason**

The reason code describing the error that occurred.

**message**

The message describing the error that occurred.

**System action**The application exits with a return code of 220. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

You can determine the nature of the problem by using the error descriptor message and the reason code.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00300I**      **"message"**

**Explanation**The message text, *message*, describes the error that occurred.**System action**

This message is informational and does not effect the program's operation. If necessary, see the preceding message for additional information.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the message number or message description to determine the problem or contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00300E** "message"

**Explanation**

The message text, *message*, describes the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the message number or message description to determine the problem or contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00300W** "message"

**Explanation**

The message text, *message*, describes the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the message number or message description to determine the problem or contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00307W**      **Cannot dump records with record delimiter *record\_delim* from file *file***

**Explanation**

The file records could not be dumped because of an incorrect record delimiter. In the message text:

***file***

The name of the file.

***record\_delim***

The type of record delimiter in the file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

See [Chapter 5, “Diagnosing errors,”](#) on page 159 for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00321E**      **Image compression error *error\_code***

**Explanation**

An error occurred during compression of output. In the message text, *error\_code* is the number of the error code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error code to determine the problem.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00321W**    **Image compression error  
error\_code****Explanation**

An error occurred during compression of output. In the message text, *error\_code* is the number of the error code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error code to determine the problem.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00326W**    **The TrueType file *file* was not  
found for font *font*****Explanation**

The font file for a TrueType font could not be found in the TTFONTLIB subdirectory. In the message text:

***file***

The name of the TrueType font file.

***font***

The name of the TrueType font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Make sure the file name and path are correct and the font name is valid. Make sure a FILENAME is specified on the TTFONT statement in the font table. The file name is the base file name for the TrueType font files for the font. Correct the font table entry if needed and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00327W      The TrueType file *file* open failed**
**Explanation**

The TrueType font file, *file*, could not be opened. The file might be missing, in the wrong location, or have incorrect security permissions.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Determine why the file cannot be opened and correct the error.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00328W      Error returned from Scalar Font subsystem API in file *file\_module* line *scrline*: ERROR[*error\_number*] - *message*.**
**Explanation**

The TrueType subsystem API returned an error. In the message text:

***error\_number***

The hexadecimal error code from the TrueType subsystem.

***file\_module***

The name of the module where the error occurred.

***message***

The description of the error from the TrueType subsystem.

***scrline***

The line number in the module where the error occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the information in the message to determine the problem. See Chapter 5, “Diagnosing errors,” on page 159 for more information. If a resource is missing, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00329W**     **Multiply defined code point  
codepoint in scaleable font *font***

**Explanation**

The code point in the font has already been defined. In the message text:

***codepoint***

The code point of the font being redefined.

***font***

The name of the font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify that the output looks correct. If it does not, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00330E**     **In font *font*, glyph *glyphname* has  
an invalid path**

**Explanation**

The glyph in the specified font has an incorrect path. In the message text:

***font***

The name of the font.

***glyphname***

The name of the glyph.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the font file is valid and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.



**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00330W**    **In font *font*, glyph *glyphname* has an invalid path**

**Explanation**

The glyph in the specified font has an incorrect path. In the message text:

***font***

The name of the font.

***glyphname***

The name of the glyph.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the font file is valid and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00331W**    **In font *font*, glyph *glyphname* has a bad width *old\_width*, reset to *new\_width***

**Explanation**

The glyph in the specified font has a bad width. The bad width has been reset to a new width. In the message text:

***font***

The name of the font.

***glyphname***

The name of the glyph.

***new\_width***

The new width that the glyph is set to.

***old\_width***

The old width of the glyph, which is bad.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the output looks correct. If it does not, verify that the font file is valid and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00332W**    **Error loading glyph for (*font*) at index *index*, skipped.**

**Explanation**

An error occurred while the transform was loading a glyph. The scaleable font format subsystem API returned a warning, where:

***font***

The name of the font file.

***index***

The glyph index number.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Ensure that the expected glyphs appear correctly in the output. If they do not, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00333W**    **Guessing italic angle *italic\_angle* for font *font*.**

**Explanation**

The specified font appears to be italic, so the transform assigns an italic angle to the font and overrides the font header information. In the message text:

***font***

The name of the font.

***italic\_angle***

The italic angle that the transform guesses the font should be.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Ensure that the font appears correctly in the output. If it does not, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00334W**    **Error parsing glyph *glyphname* information in font *font*.**

**Explanation**

An error was encountered parsing the information for the glyph in the specified font. In the message text:

***font***

The name of the font.

***glyphname***

The name of the glyph.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the font file is valid and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00335E**    **Error writing charstring information for font *font* to *embedded\_file*.**

**Explanation**

An error was encountered when writing character string information for the specified font to an embedded font file. In the message text:

***embedded\_file***

The name of the embedded font file.

***font***

The name of the font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the font file is valid and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00337E**      **Failed to read the expected amount of compressed record specified**

**Explanation**

The expected amount of compressed data was not read.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the AFP file is valid and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00338E**      **Error loading glyph for [*font*] at index *index*: character code out of range (256), skipped.**

**Explanation**

An error occurred while the transform was loading a glyph for the specified font. Only glyphs with a character code between 0 and 255 are supported. The scaleable font format subsystem API returned a warning, where:

***font***

The name of the font.

***index***

The glyph index number.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Ensure the expected glyphs appear correctly in the output. If they do not, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00339E**      **Error loading glyph for [font] at index *index*: unsupported format, skipped.**

**Explanation**

An error occurred while the transform was loading a glyph for the specified font. Glyph data contains unsupported data. The scaleable font format subsystem API returned a warning, where:

**font**

The name of the font.

**index**

The glyph index number.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Ensure the expected glyphs appear correctly in the output. If they do not, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00340W**      **Error loading scalable font [font], appears to be corrupt: *reason*.**

**Explanation**

An error occurred because the specified font could not be loaded. A warning was returned from the scaleable font format subsystem API, where:

**font**

The name of the font.

**reason**

An explanation of the error that was encountered.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00344W** Invalid image property: *property*.

**Explanation**

An error occurred when the transform was processing an image property. In the message text, *property* is the image property.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00346W** *device\_type* failed to open file *file*.

**Explanation**

The transform driver was not able to open the specified file.

***device\_type***

The name of the device.

***file***

The name of the file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that you entered the correct file name and directory path and check the file and directory permissions. If the file is valid, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00347W**     *device\_type* failed to write file *file*.

**Explanation**

The transform driver was not able to write to the specified file.

***device\_type***

The name of the device.

***file***

The name of the file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that you entered the correct file name and directory path and check the file and directory permissions. If the file is valid, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00348W**     **No output device driver initialized.**

**Explanation**

No output driver is specified.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Specify an output driver.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00349W**     **No glyphs initialized in font *font*.****Explanation**

The specified font, *font*, does not have any glyphs defined.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the correct font is specified and make sure all glyphs are defined. If the font is correct and all glyphs are defined, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00350W**     **Call failed during Canonical Font base information initialization.****Explanation**

The font specified has invalid or missing properties.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the font is correct. If it is, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00351E**     **Raster image processing transformation failed.****Explanation**

The transform was not able to process a raster image.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.



**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the raster image is correct. If it is, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00352E**      **\*\*ERROR\*\* Page log is using  
buffer\_count TLDL buffers,  
exceeding maximum allowed of  
buffer\_max**

**Explanation**

The internal page buffer is greater than the maximum number of allowed TLDL buffers. This error might occur when attempting to transform a very complex page or when an underlying error condition prevents the transform from ejecting a page. If a page eject cannot be done, all the document contents accumulate on a single page. In the message text:

**buffer\_count**

The number of drawing orders that have been queued to the current page.

**buffer\_max**

The maximum number of drawing orders that can be queued to a single page.

**System action**

The transform ends with a non-zero completion code.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00353W**      **\*\*ERROR\*\* Bad memory address  
pToDelete detected, invalid to call  
free.**

**Explanation**

A processing error caused a block of memory to be overwritten. This error has been detected and handled to avoid crashing the application. In the message text:

**pToDelete**

The memory address detected as not being valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Try the process again. If the problem persists, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00400E**      **Unable to open input file *FileName*, Error (*Error\_number*, *message*)**

**Explanation**

The file could not be opened because it does not exist or it cannot not be accessed.

***FileName***

Name and path of the file.

***Error\_number***

Operating system code that describe the error that occurred

***message***

Operating system message describing the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify the file name and reenter the command.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00402E**      **Error reading from input file *FileName*, Error (*Error\_number*, *message*).**

**Explanation**

An internal error occurred reading from the input file. In the message text:

***FileName***

Name and path of the file.

***error\_number***

Reason code describing the error that occurred.

***message***

Message describing the error that occurred

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable

setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

You can determine the nature of the problem by using the error descriptor message and the reason code.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00402W**    **Error reading from input file**  
*FileName, Error (error\_number, message).*

**Explanation**

An internal error occurred reading from the input file. In the message text:

**FileName**

Name and path of the file.

**error\_number**

Reason code describing the error that occurred.

**message**

Message describing the error that occurred

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

You can determine the nature of the problem by using the error descriptor message and the reason code.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00403E**    **Unable to write to file** *FileName,*  
**Error (error\_number, message).**

**Explanation**

An internal error occurred while writing the file. In the message text:

**FileName**

Name and path of the file.

**error\_number**

Reason code describing the error that occurred.

**message**

Message describing the error that occurred

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

You can determine the nature of the problem by using the error descriptor message and the reason code.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00410W      Unable to process AFP command.**

**Explanation**

The AFP command is recognized but there is no code to process it.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00414W      Error reading AFP soft font format.**

**Explanation**

The transform does not support this soft font format.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00418E Error not being caught properly.****Explanation**

Indicates that an error has not been trapped properly.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00418W Soft font called but not available.****Explanation**

Downloaded soft font is called but the font does not exist in the file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00421W    Unable to convert current page.**

**Explanation**

Unable to convert current page.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify the current page exists and is valid.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00424W    Glyph *index* out of range *startend*.**

**Explanation**

The specified glyph does not exist within the fonts defined glyph range.

***index***

Hexadecimal value of the glyph index in error.

***startend***

Range, in hexadecimal start:end format, of valid glyph indices.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify the font is correct and all glyphs are defined.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00426W    ICSF *fmid* RNG Service Warning (rc=4): *details***

**Explanation**

An attempt to invoke the ICSF Random Number Generator (RNG) service resulted in a warning.

***fmid***

FMID for the version of ICSF which was invoked.

***details***

Warning details. Either "ICSF is unavailable", or the reason code provided with the RC=4 warning.

**System action**

The application continues processing, either with an alternative source of random numbers, or ignoring the condition. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

If ICSF is unavailable, and ICSF-level random numbers are required, then ensure that ICSF is running and that the userid the transform is running under has appropriate SAF authority to access it. If ICSF is available but has returned a warning status, explanations of the returned reason codes can be found in z/OS Cryptographic Services ICSF Messages (SC14-7509). If ICSF is unavailable, note that no FMID or return code will be provided.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00427E ICSF *fmid* RNG Service Fatal Error (rc=rc): details****Explanation**

An attempt to invoke the ICSF Random Number Generator (RNG) service resulted in a warning.

***fmid***

FMID for the version of ICSF which was invoked.

***rc***

The return code (8 or higher) from the ICSF CSNBRNGL service.

***details***

Error details including the reason code provided by the ICSF CSNBRNGL service.

**System action**

The application attempts to continue processing using an alternative source of random numbers. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

An explanation of the provided error and reason codes can be found in z/OS Cryptographic Services ICSF Messages (SC14-7509).

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00432I**      **Formdef resource not specified in config file.**

**Explanation**

A form definition has not been specified by the user or the transform configuration. This might cause an undesirable output.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

If the output is undesirable, specify a form definition by using either the form-definition job attribute or the AOP\_FORMDEF environment variable in **aopxfd.conf**.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00432W**      **Resource\_specific\_warning\_message.**

**Explanation**

The transform could not locate or successfully interpret the AFP resource name and type specified in the message text. Output fidelity might be affected.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the resource is valid and that the resource library for external resources is accessible to the transform. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.



---

**AOK00434I**      **An IOCA G4 MMR image decompression error occurred, successfully switched to unpadding processing.**

**Explanation**

An Image Object Content Architecture (IOCA) G4 MMR image extraction error occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

The warning might indicate an undesirable output. If the output is undesirable, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00435W**      **Input data contains a skip\_to\_channel *number* carriage control byte, but that channel is**

**not mapped by data map *dmapname***

**Explanation**

The line mode input data contains a record with a skip\_to\_channel\_ *number* carriage control byte, but channel *number* has not been mapped by any Line Descriptor (LND) structured field in the currently active data map. The record is processed as if it had a space\_one\_line carriage control byte. This might cause output to be incorrectly positioned. In the message text:

***number***

The channel number of the skip\_to\_channel carriage control byte.

***dmapname***

The name of the current data map in the active page definition.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Do one of these:

- Correct the current page definition to correctly map the carriage control byte.
- Specify a different page definition that correctly maps the carriage control byte.
- Correct the input data and remove instances of the unsupported carriage control byte.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00436W**     **In data map *dmapname*, the new LND (id=*lndno*) attempts to set a 'relative baseline position' but its orientation does not match the current reference orientation**

**Explanation**

While processing line-mode input, the transform encountered a Line Descriptor (LND) structured field in the current data map. The LND specifies relative baseline positioning; however, the text orientation does not match the orientation of the reference LND it is being positioned relative to, which is not permitted. The text is printed at the current location and is not repositioned, which might result in incorrect output. In the message text:

***dmapname***

The name of the current data map in the active page definition.

***lndno***

The identifier of the LND where the orientation mismatch was detected.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the page definition and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00437W**     **Input record with recordid '*record\_id*' cannot be matched to an RCD in datamap *dmapname*. The input record will be ignored.**

**Explanation**

While processing record-mode input, the transform encountered an input record whose record ID could not be matched to a Record Descriptor (RCD) in the active data map. The input record is dropped and processing continues with the next input record. In the message text:

***dmapname***

The name of the data map in the active page definition.

***record\_id***

The record identifier of the record in error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the page definition by adding an appropriate LAYOUT definition or correct the input data by

eliminating the unmatched records. Then, run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00438I**      **A text field of length *origlen* is being truncated to *maxlen* characters, in *datamap* msgtext.**

**Explanation**

While processing line-mode input, the transform encountered a text field whose length exceeded the internal maximum that can be processed (currently 4096 characters). The data is truncated to the maximum length permitted and processing continues. This is not related to the length of the input record, but to the length of an individual text field extracted from an input record. However, if the LENGTH parameter (using PPFA syntax) has been omitted or specified as '\*', then the length of the input record contributes to the determination of the field length.

***origlen***

The name of the data map in the active page definition.

***maxlen***

The record identifier of the record in error.

***datamap***

The record identifier of the record in error.

**System action**

This message is informational and does not effect the program's operation. If necessary, see the preceding message for additional information.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the document has been created correctly. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00439W**      **Illegal Structured Field sequence - resource group not at beginning of input.**

**Explanation**

A Resource Group has been encountered after the printable data stream has started. This violates the AFP architecture. The transform accepts the new resources, but does not replace any currently mapped resources. If multiple resource groups are present and contain identically named resources, the search sequence is undefined.

**System action**

This is a warning. Processing continues but results might not be as expected. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Modify the procedure for creating the data stream so that the resource group is before the printable data.

**User response**

Contact your system programmer. Resubmit the request after the problem is corrected.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00440W**     **The requested paper stock *stockname* is unknown or undefined. LETTER is used.**

**Explanation**

The transform configuration has associated an unrecognized paper stock with a bin number used by the current input document. The paper stock is neither a standard name built into the transform, nor an entry defined in the user's custom paper stock table. In the message text:

***stockname***

Name of the requested paper stock.

**System action**

This is a warning. Processing continues with the output formatted to standard LETTER sized paper. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer

definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Correct the configuration by either:

- Changing the referenced paper stock name.
- Adding an appropriate definition to the custom paper stock table.

**User response**

Contact your system programmer. Resubmit the request after the problem is corrected.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00441W**     **A graphics object was found that contains an unsupported GOCA *command*.**

**Explanation**

The input AFP file contains a graphics object that contains an unsupported GOCA command. The command is shown in hexadecimal in the message. In the message text:

***command***

Unsupported GOCA command in hexadecimal.

**System action**

This is a warning. Processing continues and the unsupported command is ignored. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the output is correct.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00442W**      **Unable to (LOAD|ACCESS) GUM Table DLL *dllname*: *os\_msg*.**

**Explanation**

A dynamic load of the GUM table DLL was attempted after an unrecognized GCGID was encountered during font processing. An error was returned by the OS from either the initial load of the DLL, or while trying to locate ("access") the correct data within the DLL. In the message text:

***dllname***

Name of the DLL that the application is attempting to load/access.

***os\_msg***

Message returned by the OS.

**System action**

This is a warning. Processing continues and the GCGID is treated as unrecognized. No corresponding Unicode value is available. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Determine why the DLL could not be properly accessed. It may be missing, or the correct search path may not be set. If the DLL load succeeded but the access attempt failed, then it is likely that the DLL is corrupted and a replacement copy is required.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00449W**      **Expecting more data but unable to read more data.**

**Explanation**

If the file is truncated, this error occurs.

**System action**

This is an imaging error. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Fix or get a new copy of the data file.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00450W Dropping *objtype* data from output due to unusable font *fontinfo***
**Explanation**

During rendering of page content a reference to a corrupted or incomplete font specification was found.

***objtype***

"Text" or "Non-text"

***fontinfo***

Available information concerning the font in question.

**System action**

The application will attempt to continue but the referenced page content will not be included in the output. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00601W No postscript output device driver initialized**
**Explanation**

No postscript output device driver initialized.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM customer service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00603W** Xerox font *font\_name* is not available - substituting default font *sub\_name*, *point\_size* pt.

**Explanation**

Font is not available - substituting default font.

***font\_name***

This is Xerox font name.

***sub\_name***

This is the assigned substitution font name.

***point\_size***

This is the font point size.

**System action**

The application continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**AOK00604I** Error occurred acquiring driver font alias for host font *font\_name*, text field not displayed

**Explanation**

Input font is not translated into PS font.

***font\_name***

This is assigned font name.

**System action**

The application continues processing, text field not displayed. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM customer service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00605W** Invalid orientation *orientation* encountered in font *font\_name*

**Explanation**

Invalid orientation *orientation* specified for the font.

***orientation***

This is the font orientation.

***font\_name***

This is assigned font name.

**System action**

The application continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM customer service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00606W** Failed to render driver image: *image\_id*

**Explanation**

Failed to render driver image.

***image\_id***

This is the image\_id.

**System action**

The application continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM customer service representative.

**User response**

Not applicable.



**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00607W** Failed to create driver image:  
*image\_id***Explanation**

Failed to create driver image.

***image\_id***

This is the image id.

**System action**

The application continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM customer service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00608I** Failed to define a PostScript font  
for Xerox font *font\_name***Explanation**

Failed to define a PostScript font for Xerox font.

***font\_name***

This is assigned font name.

**System action**

The application continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM customer service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00609I**      **Failes to update scalar font**  
    **font\_name**

**Explanation**

Failed to update scalar font.

**font\_name**

This is assigned font name.

**System action**

The application continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM customer service representative.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK00828W**      **Invalid Record found in External**  
    **CSV Alter Text/Acronyms file**  
    **filename Line line-no**

**Explanation**

The PDF parser detected an error in the input PDF file. An indirect object reference does not have an object number field. In the message text:

**filename**

Name of the Alter Text or Acronyms file with error.

**line-no**

Line number of reported error in above named file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review the file reported with the error condition, address the issue and try the operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK00999W**      **Compressing the data buffer with LZW failed.**

**Explanation**

Failed to encoded data with LZW compression.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01001E**      **Invalid image depth of *bpp* was requested during rasterization.**

**Explanation**

An invalid image depth was requested that caused an error during rasterization. Only depths of 1 (bitmap), 8 (grayscale), 24 (RGB), and 32 (CMYK) are currently supported. In the message text:

***bpp***

Requested image depth in bits per pixel (bpp).

**System action**

The application continues processing without the image file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify all page objects that are being rasterized have a supported depth of 1, 8, 24, or 32. The messages that precede this message might provide information about why an invalid depth was requested.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01002E**      **An invalid image size was requested.**

**Explanation**

An invalid image size was requested that caused an error during rasterization.

**System action**

The application continues processing without the image file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify all page objects being rasterized have a valid length and width. The messages that precede this message might provide information about why an invalid size was requested.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01003E**      **An error was encountered while rasterizing a transparency mask.**

**Explanation**

An error occurred during rasterization of a transparency mask.

**System action**

The application continues processing without the transparency mask. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that all transparency masks are structured correctly. The messages that precede this message might provide information about why the rasterization of the mask failed.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01004E**      **Unsupported vector graphic type: *vgtype* encountered during process.**

**Explanation**

Rasterization is not supported for vector graphic *vgtype* during *process*. In the message text:

***vgtype***

The vector graphic type.

***process***

The rasterization process where the unsupported vector graphic type was encountered.

**System action**

The application continues processing without rasterizing the unsupported vector graphic. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that all of the vector graphic types are supported.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01005E**      **Unsupported border type:*bordertype*.**

**Explanation**

Rasterization is not supported for border type *bordertype*. In the message text:

***bordertype***

The border type.

**System action**

The application continues processing without rasterizing the border. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that all of the vector image borders are supported.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01006E**      **Unsupported fill type:*filltype*.**

**Explanation**

Rasterization is not supported for fill type *filltype*. In the message text:

**filltype**

The area fill type.

**System action**

The application continues processing without rasterizing the filled area. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify vector graphic filled area has a supported fill type.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01007E** Invalid raster start/end:  
(*rasterstart,rasterend*).

**Explanation**

Rasterization is not supported for raster start *rasterstart* and raster end *rasterend*. In the message text:

**rasterstart**

The raster start line.

**rasterend**

The raster end line.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the vector graphic raster start and raster end values are supported.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01008E** Raster image processing  
transformation failed.

**Explanation**

Raster image processing transformation failed.

**System action**

The application continues processing without rasterizing the image. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the raster image is correct.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01009E**      **An error occurred while decompressing an image. msg.**

**Explanation**

Image decompression of a flate encoded image failed. *msg*. In the message text:

***msg***

A detailed description of the decompression error that occurred.

**System action**

The application continues processing without decompressing the image. Image rasterization may be

incomplete. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the image data is correct.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01010W**      **A warning occurred while decompressing an image. msg**

**Explanation**

Image decompression of a flate encoded image failed.

***msg***

A detailed description of the decompression error that occurred.

**System action**

The application continues processing without decompressing the image. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer

definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Image data was compressed by a very old implementations of Zlib deflater. If you need to suppress this message, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01999E**     **Driver *driver* requested abnormal shutdown on page *pagenum* error\_code,reason**

**Explanation**

A shutdown was requested because an error occurred in one of the output drivers on a page in the document. In the message text:

***driver***

The name of the driver that encountered the error.

***error\_code***

The error return code for the error that occurred.

***pagenum***

The page number in the document where the error occurred.

***reason***

An explanation of the error and why the driver requested the shutdown.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Look in the error log for previous messages that might provide more information about the error.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK01999W**     **Driver *driver* requested abnormal shutdown on page *pagenum* error\_code,reason**

**Explanation**

A shutdown was requested because an error occurred in one of the output drivers on a page in the document. In the message text:



**driver**

The name of the driver (PCL, PDF, or PS) that encountered the error.

**error\_code**

The error return code for the error that occurred.

**pagenum**

The page number in the document where the error occurred.

**reason**

An explanation of the error and why the driver requested the shutdown.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Look in the error log for previous messages that might provide more information about the error.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK02344W**

The font character *bad\_char* for PSFONT font *psfont* mapped from font *source\_font* character *source\_char* has no AFM entry

**Explanation**

An error occurred because a character in the output has not been defined in the Adobe Font Metrics (AFM) file. The font tables are most likely in error. In the message text:

***bad\_char***

The hexadecimal code of the missing character.

***psfont***

The PostScript font for which the AFM file is missing a character.

***source\_char***

The hexadecimal code of the character in the file that is being mapped.

***source\_font***

The source font that is being mapped to the PostScript font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

In the symbol set or Unicode font tables for *psfont* and *source\_font*, look at the entries for *bad\_char* and *source\_char* to determine why the character is not defined in the AFM file for the PostScript font. Then correct the table entries and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Infoprint Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02500E**      **A critical font error occurred. This is an internal program error.**

**Explanation**

An internal error occurred with a font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02501W**      **Codepoint *codepoint* has not been mapped for font: *font*.**

**Explanation**

An error occurred because a requested code point has not been defined for the specified font. In the message text:

***codepoint***

The name of the requested code point.

***font***

The name of the font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Review the data stream and compare it with the output to see what characters are missing. If you cannot correct the error, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02502W**     **Glyph names are not available for  
font**

**Explanation**

The font named *font* does not contain glyph names, which might effect character lookups and mappings.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02503E**     **Unable to associate data with  
compound font *font*.**

**Explanation**

An internal error has occurred while processing the font named *font*. Binary data that was mapped or embedded in the data stream could not be correctly associated with a font specified within the data stream.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02504E**     **Unable to find data metrics for  
node associated with current font  
metrics for compound font *font*.**

**Explanation**

An internal error has occurred while processing the font named *font*. Font metrics specified in the data stream could not be correctly associated with a font instance.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02505W**    **The character string for codepoint [codepoint] associated with the font [fontname] is undefined.**

**Explanation**

An internal error has occurred while processing the font *fontname*. The character string for the specified *codepoint* was not defined. In the message text:

**fontname**

The name of the font.

**codepoint**

The code point of the font being referenced.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02505E**    **The character string for codepoint [codepoint] associated with the font [fontname] is undefined.**

**Explanation**

An internal error has occurred while processing the font *fontname*. The character string for the specified *codepoint* was not defined. In the message text:

**fontname**

The name of the font.

**codepoint**

The code point of the font being referenced.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02506E** The specified encoding [*encoding*] associated with the font [*fontname*] is not recognized.

**Explanation**

An internal error has occurred while processing the font *fontname*. The specified *encoding* was not recognized. In the message text:

**encoding**

The encoding scheme of the font that is being referenced.

**fontname**

The name of the font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02507E** The specified codepoint [*codepoint*] associated with the font [*fontname*] is out of range.

**Explanation**

An internal error has occurred while processing the font *fontname*. The specified *codepoint* is out of range. In the message text:

***codepoint***

The code point of the font that is being referenced.

***fontname***

The name of the font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02508E**     **The charstring [*charstring*] associated with the font [*fontname*] does not specify the**

**horizontal sidebearing and width (hsbw) command as expected.****Explanation**

An internal error has occurred while processing the font *fontname*. The specified *charstring* is invalid. When the mandatory **hsbw** command is not present or cannot be interpreted, the transform is unable to determine required metrics for this character. In the message text:

***charstring***

The character string being referenced.

***fontname***

The name of the font.

**System action**

The application attempts to continue processing. Validate that the text output appears correct. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02509I**    **The requested re-encoding of the font [fontname] to the symbolset [symbolset] could not be performed due to multiple input code points attempting to map to the same Unicode output.**

**Explanation**

The font *fontname* has multiple code points that might be mapping to the same Unicode value. The specified mapping cannot be performed. In the message text:

**symbolset**

The symbol set associated with the font being referenced.

**fontname**

The name of the font.

**System action**

The application attempts to continue processing. Validate that the text output appears correct. This message is informational and does not effect the program's operation. If necessary, see the preceding message for additional information.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Check the input symbol sets that are associated with the font [fontname] to ensure it is valid. Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02510E**    **The internal font type *type* associated with rearranged CID font *fontname* is not supported.**

**Explanation**

An internal error has occurred while processing the font *fontname*. The internal font is an unsupported type of *type*. In the message text:

**type**

The type of the font.

**fontname**

The name of the font.

**System action**

Validate that the text output appears correct. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02575E**      **Unrecognized command in font  
[fontname]: details.**

**Explanation**

An internal error has occurred while processing the font *fontname*. An invalid or unrecognized font command was encountered. In the message text:

**fontname**

The name of the font.

**details**

Error message details.

**System action**

The application attempts to ignore the command and to continue processing. If the application produces bad output or terminates processing, investigate the problem further. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Contact an IBM service representative for additional information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02900E**      **No Device Unit Control Block for  
device device or default default.**

**Explanation**

The device unit control block is unavailable. In the message text:

**default**

The default name for the device unit control block.

**device**

The name of the device unit control block.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.



**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02901E**      **BARR S/370 Header invalid**  
**HB1HB2HB3HB4**

**Explanation**

The BAR S/370 Header is not valid. The message displays the 4-byte hexadecimal header.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK02902E**      **Append is only supported for**  
**MEMFILES**

**Explanation**

The append is only valid for MEMFILES.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03002E**      **Unable to find *dict\_key* in**  
**dictionary for object**  
***object\_number*.**

**Explanation**

The transform could not find the dictionary key for an object in a PDF file. The PDF file might be invalid or corrupted. In the message text:

**dict\_key**

The missing dictionary key.

**object\_number**

The number of the object in the PDF file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the PDF file is valid. If it is not, rerun the transform with a valid PDF file. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03003E Invalid Indirect Reference in PDF file.****Explanation**

The transform found an error while reading a PDF object container in the AFP file. The PDF file might be invalid or corrupted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the PDF file is valid. If it is not, rerun the transform with a valid PDF file. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03004E Invalid command *command* in a PDF file.****Explanation**

The transform found an error while reading a PDF object container in the AFP file. The PDF file might be invalid or corrupted. In the message text, *command* is the name of the invalid command.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable

setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the PDF file is valid. If it is not, rerun the transform with a valid PDF file. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03005W PDF xref table is invalid or missing**

**Explanation**

The transform found an error while reading a PDF object container in the AFP file. The PDF file might be invalid or corrupted.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the PDF file is valid. If it is not, rerun the transform with a valid PDF file. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03006W PDF page CropBox is not equal to MediaBox**

**Explanation**

The transform found an unsupported configuration while reading a PDF object container in the AFP file: the CropBox was not equal to the MediaBox. The document contents might not appear the same as those provided by other viewing applications.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

None.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03007W** *PPI Warning error\_type, error\_detail***Explanation**

While the transform was reading a PDF object container in the AFP file, a problem occurred with PDF parsing or interpretation. The PDF file might be corrupted. In the message text:

**error\_detail**

Details about the warning.

**error\_type**

The type of warning, such as "syntaxerror" or "typecheck".

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the PDF file is valid. If it is not, rerun the transform with a valid PDF file. Otherwise, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03008E** **PDF is encrypted and cannot be decrypted.****Explanation**

Input PDF file is encrypted and cannot be decrypted.

**System action**

The application exits with the return code of 3008. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact IBM service representative.

**User response**

Switch to use an unencrypted PDF file.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03201E**      *LE\_message\_text*

**Explanation**

The transform was unable to successfully read input from the connected socket session. *LE\_message\_text* is the error message text provided by Language Environment runtime.

Error code 140, (EPIPE), described as "Broken Pipe" in the message, can occur when communication has been lost with the application requesting the transform. This is not a problem with the transform; instead, the application might have timed out or been cancelled by an operator or the system.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

See *z/OS UNIX System Services Messages and Codes* for a description of socket errors.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03202E**      *LE\_message\_text*

**Explanation**

The transform was unable to successfully write output to the connected socket session. *LE\_message\_text* is the error message text provided by Language Environment runtime.

Error code 140, (EPIPE), described as "Broken Pipe" in the message, can occur when communication has been lost with the application requesting the transform. This is not a problem with the transform; instead, the application might have timed out or been cancelled by an operator or the system.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

See *z/OS UNIX System Services Messages and Codes* for a description of socket errors.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03203E** Password exit, *dll\_name*, did not load correctly. The *dlopen* function failed with error *LE\_message\_text*

**Explanation**

The transform was unable to successfully load the PDF Password Exit DLL. This prevents the transform from determining what passwords to use in the output PDF. In the message text:

***dll\_name***

The path name of the password exit being loaded.

***LE\_message\_text***

The load error message text returned from Language Environment.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

See [“Writing a Password exit” on page 108](#) to verify that you have correctly followed the instructions for creating and installing a password exit.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03204E** Unable to locate required entry point in the PDF password exit DLL

**Explanation**

The transform was unable to successfully call the PDF Password Exit function. This prevents the transform from determining what passwords to use in the output PDF.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

Review the DLL and determine why the required entry point is not accessible.

**User response**

See [“Writing a Password exit” on page 108](#) to verify that you have correctly followed the instructions for creating and installing a password exit. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03205E** PDF Password Exit 'init' returned: *error\_text. error\_text*

**Explanation**

The transform was unable to successfully call the PDF Password Exit 'init' function. This prevents the transform from determining what passwords to use in the output PDF. The original error was detected within the password DLL exit itself. In the message text, *error\_text* is the error message returned from the DLL 'init' function.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the error specified in the message. See [“Writing a Password exit” on page 108](#) to verify that you have correctly followed the instructions for creating and installing a password exit.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03206E** PDF Password Exit 'query' returned: *error\_text*

**Explanation**

The transform was unable to successfully call the PDF Password Exit 'query' function. This prevents the transform from determining what passwords to use in the output PDF. The original error was detected within the password DLL exit itself. In the message text, *error\_text* is the error message returned from the DLL 'query' function.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the error specified in the message. See [“Writing a Password exit” on page 108](#) to verify that you have correctly followed the instructions for creating and installing a password exit.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03207E**     **Add the password for the *id\_type* identifier *id\_value* to the Password exit *dll\_name***

**Explanation**

A password must be returned for each identifier that is provided; however, the password exit DLL did not return a corresponding password for the identifier displayed in the message. In the message text:

***dll\_name***

The path name of the password exit DLL.

***id\_type***

The owner or user of the password.

***id\_value***

The identifier provided for the owner or user.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the password exit or its database to ensure that a password can be returned for the specified identifier. See [“Writing a Password exit” on page 108](#) to verify that you have correctly followed the instructions for creating and installing a password exit.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03208E**     **Change either the owner password or the user password. The passwords must be different.**

**Explanation**

A password must be different for an owner identifier and a user identifier; however, the password exit DLL returned the same password for an owner and a user. Either the same identifier was used for both the `pdf-owner-identifier` and `pdf-user-identifier` attributes or the password exit returned the same value for different identifiers.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Change one of the passwords being requested. See [“Writing a Password exit” on page 108](#) to verify that you have correctly followed the instructions for creating and installing a password exit.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.



**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03209E**      **To use PDF encryption, set the environment variable `AOP_ENCRYPT` to Yes in the transform configuration file.**

**Explanation**

The user specified encryption related job attributes; however, the transform is not enabled for encryption because the configuration environment variable `AOP_ENCRYPT` is set to NO.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

If encryption is not required, remove the encryption related attributes. If encryption is required, set the environment variable `AOP_ENCRYPT` to YES in the transform configuration file and then restart the Infoprint Server Transform Manager.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03210E**      **To select protected actions for PDF encryption, specify the owner password.**

**Explanation**

The user has specified values in the `pdf-protect` job attribute, but has not provided a `pdf-owner-identifier` attribute. In order for the transform to apply PDF protection restrictions, an owner encryption password must be specified.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Specify an owner identifier in the `pdf-owner-identifier` job attribute or ask the administrator to specify an owner identifier in the printer definition. Then resubmit the request.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03211E**      **Specified Encryption Key size of `key_size` bits is unsupported**

**Explanation**

Encryption has been requested for a PDF transform, but the transform does not support the specified encryption key size. In the message text, *key\_size* is the caller specified encryption key size.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the supplied PDF encryption key size and resubmit then resubmit the request.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03220E**      **Unable to open file *file*.**  
*LE\_message\_text*

**Explanation**

The transform is unable to open a temporary file used to stage the transformed output. In the message text:

*file*

The name of the file.

***LE\_message\_text***

The open error message text returned from Language Environment.

**System action**

The transform ends.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review the message returned by the operating system and correct that error.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03221E**      ***LE\_message\_text***

**Explanation**

An error occurred while the transform was attempting to read the temporary file containing the generated output. *LE\_message\_text* is the error message text provided by Language Environment runtime.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Examine the `stderr` error log to if an error occurred previously during transformation. Review the message returned by the operating system and correct that error.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03223E**     *LE\_message\_text*

**Explanation**

The transform received an error while closing the temporary staging file. *LE\_message\_text* is the error message text provided by Language Environment runtime.

**System action**

The transform ends or attempts to continue based on the `AOP_FAIL_ON_ERROR` environment variable setting in `aopxfd.conf`, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

No action is required. However, you might need to erase the temporary file.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03227E**     **Transform Configuration File *file* is inaccessible. *LE\_message\_text***

**Explanation**

The transform was unable to open its initial configuration file. The file might be missing or installed in an incorrect location, or the file permissions might be incorrect. In the message text:

***file***

The name of the transform configuration file.

***LE\_message\_text***

The error message text returned from Language Environment.

**System action**

The transform ends or attempts to continue based on the `AOP_FAIL_ON_ERROR` environment variable setting in `aopxfd.conf`, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Install the configuration file in the correct directory or correct the file and directory permissions. Otherwise, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03228E      Unable to recognize the caller supplied parameter data.****Explanation**

The transform could not validate runtime parameter data exchanged between internal components. This error indicates mismatched product components and is most likely due to an unsuccessful installation attempt or a failed maintenance application.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03229E      Unable to Register Socket-based I/O Driver****Explanation**

The transform failed to establish its socket I/O driver for communication with the calling client address space. This is an internal error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative and provide the diagnostic information.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03230E**      **Unable to initialize transform API, see stderr contents for details**

**Explanation**

The transform failed to establish access to or initialize the transform-engine DLL. This is an internal error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative and provide the diagnostic information.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03231W**      **Unable to open specified trace file *file***

**Explanation**

The transform was unable to open the trace file that was specified with the transform parameters. The specified trace file, *file*, might be an incorrect file name or location, or the file permissions might be incorrect.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Specify a different trace file name, location, or both, or correct the file permissions.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03239E**     *LE\_message\_text*

**Explanation**

The transform was unable to successfully invoke the iconv() system service which is required to translate PDF encryption passwords between EBCDIC and ASCII. *LE\_message\_text* is the error message text provided by Language Environment runtime.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03240W**     **AOP\_MAX\_RECORD\_LENGTH value  
reclen\_value exceeds limit of  
number, reducing to limit**

**Explanation**

The value specified for the "AOP\_MAX\_RECORD\_LENGTH" environment variable is outside the valid limits. The specified value must be either "max" or a numeric value from 696 to 32756. These limits are set by z/OS and Infoprint Server. In the message text:

**number**

A numeric value of either 696 or 32756.

**reclen\_value**

The record length value that is outside the valid limits.

**limit**

The value of either minimum or maximum.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the maximum record length value to prevent future warnings.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03251W**     **Fail to recognize *parm\_name* parameter value *parm\_value***

**Explanation**

The specified runtime parameter or environment variable (from `aopxfd.conf`) was ignored because the transform could not recognize it. Some runtime parameters and configuration environment variables are specified with character tokens, such as YES, NO, or PRINT. The unrecognized value is not valid in the context in which it was specified. Values used for the "pdf-protect" parameter are those returned from the password exit DLL, which might not be those provided by the user. In the message text:

***parm\_name***

The name of the runtime parameter or environment variable.

***parm\_value***

The value of the runtime parameter or environment variable.

**System action**

The transform ends or attempts to continue based on the `AOP_FAIL_ON_ERROR` environment variable setting in `aopxfd.conf`, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the parameter value, restart the Infoprint Server Transform Manager, and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03252E**     **Unable to set parameter *parm\_name* with value *parm\_value*. *error\_msg***

**Explanation**

The transform was unable to translate a user-supplied parameter to its corresponding internal configuration parameter. This is an internal error. In the message text:

***error\_msg***

The error message returned from the transform.

***parm\_name***

The name of the user-supplied parameter.

***parm\_value***

The value of the user-supplied parameter.

**System action**

The transform ends or attempts to continue based on the `AOP_FAIL_ON_ERROR` environment variable setting in `aopxfd.conf`, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative and provide diagnostic information.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03253E**      **Too many individual *parm\_name* parameters present in value *parm\_value***

**Explanation**

The specified parameter string contain too many tokens. Some runtime parameters and configuration environment variables (in `aopxfd.conf`) permit multiple tokens within their value; however, there might be a limit on the number of tokens that are accepted. Values used for the "pdf-protect" parameter are those returned from the password exit DLL, which might not necessarily be those provided by the user. In the message text:

***parm\_name***

The name of the parameter.

***parm\_value***

The value of the parameter.

**System action**

The transform ends or attempts to continue based on the `AOP_FAIL_ON_ERROR` environment variable setting in `aopxfd.conf`, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the parameter value, restart the Infoprint Server Transform Manager, and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03254E**      **Failed to dynamically allocate resource libraries from *dataset\_list.error\_msg***

**Explanation**

The transform was unable to dynamically allocate one or more of the specified AFP resource libraries. All AFP resource libraries specified with configuration environment variables, such as `AOP_FONTLIB`, are dynamically allocated and, if there are multiple libraries for a particular resource, dynamically concatenated. The resource libraries must be catalogued and available for a `DISP=SHR` allocation at runtime. The data set names might have been incorrectly specified or an environmental problem is preventing their use. In the message text:

***dataset\_list***

The data set names of the AFP resource libraries.

***error\_msg***

The error message that describes the failed dynamic allocation or concatenation attempt.



**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review and correct the error run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03254W**     **Failed to dynamically allocate resource libraries from *dataset\_list.error\_msg***

**Explanation**

The transform was unable to dynamically allocate one or more of the specified AFP resource libraries. All AFP resource libraries specified with configuration environment variables, such as AOP\_FONTLIB, are dynamically allocated and, if there are multiple libraries for a particular resource, dynamically concatenated. The resource libraries must be catalogued and available for a DISP=SHR allocation at runtime. The data set names might have been

incorrectly specified or an environmental problem is preventing their use. In the message text:

***dataset\_list***

The data set names of the AFP resource libraries.

***error\_msg***

The error message that describes the failed dynamic allocation or concatenation attempt.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review and correct the error, and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03255E**     **Unable to open a dynamic STOCKTABLE, filename *file* : "*error\_msg*"**

**Explanation**

The transform was unable to open a temporary file to contain a dynamically generated STOCKTABLE, which represents the characteristics of the various paper types and sizes that are being used in the transform. The most likely cause is insufficient region size. In the message text:

**error\_msg**

The error message that the transform returns after the failed open attempt.

**file**

The name of the temporary STOCKTABLE file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review and correct the error and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK03256E**

***parm\_value* is an unsupported value for AOP\_OFFSET\_JOGGING**

**Explanation**

The option found in the AOP\_OFFSET\_JOGGING environment variable, *parm\_value*, is currently an unsupported option.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the configuration parameter in **aopxfd.conf**, restart the Infoprint Server Transform Manager, and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK03257W**

**Insufficient number of paper type names supplied in AOP\_PAPER, using 'paper\_name'**

**Explanation**

The AOP\_PAPER environment variable must contain 10 paper type names, corresponding to AFP trays 1 through 9 and 10 or higher; however, AOP\_PAPER contained less than 10 valid paper types. In the message text, *paper\_name* is the paper type name the transform uses for the missing values: either the first valid paper type name or the default "letter".

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the missing values.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03258W**    **The job attribute '*attribute\_name*' is unsupported in this release and is being ignored**

**Explanation**

The user has specified a job attribute that is not supported in the current release of the transform. In the message text, *attribute\_name* is the name of the unsupported job attribute.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Remove the unsupported job attribute specification.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03259I**    **Additional '*error\_level*' runtime messages are being suppressed**

**Explanation**

The number of messages issued has exceeded the internal threshold. The total number of messages issued through the caller interface is limited to prevent too many messages in the Infoprint Server common

message log or in the user's console session. The transform determines the maximum number of messages issued. If the AOP\_TRAILER\_ERROR\_PAGE environment variable, the trailer-transform-error-page job attribute, or both are set, a trailer page is created that contains the full list messages. In the message text, *error\_level* is the type of messages being suppressed: Error, Informational, or Warning.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

#### Operator response

Not applicable.

#### System programmer response

None.

#### User response

See the complete set of messages in the transform's `stderr` file and in the trailer page, if one is created.

#### Problem determination

Not applicable.

#### Module

Not applicable.

#### Source

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

#### Routing code

Not applicable.

#### Descriptor code

Not applicable.

#### Automation

Not applicable.

---

**AOK03260E** Data transfer socket was unexpectedly closed by the remote partner

#### Explanation

The invoking transform client has unexpectedly closed the data transfer session. The client encountered an error, such as a program abend, that prevents it from notifying the transform of the problem.

#### System action

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

#### Operator response

Not applicable.

#### System programmer response

None.

#### User response

Review error messages issued by the transform client DLL.

#### Problem determination

Not applicable.

#### Module

Not applicable.

#### Source

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

#### Routing code

Not applicable.

#### Descriptor code

Not applicable.

#### Automation

Not applicable.

---

**AOK03261W** The *DeprecatedParm* parameter is now deprecated and ignored. *NewParm* can be used instead.

**Explanation**

The currently used parameter is deprecated and is no longer supported. An alternative is suggested. In the message text:

**DeprecatedParm**

The name of the deprecated parameter found in the transform configuration.

**NewParm**

The name of the replacement parameter.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

If the functionality provided by the unsupported parameter is needed, update the **aopxfd.conf** file to use the suggested replacement parameter.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03262E**    **The value for the *parmname* parameter exceeds the maximum**

**allowable length of *maxlen* characters.**

**Explanation**

The value supplied for the named parameter exceeds the maximum length allowed by the application.

**parmname**

The name of the run time parameter whose value exceeded the allowable maximum.

**mexlen**

The maximum length allowed for this parameter's value.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM Service representative.

**User response**

The parameter value must be changed and a shorter value supplied.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03263E** No UACF named *uacfname* was found in the *loctype* listed in AOP\_UACF\_LOCATION.

**Explanation**

No UACF file of the provided name was found in any of the directory or library listed in the AOP\_UACF\_LOCATION environment variable.

***uacfname***

The name of the UACF file provided in the pdf-user-accessibility-control-file job attribute.

***loctype***

Depending on the values found in AOP\_UACF\_LOCATION, either a directory or a library.

**System action**

No UACF file is used and the output is not be tagged for accessibility. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM Service representative.

**User response**

The document must be resubmitted and a valid UACF file name or library provided.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK03264W** Creating Accessible PDF but no document title was provided. Result may not pass validation.

**Explanation**

An accessible PDF output format is being created without a PDF document title; the output PDF might not pass accessibility validation.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Specify a default PDF title using aopxfd.conf class environment variable **AOP\_PDF\_TITLE**.

**User response**

Supply a PDF title using pdf-title job attribute.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK03265W** Neither user nor owner identifier provided, encryption is being forced to 40 bit RC4.

**Explanation**

The user has requested encryption but has not supplied either a user or an owner identifier. Encryption is forced to 40-bit only. Either a user or owner identifier is required for 128-bit, aes128 or aes256 encryption.

**System action**

The transform job continues with the lower encryption level and no user or owner identifiers defined. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Provide a user or owner identifier, then resubmit the request.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK04100W** Bar code symbology *barcode* not supported.

**Explanation**

The bar code symbology type, *barcode*, is not supported

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK04101W** The bar code check digit algorithm not supported

**Explanation**

The digit algorithm that checks bar codes is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04102W**     **Failed to suppress trailing blanks from EAN2 bar code data**

**Explanation**

The transform failed to suppress trailing blanks from EAN Two-digit Supplemental bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the EAN Two-digit Supplemental bar code data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04103W**     **Failed to suppress trailing blanks from EAN5 bar code data**

**Explanation**

The transform failed to suppress trailing blanks from EAN Five-digit Supplemental bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.



**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the EAN Five-digit Supplemental bar code data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04104W Failed to suppress trailing blanks from EAN8 bar code data****Explanation**

The transform failed to suppress trailing blanks from EAN-8 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the EAN-8 bar code data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04105W Failed to suppress trailing blanks from EAN13 bar code data****Explanation**

The transform failed to suppress trailing blanks from EAN-13 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the EAN-13 bar code data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04106W Failed to suppress trailing blanks from UPC2 bar code data****Explanation**

The transform failed to suppress trailing blanks from UPC—Two-digit Supplemental bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the UPC—Two-digit Supplemental bar code data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04107W Failed to suppress trailing blanks from UPC5 bar code data****Explanation**

The transform failed to suppress trailing blanks from UPC—Five-digit Supplemental bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the UPC—Five-digit Supplemental bar code data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04108W**     **Failed to suppress trailing blanks from UPCA bar code data**

**Explanation**

The transform failed to suppress trailing blanks from UPC/CGPC—Version A bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the UPC/CGPC—Version A bar code data is valid. Run the transform again.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK04109W**     **Failed to suppress trailing blanks from UPCE bar code data**

**Explanation**

The transform failed to suppress trailing blanks from UPC/CGPC—Version E bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for the UPC/CGPC—Version E bar code data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04110W**     **Failed to suppress trailing blanks from USPS Intelligent Mail bar code data**

**Explanation**

The transform failed to suppress trailing blanks from USPS Four-State - Intelligent Mail Barcode (IMB) data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Ensure that the Bar Code Object Content Architecture (BCOCA) data for USPS Four-State - IMB data is valid. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04111W**     ***modifier* is not a valid modifier for CODE39 bar code**

**Explanation**

An incorrect modifier was specified for the Code 39 (3-of-9 Code) or AIM USS-39 bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Code 39 or AIM USS-39 bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04112W**     ***modifier* is not a valid modifier for CODE20F5 bar code**

**Explanation**

An incorrect modifier was specified for the Industrial 2-of-5, Matrix 2-of-5 (2D bar code), Interleaved 2-of-5, or AIM USS-I 2/5 bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Industrial 2-of-5, Matrix 2-of-5, Interleaved 2-of-5, or AIM USS-I 2/5 bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04113W** *modifier* is not a valid modifier for CODABAR bar code

**Explanation**

An incorrect modifier was specified for the Codabar, 2-of-7, or AIM USS-Codabar bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Codabar, 2-of-7, or AIM USS-Codabar bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04114W** *modifier* is not a valid modifier for POSTNET bar code

**Explanation**

An incorrect modifier was specified for the POSTNET bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the POSTNET bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04115W**     *modifier is not a valid modifier for UPCA bar code*

**Explanation**

An incorrect modifier was specified for the UPC/CGPC—Version A bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the UPC/CGPC—Version A bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04116W**     *modifier is not a valid modifier for UPCE bar code*

**Explanation**

An incorrect modifier was specified for the UPC/CGPC—Version E bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the UPC/CGPC—Version E bar code modifier.  
Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for  
Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04117W** *modifier is not a valid modifier for  
UPC2 bar code***Explanation**

An incorrect modifier was specified for the UPC—Two-  
digit Supplemental bar code. In the message text,  
*modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on  
the AOP\_FAIL\_ON\_ERROR environment variable  
setting in **aopxfd.conf**, the **Fail on error** field in the  
printer definition, or the **fail-on-transform-error** job  
attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the UPC—Two-digit Supplemental bar code  
modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for  
Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04118W** *modifier is not a valid modifier for  
UPC5 bar code***Explanation**

An incorrect modifier was specified for the UPC—Five-  
digit Supplemental bar code. In the message text,  
*modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on  
the AOP\_FAIL\_ON\_ERROR environment variable  
setting in **aopxfd.conf**, the **Fail on error** field in the  
printer definition, or the **fail-on-transform-error** job  
attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the UPC—Five-digit Supplemental bar code  
modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04119W** *modifier is not a valid modifier for EAN2 bar code***Explanation**

An incorrect modifier was specified for the EAN Two-digit Supplemental bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the EAN Two-digit Supplemental bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04120W** *modifier is not a valid modifier for EAN5 bar code***Explanation**

An incorrect modifier was specified for the EAN Five-digit Supplemental bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the EAN Five-digit Supplemental bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.



**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04121W**     *modifier is not a valid modifier for EAN8 bar code*

**Explanation**

An incorrect modifier was specified for the EAN-8 bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the EAN-8 bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04122W**     *modifier is not a valid modifier for EAN13 bar code*

**Explanation**

An incorrect modifier was specified for the EAN-13 bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the EAN-13 bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04123W**     *modifier is not a valid modifier for MSI bar code*

**Explanation**

An incorrect modifier was specified for the MSI (modified Plessey code) bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the MSI bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04124W**     *modifier is not a valid modifier for CODE128 bar code*

**Explanation**

An incorrect modifier was specified for the Code 128 or AIM USS-128 bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Code 128 or AIM USS-128 bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04125W**     *modifier is not a valid modifier for RM4SCC bar code*

**Explanation**

An incorrect modifier was specified for the RM4SCC bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the RM4SCC bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04126W** *modifier is not a valid modifier for USPS Intelligent Mail bar code*

**Explanation**

An incorrect modifier was specified for the USPS Four-State - Intelligent Mail Barcode (IMB) bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the USPS Four-State - IMB bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04127W** *modifier is not a valid modifier for Data Matrix bar code*

**Explanation**

An incorrect modifier was specified for the Data Matrix bar code (2D bar code). In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Data Matrix bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04128W**     *modifier is not a valid modifier for PDF417 bar code*

**Explanation**

An incorrect modifier was specified for the PDF417 bar code (2D bar code). In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the PDF417 bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04129W**     *modifier is not a valid modifier for QR Code bar code*

**Explanation**

An incorrect modifier was specified for the QR Code bar code (2D bar code). In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the QR Code bar code modifier. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04130W**      **Failed to create bar code symbol with empty bar code data.**

**Explanation**

The transform could not create a bar code symbol with empty bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the bar code object. Run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04131W**      **Failed to create bar code symbol because the bar code data length exceeds the system capacity.**

**Explanation**

The transform could not create a bar code symbol because the bar code data length was greater than the system capacity.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04132E**      **Font font not available for Barcode HRI**

**Explanation**

The font specified for the human readable interpretation (HRI) bar code, *font*, is not available.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Find the missing font, place it in the appropriate library, and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04132W**      **Font font not available for bar code HRI**

**Explanation**

The font specified for the human readable interpretation (HRI) bar code, *font*, is not available.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Find the missing font, place it in the appropriate library, and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04133W**     **Failed to convert 10 digits to 6-digit UPC-E format.****Explanation**

The transform could not convert 10 digits to 6-digit UPC/CGPC—Version E format.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the UPC/CGPC—Version E bar code object to make sure it can be converted to 6-digit UPC/CGPC—Version E format.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04134W**     **The CODE 128 bar code check digit algorithm is not valid.****Explanation**

The Code 128 or AIM USS-1288 bar code check digit algorithm is not valid. The default algorithm is being used.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code structured field and fix the check digit specification if it is not valid.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04135W**     **Failed to calculate bar code check digit for CODE 128 bar code.****Explanation**

The transform failed to calculate the bar code check digit for the Code 128 or AIM USS-1288 bar code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04136W**     **Invalid format of FNC1 sequence found in CODE 128 bar code data.**

**Explanation**

The transform found an incorrect format for the FNC1 sequence in the Code 128 or AIM USS-1288 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04137W**     **Invalid UCC/EAN128 data found in CODE 128 bar code data.**

**Explanation**

The transform found incorrect UCC/EAN128 data in the Code 128 or AIM USS-1288 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.



**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04138W Invalid character found in RM4SCC bar code data.****Explanation**

The transform found an incorrect character in the RM4SCC bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04139W Failed to calculate bar code check digit for RM4SCC bar code.****Explanation**

The transform failed to calculate the bar code check digit for the RM4SCC bar code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04140W** Invalid check digit created for RM4SCC bar code.**Explanation**

The transform created an incorrect check digit for the RM4SCC bar code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04141W** Initialization of Internal Table for USPS Intelligent Mail bar code failed.**Explanation**

The transform could not initialize the Internal Table for the USPS Four State - Intelligent Mail Barcode (IMB).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04142W** Failed to encode USPS Intelligent Mail bar code.

**Explanation**

The transform failed to encode the USPS Four State - Intelligent Mail Barcode (IMB).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04143W**      **USPS Intelligent Mail bar code data is not valid.**

**Explanation**

The USPS Four State - Intelligent Mail Barcode (IMB) is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04144W**      **Failed to encode Data Matrix bar code.**

**Explanation**

The transform failed to encode the Data Matrix bar code (2D bar code).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04145W**      **Data Matrix bar code data is not valid.**

**Explanation**

The Data Matrix bar code (2D bar code) is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04146W**      **Data Matrix X-dimension (BarWidth) not defined.**

**Explanation**

The X-dimension (BarWidth) is not defined for the Data Matrix bar code (2D bar code).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04147W PDF417 bar code data contains invalid ECI sequence.**

**Explanation**

The PDF417 bar code (2D bar code) contains an invalid ECI sequence.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04148W Failed to encode PDF417 bar code.**

**Explanation**

The transform failed to encode the PDF417 bar code (2D bar code).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04149W PDF417 X-dimension (BarWidth) and or Y-dimension (BarHeight) not defined.**

**Explanation**

The X-dimension (BarWidth), Y-dimension (BarHeight), or both are not defined for the PDF417 bar code (2D bar code).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04150W PDF417 bar code data is not valid.**

**Explanation**

The PDF417 bar code (2D bar code) is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04151W CODE39 bar code data is not valid.**

**Explanation**

The Code 39 (3-of-9 Code), or AIM USS-39 bar code is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04152W Invalid character found in UPCA bar code data.**

**Explanation**

The transform found an incorrect character in the UPC/CGPC–Version A bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04153W UPCA X-dimension (BarWidth) is not valid.**

**Explanation**

The X-dimension (BarWidth) is not valid for the UPC/CGPC–Version A bar code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04154W Invalid character found in UPCE bar code data.****Explanation**

The transform found an incorrect character in the UPC/CGPC–Version E bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04155W UPCE X-dimension (BarWidth) is not valid.****Explanation**

The X-dimension (BarWidth) is not valid for the UPC/CGPC–Version E bar code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.



**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04156W Invalid character found in CODE128 bar code data.**

**Explanation**

Invalid character found in CODE128 bar code data

**Explanation**

The transform found an incorrect character in the Code 128 or AIM USS-128 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04157W Invalid character found in MSI bar code data.**

**Explanation**

The transform found an incorrect character in the MSI (modified Plessey code) bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04158W Invalid character found in UPC2 bar code data.**

**Explanation**

The UPC–Two digit Supplemental bar code data is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04159W Invalid character found in UPC5 bar code data.**

**Explanation**

The transform found an incorrect character in the UPC–Five digit Supplemental bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04160W Invalid character found in EAN2 bar code data.**

**Explanation**

The transform found an incorrect character in the EAN Two-digit Supplemental bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04161W Invalid character found in EAN5 bar code data.****Explanation**

The transform found an incorrect character in the EAN Five-digit Supplemental bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04162W Invalid character found in EAN8 bar code data.****Explanation**

The transform found an incorrect character in the EAN-8 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04163W**      **Invalid character found in EAN13 bar code data.**

**Explanation**

The transform found an incorrect character in the EAN-13 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04164W**      **Invalid character found in 2 OF 5 bar code data.**

**Explanation**

The transform found an incorrect character in the Industrial 2-of-5, Matrix 2-of-5, Interleaved 2-of-5, or AIM USS-I 2/5 bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04165W Invalid character found POSTNET bar code data.****Explanation**

The transform found an incorrect character in the POSTNET bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04166W Invalid character found CODABAR bar code data.****Explanation**

The transform found an incorrect character in the Codabar, 2-of-7, or AIM USS-Codabar bar code data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04167W Failed to add bar code symbology to the output driver.****Explanation**

The transform failed to add bar code symbology to the output driver.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04168W QR Code bar code data is not valid.**

**Explanation**

The QR Code bar code data is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04169W QR Code bar code data contains invalid ECI data.**

**Explanation**

The QR Code bar code data contains invalid ECI data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04170W**      **Failed to encode QR Code bar code.**

**Explanation**

The transform failed to encode the QR Code bar code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04171W**      **QR Code X-dimension (BarWidth) is not valid.**

**Explanation**

The X-dimension (BarWidth) for the QR Code bar code is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04172W**      **Failed to calculate the bar code check digit.**

**Explanation**

The transform failed to calculate the bar code check digit.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04173W**      ***modifier* is not a valid modifier for Code 93 bar code**

**Explanation**

The transform found an incorrect modifier specified for the Code 93 bar code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Code 93 bar code modifier and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04174W**      **CODE93 bar code data is not valid.**



**Explanation**

The Code 93 bar code data is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04175W**     **Australia Post Bar Code data is not valid.**

**Explanation**

The Australia Post Bar Code data is not valid because it might contain a character that the transform cannot encode.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04176W**     **Australia Post Bar Code data is too short.**

**Explanation**

The Australia Post Bar Code data is too short.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04177W**      **Australia Post Bar Code data is too long.**

**Explanation**

The Australia Post Bar Code data is too long.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04178W**      ***modifier* is not a valid modifier for Australia Post Bar Code**

**Explanation**

The transform found an incorrect modifier specified for the Australia Post Bar Code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Australia Post Bar Code modifier and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04179W** *modifier is not a valid modifier for Japan Postal Bar Code***Explanation**

The transform found an incorrect modifier specified for the Japan Postal Bar Code. In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Japan Postal Bar Code modifier and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04180W** **Japan Postal Bar Code data is not valid.****Explanation**

The Japan Postal Bar Code data is not valid. It might be too short or too long, or it might contain a character that the transform cannot encode.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04181W**      **MaxiCode bar code data is not valid.**

**Explanation**

The MaxiCode bar code (2D bar code) data is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04182W**      **MaxiCode Bar Code data is too long,.**

**Explanation**

The MaxiCode bar code (2D bar code) data is too long.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04183W**      **MaxiCode bar code data contains invalid ECI sequence.**

**Explanation**

The MaxiCode bar code (2D bar code) data contains an invalid ECI sequence.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04184W**      **Failed to encode the MaxiCode Bar Code data.**

**Explanation**

The transform failed to encode the MaxiCode bar code (2D bar code) data.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04185W**      ***modifier* is not a valid modifier for MaxiCode bar code**

**Explanation**

The transform found an incorrect modifier specified for the MaxiCode bar code (2D bar code). In the message text, *modifier* is the identifier for the bar code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the MaxiCode bar code modifier and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04186W**     **Bar code is outside the printable area of the page.****Explanation**

The transform found an incorrect position specified for the bar code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the bar code position values and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04187W**     **Royal Mail MailMark bar code data is not valid.****Explanation**

The Royal Mail MailMark bar code data is not valid.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input bar code object and correct it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK04188W**     *modifier is not a valid modifier for Royal Mail MailMark Bar Code*

**Explanation**

Invalid modifier specified for Royal Mail MailMark Bar Code. In the message text:

***modifier***

The identity of the Bar Code modifier.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the Royal Mail MailMark Bar Code modifier, and then try again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK05000W**     **Vector Graphics data cannot be processed.**

**Explanation**

The format of the vector graphics data is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input vector graphics objects.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK05001W**     **Vector graphics color is not supported.**

**Explanation**

The color of the vector graphics data is not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input vector graphics object color.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK05002W**     **Vector graphics logic error.**

**Explanation**

Invalid values for the command.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the input vector graphics commands for this object.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06033W**     **AFP font *CharacterSetName* is not available**

**Explanation**

The transform detected a reference to a character set that cannot be found in memory. This usually happens if an error occurs while loading the character set. For example, if the file cannot be found. The transform attempts to substitute a default font. In the message text:



**CharacterSetName**

The resource name of the AFP character set that is unavailable.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Ensure that a valid copy of the character set is available to the transform. The transform attempts to load the character set from the concatenation of user resource libraries and system resource libraries that are specified in AOP\_FONTLIB. If the problem persists, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06150E**    **An error has occurred while processing the font mapping configuration file.**

**Explanation**

An error occurred while attempting to open the font configuration file specified with the AOP\_FONTMAP\_TABLE environment variable. It could not be processed successfully.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the previous error messages to determine the problem. See the product User's Guide for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06069E**    **Font configuration file *file* open failed (*error\_number*, *reason*, *message*)**

**Explanation**

An error occurred while the transform was opening the font configuration file, which is specified with the AOP\_FONTMAP\_TABLE environment variable. The file was not opened. In the message text:

**error\_number**

The number of the error.

**file**

The name of the font configuration file.

**message**

The message that describes the error.

**reason**

The reason code for the error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error descriptor message and the reason code to determine the problem. See [Chapter 5, “Diagnosing errors,” on page 159](#) for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06069W**     **Font configuration file *file* open failed (*error\_number*, *reason*, *message*)**

**Explanation**

An error occurred while the transform was opening the font configuration file, which is specified with the AOP\_FONTMAP\_TABLE environment variable. The file was not opened. In the message text:

**error\_number**

The number of the error.

**file**

The name of the font configuration file.

**message**

The message that describes the error.

**reason**

The reason code for the error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error descriptor message and the reason code to determine the problem. See [Chapter 5, “Diagnosing errors,” on page 159](#) for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06084W Invalid INDEXCMD Command  
command Ignored**

**Explanation**

An invalid ICF file or an invalid include file is detected, it will be ignored. In the message text:

**command**

Name of the invalid command being ignored.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review the main ICF file or any of the include files, correct the reported command, and try the operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06104W Cannot Find converted font file *file*  
for font *font***

**Explanation**

The transform could not find the converted font file because there was a problem converting the font. The default font is used instead. In the message text:

**file**

The name of the converted font file.

**font**

The name of the font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

See the explanation in accompanying messages for a description of the conversion failure.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06105W**     **Cannot open *font\_type* font file *file***

**Explanation**

The transform could not open the converted font file. The default font is used instead. In the message text:

***file***

The name of the converted font file.

***font\_type***

The name of the font type (PCL, converted, converted dim).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

See the explanation in accompanying messages for a description of the conversion failure.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06128W**     **Premature end of file (*error\_number*, *reason*) reading image resource *resource* due to *message*.**

**Explanation**

While the transform was reading the image resource, an error occurred when the file ended prematurely. In the message text:

***error\_number***

The number of the I/O error.

***message***

The message that describes the error.

***reason***

The reason code that describes the error.

***resource***

The name of the image resource.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error descriptor message *message* and the reason code *reason* to determine the problem. See [Chapter 5, "Diagnosing errors," on page 159](#) for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06129W** Font file size *fontlength\_value* is incorrect, should be *fontlength*.

**Explanation**

The requested font file length, *fontlength\_value*, is out of range. It might have been padded or truncated during file transfer. The font length according to the header should be *fontlength*.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the reason for the font file size difference. If the file was truncated, obtain a corrected file and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06135E** Memory overwrite *return\_code* for buffer *buffer\_size* bytes at *buffer*.

**Explanation**

The transform detected a memory overwrite error before any damage was done. In the message text:

***buffer***

The name of the memory control block.

***buffer\_size***

The size of the buffer.

***return\_code***

The number of bytes reading.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06136W**    **Memory reallocation error-buffer count negative for *buffer\_size* bytes at *buffer*.**

**Explanation**

The transform detected a memory overwrite error before any damage was done. In the message text:

***buffer***

The name of the memory control block.

***buffer\_size***

The size of the buffer.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK06137W**    **File is too big to keep in storage.**

**Explanation**

A font file is too large for memory.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the contents and size of the font file. If it is corrupted, obtain a new copy and verify its size and contents. Then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07000W**     **A warning occurred while decoding a *CompressionType* image. *msg***

**Explanation**

Image data may have been compromised.

***CompressionType***

Type of image decoding being performed.

***msg***

Detailed description of the decoding warning that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify correctness of image in output.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07001I**     **Image file conversion failed for image *ImageName*. The file *FileName* could not be found.**

**Explanation**

An error occurred in image file conversion for image *ImageName*. The image file *FileName* could not be found or interpreted successfully. In the message text:

***ImageName***

The name of the image.

***FileName***

The name of the image file.

**System action**

This message is informational and does not effect the program's operation. If necessary, see the preceding message for additional information.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify that the image file exists and is not corrupted. Rerun the application. The messages that precede this message might provide information about why the image could not be converted.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07001W**     **Image file conversion failed for image *ImageName*. The file *FileName* could not be found.**

**Explanation**

An error occurred in image file conversion for image *ImageName*. The image file *FileName* could not be found or interpreted successfully. In the message text:

***ImageName***

The name of the image.

***FileName***

The name of the image file.

**System action**

The application continues processing without the image file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify that the image file exists and is not corrupted. Rerun the application. The messages that precede this message might provide information about why the image could not be converted.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07003W**     **Font index *FontIndex* is invalid. Default PDE font is being substituted.**

**Explanation**

The internal font index has an unrecognized value so it is being substituted with a default font. Review the transform's messages for additional errors or warnings concerning font issues. Review the output appearance as some text is not being displayed in the intended font. In the message text:

***FontIndex***

The value of the font index.

**System action**

The application continues processing by using the default font for this print line. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Not applicable.

**User response**

Correct other font issues appropriately. If the error is not eliminated, or if other font issues are not apparent, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.



**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07004W**     **A warning occurred while decompressing a *CompressionType* image. *msg***

**Explanation**

The temporary image buffer was not large enough to hold data during compression. Image data might have been discarded. In the message text:

***CompressionType***

Type of image compression being performed.

***msg***

Detailed description of the compression warning that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the correctness of the image in the output.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07005E**     ***CompressionType* decoding resulted in the following error: *msg*.**

**Explanation**

An error occurred while compressing this image.

***CompressionType***

Type of image decoding being performed.

***msg***

Error message that was issued while decoding image.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify that the image file is not corrupt and rerun the application. The messages preceding this message may provide information about why the image could not be compressed.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07006W**     **Invalid font table command -  
error\_detail**

**Explanation**

The transform ignores the font table command because it does not recognize it or the table has a bad parameter value. In the message text, *error\_detail* is a description of the font table syntax error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the name of the font table in the file specified with the AOP\_FONTMAP environment variable and run the transform again.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07008W**     **Symbol set file member name  
missing for Symbol Set  
*pSymbolSetName*.**

**Explanation**

The Symbol set file member name for Symbol set *pSymbolSetName* cannot be found. See your product User's Guide for more information. In the message text:

***pSymbolSetName***

The name of the symbol set.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the name of the symbol set file member, and then rerun the application.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07009W**     **Invalid Character code in Unicode table *pSymbolSet\_Member* record *Buffer*.**

**Explanation**

The character code in Unicode table *pSymbolSet\_Member*, record *Buffer* has an invalid value. See your product User's Guide for more information. In the message text:

***pSymbolSet\_Member***

The member name of the symbol set.

***Buffer***

The record from the Unicode table that contains the error.

**System action**

The application continues processing without the character definition. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the character code in the Unicode table and then reenter it.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07010W**     **Target *FontName* on XFON is not defined.**

**Explanation**

The font character requested is not in the target font symbol set. Either an additional font character needs to be added to the Unicode table or the target font is insufficient to match the font's character set. See your product User's Guide for more information. In the message text:

***FontName***

The name of the font.

**System action**

The application continues processing mapping the character to a space. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the font character. If the character is in the target font, then add it to the symbol set for that font. If not, then find a font that has the character in it and use the alternate font.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07011W**    **PCLFONT *Parameter\_Name* Parameter value *Parameter\_Value* is invalid.**

**Explanation**

The PCLFONT *Parameter\_Name* parameter has an invalid *Parameter\_Value*. See your product User's Guide for more information. In the message text:

***Parameter\_Name***

One of the parameters in PCLFONT statement (spacing, style, typeface, location, filename).

***Parameter\_Value***

The value of the parameter.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the PCLFONT parameter value and then rerun the application.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07012E**    **Character X'*CharCode*' is not defined in mapping table for font *NewFont\_Name*.**

**Explanation**

A character to be printed from a font does not have a character in the related target font set. Either an additional font character needs to be added to the Unicode table or the target font is insufficient to match the original font's character set. See your product User's Guide for more information. In the message text:

***CharCode***

Character code in hexadecimal.

***NewFont\_Name***

Name of the new font.

**System action**

The application continues processing, mapping the character to a space. The output is probably missing text. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the font character, X'*CharCode*'. If the character is in the target font, then add it to the symbol set for that font. If not, then find a font that has the character in it and use the alternate font instead.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07013E**      **Unsupported *ImageOption* was encountered.**

**Explanation**

An error occurred during image processing. An unsupported option was encountered. In the message text:

***ImageOption***

Description of the image option or value that was not recognized.

**System action**

The application continues processing without the image file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the correctness of the input images and the configuration settings for the image parameters.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07019W**      **Command *CommandName* Required parameter *Parameter\_Name* is missing.**

**Explanation**

The parameter required *Parameter\_Name* on the command *CommandName* is missing. In the message text:

***CommandName***

The name of the command.

***Parameter\_Name***

The name of the required parameter.

**System action**

The application continues processing without the parameter. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the required parameter required, correct it, and then rerun the application.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07020W**    **Memory deallocation error-Buffer not found for memory at *buffer*.****Explanation**

The buffer or pool was not found, causing a memory overwrite error that was detected before any damage was done. In the message text, *buffer* is the memory control block.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07021W**    **Invalid Character type *parm\_value* in PCL Driver.****Explanation**

The Display Field Descriptor block contains an invalid character type *parm\_value*.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07022W DFD buffer chain header is NULL**

---

**Explanation**

An internal error occurred because a DFD/TLDL buffer chain is missing.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07023W Error performing seek on file *file*  
Error  
(*error\_number,reason,message*)**

---

**Explanation**

An error occurred while doing a seek in a file. In the message text:

***error\_number***

The number of the I/O error.

***file***

The name of the output metacode file.

***message***

The message that describes the error.

***reason***

The reason code for the error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check to see if the file has been corrupted or truncated, your disk is full or write-protected, or the subdirectory has insufficient access rights.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07024W**    **The above error occurred in the following command:**

**Explanation**

This message precedes a printout of the command packet that contains the parameter in error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the error in the preceding message and then run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07028W**    ***position\_type* Scan Line  
*cursor\_position* off page, Scan=  
*dot\_address*.**

**Explanation**

The cursor position specified is off the page. The position is moved back on the page. In the message text:

***cursor\_position***

The position X or Y of the cursor.

***dot\_address***

The dot address that was translated.

***position\_type***

The type of cursor position (portrait or landscape).

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check your output for incorrectly positioned text.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.



**Automation**

Not applicable.

---

**AOK07030W**      **Font cannot be added to font control table**

**Explanation**

The requested font requested cannot be added to font control table.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07031W**      **Symbol set file *SymbolSetFileName* open failed for Symbol Set *SymbolSet\_Name* (*error\_number*, *reason*, *message*).**

**Explanation**

The Symbol set file *SymbolSetFileName* for Symbol Set *SymbolSet\_Name* could not be opened due to error (*error\_number*, *reason*, *message*). In the message text:

***SymbolSetFileName***

The name of the Symbol Set file.

***SymbolSet\_Name***

The name of the Symbol Set.

***error\_number***

The number of the error.

***reason***

The reason code that describes the error.

***message***

The message that describes the error.

**System action**

The application continues processing without the symbol set. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Use the error descriptor message *message* and the reason code *reason* to determine the problem.

**Problem determination**

Not applicable

**Module**

Not applicable

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS

**Routing code**

Not applicable

**Descriptor code**

Not applicable

**Automation**

Not applicable

---

**AOK07035W**      **PS Image Handling Error -  
Unsupported or illegal  
image\_option**

**Explanation**

An error occurred during PostScript image processing. The transform encountered an invalid or unsupported option. In the message text, *image\_option* is a description of the invalid or unsupported image option.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07036W**      **PS Image Handling Internal Error -  
No image data available.**

**Explanation**

An error occurred during PostScript image processing because no image data was available.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07037W**      **PS Image Handling Error - Error  
error\_code returned from  
type\_name compression engine.**

**Explanation**

An error occurred during PostScript image processing. An image compression engine returned a non-zero return code, most likely due to bad image data. In the message text:

**error\_code**

The error code returned from the compression handling routine.

**type\_name**

The name of the image compression type, such as JPEG or CCITT Group 4.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Make sure the image data is valid. If it is, contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07038W**    **Error Return\_Code writing to PCL output file, error=Errno,ErrnoMsg.**

**Explanation**

An I/O error occurred while writing to the PCL output file. The likely cause is the exhaustion of space in the

file system that contains the `/var/Printsrv/xfid` directory and its subdirectories. In the message text:

**Return\_Code**

The error code returned from the compression handling routine.

**Errno**

The OS "errno" value.

**ErrnoMsg**

The OS messages associated with the *Errno*.

**System action**

The application continues processing while attempting to write to the file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer for assistance. Check SYSLOG for messages that concern the file system containing `/var/Printsrv/xfid`.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07039W**    **Bin not on printer.**

**Explanation**

The specified paper tray does not exist on the printer.

**System action**

The application selects tray mapping for input bin 1. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Supply the correct bin number in the input data or add the correct bin on the printer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07041W** Invalid character type  
*Parameter\_Value* in PDF Driver.

**Explanation**

The Display Field Descriptor block contains an invalid character type. This is an error which should never occur. In the message text:

**Parameter\_Value**

Invalid character type of the Display Field Descriptor block

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07071E** **Imagefile conversion failed for**  
*ImageName*.

**Explanation**

The dimensions for image *ImageName* are not available. The image could not be converted. In the message text:

**ImageName**

The name of the image.

**System action**

The application continues processing without the image file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the image file is not corrupt, and then rerun the application. The messages that precede this message might provide information about why the image could not be converted.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07072W**      **Font index *FontIndex* is invalid. Default PDE font is being substituted.**

**Explanation**

The internal font index has an unrecognized value and a default font will be substituted. Review the transform messages for additional errors or warnings about font issues. Review the output for appearance as some text is not displayed in the intended font. In the message text:

**FontIndex**

The value of the font index.

**System action**

The application continues processing by using the default font for this print line. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct other font issues appropriately. If that does not eliminate the error or if other font issues are not apparent, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07073W**      **Invalid Type parameter *Parameter\_Value* in Symbol Set definition.**

**Explanation**

The type parameter in the Symbol Set definition has an invalid value. See your product User's Guide for more information. In the message text:

**Parameter Value**

The value of the type parameter.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the type parameter, correct it, and then rerun the application. The messages that precede this message might provide information about why the image could not be converted.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07074E**      **No image translation - missing ICC profile.****Explanation**

An ICC profile has not been specified in the configuration settings.

**System action**

The application continues processing without performing image translation with ICC profile. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Specify an input ICC profile in the configuration settings.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07075W**      **Unknown compression filter encountered.****Explanation**

An unknown compression filter was encountered or an image was corrupted.

**System action**

The application continues processing without the image file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment

variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the correctness of the input images and the image filter configuration settings.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07076E**      **Unsupported image encoding encountered.**

**Explanation**

An unknown or unsupported image encoding has been encountered or an image has been corrupted.

**System action**

The application continues processing without the image file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the input image encoding is one of the following types.

- No encoding
- CCITT group 4 bitmap
- CCITT group 3 bitmap
- JPEG
- TIFFLZW
- TIFF
- Flate
- Run Length
- PNG
- JBIG2
- In some cases, JPX.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07077E**      **An error was encountered during image processing. msg**

**Explanation**

An error was encountered while processing an image. In the message text:

**msg**

A detailed description of the error if one is available.

**System action**

The application continues processing without the image. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the correctness of input image. The messages that precede this message might provide information about why the error was issued.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07078E**      **A warning was encountered during image processing. *msg***

**Explanation**

A warning was encountered while processing an image. In the message text:

***msg***

A detailed description of the warning if one is available.

**System action**

The application continues processing without the image. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the correctness of input image. The messages that precede this message might provide information about why the error was issued.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK07079W**      **Invalid STATS keyword *Keyword\_Value* in configuration file.**

**Explanation**

The STATS keyword in the configuration file has invalid value. For more information, see your product User's Guide. In the message text:

***Keyword\_Value***

The value of the statistics keyword.



**System action**

The application continues processing, but does not create the statistics log file. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify the value of the STATS keyword. Correct the configuration file, and then rerun the application.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK07080E**      *CompressionType* decoding resulted in the following error: *msg*.

**Explanation**

An error occurred while compressing this image. In the message text:

***CompressionType***

Type of image decoding being performed.

***msg***

Error message that was issued while decoding image.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the image file is not corrupt, address any issues and rerun the application. The messages preceding this message may provide information about why the image could not be compressed.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK08000W**      **Page margins outside of printable area of PCL printer,top(top\_value) Bottom(bottom\_value).**

**Explanation**

The page margins are outside of the printable area for the PCL printer. In the message text:

**bottom\_value**

The value of the bottom margin.

**top\_value**

The value of the top margin.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the values of each margin to see if the printer supports them.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK08601W** I/O error (*error\_number*, *reason* reading ink map file *error\_msg* *inkmap\_file* ).

**Explanation**

The transform could not open the Ink Map file. Either the file does not exist or it does not have read access permissions. In the message text:

**error\_msg**

The description of the error.

**error\_number**

The number of the error.

**inkmap\_file**

The name and path of a file that contains Ink Map commands.

**reason**

The reason code for the error.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check to see if the file name and path are spelled correctly, the file exists in the proper subdirectory, and the user has read permission for the file.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK08602W** Bin not on printer

**Explanation**

The specified paper tray does not exist on the printer.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

None.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK08604W**      **No Ink Map Entry for INK *ink\_entry* defaulting to BLACK**

**Explanation**

The color for an object in the file has no entry in the Ink Map file. In the message text, *ink\_entry* is the name of the color entry.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Add an entry to the Ink Map file for the color and run the transform again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09001W**      **Paper size invalid for target printer *page\_size*.**

**Explanation**

Target printer does not support the specified paper size, *page\_size*.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the paper size to see if the printer supports it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09002E**      **Unable to open output PDF file**  
*OutputFileName*  
**error(error\_number, Reason,**  
**message).**

**Explanation**

Unable to open output pdf file, processing continues but will not create an output file. In the message text:

**OutputFileName**

Name of the output pdf file.

**error\_number**

Error number for the error that occurred.

**Reason**

Reason code describing the error that occurred.

**message**

Message describing the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the

printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Attempt to correct the error. If unable to resolve, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09003W**      **Too many pages for one PDF file**  
**Number\_Pages.**

**Explanation**

You have selected more than 32000 pages for a PDF document. In the message text:

**Number\_Pages**

This is the number of pages selected.

**System action**

The application uses the default number of pages for a PDF document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Reduce the size of the document. If unable to resolve, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Verify the name of the object and reenter the command.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09005W**      **WNG\_NOOBJ, Table\_Type table entry for Object\_Type Object\_Name not found.**

**Explanation**

The *Object\_Type Object\_Name* specified could not be found in object list.

**Table Type**

This is the type of table entry (Font control, Object)

**Object Type**

This is the type of object.

**Object Name**

This is the name of the object.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**AOK09009W**      **PDF Form file Form\_FileName merge error return\_code.**

**Explanation**

An error occurred during the PDF form file merge.

**Form\_FileName**

Name of the PDF file form.

**Return\_Code**

Number of return code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative. Be prepared to supply the return code from the message.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09017W PDF input File internal structure error *return\_code* found.**
**Explanation**

PDF input File internal structure error found. In the message text:

***return\_code***

Number of the returning code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Address the reported error condition and try the operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09020W The Type 1 metrics file *FileName* not found for font *Font*.**
**Explanation**

Type 1 font metrics file *FileName* could not be found in the PSFONTLIB subdirectory. This is the name of the AFM file for the PostScript Type 1 font *Font*. In the message text:

***FileName***

Name of the font file.

***Font***

Name of the PSFONT.

**System action**

If the transform continues, the output PDF will be invalid. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

The name of the font may be invalid. If a PSFONT command is specified for a font that is not one of the base 14 Acrobat fonts, then there needs to be a *FileName* specified on the PSFONT statement in the font table. This *FileName* is the base file name for the AFM and PSB files for the font. Correct the font table entry and rerun the application.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09021W**    **The Type 1 metrics file *FileName* open failed *Error\_number message*.**

**Explanation**

The file *FileName* could not be opened. In the message text:

***FileName***

Name of the font metrics file.

***Error\_number***

Error number for the error that occurred.

***message***

Message which describes the error that occurred.

**System action**

IThe transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09022W**    **The Type 1 font AFM file *FileName* ended prematurely.**

**Explanation**

An error occurred in the AMF file due to premature end of file. In the message text:

***FileName***

Name of the font AFM file.

**System action**

IThe transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09023W      An error occurred during the parsing of AFM file of type 1 font.**
**Explanation**

An error occurred in the AMF file due to premature end of file. In the message text:

**FileName**

Name of the font AFM file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09024W      The Type 1 font file *FileName* not found.**
**Explanation**

An error occurred in the AMF file due to premature end of file. In the message text:

**FileName**

Name of the font file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.



**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09024E**      **The Type 1 font file *file* not found.**

**Explanation**

The transform could not find the Type 1 font file, named *file*, in the PSFONTLIB subdirectory.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check that the file name and path are correct and that the file has not been corrupted or over-written.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09025W**      **The Type 1 font file *FileName* open failed *Error\_number* message.**

**Explanation**

The file *FileName* could not be opened. In the message text:

***FileName***

Name of the font file.

***Error\_number***

Error number for the error that occurred.

***message***

Message which describes the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the file name, if unable to resolve, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09026W**     **The Type 1 font file *FileName* read error *Error\_number message*.**

**Explanation**

An error occurred reading the Type 1 font file *FileName*. In the message text:

***FileName***

Name of the font file.

***Error\_number***

Error number for the error that occurred.

***message***

Message which describes the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Correct the file name, if unable to resolve, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09027W**     **Parsing error in Type 1 font file *font* at offset *fileoffset, message*.**

**Explanation**

An error has occurred during the parsing of a PostScript Type 1 font. The message provides a technical description of the error which occurred. In the message text:

***font***

Name of the PostScript font which the error occurred in.

***fileoffset***

Byte offset into the font file where the error occurred.

***message***

Message which describes the error that occurred.

Examples include:

***segment length nn invalid***

Means that a segment of the font file has a length field that is too large for it to fit in the file. The file may have been truncated or corrupted.

***bad segment type, X'xx'***

Means that the segment type field display is invalid. It can only be 01, 02 or 03. See Adobe Type 1 font file format documentation for more detail.

***invalid segment header X'xx'***

Means that the segment header was invalid. It should be X'80' but is an invalid code, xx.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09028W**    **Decompress error name mismatch**  
*NewSize vs OldSize, error\_code.*

**Explanation**

An error occurred during decompression of the file.

**name**

Describes the place in the file where the error was found (Length, Data).

**NewSize**

This is the new size of the decompress file.

**OldSize**

This is the original size.

**error\_code**

This is the error code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative. Be prepared to supply the error code from the message.

**User response**

Not applicable.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09031W**    **PDF Outline creation cannot find**  
**outline number *ObjNumber* for**  
**index *Index* page prior to *Data*.**

**Explanation**

PDF Outline creation cannot find an outline number when linking outline objects. In the message text:

**ObjNumber**

The object number which is missing.

**Index**

The index for which the outline entry was being processed.

**Data**

The data in the outline entry being processed.

**System action**

If the processing continues, the transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09032W** PDF Outline fields overflowing bookmark size for *Index*, *Field* on page *Page*, truncated.

**Explanation**

PDF Outline creation has had a field overflow and the overflowing field name or value has been truncated. In the message text:

**Field**

The name of the Field that caused the overflow.

**Index**

The index for which the outline entry was being processed.

**Page**

The Page number where the error occurred.

**System action**

If the processing continues, the transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer

definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09039W** PDF Form File *FileName* does not contain an XREF Table.

**Explanation**

The PDF File does not contain an XREF table. In the message text:

**FileName**

Name of the PDF file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check to see if the input file is valid. It may have been corrupted or over-written. Have an IBM service representative look at the PDF to determine what has happened to it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09040W** PDF contains an unexpected annotation reference type *refType*.

**Explanation**

PDF contains an unexpected annotation reference type. In the message text:

***refType***

The unexpected reference type.

**System action**

The application can ignore the annotation and continues processing. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09041E** **Error Return\_Code writing to PDF output file.**

**Explanation**

An I/O error was reported to the transform while attempting to write the PDF output to the staging file. Possible explanations include insufficient space in the filesystem, or insufficient permission to write to the filesystem. If using the default product installation options, staging files are written to subdirectories of /var/Printsrv/xfd. In the message text:

***Return\_Code***

Error return code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review SYSLOG for messages relating to the filesystem being full or for RACF permission exceptions. Contact your storage administration for further assistance.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09042E**    **Error opening file *FileName*. See previous error messages for more details.**

**Explanation**

The PDF file could not be opened. In the message text:

***FileName***

Name of the PDF file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact the IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09043E**    **PDF file *FileName* header read error *Error\_number*, *message*.**

**Explanation**

An error occurred reading the PDF header from file specified. In the message text:

***FileName***

Name of the PDF file.

***Error\_number***

Operating system code that describes the error that occurred.

***message***

Operating system message describing the error that occurred.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09044E** PDF file *FileName* does not contain a valid PDF version *Headline*.

**Explanation**

The PDF file specified does not contain a valid PDF version. In the message text:

**FileName**

Name of the PDF file.

**Headline**

PDF version.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09047W** PDF Image Handling Internal Error - No image data available.

**Explanation**

An error occurred during PDF image processing. No image data was available. This is an internal error condition.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09048W      PDF Image Handling Error -  
Unsupported *ImageOption*.**
**Explanation**

An error occurred during PDF image processing. Unsupported option was encountered. In the message text:

***ImageOption***

Description of the image option or value that was unrecognized.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09049W      PDF Image Handling Error - PDF  
Image Handling *Error*.**
**Explanation**

An error occurred during PDF image processing. An image compression engine returned a non-zero return code. This is likely due to bad image data. In the message text:

***Error***

Error message for failed compression.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.



**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09050E PDF Image Handling Error for image *ImageName*.**
**Explanation**

An error occurred in imagefile conversion for image *ImageName*. In the message text:

***ImageName***

This is the name of the image.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09051W PDF Image Handling Warning for image *ImageName*.**
**Explanation**

A warning occurred in imagefile conversion for image *ImageName*. In the message text:

***ImageName***

This is the name of the image.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09052W PDF file includes reference to a non-existing object.**

**Explanation**

PDF file includes reference to a non-existing object.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09053W PDF Signature - Missing certificate label and/or keyring or database name.**

**Explanation**

A digital certificate name specified in pdf-digital-certificate-name was not found in the location provided in AOP\_DIGITAL\_CERTIFICATE\_LOCATION.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Make sure that the location specified in transform class environment variable AOP\_DIGITAL\_CERTIFICATE\_LOCATION contains the certificate being used. Correct the problem and try the transform request again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09055E Signature output file open failed.**

**Explanation**

Make sure that output file is specified and can be opened.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09057E      Signature Sig dictionary not found.****Explanation**

Signature dictionary doesn't exist in the output PDF file.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09058E      PDF Signature is bigger than the allocated buffer - required buffer size is size.****Explanation**

The digital signature generated by Signed Secure PDF is bigger than the allocated Signature content buffer. In the message text:

**size**

Required buffer size in number of bytes.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Increase the value specified in the AOP\_SIGNATURE\_PSIZE transform class setting. If the signature size reported is larger than 65535 bytes, contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09059E PDF Signature creation failed, please check the preceding messages in the error log.**

**Explanation**

Signature creation failed.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09062E Common name extraction failed.**

**Explanation**

Common name extraction from the certificate failed.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review the certificate in use and contact the certificate provider or contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09064E PDF Signature unknown digest specified.**
**Explanation**

Unknown digest algorithm specified in AOP\_SIGNATURE\_DIGESTALG.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review the AOP\_SIGNATURE\_DIGESTALG transform class setting and ensure a valid value is used, correct the issue and try again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09065E PDF Signature no digest specified.**
**Explanation**

No digest specified in AOP\_SIGNATURE\_DIGESTALG.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review the AOP\_SIGNATURE\_DIGESTALG transform class setting and specify a valid value.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09066W** PDF file contains an invalid indirect object reference in record *BadRecord*.

**Explanation**

PDF parser has detected an error in the input PDF file. An indirect object reference does not have an object number field. In the message text:

***BadRecord***

The text of the record with the bad indirect reference in it.

**System action**

If the application continues processing, the stream object that is being read will have invalid content. This may render the entire page blank or create an error when the output file is being viewed or printed. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

You should check to see if the file is valid. It may have been corrupted or over-written. Have an IBM service representative look at the file to determine what has happened to it.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09067W** The font character *BadChar* for PSFONT font *PSFont* mapped from font *SourceFont* character *SourceChar* has no AFM entry.

**Explanation**

The PDF driver parser detected that there is no character defined in the Adobe Metrics File (.AFM) for a character that was output. In the message text:

***BadChar***

The hex code of the missing character.

***SourceChar***

The hex code of the character in the print file that is being mapped.

**PSFont**

The PostScript font for which the .AFM file is missing a character.

**SourceFont**

The source font that is mapped to the PostScript font.

**System action**

The output might have missing characters. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

The font symbolset or Unicode tables are probably in error. To determine why the character is not defined in the .AFM file for the PostScript font, examine the entries for *BadChar* and *SourceChar* in the symbolset or Unicode tables for *PSFont* and *SourceFont*. Correct the table entries, and then retry the application.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09068W** Document ISO Language code *language-code* is badly formed, using default instead.

**Explanation**

The ISO language code *language-code* used in AOP\_PDF\_LANGUAGE environment variable is not correct. In the message text:

***language-code***

Language code specified in the environment variable

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Verify and correct the language code specified in **aopxfd.conf** class environment variable.

**User response**

Correct the language code and try again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09069W** Requested output requires Unicode values for all characters. Unicode information is missing for font *Font\_Name*.

**Explanation**

This error will occur when Unicode information is missing when it is a part of output requirements. In the message text:

***Font\_Name***

Name of the font.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Verify that the input document contains or references fonts that provide valid Unicode information. Contact IBM service representative for more information.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09070W XFA Forms are not supported.****Explanation**

XFA Forms are not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or Postscript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09071W JavaScript Actions are not supported.****Explanation**

JavaScript Actions are not supported.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or Postscript for Infoprint Server for z/OS.

**Routing code**

Not applicable.



**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09072E**      **Cryptography Environment Error**  
**RC=errcode: errmsg.**

**Explanation**

Failure during initialization of the cryptography environment. In the message text:

**errcode**

Hex error code returned by Cryptography Environment

**errmsg**

Error messages text obtained from Cryptography Environment

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09073E**      **Unable to load DLL dllname :**  
**errmsg.**

**Explanation**

Failure during initialization of the cryptography environment. Support DLL afpxcrypto.dll could not be loaded. In the message text:

**dllname**

The name of the affected DLL.

**errmsg**

Error messages text obtained from Cryptography Environment.

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09074E**      **Unable to load DLL *dllname* :  
*errmsg*.**

**Explanation**

Failure during initialization of the cryptography environment. Support DLL afpxcrypto.dll could not be loaded. In the message text:

***dllname***

The name of the affected DLL.

***errmsg***

Error messages text obtained from Cryptography Environment.

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09075E**      **Open of certificate database  
*dbname* was unsuccessful *details*.**

**Explanation**

Failure during open of the certificate database or keyring specified in the transform class definition. In the message text:

***dbname***

Name of the database or keyring which failed to open.

***details***

Additional error message text describing the open failure.

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09076E** *msgtxt***Explanation**

An unexpected error occurred during cryptographic interface processing. The message text provides details. In the message text:

***msgtxt***

Additional information regarding the internal failure which occurred. Report this to your support personnel.

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09077E** **System SSL error occurred while setting FIPS state *fipstate* (*fipstate*), rc=*sslerr*.****Explanation**

System SSL returned an error while attempting to set the request FIPS state. In the message text:

***fipstate***

The requested FIPS state enumeration value. (Inform support personnel of this value).

***fipstate***

The FIPS state value specified in the AOP\_GSK\_FIPS\_STATE environment variable.

***sslerr***

Error information returned from System SSL. Documentation for this is found in *z/OS Cryptographic Services System SSL Programming*.

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09078E**      **Error *sslrc* (*sslerr*) returned from CMS while operation.**

**Explanation**

System SSL returned an error while attempting to perform a certificate-related operation. In the message text:

***sslrc***

Hexadecimal error code provided by System SSL.

***sslerr***

Error information returned from System SSL. Documentation for this is found in [z/OS Cryptographic Services System SSL Programming](#).

***operation***

A description of the operation being attempted when the reported error occurred.

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09079W**      **AOP\_GSK\_FIPS\_STATE --> *fipsstate* is not supported in this environment. Set to "on".**

**Explanation**

Current configuration is attempting to set the FIPS level to LEVEL1, LEVEL2 or LEVEL3. Those settings are not supported on this release of z/OS. The FIPS state has been set to ON instead. In the message text:

***fipstate***

The FIPS state value specified in the AOP\_GSK\_FIPS\_STATE environment variable.

**System action**

If the application continues, the basic FIPS(ON) functionality available on this z/OS release will be used instead. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Check the FIPS state being requested, correct any issues, and try the operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09081W Document Digest is forced to SHA-1 due to *service-level* not being installed.**

**Explanation**

The z/OS execution environment does not have this optional System SSL maintenance applied. In its absence, the PDF signature has been forced to the /SubFilter adbe.pkcs7.sha1 variant using the SHA-1 hashing algorithm. Support for /SubFilter adbe.pkcs7.detached and SHA-2 hashing will require the installation of the appropriate PTFs for your release of z/OS. In the message text:

***service-level***

System SSL APAR number required for this functionality.

**System action**

If the application continues, it will use the SHA-1 form of the PDF signature. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Install the indicated service before trying the operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09082E FIPS State cannot be set, System SSL Security Level 3 has not been installed.**

**Explanation**

FIPS mode has been requested in the transform configuration but the optional z/OS system software needed for FIPS support, System Secure Sockets Layer Security Level 3, is not installed. Contact your z/OS systems programmer regarding the needed software.

**System action**

If the application continues, SHA1-1 base signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

If running in FIPS mode is required, ensure that the System SSL Security level 3 has been installed on the system before trying this operation again.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09083W**      **Certificate validation failed with error *sslrc* (*sslerr*).**

**Explanation**

The certificate being used for the PDF signature, or its CA chain, is invalid. In the message text:

***sslrc***

Hexadecimal error code provided by System SSL.

***sslerr***

Error information returned from System SSL. Documentation for this is found in [z/OS Cryptographic Services System SSL Programming](#).

**System action**

If the application continues, no signature will be added to the output document. The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Review the specific error code reported. Try using a different certificate, or contact your certificate provider for further assistance.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09084W**      **PDF Linearizing error *return\_code* found.**

**Explanation**

PDF Linearizing error. In the message text:

***return\_code***

Number of the returning code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09085W PDF Outlines parsing error  
return\_code.**
**Explanation**

PDF Outlines parsing error. In the message text:

**return\_code**

Number of the returning code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOK09086W PDF object read error return\_code.**
**Explanation**

PDF object read error. In the message text:

**return\_code**

Number of the returning code.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09089W** No parent found for PDF Outline id *id*: parent *parentid*, it can create an orphan outline in PDF, so skipped

**Explanation**

No parent for Outline found.

***id***

Identifier for the outline object.

***parentid***

Identifier for the parent object.

**System action**

The transform ends or attempts to continue based on the AOP\_FAIL\_ON\_ERROR environment variable setting in **aopxfd.conf**, the **Fail on error** field in the printer definition, or the **fail-on-transform-error** job attribute that is in effect.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative

**User response**

Review the specific error code reported. Contact an IBM service representative.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

**AOK09701E** Transform is terminating after a fatal exception occurred. See **stderr** for details.

**Explanation**

A synchronous programming exception was trapped during execution.

**System action**

Depending on where the ABEND occurred, the application can terminate or continue. The exception might be associated with invalid data, or it might be the result of a program defect. If an error in the data cannot be found, contact your support services for diagnosis of the problem. To help diagnose the error, be prepared to provide error logs, core dumps, or both.

**Operator response**

Not applicable.

**System programmer response**

Contact IBM service representative if the problem persists.

**User response**

Check the validity of the input. Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.



**Automation**

Not applicable.

---

**AOP2350E      MODCA, LINE, XML or OTHER  
format expected**
**Explanation**

You attempted to transform an incorrect data format. This transform can transform documents that contain MO:DCA-P, line data, or XML. If Infoprint Server detects an unknown data format, the data format is considered "other", and the transform attempts to transform the data.

**System action**

The transform did not transform the document. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Specify the correct transform command for the input document. Also, ask the administrator to make sure the transform is specified for the correct data formats in the printer definition. Resubmit the transform.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2351E      Option *option* argument missing**
**Explanation**

An expected value for an AFP transform option was not supplied. In the message text, *option* is the name of the transform option.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Make sure that the required option values are supplied and resubmit the transform.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2352E      Option *option* is not valid**
**Explanation**

An AFP transform option was not valid. In the message text, *option* is the transform option that is not valid.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Make sure that the requested option is valid and resubmit the transform.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2353E**      **Attribute *attribute* is not supported****Explanation**

Infoprint Server does not support the specified attribute. There might be a mismatch between the transform version and Infoprint Server. In the message text, *attribute* is the unsupported attribute.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

Make sure to apply all required Infoprint Server maintenance.

**User response**

Contact your system programmer. Resubmit the request after the problem is corrected.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2354E**      **Down level input interface version number.****Explanation**

The Infoprint Server and transform dll version numbers are not compatible. This could result in unexpected transform functionality.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

Apply the latest PTF for Infoprint Server. If the problem persists, contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2355E**      **Input buffer length *length* too long**

**Explanation**

An internal AFP transform error has occurred. In the message text, *length* is the length of the input buffer.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2356E**      **Unexpected end of data in *file* at *function line*:**

**Explanation**

An internal AFP transform error has occurred, most likely caused by a communication failure in the transform code. In the message text:

***file***

The name of the file where the error occurred.

***function***

The name of the function where the error occurred.

***line***

The number of the line where the error occurred.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

Look in the transform base directory for any dumps that can help you debug the problem. The base directory is determined by the value of the **base-directory** attribute in the Infoprint Server configuration file, **aopd.conf**. The default base directory is **/var/Printsrv**. Report the dumps to your IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2357E**      **Read Failed in file at function line:  
socket\_error**

**Explanation**

An internal AFP transform error has occurred on the named socket read call, most likely caused by a communication failure in the transform code. In the message text:

**file**

The name of the file where the error occurred.

**function**

The name of the function where the error occurred.

**line**

The number of the line where the error occurred.

**socket\_error**

The operating system code that describes the error that occurred.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

Look in the transform base directory for any dumps that can help you debug the problem. The base directory is determined by the value of the **base-directory** attribute in the Infoprint Server configuration file, **aopd.conf**. The default base directory is **/var/Printsrv**. Report the dumps to your IBM service representative. Also see [z/OS UNIX System Services Messages and Codes](#) for information about socket error codes.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2358E**      **Write Failed in file at function line:  
socket\_error**

**Explanation**

An internal AFP transform error has occurred on the named socket write call, most likely caused by a communication failure in the transform code. In the message text:

**file**

The name of the file where the error occurred.

**function**

The name of the function where the error occurred.

**line**

The number of the line where the error occurred.

**socket\_error**

The operating system code that describes the error that occurred.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

Look in the transform base directory for any dumps that can help you debug the problem. The base directory is determined by the value of the **base-directory** attribute in the Infoprint Server configuration file, **aopd.conf**. The default base directory is **/var/Printsrv**. Report the dumps to your IBM service representative. Also see [z/OS UNIX](#)

*System Services Messages and Codes* for information about socket error codes.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2359E**      **Unexpected transform response from *from* expecting *exp* but found *rsp***

**Explanation**

An internal AFP transform error has occurred. In the message text:

***exp***

The expected response.

***from***

The function where the unexpected response occurred.

***rsp***

The actual response.

The *exp* and *rsp* values can be one of these:

- 01 - STREAM\_CONTROL
- 02 - STREAM\_STATUS
- 03 - STREAM\_DATA\_INPUT
- 04 - STREAM\_DATA\_OUTPUT

**System action**

An unexpected response was received by the transform dll from the transform module.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2360E**      **Unexpected transform response from *from* expecting *exp* or *exp* but found *rsp***

**Explanation**

An internal AFP transform error has occurred. In the message text:

***exp***

The expected response.

***from***

The function where the unexpected response occurred.

***rsp***

The actual response.

The *exp* and *rsp* values can be one of these:

- 01 - STREAM\_CONTROL
- 02 - STREAM\_STATUS
- 03 - STREAM\_DATA\_INPUT
- 04 - STREAM\_DATA\_OUTPUT

**System action**

An unexpected response was received by the transform dll from the transform module.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2361E**      **Select() failed in file at function line: socket error errno2=socket\_error**

**Explanation**

An internal AFP transform error has occurred on the named socket select call. In the message text:

**file**

The name of the file where the error occurred.

**function**

The name of the function where the error occurred.

**line**

The number of the line where the error occurred.

**socket\_error**

The operating system code that describes the error that occurred.

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

See *z/OS UNIX System Services Messages and Codes* for information about socket error codes or contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2362E**      **Fcntl() failed in file at function line: socket error errno2=socket\_error**

**Explanation**

An internal AFP transform error has occurred on the named socket fcntl call. In the message text:

**file**

The name of the file where the error occurred

**function**

The name of the function where the error occurred

**line**

The number of the line where the error occurred

**socket\_error**

Operating system code that describes the error that occurred

**System action**

The AFP transform did not process the transform request. No output was generated.

**Operator response**

Not applicable.

**System programmer response**

See *z/OS UNIX System Services Messages and Codes* for information about socket error codes or contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2363E      Attempt to shutdown socket failed  
                  socket\_error**

**Explanation**

An internal AFP transform error has occurred on the socket shutdown. In the message text, *socket\_error* is the operating system code that describes the error that occurred.

**System action**

The AFP transform did not process the transform request. No or partial output was generated.

**Operator response**

Not applicable.

**System programmer response**

See *z/OS UNIX System Services Messages and Codes* for information about socket error codes or contact an IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2366E      Only one input file may be  
                  specified.**

**Explanation**

Multiple AFP files were specified as input to the **afpxpdf** command line transform.

**System action**

The request is not completed.

**Operator response**

Not applicable.

**System programmer response**

None.

**User response**

Resubmit the request with only one input file.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PDF for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2367E**      **The transform did not create any output due to errors.**

**Explanation**

A communication failure in the transform code most likely caused a data stream error or another transform error that prevented the transform from creating any output.

**System action**

The transform created no output.

**Operator response**

Not applicable.

**System programmer response**

Look in the transform base directory for any dumps that can help you debug the problem. The base directory is determined by the value of the **base-directory** attribute in the Infoprint Server configuration file, **aopd.conf**. The default base directory is `/var/Printsrv`. Report the dumps to your IBM service representative.

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2368E**      **Condition not satisfied, *condition*, at line *line\_number***

**Explanation**

An invalid internal structure value was detected. In the message text:

***condition***

The condition that failed

***line\_number***

The number of the line where the error occurred

**System action**

The transform created no output.

**Operator response**

Not applicable.

**System programmer response**

Contact an IBM service representative

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.



**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.

---

**AOP2371E**      **Product registration check failed  
for *product* with return code = *rc*.**

**Explanation**

The product registration request failed. In the message text:

***product***

The name of the product that failed the product registration check.

***rc***

The return code from product registration services. For return code information, see the list of product enable and disable return codes in **SYS1.SAMPLIB(IFAEDC)**.

**System action**

The transform creates no output.

**Operator response**

Not applicable.

**System programmer response**

Ensure that the product being used is listed and set to ENABLED on the system where it is being run. Check

the enablement policy settings in **SYS1.PARMLIB(IFAPRDxx)** or contact an IBM service representative. For more information, see [“Enabling V1.2 transforms in the SYS1.PARMLIB member” on page 422.](#)

**User response**

Contact your system programmer.

**Problem determination**

Not applicable.

**Module**

Not applicable.

**Source**

Print Transform from AFP to PCL, PDF, or PostScript for Infoprint Server for z/OS.

**Routing code**

Not applicable.

**Descriptor code**

Not applicable.

**Automation**

Not applicable.



## Chapter 7. Migrating to Print Transforms

This information describes how to migrate to IBM Print Transforms from AFP for Infoprint Server for z/OS V1.1 or V1.2 (called **Print Transforms from AFP**) from the following older transform products (called **Infoprint Transforms from AFP**):

- IBM Infoprint Transform for AFP to HP PCL for z/OS
- IBM Infoprint Transform for AFP to Adobe PDF for z/OS
- IBM Infoprint Transform for AFP to Adobe PostScript for z/OS

After you install Print Transforms from AFP, you can use Infoprint Transforms from AFP and Print Transforms from AFP at the same time. You might want to use both transform products at the same time while you are testing Print Transforms from AFP.

You can use both transform products at the same time because the names of the transform commands, transform filters, and transform daemons for Print Transforms from AFP are different from those for Infoprint Transforms from AFP. In addition, the Infoprint Server transform configuration file (**aopxfd.conf**) can contain entries for both Print Transforms from AFP and Infoprint Transforms from AFP.

To use Print Transforms from AFP, you specify Print Transforms from AFP commands on the z/OS UNIX command line or in the AOPBATCH JCL procedure, and you specify Print Transforms from AFP filters in the printer definitions. [Table 26 on page 413](#) shows the transform command names, filter names, and daemon names for both transform products.

<b>Transform product</b>	<b>Transform commands</b>	<b>Transform filters</b>	<b>Transform daemons</b>
Infoprint Transforms from AFP	afp2pcl afp2pdf afp2ps	afp2pcl.dll afp2pdf.dll afp2ps.dll	afp2pclid afp2pdfd afp2psd
Print Transforms from AFP	afpxpcl afpxpdf afpxps	afpxpcl.dll afpxpdf.dll afpxps.dll	afpxpclid afpxpdfd afpxpsd

**Note:** The examples in this migration information show the AFP to PDF transform. For the AFP to PCL or AFP to PostScript transform, substitute **pcl** or **ps** for **pdf**.

Follow these steps to migrate to Print Transforms from AFP:

1. [“Editing the Infoprint Server transform configuration file” on page 413](#)
2. [“Stopping and restarting the Infoprint Server Transform Manager daemon” on page 416](#)
3. [“Editing Infoprint Server printer definitions” on page 417](#)
4. [“Editing JCL and scripts” on page 419](#)
5. [“Migration considerations” on page 419](#)

### Editing the Infoprint Server transform configuration file

To edit the Infoprint Server transform configuration file (**aopxfd.conf**) for Print Transforms from AFP, you can do one of these:

- Create new entries for Print Transforms from AFP without changing the entries for Infoprint Transforms from AFP. You can copy the existing entries and edit them for Print Transforms from AFP.

- Edit the existing entries for Infoprint Transforms from AFP so that they apply to Print Transforms from AFP.

Creating new entries for Print Transforms from AFP lets you use both Print Transforms from AFP and Infoprint Transforms from AFP at the same time. When you no longer want to use the Infoprint Transforms from AFP, you can delete the entries for Infoprint Transforms from AFP in the **aopxfd.conf** file.

In the entries for Print Transforms from AFP, you might want to specify one or more of the following environment variables for Print Transforms from AFP:

#### **AOP\_EDGETOEDGE**

Indicates whether the transform adjusts the x,y left-edge offset position for printing on printers configured for edge-to-edge printing.

Only the AFP to PCL transform supports this variable.

#### **AOP\_EMBED\_OUTLINES**

Indicates whether the transform includes outline fonts in the PostScript output.

Only the AFP to PostScript transform supports this variable.

#### **AOP\_FAIL\_ON\_ERROR**

Controls whether the transform fails when it detects a data stream warning or error.

All transforms support this variable.

#### **AOP\_FONTMAP\_TABLE**

Specifies the file path to a font-mapping table that maps raster fonts to outline fonts.

All transforms support this variable.

#### **AOP\_FONTPATH**

Specifies the directories that contain TrueType, WorldType, and OpenType fonts that the transform uses to process data sets.

All transforms support this variable.

#### **AOP\_PAPER auto value**

**Auto** means that the transform uses the page size in the Page Descriptor (PGD) structured field in the AFP data.

All transforms support this variable.

#### **AOP\_PAPERSTOCK\_TABLE**

If custom paper size support is needed for the AFP to PCL transform, create a custom paper size table, and then set the *AOP\_PAPERSTOCK\_TABLE* environment variable to point to the paper size table. The paper names can be used in *AOP\_PAPER* environment variable.

**Note:** This support is intend for AFPXPCL transform use, for PDF and PostScript transform use the auto value in *AOP\_PAPER* to use the page size defined in the PGD structured field.

#### **AOP\_TRAILER\_ERROR\_PAGE**

The *AOP\_TRAILER\_ERROR\_PAGE* default value is **warning**. When *AOP\_TRAILER\_ERROR\_PAGE* is set to **warning** or **error**, the transforms attach a trailer page of error, warning, and informational messages to the document.

If you do not want the error trailer page attached to the output, do one of the following:

- Set the *AOP\_TRAILER\_ERROR\_PAGE* environment variable in the transform class.
- Set the **trailer-transform-error-page** job attribute in the AOPBATCH or AOPPRINT batch job.
- Add the **trailer-transform-error-page** attribute to the printer definition via the PIDU command.
- Set **Trailer error page** field on the ISPF panel of the printer definition Processing section. This inserts the **trailer-transform-error-page** attribute into your printer definition.
- Specify the PRTATTRS parameter on the OUTPUT JCL statement to set the **trailer-transform-error-page** value on a per batch job basis

All transforms support this variable.

Print Transforms from AFP does not support some of the environment variables and values that Infoprint Transforms from AFP supports. In the entries for Print Transforms from AFP, you can comment out the unsupported variables or leave them as-is because unsupported variables and value are ignored without error.

Print Transforms from AFP does not support these environment variables:

- AOP\_FONTMAP (replaced by AOP\_FONTMAP\_TABLE)
- AOP\_POSITIONING\_METHOD
- AOP\_RESOLUTION
- AOP\_SIMULATE\_240\_DPI

Print Transforms from AFP supports the AOP\_PAPER environment variable; however, the **letteree** and **a4ee** values are not supported. If you specify these values, the transforms map **letteree** to **letter**, and **a4ee** to **a4**.

**Tip:** For edge-to-edge printing in the AFP to PCL transform, specify the new AOP\_EDGETOEDGE environment variable. However, this environment variable applies to all paper sizes in all input trays. For edge-to-edge printing only for certain paper sizes or trays, you can create separate transform classes.

#### Related information:

1. For complete descriptions of the supported environment variables, see:
  - [“Environment variables for the AFP to PCL transform” on page 70](#)
  - [“Environment variables for the AFP to PDF transform” on page 90](#)
  - [“Environment variables for the AFP to PostScript transform” on page 117](#)
2. For information about how to edit the Infoprint Server transform configuration file, see "Editing the transform configuration file (aopxfd.conf)" in *z/OS Infoprint Server Customization*.

### Example of creating new transform entries in aopxfd.conf

To create new transform entries for the APF to PDF transform in file **aopxfd.conf** for Print Transforms from AFP:

1. Copy all the **afp2pdf** entries in the **aopxfd.conf** file.
2. In the copied entries, change **afp2pdf** to **afpxpdf**.
3. (Optional) Comment out the environment variables that Print Transforms from AFP does not support. Specify any new environment variables for Print Transforms from AFP.
4. Save the file with both the **afp2pdf** and **afpxpdf** entries in the file.
5. Stop and restart the Infoprint Server Transform Manager daemon (**aopxfd**) for the changes to take effect.

[Figure 11 on page 416](#) and [Figure 12 on page 416](#) show examples of an Infoprint Transforms from AFP entry and a Print Transforms from AFP entry.

```

### Infoprint Transforms from AFP entry:
transform afp2pdf_us
start-command = afp2pdfd
min-active = 0
max-active = 2
maximum-idle-time = 300 # 5 minutes
environment = {
  AOP_ANNOTATIONS -> no
  AOP_CHARS -> 60D9
  AOP_CUTSHEET -> no
  AOP_FLATE -> yes
  AOP_FONTLIB -> "sys1.font300 sys1.fonto1n"
  AOP_FONTMAP -> yes
  AOP_FORMDEF -> F1CP0110
  AOP_FORMDEFLIB -> "sys1.fdeflib"
  AOP_MSGFORMDEF -> F1CP0110
  AOP_MSGPAGEDEF -> P1P08682
  AOP_OVERLAYLIB -> "sys1.overlib"
  AOP_OUTLINES -> yes
  AOP_PAGEDEF -> P1P08682
  AOP_PAGEDEFLIB -> "sys1.pdeflib"
  AOP_PAGESEGLIB -> "sys1.pseglib"
  AOP_PAPER ->
  "letter legal letter letter letter letter letter letter"
  AOP_TRAYID -> "1 1 1 1 1 1 1 1 1"
  _BPX_JOBNAME -> AFP2PDFD
}
;

```

Figure 11. Example of an Infoprint Transforms from AFP entry

```

### Print Transforms from AFP entry:
transform afpxpdf_us
start-command = afpxpdfd
min-active = 0
max-active = 2
maximum-idle-time = 300 # 5 minutes
environment = {
  AOP_ANNOTATIONS -> no
  AOP_CHARS -> 60D9
  AOP_CUTSHEET -> no
  AOP_FLATE -> yes
  AOP_FONTLIB -> "sys1.font300 SYS1.SFNTILIB"
  AOP_FONTMAP_TABLE -> /usr/lpp/IBM/PrintXform/V1R2/samples/aokfontmap.samp
  AOP_FORMDEF -> F1CP0110
  AOP_FORMDEFLIB -> "sys1.fdeflib"
  AOP_MSGFORMDEF -> F1CP0110
  AOP_MSGPAGEDEF -> P1P08682
  AOP_OVERLAYLIB -> "sys1.overlib"
  AOP_OUTLINES -> yes
  AOP_PAGEDEF -> P1P08682
  AOP_PAGEDEFLIB -> "sys1.pdeflib"
  AOP_PAGESEGLIB -> "sys1.pseglib"
  AOP_PAPER ->
  "letter legal letter letter letter letter letter letter"
  AOP_TRAYID -> "1 1 1 1 1 1 1 1 1"
  _BPX_JOBNAME -> AFPXPDFD
}
;

```

Figure 12. Example of a Print Transforms from AFP entry

**Related information:** For more information about how to edit the Infoprint Server transform configuration file, see "Editing the transform configuration file (aopxfd.conf)" in [z/OS Infoprint Server Customization](#).

## Stopping and restarting the Infoprint Server Transform Manager daemon

Stop and restart the Infoprint Server Transform Manager daemon (**aopxfd**) when you want your configuration changes for Print Transforms to AFP to take effect.

To stop the **aopxfd** daemon, by using the AOPSTOP JCL procedure, enter the following MVS START command. **START AOPSTOP,OPTIONS=' -d xfd'**

To restart the **aopxfd** daemon, by using the AOPSTART JCL procedure, enter the following MVS START command. **START AOPSTART**

**Related information:** For more information about how to start and stop Infoprint Server daemons, see *z/OS Infoprint Server Operation and Administration*.

## Editing Infoprint Server printer definitions

---

To edit printer definitions for Print Transforms from AFP, you can take one of the following actions.

- The sample shell script, `/usr/lpp/IBM/PrintXform/V1R2/samples/aokmodfilter.sh`, can be used to modify the filter attribute of the printer definitions. The script will generate a file containing a list of pidu modify commands. The commands will modify the filter attribute of the printer definitions from `afp2pcl.dll`, `afp2pdf.dll`, and `afp2ps.dll` to `afpxpcl.dll`, `afpxpdf.dll`, and `afpxps.dll`. See the sample shell script for instructions.
- Create new printer definitions that use Print Transforms from AFP without changing the existing printer definitions that use Infoprint Transforms from AFP. You can copy existing printer definitions and edit them to use Print Transforms from AFP.
- Edit existing printer definitions that use Infoprint Transforms from AFP to use Print Transforms from AFP.

If you copy and edit printer definitions to create new ones for Print Transforms from AFP, make these changes:

- Change the printer definition name because each printer definition must have a unique name. Also, change any JCL that references the printer definition name.
- If the **Use DEST, CLASS, and FORMS for IP PrintWay printer selection** field is selected in the printer definition, change the **DEST**, **CLASS**, or **FORMS** field because these fields must, together, be a unique combination. Also, change any JCL that references the **DEST**, **CLASS**, or **FORMS** values.
- Change the name in the **NetSpool printer LU** field, if specified, because each printer LU name must be unique. Also, define the new NetSpool printer LU name to VTAM.

To create or edit printer definitions, you can use either the Infoprint Server ISPF panels or the Infoprint Server Printer Inventory Definition Utility (PIDU) program.

### Tips:

1. Print Transforms from AFP does not support the transform **-r** option. If a printer definition specifies this transform option in the **Filter** field, you can delete it or leave it as-is. Print Transforms from AFP ignores **-r** without error.
2. In IP PrintWay extended mode, if you create printer definitions that specify different values in the **DEST**, **CLASS**, or **FORMS** fields, you might need to modify the IP PrintWay job selection rule or create a new rule.
3. In IP PrintWay basic mode, if you create printer definitions that specify different values in the **DEST**, **CLASS**, or **FORMS** fields, you might need to modify the work-selection criteria in an IP PrintWay FSA.

### Related information:

1. For more information about the PIDU program, see "Using the PIDU program to manage the Printer Inventory" in *z/OS Infoprint Server Operation and Administration*
2. For more information about NetSpool printer LUs, see "Specifying the NetSpool printer LU name" in *z/OS Infoprint Server Operation and Administration*.

## Example of editing a printer definition

On the ISPF panels, the transform filters are specified in the Processing section of the printer definition. If the printer definition uses a Processing component, you can create a new component or specify a custom value.

Figure 13 on page 418 shows an example of a portion of the ISPF panel for the Processing section of a printer definition.

```

Edit                               Processing

Printer definition name . AFP_TO_PDF_EMAIL

Document code page . . _____
Printer code page. . . IBM-1047

Supported Data Formats and Associated Filters:
Data format:  Filter:
/ Line data   afpxpdf.dll -c us %filter-options (extend)
/ MO:DCA-P    afpxpdf.dll -c us %filter-options (extend)
- PostScript  ----- (extend)
/ Text        aopfiltr.so (extend)
- PCL         ----- (extend)
- PDF         ----- (extend)
- SAP         ----- (extend)
/ XML         afpxpdf.dll -c us %filter-options (extend)
- TIFF       ----- (extend)
- JPEG       ----- (extend)
- Other      ----- (extend)

_ Resubmit for filtering

Transforms:
Fail on error . . . . _ 1. No 2. Error 3. Warning
Trailer error page. . _ 1. No 2. Error 3. Warning

AFP to PDF Transform Encryption:
User identifier . ----- (extend)
Owner identifier. ----- (extend)
Encryption level 1 1. Low (40-bit key) 2. High (128-bit key)
Protected actions:
Restrict print. . . 2 1. Yes 2. No
Restrict copy . . . 2 1. Yes 2. No
Restrict update . . 2 1. Yes 2. No
```

Figure 13. Example of ISPF panel for printer definition processing

Figure 14 on page 418 shows an example of a printer definition in a PIDU command file.

```

create printer AFP_TO_PDF_EMAIL
printer-codepage = IBM-1047
filters = {
  line -> "afpxpdf.dll -c us %filter-option"
  modca -> "afpxpdf.dll -c us %filter-option"
  xml -> "afpxpdf.dll -c us %filter-options"
  text -> aopfiltr.so
}
printer-type = ip-printway
protocol-type = email
output-class = 0
failure-retention-period = 0024:00:00
mail-to-addresses = {
  "pdfviewer@xyz.com"
}
mail-from-name = AFPXPDF transform
destination = PDFMAILX
description = Convert AFP to PDF and email
dcf-routing = yes
pdf-encryption-level = bits40
;
```

Figure 14. Example of a printer definition in a PIDU command file

**Note:** After editing the PIDU file, run the **pidu** command to create the printer definition in the Printer Inventory.



## Editing JCL and scripts

If you create printer definitions that have different values in the DEST, CLASS, or FORMS fields, change the JCL that specifies these values in the DEST, CLASS, FORMS parameters. Also, change the printer definition name in any JCL that specifies the FSSDATA parameter on the OUTPUT JCL statement, or the SUBSYS parameter on the DD JCL statement.

If you have AOPBATCH JCL procedures that reference the transform commands, change the command names. For example, change afp2pdf to afpxpdf.

If you have any scripts that reference the transform commands, change the command names. For example, change afp2pdf to afpxpdf.

You can use symbolic links as an alternative to editing AOPBATCH JCL procedures and scripts that reference the transform commands. For example, the following steps create a symbolic link from afp2pdf to afpxpdf:

**Note:** This example uses the /usr/bin directory, but you can use any directory that is not mounted with the NOSECURITY option. The user creating the symbolic link needs root authority or permission to the SUPERUSER.FILESYS.CHOWN UNIXPRIV profile to ensure the symbolic link is owned by UID 0.

1. Create a symbolic link from /usr/bin/afp2pdf to /usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/bin/afpxpdf in /usr/bin.

```
ln -s /usr/lpp/IBM/PrintXform/V1R2/AFPxPDF/bin/afpxpdf /usr/bin/afp2pdf
```

2. Modify the PATH environment variable specified in the aopstart EXEC or in the shell running the script. For example, in the aopstart EXEC, specify:

```
n=n+1; env.n='PATH=/usr/bin:'install_path'/bin:/bin'
```

3. Stop and restart the Infoprint Server Transform Manager daemon (aopxfd) for the changes to take effect. For more information, see [“Stopping and restarting the Infoprint Server Transform Manager daemon”](#) on page 416.

Print Transforms from AFP does not support the transform options, job attributes, and JCL parameters, which are listed in [Table 27](#) on page 419. If any JCL or scripts specify these transform options, job attributes, or JCL parameters, you can leave them as-is. Unsupported transform options, job attributes, and JCL parameters are ignored without error.

Table 27. Transform options, job attributes, and JCL parameters that Print Transforms from AFP does not support

Transform command options	Job attributes	JCL parameters
-r resolution	print-error-reporting	DATACK

## Migration considerations

These considerations apply when you migrate to Print Transforms from AFP:

### .aokcinit file

If you install the transform daemons in a directory other than the default /usr/lpp/IBM/PrintXform/V1R2/bin directory, make sure that the .aokcinit file is in the same directory. All the transforms that Print Transforms from AFP provides use this file. If the file is not in the same directory as the transform daemons, you receive this message in the Infoprint Server common message log:

```
AOP003E afpxps.dll: AOK03227E Transform Config File  
"/usr/lpp/IBM/PrintXform/V1R2/bin/.aokcinit" is inaccessible:  
EDC5129I No such file or directory.
```

## PDF encryption with passwords

The Print Transforms from AFP sample Password exit for the AFP to PDF transform is the same as the exit that Infoprint Transforms from AFP provides. However, the file names for the Password exit and the password database are new. Also, the default value for the AOP\_PASSWORD\_EXIT environment variables is the Print Transforms from AFP password exit. [Table 28 on page 420](#) shows the differences in the transform products.

Transform product	Password exit	Password database	AOP_PASSWORD_EXIT default
Infoprint Transforms from AFP	aoppdfexit.dll	aoppdfexit.db	/usr/lpp/Printsrv/lib/aoppdfexit.dll
Print Transforms from AFP	aokpdfexit.dll	aokpdfexit.db	/usr/lpp/IBM/PrintXform/V1R2/lib/aokpdfexit.dll

If you have not customized the sample Password exit, you can use the sample Password exit that Print Transforms from AFP provides. To use the new Password exit, you can either omit the AOP\_PASSWORD\_EXIT environment variable, or specify:

```
AOP_PASSWORD_EXIT->/usr/lpp/IBM/PrintXform/V1R2/lib/aokpdfexit.dll
```

If you have customized the Password exit, you can continue to use the customized exit. However, make sure that the AOP\_PASSWORD\_EXIT environment variable in the Infoprint Server transform configuration file (**aopxfd.conf**) specifies the full path name of the customized Password exit. For example:

```
AOP_PASSWORD_EXIT->/<old-custom-path-name>/lib/aoppdfexit.dll
```

## DATAACK JCL parameter

The DATAACK JCL parameter is not supported. The AOP\_TRAILER\_ERROR\_PAGE environment variable and the **trailer-transform-error-page** job attribute provide a similar but more comprehensive set of options than the options provided by the DATAACK JCL parameter. Use the AOP\_TRAILER\_ERROR\_PAGE environment variable or the **trailer-transform-error-page** job attribute to control whether or not a page of error, warning, or informational messages are attached to the output document.

**Tip:** Set the **Trailer error page** field in the printer definition to avoid having to stop and restart the transform daemon, **aopxfd**.

Specify the PRTATTRS JCL parameter in the OUTPUT JCL statement to specify the **trailer-transform-error-page** job attribute. You can use the PRTATTRS JCL parameter as a replacement for the DATAACK JCL parameter:

- To not attach a trailer page, specify PRTATTRS='trailer-transform-error-page=no'. This corresponds to the DATAACK=BLOCK parameter.
- To attach a trailer page, set PRTATTRS='trailer-transform-error-page=warning'. This corresponds to the DATAACK=UNBLOCK, DATAACK=BLKCHAR, and DATAACK=BLKPOS parameters.

If you do not want the transform to stop when an error occurs, set the AOP\_FAIL\_ON\_ERROR -> no environment variable or specify the **fail-on-transform-error=no** job attribute.

## AOP\_FONTMAP\_TABLE

When viewing the output PDF document, if the fidelity of the font characters is not as sharp as it was when using the previous transform product, you will need to include a font-mapping table. The reason for the fidelity loss might be that the transform is inserting raster font characters rather than outline font characters into the PDF document. For instructions about how to set up and use a font-mapping table, see [“Mapping raster fonts to outline fonts” on page 130](#).

## Post-installation tasks for the V1.2 transforms

The following information describes how to complete the installation of the IBM Print Transforms from AFP for Infoprint Server for z/OS V1.2 (*Print Transforms from AFP*).

### About this task

The IBM Print Transforms from AFP V1.2 are no longer installed in the `/usr/lpp/Printsrv` directory. The default directory path is `/usr/lpp/IBM/PrintXform/V1R2`. Changing the default directories from `/usr/lpp/Printsrv` provides you with the ability to conditionally install the product through Product ServerPac. To complete the installation and configuration, a one-time manual setup is required after you install the IBM Print Transforms from AFP V1.2.

### Procedure

1. If the transforms are installed in the default directories, run the following command to verify that the installation of the transform product was successful:

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

**Note:** The **aokcheck** script validates all three transform product files. However, the number of products that are installed can be less than three. If the transforms are not installed in the default directory, you can alternatively call **aokcheck** as follows: `<Transform Install Path>/samples/aokcheck 2 <Transform Install Path> <Transform Install Path>`

2. Required: Create the symbolic links from `/usr/lpp/Printsrv` to `/usr/lpp/IBM/PrintXform/V1R2` by running the following command to link to the new location.

This is a required step because it is not likely that the `PATH` and `LIBPATH` environment variables for Infoprint Server include the default transform installation directories `/usr/lpp/IBM/PrintXform/V1R2/`.

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

- The previous command assumes that the Infoprint Server is installed in the default directories (`/usr/lpp/Printsrv`) and the V1.2 version of the transforms are installed in the default directories (`/usr/lpp/IBM/PrintXform/V1R2`).
- If the transforms are not installed in the default directory, you can alternatively call `aoksymlink.sh` by using the following command:

```
<Transform Install Path>/samples/aoksymlink.sh -f slinks -i  
<Transform Install Path> -b <Infoprint Server Install Path>
```

3. If you previously installed the unsupported `afp2xxx` transform products (called Infoprint Transforms from AFP), and they linked to the V1.1 version of the transform products (see [“Editing JCL and scripts” on page 419](#)), run the following command to create symbolic links from `/usr/lpp/Printsrv` to `/usr/lpp/IBM/PrintXform/V1R2`.

```
/usr/lpp/IBM/PrintXform/V1R2/samples/aoksymlink.sh -f slinksafp2 -i  
/usr/lpp/IBM/PrintXform/V1R2 -b /usr/lpp/Printsrv
```

**Note:** The previous command assumes that the Infoprint Server `afp2xxx` version of the transforms were installed in the default directories (`/usr/lpp/Printsrv`) and the V1.2 version of the transforms are installed in the default directories (`/usr/lpp/IBM/PrintXform/V1R2`).

If the transforms are not installed in the default directory, as an alternative you can call `aoksymlink.sh` as follows:

```
<Transform Install Path>/samples/aoksymlink.sh -f slinks -i  
<Transform Install Path> -b <Infoprint Server Old Transform Install Path>
```

4. Stop and restart the Infoprint Server Transform Manager daemon (aopxfd) for the changes to take effect.

For more information, see [“Stopping and restarting the Infoprint Server Transform Manager daemon” on page 416.](#)

## Results

- If the links were not established in step 2 or 3 above, the following messages can occur:
  - UNIX transform commands (afpxpdf, afpxpcl, and afpxps) can result in the following messages:
    - "filter: afpxpdf 90: FSUM7351 not found "
    - "filter: afpxpcl 90: FSUM7351 not found "
    - "filter: afpxps 90: FSUM7351 not found "
  - The AOPBATCH transform commands can result in the following messages:
    - "AOP003E afpxpdf: EDC5129I No such file or directory., errno2=53b006c"
    - "AOP003E afpxpcl: EDC5129I No such file or directory., errno2=53b006c"
    - "AOP003E afpxps: EDC5129I No such file or directory., errno2=53b006c"
- An alternative to creating symbolic links from /usr/lpp/Printsrv to /usr/lpp/IBM/PrintXform/V1R2 is to modify the PATH and LIBPATH environment variables. The PATH and LIBPATH environment variables are specified in the AOPSTART EXEC and any job that is running a transform command, such as AOPBATCH. Contact an IBM service representative for more information.

## Enabling V1.2 transforms in the SYS1.PARMLIB member

---

After you install the transforms, you must enable the V1.2 transforms to run.

### Before you begin

To create or change an IFAPRDxx member, you must know how to define a system environment and how to define a product. If not, review all of the information about the z/OS product enablement policy, IFAPRDxx member of SYS1.PARMLIB, in [z/OS MVS Initialization and Tuning Reference](#).

### About this task

Use the following procedure to enable the V1.2 transforms by adding them to the IFAPRDxx parmlib member to define the enablement policy, and then activate the member.

**Note:** Adding a product or feature might require changes to other SYS1.PARMLIB members and an IPL before the product or feature can run. Ensure that SYS1.PARMLIB contains member IFAPRDxx and that the proper transforms are enabled in the member.

### Procedure

1. Required: Add the PRODUCT entries for your transforms to the IFAPRDxx member of SYS1.PARMLIB. See the example in [Figure 15 on page 423](#). IBM supplies a tailored IFAPRD00 member that reflects the features that your installation ordered.

**Note:** The STATE value must be set to ENABLED.

```

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

PRODUCT OWNER('IBM CORP')
NAME('PRINT TRANSFORMS')
ID(5655-TF2)
VERSION(*)
RELEASE(*)
MOD(*)
FEATURENAME('AFPxPCL')
STATE(ENABLED)

PRODUCT OWNER('IBM CORP')
NAME('PRINT TRANSFORMS')
ID(5655-TF3)
VERSION(*)
RELEASE(*)
MOD(*)
FEATURENAME('AFPxPS')
STATE(ENABLED)

```

Figure 15. *PRODUCT* entries for transforms in the IFAPRDxx member of SYS1.PARMLIB

2. Required: Activate the transform products by using the MVS console command, **SET PROD=(xx)** or through an IPL.

In **SET PROD=(xx)**, the (xx) variable represents the two alphanumeric characters that indicate the IFAPRDxx member that contains the transforms enablement policy. If a policy already exists, the system performs the actions defined in the specified member to modify the existing policy.

**Notes:**

- a. You can use the **SET PROD** command to modify the enablement policy dynamically by specifying which IFAPRDxx member the system is to use. Statements in the member only modify an existing policy. While the change to the policy takes place immediately, it does not affect any product instances that are already running.
- b. The system does not automatically list the IFAPRDxx parameters at IPL or when you issue **SET PROD** command. Instead, you can enter the **DISPLAY PROD,STATE** command to display the active enablement policy.

**What to do next**

When the transform product or products are successfully enabled, you are ready to use the V1.2 transform options. If the product is not enabled before you try to use it, you can expect the transform request to fail. You can also expect to see the following error message.

```
A0P2371E Product registration check failed for product with return code = rc
```



## Appendix A. Environment variables

Table 29 on page 425 lists all of the environment variables the transforms use and indicates which transforms support the variable. For information about the following environment variables, see:

- “Environment variables for the AFP to PCL transform” on page 70
- “Environment variables for the AFP to PDF transform” on page 90
- “Environment variables for the AFP to PostScript transform” on page 117

Environment variable	AFP to PCL transform	AFP to PDF transform	AFP to PostScript transform
_BPX_JOBNAME	Yes	Yes	Yes
AOP_ACCESSIBLE_COMPLIANCE_TYPE	No	Yes	No
AOP_ANNOTATIONS	No	Yes	No
AOP_ASSUME_RIDIC_UNPAD	Yes	Yes	Yes
AOP_CHARS	Yes	Yes	Yes
AOP_COLOR	Yes	No	Yes
AOP_CUTSHEET	Yes	Yes	Yes
AOP_DIGITAL_CERTIFICATE_LOCATION	No	Yes	No
AOP_EDGETOEDGE	Yes	No	No
AOP_EMBED_OUTLINES	No	No	Yes
AOP_ENCRYPT	No	Yes	No
AOP_FAIL_ON_ERROR	Yes	Yes	Yes
AOP_FAIL_ON_IMAGE_ERROR	Yes	Yes	Yes
AOP_FLATE	No	Yes	No
AOP_FONTLIB	Yes	Yes	Yes
AOP_FONTMAP_TABLE	Yes	Yes	Yes
AOP_FONTPATH	Yes	Yes	Yes
AOP_FORMDEF	Yes	Yes	Yes
AOP_FORMDEFLIB	Yes	Yes	Yes
AOP_FULLPAGEIMAGE	Yes	No	No
AOP_GSK_FIPS_STATE	No	Yes	No
AOP_GSKKYMAN_DB_PWORD	No	Yes	No
AOP_INDEX	No	Yes	No
AOP_INDEX_LANG	No	Yes	No
AOP_JPEGQUALITY	Yes	Yes	Yes

Table 29. Environment variables that transforms support (continued)

<b>Environment variable</b>	<b>AFP to PCL transform</b>	<b>AFP to PDF transform</b>	<b>AFP to PostScript transform</b>
AOP_LEFT_OFFSET	Yes	No	No
AOP_LINEARIZE	No	Yes	No
AOP_LEGACY_PRINTER	Yes	No	No
AOP_LINKS	No	Yes	No
AOP_MAXIMAGERESOLUTION	Yes	Yes	Yes
AOP_MAX_RECORD_LENGTH	Yes	Yes	Yes
AOP_MSGFORMDEF	Yes	Yes	Yes
AOP_MSGPAGEDEF	Yes	Yes	Yes
AOP_MVS_RETURN_CODES (see the restriction below this table)	Yes	Yes	Yes
AOP_OFFSET_JOGGING	Yes	No	No
AOP_OUTLINES	No	Yes	No
AOP_OUTPUTENCODING	No	Yes	No
AOP_OVERLAYLIB	Yes	Yes	Yes
AOP_PAGEDEF	Yes	Yes	Yes
AOP_PAGEDEFLIB	Yes	Yes	Yes
AOP_PAGESEGLIB	Yes	Yes	Yes
AOP_PAPER	Yes	Yes	Yes
AOP_PAPERSTOCK_TABLE	Yes	No	No
AOP_PASSWORD_EXIT	No	Yes	No
AOP_PCLCOMPRESSGLYPHS	Yes	No	No
AOP_PCLFONTPRECISION	Yes	No	No
AOP_PCL_GRAPHICS	Yes	No	No
AOP_PDF_AUTHOR	No	Yes	No
AOP_PDF_KEYWORDS	No	Yes	No
AOP_PDF_LANGUAGE	No	Yes	No
AOP_PDF_SUBJECT	No	Yes	No
AOP_PDF_TITLE	No	Yes	No
AOP_PJL	Yes	No	Yes
AOP_PROTECT	No	Yes	No
AOP_PROTECT_EXTENDED	No	Yes	No
AOP_PSPRINTERPOLICY	No	No	Yes
AOP_RESOURCE_CACHE	Yes	Yes	Yes
AOP_ROTATE_PDF	No	Yes	No



Table 29. Environment variables that transforms support (continued)

Environment variable	AFP to PCL transform	AFP to PDF transform	AFP to PostScript transform
AOP_SIGNATURE_CONTACT	No	Yes	No
AOP_SIGNATURE_DIGESTALG	No	Yes	No
AOP_SIGNATURE_LOCATION	No	Yes	No
AOP_SIGNATURE_NAME	No	Yes	No
AOP_SIGNATURE_PSIZE	No	Yes	No
AOP_SIGNATURE_REASON	No	Yes	No
AOP_SUBSET_PCL_FONT	Yes	No	No
AOP_TOP_OFFSET	Yes	No	No
AOP_TRAILER_ERROR_PAGE	Yes	Yes	Yes
AOP_TRAYID	Yes	Yes	Yes
AOP_UACF_LOCATION	No	Yes	No
AOP_VGASIMAGE (Deprecated. Instead, use AOP_PCL_GRAPHICS.)	No	No	No

**Restriction:** Do not specify AOP\_MVS\_RETURN\_CODES in the Infoprint Server transform configuration file as you do the other environment variables. For information about where to specify this environment variable, see [“AOP\\_MVS\\_RETURN\\_CODES environment variable”](#) on page 63.



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## Appendix B. Accessibility

Accessible publications for this product are offered through [IBM Knowledge Center \(www.ibm.com/support/knowledgecenter/SSLTBW/welcome\)](http://www.ibm.com/support/knowledgecenter/SSLTBW/welcome).

If you experience difficulty with the accessibility of any z/OS information, send a detailed email message to [mhvrcfs@us.ibm.com](mailto:mhvrcfs@us.ibm.com).

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### Accessibility features

Accessibility features help users who have physical disabilities such as restricted mobility or limited vision use software products successfully. The accessibility features in z/OS can help users do the following tasks:

- Run assistive technology such as screen readers and screen magnifier software.
- Operate specific or equivalent features by using the keyboard.
- Customize display attributes such as color, contrast, and font size.

---

### Consult assistive technologies

Assistive technology products such as screen readers function with the user interfaces found in z/OS. Consult the product information for the specific assistive technology product that is used to access z/OS interfaces.

---

### Keyboard navigation of the user interface

You can access z/OS user interfaces with TSO/E or ISPF. The following information describes how to use TSO/E and ISPF, including the use of keyboard shortcuts and function keys (PF keys). Each guide includes the default settings for the PF keys.

- [\*z/OS TSO/E Primer\*](#)
- [\*z/OS TSO/E User's Guide\*](#)
- [\*z/OS ISPF User's Guide Vol I\*](#)

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### Dotted decimal syntax diagrams

Syntax diagrams are provided in dotted decimal format for users who access IBM Knowledge Center with a screen reader. In dotted decimal format, each syntax element is written on a separate line. If two or more syntax elements are always present together (or always absent together), they can appear on the same line because they are considered a single compound syntax element.

Each line starts with a dotted decimal number; for example, 3 or 3.1 or 3.1.1. To hear these numbers correctly, make sure that the screen reader is set to read out punctuation. All the syntax elements that have the same dotted decimal number (for example, all the syntax elements that have the number 3.1) are mutually exclusive alternatives. If you hear the lines 3.1 USERID and 3.1 SYSTEMID, your syntax can include either USERID or SYSTEMID, but not both.

The dotted decimal numbering level denotes the level of nesting. For example, if a syntax element with dotted decimal number 3 is followed by a series of syntax elements with dotted decimal number 3.1, all the syntax elements numbered 3.1 are subordinate to the syntax element numbered 3.

Certain words and symbols are used next to the dotted decimal numbers to add information about the syntax elements. Occasionally, these words and symbols might occur at the beginning of the element itself. For ease of identification, if the word or symbol is a part of the syntax element, it is preceded by the backslash (\) character. The \* symbol is placed next to a dotted decimal number to indicate that the syntax element repeats. For example, syntax element \*FILE with dotted decimal number 3 is given the format 3 \\* FILE. Format 3\* FILE indicates that syntax element FILE repeats. Format 3\* \\* FILE indicates that syntax element \* FILE repeats.

Characters such as commas, which are used to separate a string of syntax elements, are shown in the syntax just before the items they separate. These characters can appear on the same line as each item, or on a separate line with the same dotted decimal number as the relevant items. The line can also show another symbol to provide information about the syntax elements. For example, the lines 5.1\*, 5.1 LASTRUN, and 5.1 DELETE mean that if you use more than one of the LASTRUN and DELETE syntax elements, the elements must be separated by a comma. If no separator is given, assume that you use a blank to separate each syntax element.

If a syntax element is preceded by the % symbol, it indicates a reference that is defined elsewhere. The string that follows the % symbol is the name of a syntax fragment rather than a literal. For example, the line 2.1 %OP1 means that you must refer to separate syntax fragment OP1.

The following symbols are used next to the dotted decimal numbers.

#### **? indicates an optional syntax element**

The question mark (?) symbol indicates an optional syntax element. A dotted decimal number followed by the question mark symbol (?) indicates that all the syntax elements with a corresponding dotted decimal number, and any subordinate syntax elements, are optional. If there is only one syntax element with a dotted decimal number, the ? symbol is displayed on the same line as the syntax element, (for example 5? NOTIFY). If there is more than one syntax element with a dotted decimal number, the ? symbol is displayed on a line by itself, followed by the syntax elements that are optional. For example, if you hear the lines 5 ?, 5 NOTIFY, and 5 UPDATE, you know that the syntax elements NOTIFY and UPDATE are optional. That is, you can choose one or none of them. The ? symbol is equivalent to a bypass line in a railroad diagram.

#### **! indicates a default syntax element**

The exclamation mark (!) symbol indicates a default syntax element. A dotted decimal number followed by the ! symbol and a syntax element indicate that the syntax element is the default option for all syntax elements that share the same dotted decimal number. Only one of the syntax elements that share the dotted decimal number can specify the ! symbol. For example, if you hear the lines 2? FILE, 2.1! (KEEP), and 2.1 (DELETE), you know that (KEEP) is the default option for the FILE keyword. In the example, if you include the FILE keyword, but do not specify an option, the default option KEEP is applied. A default option also applies to the next higher dotted decimal number. In this example, if the FILE keyword is omitted, the default FILE(KEEP) is used. However, if you hear the lines 2? FILE, 2.1, 2.1.1! (KEEP), and 2.1.1 (DELETE), the default option KEEP applies only to the next higher dotted decimal number, 2.1 (which does not have an associated keyword), and does not apply to 2? FILE. Nothing is used if the keyword FILE is omitted.

#### **\* indicates an optional syntax element that is repeatable**

The asterisk or glyph (\*) symbol indicates a syntax element that can be repeated zero or more times. A dotted decimal number followed by the \* symbol indicates that this syntax element can be used zero or more times; that is, it is optional and can be repeated. For example, if you hear the line 5.1\* data area, you know that you can include one data area, more than one data area, or no data area. If you hear the lines 3\* , 3 HOST, 3 STATE, you know that you can include HOST, STATE, both together, or nothing.

#### **Notes:**

1. If a dotted decimal number has an asterisk (\*) next to it and there is only one item with that dotted decimal number, you can repeat that same item more than once.
2. If a dotted decimal number has an asterisk next to it and several items have that dotted decimal number, you can use more than one item from the list, but you cannot use the items more than once each. In the previous example, you can write HOST STATE, but you cannot write HOST HOST.

3. The \* symbol is equivalent to a loopback line in a railroad syntax diagram.

**+ indicates a syntax element that must be included**

The plus (+) symbol indicates a syntax element that must be included at least once. A dotted decimal number followed by the + symbol indicates that the syntax element must be included one or more times. That is, it must be included at least once and can be repeated. For example, if you hear the line 6.1+ data area, you must include at least one data area. If you hear the lines 2+, 2 HOST, and 2 STATE, you know that you must include HOST, STATE, or both. Similar to the \* symbol, the + symbol can repeat a particular item if it is the only item with that dotted decimal number. The + symbol, like the \* symbol, is equivalent to a loopback line in a railroad syntax diagram.



## Notices

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