



XPAF V8R0

Maintenance Bulletin for

Corrective Maintenance RA0331

Important Note:

With the release of XPAF 10.0 on October 31st 2020, support for XPAF 8.0 will be withdrawn on December 15th, 2020.

XPAF 9.0 will be available as a free upgrade for existing XPAF customers until December 31st, 2020.

Xerox welcomes your suggestions and feedback on this document.

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Changes are periodically made to this document. Changes, technical inaccuracies and typographic errors will be corrected in subsequent editions.

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1. Maintenance information

This document includes information on the distributed maintenance package to assist you in running XPAF successfully. Refer to *Section Two: Installing and Customizing XPAF* for instructions on installing this software maintenance tape.

Bulletin description

This bulletin describes the maintenance and provides maintenance-related information.

Contents

The information contained in this bulletin applies to maintenance RA0331.

NOTE: Xerox only supports the XPAF features and functions documented in the user documentation, this maintenance bulletin and the documentation file. Do not assume support is provided if it is not explicitly documented.

Package description

This package contains all maintenance added to XPAF 8.0 since the base product release.

The corrective fixes in this maintenance package and the accompanying documentation file have been extensively integration tested.

Maintenance package RA0331 is shipped as a single SMPPTFIN file in TSO TRANSMIT format.

2. Installation instructions

This section describes the maintenance installation process.

Maintenance acceptance

To ensure the integrity of interrelated fixes, you must RECEIVE and APPLY all fixes on this tape. Ensure that any previous maintenance has been ACCEPTed before APPLYing this corrective maintenance tape.

If you experience a problem with your software, you must APPLY the entire maintenance tape before reporting the problem to Xerox Technical Support.

Maintenance instructions for SMP/E

XPAF maintenance is available on the Xerox web site at the following URL:

[XPAF Support Web Site](#)

To download the maintenance, click on the link and download the "XPAF 8.0 SMPPTFIN - RA0331" file to your PC.

This file is a .zip file that contains the SMPPTFIN file in TSO TRANSMIT format.

Unzip the downloaded file to extract the file XPAF70.RA0331.SMPPTFIN.XMT

Transfer the SMPPTFIN file to the mainframe

To transfer the SMPPTFIN file to your mainframe, perform the following steps:

Step 1. Allocate a dataset to receive the xmt file:

```
RECFM=FB,LRECL=80 SPACE=(CYL,25,5)
```

Step 2. Binary transfer the XPAF80.RA0331.SMPPTFIN.XMT file to the dataset created in step 1

Step 3. Issue the 'TSO RECEIVE' command against the dataset created in step 1 to receive the dataset to rebuild the RA0331 SMPPTFIN dataset

```
TSO RECEIVE INDA('hlq.xmit.in')
INMR901I Dataset PKG3.SMPPTFIN.XPAF80.RA0331 from MKEAN on NJEXE01
INMR906A Enter restore parameters or 'DELETE' or 'END' +
da('mkean.xpaf80x.RA0331.smpptfin')
INMR001I Restore successful to dataset
'MKEAN.XPAF80X.RA0331.SMPPTFIN'
***
```

Install the maintenance

Step 4. Update INSTLIB(\$GENMNT)

```

*      THIS SAMPLE GENMNT MEMBER IS SUPPLIED FOR USE AS A SKELETON
*      FOR THE USER TO COMPLETE USING THE INSTALLATION GUIDE AS A
*      REFERENCE TO THE VALUES OF MACROS AND PARAMETERS.
*
*      *****
*      * NOTE: MACRO PARAMETERS THAT HAVE DEFAULTS IF LEFT BLANK *
*      *       CONTAIN THEIR DEFAULT VALUE IN THIS SAMPLE.       *
*      *****
*
*
*****
*
*      THE #GENMNT MACRO IS USED FOR MAINTENANCE GENERATION ONLY
*
*****
*
*      #GENMNT
*      HOLDFILE=,                * USE WHEN SMPHOLD REQUIRED      X
*      SMPSRCID=RA0331,          * SMP SOURCEID                X
*      EIHLQ=                    * ELECTRONIC INSTALL HLQ
*
*
*
*****
*      THE #GENEND MACRO IS USED TO SPECIFY THE TYPE OF STAGE 2
*      INSTALLATION OUTPUT THAT IS TO BE GENERATED.
*
*****
*
*      #GENEND TYPE=MNT          * TYPE OF INSTALLATION GEN
*
*
*
*      END

```

Step 5. Edit INSTLIB(\$ASMUPD) to specify “**INSTYPE=\$GENMNT**” and submit the job

Step 6. Edit STAGE2(MPJOB101) and change the SMPPTFIN DD card to point to the maintenance SMPPTFIN dataset created in step 3.

Step 7. Verify and submit STAGE2(MPJOB101, MPJOB102, MPJOB103, MPJOB104, and MPJOB105)

Documentation file instructions

This section describes the documentation files for this maintenance package. The documentation file is available as a PDF file and is contained in the maintenance package zip file.

Contents

Each fix entry includes the problem description and applicable pre- and post-installation instructions. The entries are sorted by fix number.

3. *Additional maintenance instructions*

This section contains additional instructions for maintenance that you may need to perform.

- PROFILES
- User exits
- XDIOFTAB macros
- JDT modules in the LPA
- MVS Library Lookaside address space (for XDS) in XPAF

After you apply this tape, refer to *Section Two: Installing and Customizing XPAF* for post-installation instructions concerning these areas.

Note: There are no additional maintenance instructions with this maintenance package

Error holds

For error hold information, refer to “Step 2B - Edit \$GENMNT in INSTLIB” in chapter 3 of *Section Two: Installing and Customizing XPAF*.

Note: There are no error holds with this maintenance package.

4. Technical notes

This section includes information that is not part of the standard maintenance installation process used to install a corrective maintenance tape.

IBM operating system support

XPAF supports the following versions of z/OS:

- z/OS Version 1.12 with JES2 Version 1.12 and JES3 Version 1.12
- z/OS Version 1.13 with JES2 Version 1.13 and JES3 Version 1.13
- z/OS Version 2.1 with JES2 Version 2.1 and JES3 Version 2.1
- z/OS Version 2.2 with JES2 Version 2.2 and JES3 Version 2.2
- z/OS Version 2.3 with JES2 Version 2.3 and JES3 Version 2.3
- z/OS Version 2.4 with JES2 Version 2.4 and JES3 Version 2.4

Required changes when migrating to a new OS or JES version

Have your systems programmer change the SMP/E JESMAC DDDEF entry for both the TARGET and DISTRIBUTION ZONES in the XPAF CSI to specify the new JES z/OS macro library.

Rerun STAGE2(UMJOB101) before running XPAF on the new system. This will re-assemble your JES offsets table.

Host maintenance requirements

Review this table to determine if you need to apply any of these IBM maintenance updates to your system.

If you use this version and subsystem:		Apply these:	
Version	Subsystem	APAR	PTF
z/OS 2.2	JES2 2.2	no additional APAR required	no additional PTF required
	JES3 2.2	no additional APAR required	no additional PTF required
z/OS 2.3	JES2 2.3	no additional APAR required	no additional PTF required
	JES3 2.3	no additional APAR required	no additional PTF required
z/OS 2.4	JES2 2.4	no additional APAR required	no additional PTF required
	JES3 2.4	no additional APAR required	no additional PTF required

Documentation updates

This section includes information and updates to the user documentation for one or more fixes on this tape. Please review this section to determine which updates apply to your site.

PA13242 / RA6322 – Messages added

The following messages have been added:

XRD6290E

XRD6290E THE FOLLOWING ERROR(S) OCCURED DURING PROCESSING OF A *object*:

Explanation: An error occurred when processing an AFP object type of *object*. Additional messages follow

System response: Dependent on the severity of the error.

User action: Check the XOSFLOG for additional messages

XRD6291E

XRD6291E *message-text*

Explanation: An error occurred when processing either an AFP Bar Code or Graphic. This is an internal error caused by a condition not handled by the conversion routines.

System response: Dependent on the severity of the error.

User action: Contact Xerox Technical support.

PA55479/RA7047 – Sending split LCDS documents via Email (New Feature)

PA55479 provides the following new features:

Feature descriptions

XPAF has been enhanced to allow the segments of a split LCDS document to be sent to different email recipients based on email addresses contained in the original data stream.

When used with the PDF transform, a PDF file for each subset is created and sent as attachment to each recipient.

In addition, to help make the trigger file more readable, XPAF has been enhanced to recognize several trigger file command formants. Trigger file commands can now be upper, lower or mixed case and can contain spaces and/or underscore characters. During the parsing process XPAF converts all

characters to uppercase and removes all spaces and underscores prior to the equal sign, '=', in the command line.

For example:

Split on same name=Yes

SPLIT_ON_SAME_NAME=Yes

SplitOnSameName=Yes

Are all functionally equivalent and are parsed as "SPLITONSAMENAME=Yes"

Note: The previously defined "SPLIT_ON_SAME_NAME" command has been renamed to "SPLITONSAMENAME", but the old format is still acceptable.

Specifying the recipients email address

To instruct XPAF where to find the email address in the master document, new trigger file options are added to the trigger file.

Similar to the options required to specify the segment split and name, additional options are provided to identify the record containing the email address and the addresses location in the record.

For example, the master document may contain multiple reports that are each preceded by a banner-like page that contains a record with the text "Mail to:" followed by the email address, such as "Mail to: John.Smith@example.com".

Specifying email options in the trigger file

Additional trigger options are now available:

Option	Description
* in column 1	Comment
EMAIL_TRIGGER="trigger value"	<p>Specifies the string that is to be matched with the input data record to determine if the input record contains an email address. The "?" character can be used as a mask and will match any character in the input record.</p> <p>Example:</p> <p>EMAIL_TRIGGER="Mail to:"</p> <p>The input record, at the offset specified by the EMAIL_TRIGGER_COL value is compared to the trigger string.</p>
EMAIL_TRIGGER_COL=col	<p>Specifies the starting column, or offset, in the input record to compare to the email trigger string</p> <p>Example:</p> <p>EMAIL_TRIGGER_COL=3</p>
EMAIL_TRIGGER_START_LINE=n	<p>Specifies the starting line number for comparing the email trigger value to the input record.</p>

	<p>Where n is an integer 0 to 32767</p> <p>Example:</p> <p>EMAIL_TRIGGER_START_LINE=5</p> <p>The lowest line number to search for the email trigger record is line 5</p> <p>Default: STARTLINE=0</p>
EMAIL_TRIGGER_END_LINE=n	<p>Specifies the ending line number of the input record for comparing to the trigger string.</p> <p>Where n is an integer 0 to 32767</p> <p>Example:</p> <p>EMAIL_TRIGGER_END_LINE=10</p> <p>The highest line number to search for the email trigger string is line 10</p> <p>Default: The default value of EMAIL_TRIGGER_END_LINE is the value used for EMAIL_TRIGGER_START_LINE</p>
EMAIL_ADDRESS_START=n	<p>Specifies the starting column, or offset, of the email address in an input record that matches the EMAIL_TRIGGER value</p>
EMAIL_ADDRESS_BEFORE_TRIGGER=[Y N]	<p>Specifies whether or not the email address record comes before, or after, the record that defines the trigger to split the document.</p>

PA13248 / RA7187 – New initialization parameters

Chapter 42 “Initialization parameters” in *Section Five: XPAF Parameter and Keyword Reference* has been updated with this new information.

OMCOMPATM (initialization profile parameter)

Description Indicates whether or not XOSF should run in “Output Master” compatibility mode. This option is provided to assist customer replacing Output Master with XPAF.

When enabled XOSF will do the following:

If OPTCD=J is specified, XOSF will generate a DJDE of FONTINDEX=(0,ONE,x) rather than FONTINDEX=(0,ZERO,x)

When removing trailing blanks from a completely blank data record, the length of data will remain zero and the carriage control will be changed to an “immediate” operation instead of spacing rather than leave a single blank the data record and using spacing carriage control

When creating the initial DJDE packet from merging extended JCL keywords with the initial data packet and more than one record is required, XOSF will issue a “Write and Space 1 line” carriage control

Scope	Affects processing of LCDS data streams sent to all types of printers.
Syntax	OMCOMPATM={ Y <u>N</u> }
	where
Y	Indicates that XOSF should run in “Output Master Compatibility mode” and format documents in the same behavior as Output Master.
N	Indicates that XOSF should not format documents in the same manner as Output Master
Default	N
Example	OMCOMPATM=Y
Overrides	None.

XJCLDUPLEX (initialization profile parameter)

Description	Indicates whether or not XOSF should honor the DUPLEX= extended JCL keyword. This parameter replaces the functionality provided by the USERMOD XUM0008. If enabled, USERMOD XUM0008 is no longer required to be applied to the system. However, the other USERMODs, or other method, of overriding the IBM DUPLEX keyword are still required for DUPLEX=YES to be valid.
Scope	Affects processing of LCDS data streams sent to all types of printers.
Syntax	XJCLDUPLEX={ Y <u>N</u> }
	where
Y	Indicates that XOSF should interpret the DUPLEX extended JCL keyword
N	Indicates that XOSF should not interpret the DUPLEX extended JCL keyword
Default	N
Example	XJCLDUPLEX=Y
Overrides	None.

PA55483 / RA7257 – New Enhanced DJDE options.

The XMAILTO and XDISPLAY enhanced DJDE commands have been added to specify the recipients email address and the display name of the document, respectively when converting LCDS documents to PCL or PDF.

XMAILTO

Description	Specifies the email address of the recipient, when sending converted files via EMAIL.
Scope	Affects processing of all LCDS documents transformed to PCL or PDF.
Syntax	@@@DJDE C XMAILTO=emailaddr where emailaddr is the 1 to 60 character email address
Default	The email address specified for the userid, associated with the job, in the email address table (EMAILADR) or the specified by the MAILTO extended JCL keyword.
Example	@@@DJDE C XMAILTO=fred.smith@example.net
Overrides	None.
Related Information	Refer to the "Splitting LCDS Documents" section of the XPAF User Guide for more information.

XDISPLAY

Description	Specifies the display name of the document that is stored in the @XODBJDIN
Scope	Affects processing of all LCDS documents transformed to PCL or PDF.
Syntax	@@@DJDE C XDISPLAY=displayinfo where displayinfo is the 1 to 127 character display name
Default	None.
Example	@@@DJDE C XDISPLAY=PAYROLL REPORT FOR THIRD QUARTER
Overrides	None.
Related Information	The information provided via the XDISPLAY enhanced DJDE keyword is stored in the XODB Control Block field XODBJDIN. You must specify this field as a variable substitution variable in the job name skeleton member referenced by the XTCPJNAM printer profile parameter.

PA13252 / RA7264 – z/OS 2.3 Support

Support for z/OS 2.3 JES2 and JES3 has been added.

After applying this maintenance on an z/OS 2.3 system, you must reassemble the XDI offsets table, XDIOFTAB, in order for XOSF to function correctly.

PA13246 / RA8032 – LCDS conversion option new printer profile parameter

Chapter 41 “Printer profile parameters” in *Section Five: XPAF Parameter and Keyword Reference* has been updated with this information.

LCDS_IGNORE_LOGO_INK

Description	Specifies whether or not LOGOs colorized in an LCDS form (.FRM) via an ink index should be reproduced as black or in the specified color when converting the form to PCL or PDF. .
Scope	Affects processing of LCDS data streams converted to PCL and/or PDF.
Syntax	LCDS_IGNORE_LOGO_INK={Y N } Where Y Indicates that logos colorized with an ink reference in a form should be converted as black N indicates that logos
Default	LCDS_IGNORE_LOGO_INK=N
Overrides	None.

PA13259 / RA8060– New Printer Profile parameter FEATURE option AFPMMLCRLF

Chapter 41 “Printer profile parameters” in *Section Five: XPAF Parameter and Keyword Reference* has been updated with this information.

FEATURE

AFPMMLCRLF	Indicates that data sent to the V-Services (DEVICE=VSERV) print server is AFP Mixed mode data and each record should be terminated with a carriage return/line feed. This feature is only applicable to DEVICE=VSERV printers.
-------------------	--

PA55491 / RA8130 – LCDS conversion option new printer profile parameter

Chapter 41 “Printer profile parameters” in *Section Five: XPAF Parameter and Keyword Reference* has been updated with this information.

LCDS_MULTIPLE_DJDE_PACKETS

Description	Specifies whether or not XOSF will honor multiple DJDE packets for a page when converting an LCDS document to PCL or PDF. A DJDE packet is defined as a set of DJDE commands terminated by an “END” statement
--------------------	---

Scope	Affects processing of LCDS data streams converted to PCL and/or PDF.
Syntax	LCDS_MULTIPLE_DJDE_PACKETS={Honor <u>Ignore</u> }
	Where
H	Indicates that all DJDE packets, specified for a page, will be honored.
I	Indicates that only the first DJDE packet, for a page, will be honored. All subsequent DJDE packets, for the same page, will be ignored.
Default	LCDS_MULTIPLE_DJDE_PACKETS=I
Overrides	None.

PA13723 / RA8137 – LCDS conversion option new printer profile parameter

XOSF has been updated to enable the “shifting” of documents converted to PCL on the physical sheet of paper. This feature allows

Chapter 41 “Printer profile parameters” in *Section Five: XPAF Parameter and Keyword Reference* has been updated with this information.

PGXSHIFT

Description	Specifies the number of dots (at 300 dots per inch) to shift a page, converted to PCL, horizontally (x direction)
Scope	Affects processing of LCDS data streams converted to PCL and/or PDF.
Syntax	PGXSHIFT= <i>value</i>
	Where
	<i>value</i> The number of dots to shift the data in the x direction. May be specified as a negative number
Default	PGXSHIFT=0
Overrides	The PGXSHIFT value in the printer profile table can be overridden by specifying PGXSHIFT in the XJCF simulation table entry that is in effect for the document.

PGYSHIFT

Description	Specifies the number of dots (at 300 dots per inch) to shift a page, converted to PCL, vertically (y direction)
Scope	Affects processing of LCDS data streams converted to PCL and/or PDF.
Syntax	PGYSHIFT= <i>value</i>
	Where
	<i>value</i> The number of dots to shift the data in the y direction. May be specified as a negative number
Default	PGYSHIFT=0

Overrides The PGYSHIFT value in the printer profile table can be overridden by specifying PGYSHIFT in the XJCF simulation table entry that is in effect for the document.

Chapter 16 “Additional Feature – Enabling XJCF Simulation processing” in *Section Two: Installing and Customizing XPAF* has been updated with this information.

Non-DJDE Keywords The FORMS, CLASS, DEST and WRITER tables can contain the following additional non-DJDE keywords:

- PGXSHIFT
- PGYSHIFT

PA13276/RA8235 – New GLOBAL email options

PA13276 provides new options when sending an email notification to the global administrator(s):

Option	Description
* in column 1	Comment
GLOBAL(name) NOTIFY(condition) [NOATTACHMENTS] EMAIL(emailaddress)	<p>Use this option to define global network administrators for the OS/390 environment. You can include as many instances of this definition as you need.</p> <p>name [NOATTACH nnnnnnn) is for identification purposes only, and specifies the administrator's known name. It is not used in the SMTP protocol generation. If the special name of NOATTACH is used, any generated file that would normally sent as an attachment, will not be sent to this administrator.</p> <p>condition [ERR ALL]</p> <p>ALL specifies that the administrator should receive e-mail notification for all documents produced (those that print successfully and also those that receive an error).</p> <p>ERR specifies that the administrator should receive e-mail notification only if there is an error producing a document.</p> <p>NOATTACHMENTS indicates that any email attachment, normally generated for this document, will not be sent to this administrator.</p> <p>emailaddress is the email address of the administrator who will receive the e-mail notification.</p> <p>Examples:</p> <p>GLOBAL(John) NOTIFY(ERR)</p> <p>EMAIL(John.Smith@my.company.com)</p>

Updated Email address table example in XPFSAMP(EMAILADR)

The sample email address table, provided in XPFSAMP(EMAILADR), has been updated.

PA13292 / RA9052 – Message added

The following message have been added:

XCD4512F

XCD4512F FORM form REFERENCES UNDEFINED COLOR 'color'. PALETTE COLOR NOT FOUND.

Explanation: While converting the LCDS.FRM, form, to decentralized format, XPAF encountered the color ink reference, color, which calls for ink 'H100', which was not defined in the color conversion table. Since 'H100' may be defined in multiple palettes XPAF attempts to locate an ink with the same name as the palette. The palette color is not defined in the color conversion table.

System response: Document processing is terminated. The document is aborted and placed in hold status.

User action: Add the color to the color conversion table and release the held job

PA13297/RA0065 – New Email address table options

PA13297 provides new options for defining the message text when sending an email:

Option	Description
* in column 1	Comment
HTMLMEM(name)	Use this option to define the member name that contains the skeleton message text that will be used when sending an email in HTML format Examples: HTMLMEM(USERHTML)
HTMLERR(name)	Use this option to define the member name that contains the skeleton message text that will be used when sending an email in HTML format when the job has aborted with an error. Examples: HTMLERR(USERHERR)
TEXTMEM(name)	Use this option to define the member name that contains the skeleton message text that will be used when sending an email in plain text. Examples: TEXTMEM(USERTEXT)

TEXTERR(name)	<p>Use this option to define the member name that contains the skeleton message text that will be used when sending an email in plain text when the job has aborted with an error</p> <p>Examples:</p> <p>TEXTERR(USERERR)</p>
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Updated Email address table example in XPFSAMP(EMAILADR)

The sample email address table, provided in XPFSAMP(EMAILADR), has been updated.

PA13305 / RA0191 – New Messages added

The following messages have been added:

XCD4190W

XCD4190W THE VALUE OF value FOR ENHANCED DJDE “edjde” EXCEEDS THE MAXIMUM ALLOWABLE LENGTH OF LENGTH of maxlen BYTES.

Explanation: While converting an LCDS document to PCL or PDF, XOSF encountered an enhanced DJDE ‘edjde’ where the value specified was longer than the maximum allowable length of maxlen.

System response: The value is truncated to the maximum length and processing continues.

User action: Shorten the value of the enhanced DJDE to be less than or equal to the maximum allowable length.

XCD4191F

XCD4191F THE VALUE OF value FOR ENHANCED DJDE “edjde” EXCEEDS THE MAXIMUM ALLOWABLE LENGTH OF LENGTH of maxlen BYTES.

Explanation: While converting an LCDS document to PCL or PDF, XOSF encountered an enhanced DJDE ‘edjde’ where the value specified was longer than the maximum allowable length of maxlen.

System response: Truncating the value would cause a subsequent error in processing, such as shortening an email address. Document processing is terminated. The document is aborted and placed in hold status.

User action: Correct the value to be less than, or equal to, the maximum length.

PA13299 / RA0191 – Secure Email delivery via IBM AT-TLS (New Feature)

PA13299 provides a new way to securely transmit, by encryption, email documents, or notifications, to an SMTP server. This ability is provided by utilizing the z/OS IBM Communication Servers feature Application Transparent – Transport Layer Security (AT-TLS).

Function and Flow of the XPAF secure email process.

During the email process, XPAF connects to an email SMTP server.

When the TCP/IP connection, to the SMTP Sever, is initiated the TCP/IP address space verifies, via the IBM Policy Agent for AT-TLS address space, PAGENT, whether, or not, the connection should be encrypted.

The AT-TLS PAGENT address space checks it's supplied TTLS RULES definitions, in the PAGATTLS member, to determine whether the connection should be encrypted, or not, and which cipher should be used for the connection.

If encryption is enabled for the connection, ATTLS will secure the connection, to the email server, by verifying the server certificates, and ciphers, and then ensuring that the encrypted connection is established.

Once the connection is enabled, all data sent between XPAF and the SMTP server will be encrypted by the TCP/IP address space.

How to enable the secure emailing through XPAF

There are two locations where the enablement of secure emailing can take place. Either in the XOSF initialization parameter member, XINPARM(XINSXOSF), or in the individual printer definition XINPARM(PRTxxxx).

XINPARM XINSXOSF member changes to enable global secure emailing through all printer definitions.

The parameters are below showing options to set to enable secure emailing.

SECUREMAIL=YES	Specifies that secure emailing is required for all of the XPAF printers that use emailing unless the printer definitions set SECUREMAIL=NO
JCLSUBWT=N, /* N = DO NOT WAIT BETWEEN BATCH SUBMISSIONS 4 XTCPLPR	JCLSUBWT=N, /* N = DO NOT WAIT BETWEEN BATCH SUBMISSIONS 4 XTCPLPR

XPAF Printer profile member changes to enable secure emailing through a single printer definition.

The parameters are below showing options to set to enable secure emailing.

SECUREMAIL=YES	Specifies that secure emailing is required for all of the XPAF printers that use emailing unless the printer definitions set SECUREMAIL=NO
JCLSUBWT=N, /* N = DO NOT WAIT BETWEEN BATCH SUBMISSIONS 4 XTCPLPR	JCLSUBWT=N, /* N = DO NOT WAIT BETWEEN BATCH SUBMISSIONS 4 XTCPLPR

Enabling Login credentials for the SMTP server

In addition to using AT-TLS to encrypt the connection, the SMTP server can also be configured to require login credentials in order to accept a connection from a client.

Two new parameters, AUTHLOGIN and AUTHPASSW have been added to the XPAF email address table, to enable the setting of the userID and password to log into the email server. This member is specified using the XMAILADR parameter in the printer profile.

If you decide to use the login feature, it is recommended that the email address table is kept in a separate dataset, that is added to the XINPARM DD concatenation in the XOSF started task JCL so that you can restrict access, via SAF, to the member that contains user id and password to security administrator personnel.

AUTHLOGIN(AnonymousID)	Userid for anonymous login for SECURE EMAIL
AUTHPASSW(AnonymousPW)	User password to use for login.

Sample configuration members

Two samples in the XPFSAMP data set, ATTLSFSS and ATTLSAF, are provided to show example setup information for the secure email feature.

Member ATTLSFSS is used as an example for the required updates to the IBM AT-TLS PAGENT member PAGATTLS. The sample provided shows how to ensure encryption and network connection is achieved.

Member ATTLSAF is a RACF/ SAF example member which shows how to create the local mainframe certificate and the process of how to achieve an acceptable connection ability for the email server on the mainframe.

IBM AT-TLS member PAGATTLS sample, XPFSAMP(ATTLSFSS), keyword definitions.

The following table describes the entries contained in the sample PAGATTLS member, found in XPFSAMP(ATTLSFSS), that can be used to configure your system PAGATTLS member.

Option		Description
#		Text to the end of the line is a comment
TTLRule	<i>name of Rule</i>	<p>Use this option to define the AT-TLS RULE for email server selection for the encrypted connection.</p> <p>Examples:</p> <p>Comment: showing XPAF Functional subsystem XP01 definition:</p> <pre># XPAF XP01 (CLIENT) JOB SPECIFIC DEFINITIONS EMAIL SMTP STARTTLS SECURE</pre> <p>TTLRULE Example: Site operational standards should be used.</p> <pre>TTLRule XPAF-FSS-XP01-CLIENT</pre>
Jobname	<i>name of XPAF FSS</i>	<p>Use this option within the rule definition to specify the XPAF Functional subsystem jobname.</p> <p>When a TCP/IP connection starts if the request is from this XPAF FSS then this rule is requesting a secure connection to the email server. There are other definitions in this rule that must be satisfied before the encryption process will take place for the requesting connection.</p> <p>Examples:</p> <pre>Jobname XP01</pre>
LocalAddr	ALL or IP address	<p>This IP address is the one assigned to the TCP/IP address space that creates the TCP/IP transmission. i.e. The mainframe/ LPAR assigned IP address is the one to use.</p> <p>Use this option to define the local IP address or the ALL option. By specifying a specific IP address then the only encryption from the given IP address with the given Jobname will be encrypted.</p> <p>If you are executing multiple TCP/IP address spaces in one Z/OS system then ALL should be specified so that you do not have to create duplicate TTLRULE definitions for each TCP/IP address space that is using AT-TLS. We suggest just setting this to default to ALL. It will not cause any additional overhead for TCP/IP.</p> <p>Examples:</p> <pre>LocalAddr ALL</pre> <p>ALL local IP addresses will be used to enable an encrypted transmission as long as the other options are satisfied like Jobname, RemotePortRange, ETC.</p>
RemoteAddr	ALL or IP address	<p>Use this option to define the remote EMAIL SERVER IP address or the ALL option. By specifying a specific IP address then the only encryption from the given Jobname will be encrypted for this IP address transmission.</p> <p>Examples:</p> <pre>RemoteAddr ALL</pre> <p>ALL remote IP addresses accessed and used by the Jobname will be encrypted if requested to do so by the XPAF address space after all other options for</p>

		<p>encryption are satisfied like RemotePortRange, ETC..</p> <p>LocalAddr 123.123.123.123 Single IP address for encryptionTEXTERR(USERERR)</p>
RemotePortRange	25	<p>This is the TCP/IP port range for the remote IP address that we will need to make available to encrypt if requested by the XPAF application. TCP/IP port 25 is the email port number that we will connect with to encrypt.</p> <p>Examples:</p> <p>RemotePortRange 25 # EMAIL PORT only to encrypt ETC.</p>
Direction	Outbound	<p>This is the TCP/IP transmission direction for this TTLSRule. Outbound is the client Outbound transmission. This setting can be also Inbound and Both. Neither of these settings are correct for XPAF outbound email transmissions. Both and Inbound indicate that the TTLSRule is for a Server application.</p> <p>Examples:</p> <p>Direction Outbound # XPAF Client outbound transmissison</p>
TTLSTGroupActionRef	gAct1	<p>This is the AT-TLS GroupActionRef which TURNS ON TTLS-enabled for this connection request if the <u>all</u> of the above conditions have been satisfied to allow for the secure connect ability.</p> <p>The XPAF application still needs to use IOCTL command to make the TCP/IP session to negotiate and start encrypting this transmission. Therefore, the TCP/IP sockets connection just sits there and passes information through if no encryption is indicated by XPAF.</p> <p>Examples:</p> <p>TTLSTGroupActionRef gAct1 # Turn on TTLS-enabled</p>
TTLSEnvironmentActionRef Environment-Email		<p>This is the TCP/IP environment actions that need to be established for the email transmission. The example given in the XPAF sample ATTLSFSS shows the default settings that are standard. This is the place where to specify the virtual Key Ring that we are using on the mainframe for this feature.</p> <p>Examples:</p> <p>TTLSEnvironmentActionRef Environment-Email</p>
TTLSConnectionActionRef cClientEmail		<p>This is the TCP/IP Connection action that is need to be established for the email transmission. The options set in this definition is for the cipher lists available to use as well as the CertificateLabel needed for the RACF/ SAF verification of the email server. The example given in the XPAF sample ATTLSFSS shows the default settings that are standard. There is also the sample ATTLSAF for the commands to define the virtual rings and certificate process.</p> <p>Examples:</p> <p>TTLSConnectionActionRef cClientEmail</p>

XPAF execution setup issues to resolve when initial handshake is being established for the connection.

EMAIL RING NOT DEFINED to RACF. The ATTLS member (PAGATTLS) contains the TTLSRules for each endpoint connection should be verified – see error below:

```

XTC7772I CONNECTING TO MAIL SERVER: FORWARDER.MAIL.COMPANY.COM  PORT: 25
XTC7758I CONNECTION TO IP FORWARDER.MAIL.COMPANY.COM  HAS BEEN ESTABLISHED
EZD1287I TTLS Error RC:      7 Environment Init 042
  LOCAL: **N/A**
  REMOTE: **N/A**
  JOBNAME: **N/A** RULE: **N/A**
  USERID: XP01 GRPID: 00000019 ENVID: 0000004C CONNID: 00000000
EZD1287I TTLS Error RC: 5006 Initial Handshake 043
  LOCAL: Z/OS-TCPIP-IPAddress..1590
  REMOTE: IP-address-EMAILSERVER..25
  JOBNAME: XP01 RULE: XPAF-FSS-XP01-CLIENT
  USERID: XP01 GRPID: 00000019 ENVID: 0000004C CONNID: 000031FA
XTC7765E TCP/IP RC='0000054', FUNCTION=IOCTL
XTC0001I PRT7      IOCTL      FAIL: (      RETCODE= -0000001 ERRNO=      0000054
  PDF      FORWARDER.MAIL.COMPANY.COM:25  X
XTC7779E ATTLS - ATTLS Connection Failed; RETRIEVED VALUE X'00' Bad
Return code - PAGATTLS
XTC7780I ATTLS - POLICY VALUE X'00' CONNECTION VALUE X'00' TYPE X'00'
FROM INIT Connection
XTC7778I SECURE EMAIL CONNECTION ESTABLISHED - SENDING SECURE EMAIL
XTC7765E TCP/IP RC='0000032', FUNCTION=SEND
XTC0001I PRT7      SEND      FAIL: (      RETCODE= -0000001 ERRNO=      0000032
  PDF

```

Resolution: Must define the KEYRing name being used in the ATTLS member PAGATTLS in the RACF/ SAF definitions.

KEYRing is defined to RACF/ SAF but no XPAF functional subsystems have to it; only defined user was TCPIP.

```

XTC7772I CONNECTING TO MAIL SERVER: FORWARDER.MAIL.COMPANY.COM  PORT: 25
XTC7758I CONNECTION TO IP FORWARDER.MAIL.COMPANY.COM  HAS BEEN ESTABLISHED
EZD1287I TTLS Error RC: 5006 Initial Handshake 132
  LOCAL: Z/OS-TCPIP-IPAddress ..1591
  REMOTE: IP-address-EMAILSERVER..25
  JOBNAME: XP01 RULE: XPAF-FSS-XP01-CLIENT
  USERID: XP01 GRPID: 00000019 ENVID: 0000004C CONNID: 00003200
XTC7765E TCP/IP RC='0000054', FUNCTION=IOCTL
XTC0001I PRT7      IOCTL      FAIL: (      RETCODE= -0000001 ERRNO=      0000054
  PDF      FORWARDER.MAIL.COMPANY.COM:25  X

```

```

XTC7779E ATTLS - ATTLS Connection FailedMA; RETRIEVED VALUE X'00' Bad
Return code - PAGATTLS
XTC7780I ATTLS - POLICY VALUE X'00' CONNECTION VALUE X'00' TYPE X'00'
FROM INIT Connection
XTC7778I SECURE EMAIL CONNECTION ESTABLISHED - SENDING SECURE EMAIL
XTC7765E TCP/IP RC='0000032', FUNCTION=SEND
XTC0001I PRT7 SEND FAIL: ( RETCODE= -0000001 ERRNO= 0000032
PDF FORWARDER.MAIL.COMPANY.COM:25 X
XTC0004I EMAIL USER BEING SENT TO-NFORB - EMAIL ADDRESS -nigel.forbes@e
rox.com
XTC0004I EXPECTED RETURN CODE WAS-250. RESPONSE FROM MAIL SERVER IS-

```

Failure caused by not having the ZOS03 certificates connected to the Virtual ring (RACF).

```

XTC7758I CONNECTION TO IP FORWARDER.MAIL.COMPANY.COM HAS BEEN ESTABLISHED
EZD1287I TTLS Error RC: 202 Environment Init 238
LOCAL: **N/A**
REMOTE: **N/A**
JOBNAME: **N/A** RULE: **N/A**
USERID: XP01 GRPID: 00000019 ENVID: 0000004D CONNID: 00000000
EZD1287I TTLS Error RC: 5006 Initial Handshake 239
LOCAL: Z/OS-TCPIP-IPAddress ..1592
REMOTE: FORWARDER.MAIL.COMPANY.COM..25
JOBNAME: XP01 RULE: XPAF-FSS-XP01-CLIENT
USERID: XP01 GRPID: 00000019 ENVID: 0000004D CONNID: 00003223
XTC7765E TCP/IP RC='0000054', FUNCTION=IOCTL
XTC0001I PRT7 IOCTL FAIL: ( RETCODE= -0000001 ERRNO= 0000054
PDF FORWARDER.MAIL.COMPANY.COM:25 X
XTC7779E ATTLS - ATTLS Connection FailedMA; RETRIEVED VALUE X'00' Bad
Return code - PAGATTLS
XTC7780I ATTLS - POLICY VALUE X'00' CONNECTION VALUE X'00' TYPE X'00'
FROM INIT Connection
XTC7778I SECURE EMAIL CONNECTION ESTABLISHED - SENDING SECURE EMAIL
XTC7765E TCP/IP RC='0000032', FUNCTION=SEND
XTC0001I PRT7 SEND FAIL: ( RETCODE= -0000001 ERRNO= 0000032

```

XPAF successful secure email SYSTEM log execution.

```

16:43:54.14 T0017140 00000281 $HASP150 NFORB OUTGRP=13.1.1 ON PRT7
1,961 (1,961) RECORDS
16:43:54.14 S0017144 00000281 XDI3430I (T0017140) ($$$X90) ($$$X90) (SYS00172)
COPY 001 OF 001
SELECTED FOR (PRT7)
16:43:54.15 S0017144 00000281 XSL0001I DJDE MODE SELECTED, PRMODE=DJDE.
16:43:54.18 S0017144 00000281 XPD0002I PDF MODE SELECTED FOR-NFORB
16:43:54.25 S0017144 00000281 XTW1504I WRITING OUTPUT TO DASD. UNIT=2713,
VOLSER=TCXDS1
16:43:54.25 S0017144 00000281 XTW0002I
DSN=TCX.XP01.NFORB.T0017140.D20148.T164354
16:43:54.56 S0017144 00000281 XTW1504I CLOSING OUTPUT TO DASD. UNIT=2713,
VOLSER=TCXDS1
16:43:54.56 S0017144 00000281 XTW0002I
DSN=TCX.XP01.NFORB.T0017140.D20148.T164354
16:43:54.56 S0017144 00000281 XTW0002I 45 RECORDS WRITTEN
16:43:54.63 S0017144 00000281 XTC7772I CONNECTING TO MAIL SERVER:
FORWARDER.MAIL.COMPANY.COM PORT: 25

```

```

16:43:54.64 S0017144 00000281 XTC7758I CONNECTION TO IP
FORWARDER.MAIL.COMPANY.COM HAS BEEN ESTABLISHED
16:43:54.69 S0017144 00000281 XTC7778I SECURE EMAIL CONNECTION IS ENABLED -
SENDING SECURE EMAIL
16:43:54.69 S0017144 00000281 XTC0001I RCPT TO:<nigel.forbes@COMPANY.COM >
16:43:54.70 S0017144 00000281 XTC0004I PRT7 DOCUMENT -NFORB IS BEING ATTACHED
IN AN EMAIL
16:43:54.77 S0017144 00000281 XTC7759I CONNECTION TO IP
FORWARDER.MAIL.COMPANY.COM HAS BEEN released
16:43:54.82 S0017144 00000281 XDI3419I PRT7 T0017140 SYS00172 IMPRESSIONS=42
PAGES=21 ETIME=0.011
16:43:54.87 00000281 $HASP160 PRT7 INACTIVE - CLASS=1
16:43:59.78 S0017144 00000281 XSL720FI PRT7 WAITING FOR WORK

```

*TSO UDLIST /var/syslogd/error.log < return codes from
all connections that fails when using ATTLS - PAGENT
address space logging.*

```

JOBNAME: NFORBEMA USERID: NFORB: RULE: XE03-EMAILING-2Server RC:      8
+INITIAL HANDSHAKE
JOBNAME: NFORBEMA USERID: NFORB: RULE: XE03-EMAILING-2Server RC:      6
INITIAL HANDSHAKE
JOBNAME: NFORBEMA USERID: NFORB: RULE: XE03-EMAILING-2Server RC: 5003 INITIAL
HANDSHAKE
JOBNAME: NFORBEMA USERID: NFORB: RULE: XE03-EMAILING-2Server RC:  406 INITIAL
HANDSHAKE

```

XPAF execution and certificate process and verification information via IBM Policy Agent (PAGENT) address space.

The IBM Policy Agent (PAGENT) is responsible for verification of the connection for the certificates from the email server. Therefore, the SAF/RACF definitions are used to ensure that the mainframe keyring has the certificates available for the connection to be connected securely. Once a connection has been set for secure emailing the TCP/IP address space ensures that no data is sent on the network until it is encrypted with the agreed to ciphers and certificates. The negotiation of the initial handshake connection to the email server is controlled and enabled by this process. The supplied RACF sample (ATTLSAF member) shows the ability to use a newly created certificate from a certificate authority for the mainframe system connection. If you do not wish to use a new Certificate Authority certificate you can use your company certificate that is being used with your site browser WebSphere or Tomcat address spaces that is if you have one of these Web browsers executing. There is various ways of setting up RACF Keyrings with certificates by the SAF environment. That we have not mentioned in this documentation. We do not supply examples of these methods of certificate validation which is down to the customer to decide what type of verification and process they require at their site.

ATTLS Tracing used to help with debugging connection issues.

With the tracing option being set in the ATTLS member PAGATTLS (PAGENT address space) you will need to look into the UNIX file SYSLOGD that is displayed by z/OS Unix services interface in the panels or by using the command "UDLIST /var/syslogd" this command will show the following files listed below: The debug.log file is where the execution information is logged for diagnostic purposes.

z/OS UNIX Directory List									
Command ===>									
Pathname . : /var/syslogd									
EUID . . . : 10931									
Command	Filename	Message	Type	Permission	Audit	Ext	Fmat	Owner	Group

	.		Dir	rw-rw-rw-rw	fff---		----	BPXROOT	
	..		Dir	rw-rw-rw-rw	fff---		----	BPXROOT	
	auth.log		File	rw-rw-rw-rw	fff---	--s-	----	BPXROOT	
	debug.log		File	rw-rw-rw-rw	fff---	--s-	----	BPXROOT	
	error.log		File	rw-rw-rw-rw	fff---	--s-	----	BPXROOT	
	FTPD.log		File	rw-rw-rw-rw	fff---	--s-	----	BPXROOT	
	IKED.log		File	rw-rw-rw-rw	fff---	--s-	----	BPXROOT	
	TRMD.log		File	rw-rw-rw-rw	fff---	--s-	----	BPXROOT	

Type b (for browse) next to the debug.log . Example of tracing below:

```
11:17:27 TCPIP      EZD1285I TTLS Data  CONNID: 00000D69 SEND CIPHER
160303008C0100
```

11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER 1603030051
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER
0200004D030351				
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER 1603030D24
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER
0B000D20000D1D				
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER 1603030004
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER 0E000000
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	SEND CIPHER
16030301061000				
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	SEND CIPHER 140303000101
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	SEND CIPHER
1603030040990D				
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER 1403030001
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER 01
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER 1603030040
11:17:27 TCPIP	EZD1285I	TTLS Data	CONNID: 00000D69	RECV CIPHER
D73ACD68A7288C				

Bottom of the debug.log showing internal GSK module return codes.

CONNID: 00000D69	RC: 0	Call GSK_SECURE_SOCKET_INIT - 00000050114228B0
CONNID: 00000D69	RC: 0	Get GSK_CONNECT_SEC_TYPE(208) - TLSV1.2
CONNID: 00000D69	RC: 0	Get GSK_CONNECT_CIPHER_SPEC(207) - 0035
CONNID: 00000D69	RC: 0	Get GSK_PARTNER_CERT_INFO(700) - 000000000000006FA
CONNID: 00000D69	RC: 0	Get GSK_TLSEXT_MFL(413) - 00000000000000215
CONNID: 00000D69	RC: 0	Get GSK_SID_VALUE(212) - 0000000000000002C
CONNID: 00000D69	RC: 0	Get GSK_DECODE_BASE64 - 00000000000000020
CONNID: 00000D69	RC: 0	Get GSK_SID_FIRST(406) - 00000000000000204
CONNID: 00000D69	RC: 0	Initial Handshake 00000050114228B0 0000005011421D10
TL		
CONNID: 00000D69	RC: 0	Receive FIN 000000035
30300309354A90F932C10805A065B1DD1C028E4C5009C8427A2E476F41A1B294F724DC0FB6D656B		
33		
CONNID: 00000D69	RC: 0	Receive Reset
CONNID: 00000D69		Connection Close ACTIONS: gAct1 Environment-Email cClientEmail
CONNID: 00000D69	RC: 0	Call GSK_SECURE_SOCKET_CLOSE - 00000050114228B0
CONNID: 00000D69	RC: 0	Connection Close 00000050114228B0 0000005011421D10
CONNID: 00000000		Environment Delete ACTIONS: gAct1 Environment-Email **N/A**
CONNID: 00000000	RC: 0	Call GSK_ENVIRONMENT_CLOSE - 0000005011421D10
CONNID: 00000000	RC: 0	Environment Close 0000005011421D10

ATTLS Tracing file SYSLOGD log not showing new traces.

When looking at the Unix file debug.log it shows old trace data and not your new traces. You need to issue the operator command "/P SYSLOGD" and then restart the logging with the command "/S SYSLOGD". At this point the re-execution of the test should be done then view the debug.log to see the trace information by using command 'udlist /var/syslogd.

Changing the ATTLS member PAGATTLS (PAGENT) address space.

When you make changes to the PAGATTLS member, you must refresh the policy agent address space by issuing the following operator command:

`/F PAGENT,REFRESH`

If there is a validation error in the latest changes then a message is written to the z/OS system log stating error found in member. To view the error message, you need to browse the Unix file by first issuing, in ISPF, the command:

`udlist /tmp`

this will display the "/tmp" directory where the pagent.log file resides and you can then browse the pagent.log file to see the error.

Note: when changes are made to the PAGATTLS member and are successfully refreshed by issuing the command any application using the ATTLS facility does not need to be restarted; the update is dynamic and immediate to all products that are executing. Therefore, the XOSF FSS does not need to be restarted after a change has been made.

z/OS UNIX Directory List									
Command ==>									
Pathname . : /SYSTEM/tmp									
EUID . . . : 10931									
Command	Filename	Message	Type	Permission	Audit	Ext	Fmat	Owner	Group
	.		Dir	rw-rw-rw-	fff---		----	BPXROOT	
	..		Dir	rw-r--r--	fff---		----	BPXROOT	
	pagent.log		File	rw-r--r--	fff---	--s-	----	PAGENT	
	pagent.pid		File	rw-r--r--	fff---	--s-	----	PAGENT	
	unix.str		Char	rw-rw-rw-	fff---		----	PAGENT	
	TCPIP.Pagent.tm		File	rw-r--r--	fff---	--s-	----	PAGENT	
End									

Example of messages in the /tmp/pagent.log file showing actions and error information:

```
LOG      :005: instantiate_policies: EZZ8771I PAGENT CONFIG POLICY PROCESSING
COMPLETE FOR TCPIP : TTLS

LOG      :005: instantiate_policies: EZD1586I PAGENT HAS INSTALLED ALL LOCAL
POLICIES FOR TCPIP

EVENT    :001: check_main_config_file: Main configuration file updated
EVENT    :001: check_main_config_file: pagentRefresh = NO
EVENT    :005: check_config_files: Thread cleanup completed
EVENT    :001: plfm_update_event_register: Unregistered file
'/tmp/TCPIP.Pagent.tmp', IPC msg type = 9,
EVENT    :001: plfm_update_event_register: Registered file
'/tmp/TCPIP.Pagent.tmp', IPC msg type = 9, t
```

EVENT :001: pdp_register_discipline: Registering discipline : 319 for PEP : 0

Additional information for secure email return codes

The following section provides some helpful links to IBM Web pages with all return codes needed to help with diagnosing ATTLS execution connections.

Note: The URLs were correct at time of publication, but may change over time.

RACF command syntax manual for RACDCERT

https://www.ibm.com/support/knowledgecenter/SSLTBW_2.1.0/com.ibm.zos.v2r1.icha400/cmdsyn.htm

IBM Return codes for AT-TLS return codes.

https://www.ibm.com/support/knowledgecenter/en/SSLTBW_2.1.0/com.ibm.zos.v2r1.gska100/sssl2msg1000885.htm

IBM Return codes for SSL function return codes – GSK modules in syslog RC's.

https://www.ibm.com/support/knowledgecenter/en/SSLTBW_2.1.0/com.ibm.zos.v2r1.gska100/idg27331.htm

IBM return codes for z/OS UNIX System Services

https://www.ibm.com/support/knowledgecenter/en/SSLTBW_2.1.0/com.ibm.zos.v2r1.bpxa800/errno.htm

PA13306/RA0247 – New Date and Time Variable Substitution options

PA13306 provides new Date and Time variables for use in the XOSF insertion feature.

The XOSF insertion facility has been updated to include a variety of date and time variables, to allow the specifying of the date and time the job was processed by XOSF, for use in:

- Job names that appear on the printer GUI
- Email subject line
- Email body text
- Job ticket information
- Batch jobs used for LPR, REXX execution (for example, FTP)

Variable	Description
%PDD	The two-digit day number for the day the job was processed by XOSF. Example: if the document was processed on August 24 th 2020, %PDD would be replaced with "24"
%PDEU	The date in European format, "day/month/year" for the day the job was processed by XOSF. Example: if the document was processed on August 24 th 2020, %PDEU would be replaced with "24/08/2020"
%PDUS	The date in European format, "month/day/year" for the day the job was processed by XOSF. Example: if the document was processed on August 24 th 2020, %PDUS would be replaced with "08/24/2020"
%PHH	The hour, in 12-hour format, for the time the job was processed by XOSF. Example: if the document was processed on 3:15:30 PM, %PHH would be replaced with "3"
%PH24	The hour, in 24-hour format, for the time the job was processed by XOSF. Example: if the document was processed on 3:15:30 PM, %PH24 would be replaced with "15"
%PMER	The meridian, AM/PM, value for the time the job was processed by XOSF. Example: if the document was processed on 3:15:30 PM, %PMER would be replaced with "PM"
%PMIN	The minutes, past the hour, for the time the job was processed by XOSF. Example: if the document was processed on 3:15:30 PM, %PMIN would be replaced with "15"
%PMM	The two-digit month number for the month the job was processed by XOSF. Example: if the document was processed on August 24 th 2020, %PMM would be replaced with "08"

%PMON	The three-letter abbreviation for the month the job was processed by XOSF. Example: if the document was processed on August 24 th 2020, %PMON would be replaced with "Aug"
%PSS	The seconds, past the minute, for the time the job was processed by XOSF. Example: if the document was processed on 3:15:30 PM, %PSS would be replaced with "30"
%PT12	The time, in 12-hour format, for when the job was processed by XOSF. Example: if the document was processed on 10:15:30 PM, %PT12 would be replaced with "10:15:30 PM"
%PT24	The time, in 24-hour format, for when the job was processed by XOSF. Example: if the document was processed on 3:15:30 PM, %PT24 would be replaced with "15:15:30"
%PYY	The two-digit year for the day the job was processed by XOSF. Example: if the document was processed on August 24 th 2020, %PYY would be replaced with "20"
%PYYYY	The four-digit year for the day the job was processed by XOSF. Example: if the document was processed on August 24 th 2020, %PYYYY would be replaced with "2020"

PA13307/RA0268 – New Date and Time Variable Substitution options and Printer Profile Options

PA13307 provides new Date and Time variables for use in the XOSF insertion feature as well as a new Printer Profile Options EMAIL_SUBJECT_MEMBER and EMAIL_FILE_NAME_MEMBER

Chapter 41 "Printer profile parameters" in *Section Five: XPAF Parameter and Keyword Reference* has been updated with this information.

EMAIL_FILE_NAME_MEMBER

Description	Specifies the member, in the PDS defined by the LPRDSN= parameter, that contains the skeleton template that is to be used to define the file name for a document that is attached in an email
Scope	Affects all types of document sent as an email attachment.
Syntax	EMAIL_FILE_NAME_MEMBER=xxxxxxx Where xxxxxxx is the 1 to 8-character name of the member
Default	EMAIL_FILE_NAME_MEMBER=EMFNNORM
Overrides	None.

EMAIL_SUBJECT_MEMBER

Description	Specifies the member, in the PDS defined by the LPRDSN= parameter, that contains the skeleton template that is to be used to define the file name for a document that is attached in an email
Scope	Affects all types of document sent as an email attachment.
Syntax	EMAIL_SUBJECT_MEMBER=xxxxxxx Where xxxxxxx is the 1 to 8-character name of the member
Default	EMAIL_FILE_NAME_MEMBER=EMSUBJECT
Overrides	None.

Variable Substitution Updates

The XOSF insertion facility has been updated to include a variety of date and time variables, to allow the specifying of the date and time the job was processed by XOSF, for use in:

- Job names that appear on the printer GUI
- Email subject line
- Email body text
- Email attachment file name
- Job ticket information
- Batch jobs used for LPR, REXX execution (for example, FTP)

Variable	Description
%%	Inserts a single percent sign. Example: %%CDD will be replaced by %CDD (rather than the create date)
%CDD	The two-digit day number for the day the job was created on the JES Spool. Example: if the document was created on August 24 th 2020, %CDD would be replaced with "24"
%CDEU	The date in European format, "day/month/year" for the day the job was created on the JES Spool. Example: if the document was created on August 24 th 2020, %CDEU would be replaced with "24/08/2020"
%CDUS	The date in European format, "month/day/year" for the day the job was created on the JES Spool. Example: if the document was created on August 24 th 2020, %CDUS would be replaced with "08/24/2020"
%CHH	The hour, in 12-hour format, for the time the job was created on the JES Spool. Example: if the document was created on 3:15:30 PM, %CHH would be

	replaced with "3"
%CH24	The hour, in 24-hour format, for the time the job was created on the JES Spool. Example: if the document was created on 3:15:30 PM, %CH24 would be replaced with "15"
%CMER	The meridian, AM/PM, value for the time the job was created on the JES Spool. Example: if the document was created on 3:15:30 PM, %CMER would be replaced with "PM"
%CMIN	The minutes, past the hour, for the time the job was created on the JES Spool. Example: if the document was created on 3:15:30 PM, %CMIN would be replaced with "15"
%CMM	The two-digit month number for the month the job was created on the JES Spool. Example: if the document was created on August 24 th 2020, %CMM would be replaced with "08"
%CMON	The three-letter abbreviation for the month the job was created on the JES Spool. Example: if the document was created on August 24 th 2020, %CMON would be replaced with "Aug"
%CSS	The seconds, past the minute, for the time the job was created on the JES Spool. Example: if the document was created on 3:15:30 PM, %CSS would be replaced with "30"
%CT12	The time, in 12-hour format, for when the job was created on the JES Spool. Example: if the document was created on 10:15:30 PM, %CT12 would be replaced with "10:15:30 PM"
%CT24	The time, in 24-hour format, for when the job was created on the JES Spool. Example: if the document was created on 3:15:30 PM, %CT24 would be replaced with "15:15:30"
%CYY	The two-digit year for the day the job was created on the JES Spool. Example: if the document was created on August 24 th 2020, %CYY would be replaced with "20"
%CYYYY	The four-digit year for the day the job was created on the JES Spool. Example: if the document was created on August 24 th 2020, %CYYYY would be replaced with "2020"