



XPAF V9R0

Maintenance Bulletin for

Corrective Maintenance QA2342

Important Note:

With the release of XPAF 11.0 on October 31st 2022, support for XPAF 9.0 will be withdrawn on December 15th, 2022.

XPAF 10.0 will be available as a free upgrade for existing XPAF customers until December 31st, 2022.

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 QA2342.

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 9.0 since the base product release.

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

Maintenance package QA2342 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 9.0 SMPPTFIN - QA2342" 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 XPAF90.QA2342.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 XPAF90.QA2342.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 QA2342 SMPPTFIN dataset

```
TSO RECEIVE INDA('hlq.xmit.in')
INMR901I Dataset PKG3.SMPPTFIN.XPAF90.QA2342 from MKEAN on NJEXE01
INMR906A Enter restore parameters or 'DELETE' or 'END' +
da('mkean.xpaf90x.QA2342.smpptfin')
INMR001I Restore successful to dataset
'MKEAN.XPAF90X.QA2342.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=,
*      SMP SRCID=QA2342,
*      EIHLQ=
*
*      * USE WHEN SMPHOLD REQUIRED
*      * SMP SOURCEID
*      * 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 maintenance, 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 2.3 with JES2 Version 2.3 and JES3 Version 2.3
- z/OS Version 2.4 with JES2 Version 2.4, JES3 Version 2.4, and JES3plus 1.0.0
- z/OS Version 2.5 with JES2 Version 2.5, JES3 Version 2.5, and JES3plus 1.1.0

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

If you use this version and subsystem:		Apply these:	
Version	Subsystem	APAR	PTF
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
	JES3plus 1.0.0	no additional APAR required	no additional PTF required
z/OS 2.5	JES2 2.5	no additional APAR required	no additional PTF required
	JES3 2.5	no additional APAR required	no additional PTF required
	JES3plus 1.1.0	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.

PA13292 / QA9052 – Message added

The following message has 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/QA0065 – 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 (<i>name</i>)	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 (<i>name</i>)	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 (<i>name</i>)	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 (<i>name</i>)	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 Examples: TEXTERR(USERTEXTERR)

Updated Email address table example in XPFSAMP(EMAILADR)

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

PA13305 / QA0191 – 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 / QA0191 – 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 ATTLSASF, 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 ALL local IP addresses will be used to enable an encrypted</pre>

		transmission as long as the other options are satisfied like Jobname, RemotePortRange, ETC.
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> <p>RemoteAddr ALL 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 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 TTLSEnabled 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 TTLSEnable</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</p>

	<p>on the mainframe for this feature.</p> <p>Examples:</p> <p>TTLSEnvironmentActionRef Environment-Email</p>
<p>TTLSTLSConnectionActionRef</p> <p>cClientEmail</p>	<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>TTLSTLSConnectionActionRef 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      FORWARDER.MAIL.COMPANY.COM:25  X

```

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/syslog/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-r	fff---		----	BPXROOT	
	..		Dir	rw-rw-rw-t	fff---		----	BPXROOT	
	auth.log		File	rw-rw-rw-r	fff---	--s-	----	BPXROOT	
	debug.log		File	rw-rw-rw-r	fff---	--s-	----	BPXROOT	
	error.log		File	rw-rw-rw-r	fff---	--s-	----	BPXROOT	
	FTPD.log		File	rw-rw-rw-r	fff---	--s-	----	BPXROOT	
	IKED.log		File	rw-rw-rw-r	fff---	--s-	----	BPXROOT	
	TRMD.log		File	rw-rw-rw-r	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
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 00000035
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-rwt	fff---		----	BPXROOT	
	..		Dir	rw-r--r-x	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-rwx	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/QA0247 – 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/QA0268 – 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	The value of the extended JCL MAILFILE= keyword. If the MAILFILE extended JCL keyword is not used the JES Job Name will be used as the file name of the attached document.
Example	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 subject that is used in the e-mail when a document is sent as an e-mail attachment.
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	The JES Job name and Job Number.
Example	EMAIL_SUBJECT_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 US 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"

PA55500 / QA1077 – Support for JES3plus 1.0.0 (New Feature)

AR55500 adds support for Phoenix Software's JES3plus 1.0.0.

After applying the maintenance, you must reassemble the XDI offsets table, XDIOFTAB, with a job that references the JES3plus macro library SJ3PMAC.

Modifying an existing XPAF install to run with JES3plus

If you are switching an existing XPAF system from JES3 to JES3plus, you must first update the SMP/E DDDEFs to reference the JES3plus macro library, SJ3PMAC.

To update the SMP/E DDDEFs, use the following SMPCNTL:

```
//SMPCNTL DD *
SET    BOUNDARY (XPF900T) .
UCLIN .
REP DDDEF(JESMAC)    DATASET(<your.hlq>.SIATMAC) SHR KEEP .
REP DDDEF(USERMTS)   DATASET(<your.hlq>.SJ3PMAC) SHR KEEP .
REP DDDEF(SYSLIB)    CONCAT(USERMTS  MACLIB
                             MODGEN    JESMAC  SMPMTS
                             XPFMAC    AXPFMAC ).

ENDUCL .
SET    BOUNDARY (XPF900D) .
UCLIN .
REP DDDEF(JESMAC)    DATASET(<your.hlq>.SIATMAC) SHR KEEP .
REP DDDEF(USERMTS)   DATASET(<your.hlq>.SJ3PMAC) SHR KEEP .
REP DDDEF(SYSLIB)    CONCAT(USERMTS  MACLIB
                             MODGEN    JESMAC  SMPMTS
                             XPFMAC    ).

ENDUCL.
```

Note: You can use STAGE2(IJOB102) as a starting template for the SMP/E JCL. Delete all the existing SMPCNTL statements and replace them with the above, change all <your.hlq> references to the correct values for your system.

Once the job has completed successfully, reassemble the XDI offsets table by running STAGE2(UMJOB101).

Configuring XPAF for JES3plus during a new install.

If you are installing a new copy of XPAF on your JES3plus system, specify the following parameters in the #GENJES section of your INSTLIB(\$GENINST) member:

```

*
*****
*   THE #GENJES MACRO IS USED TO SPECIFY INFORMATION ABOUT THE JOB   *
*   ENTRY SUBSYSTEM TO THE INSTALLATION PROCESS.                     *
*****
*
#GENJES
JESFSSID=XOSF,          * PRODUCT FUNCTIONAL SUBSYS ID  X
JESMAC=,                * JES SOURCE/MACRO LIBRARY      X
JESPROD=JES3,          * JOB ENTRY SUBSYSTEM NAME  X
JESUMAC=<your.h1q>.SJ3PMAC, * USER JES SYSTEM MACLIB  X
JESLVL=                * OS VERSION
*

```

PA55511/QA1105 – PDF page scaling and shifting

PA55511 provides new printer profile parameters that enable the scaling and shifting of page images in a created PDF document which can be used to ensure that the resulting PDF file is printable on printers that have a non-printable area.

PGXSCALE and PGYSCALE are used to either shrink or enlarge the page.

PGXSHIFT and PGYSHIFT are used to shift the image up or down, or left or right.

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

PGXSCALE

Description	Specifies the percentage that PDF pages should be scaled in the horizontal, x-axis, direction. A value greater than 100 will cause the page to be displayed larger than the original. A value less than 100 will cause pages to display smaller than the original.
Scope	Affects all types of documents converted to PDF.
Syntax	PGXSCALE=nnn.nn Where nnn.nn is the percentage, to two decimal places, in which to shrink or expand the page.
Default	PGXSCALE=100.00
Example	PGXSCALE=98.75
Overrides	None.

Notes See also the PGYSCALE, PGXSHIFT, and PGYSHIFT printer profile parameters. To keep the original aspect ratio, use the same values for PGXSCALE and PGYSCALE

PGYSCALE

Description Specifies the percentage that PDF pages should be scaled in the vertical, y-axis, direction. A value greater than 100 will cause the page to be displayed larger than the original. A value less than 100 will cause pages to display smaller than the original.

Scope Affects all types of documents converted to PDF.

Syntax PGYSCALE=nnn.nn

Where

nnn.nn is the percentage, to two decimal places, in which to shrink or expand the page.

Default PGYSCALE=100.00

Example PGYSCALE=98.75

Overrides None.

Notes See also the PGXSCALE, PGXSHIFT, and PGYSHIFT printer profile parameters. To keep the original aspect ratio, use the same values for PGXSCALE and PGYSCALE

PGXSHIFT

Description Specifies the amount, at 300 units per inch, that PDF pages should be shifted in the horizontal, x-axis, direction. A positive value will cause page images to be shifted to the right. A negative value will cause the page images to be shifted to the left.

Scope Affects all types of documents converted to PDF.

Syntax PGXHIFT={ \pm | - } nnnn

Where

nnnn is the a positive or negative

Default PGXSHIFT=0

Example PGXSHIFT=-50

Overrides None.

Notes See also the PGXSCALE, PGYSCALE, and PGYSHIFT printer profile parameters. If the page has not been scaled, then the units specified on the PGXSHIFT parameter will be at 300 units per inch.

PGYSHIFT

Description	Specifies the amount, at 300 units per inch, that PDF pages should be shifted in the vertical, y-axis, direction. A positive value will cause page images to be shifted up. A negative value will cause the page images to be shifted down.
Scope	Affects all types of documents converted to PDF.
Syntax	PGYSHIFT={ \pm - } nnnn Where nnnn is the a positive or negative
Default	PGYSHIFT=0
Example	PGYSHIFT=50
Overrides	None.
Notes	See also the PGXSCALE, PGYSCALE, and PGXSHIFT printer profile parameters. If the page has not been scaled, then the units specified on the PGYSHIFT parameter will be at 300 units per inch.

PA55482 / QA1133 – LCDS to PostScript Transform (New Feature)

PA55482 adds a new feature, the LCDS to PostScript transform enabling LCDS (DJDE and Metacode) documents to be transformed to PostScript for printing on a PostScript capable device.

The LCDS to PostScript Transform is license string enabled and requires the purchase of the XPAF_PS feature. Contact the XPAF Order desk at XPAF@xerox.com for order information.

Additional information can be found in Technical Bulletin TB1146.

PA55514/QA1182 – High Light Color printer emulation

PA55514 provides new printer profile parameters that enable a full color printer, such as the Xerox Baltoro, to emulate a Xerox High Light Color printer's "SUBstitute INK" feature that would enable documents using one color to print using a different high light color toner that is loaded into the HLC printer. For example, an LCDS job may reference the color BLUE, but the job gets printed using GREEN, by loading green toner into the printer and issuing the "SUB INK GREEN" command. When the job gets sent to a full color printer, the ink prints using the BLUE ink referenced in the job.

By using either the HLC_OVERRIDE printer profile parameter, or the HLCOVERR XJCFSIM table option, a single

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

HLC_OVERRIDE

Description	Specifies the process color that replaces every ink reference in a document that is converted to PostScript.
--------------------	--

Scope Affects all types of documents converted to PostScript.

Syntax HLC_OVERRIDE=cccc/mmmm/yyyy/kkkk

Where

cccc is a value in the range 0 to 1 indicating the amount of cyan to use.

mmmm is a value in the range 0 to 1 indicating the amount of magenta to use.

yyyy is a value in the range 0 to 1 indicating the amount of yellow to use.

kkkk is a value in the range 0 to 1 indicating the amount of black to use.

Each value can be either 1, 0, or a real number between 0 and 1 specified as three digits preceded by a decimal point (the leading zero is not required)

Default None. The ink color specified in the original input data is used

Examples HLC_Override=.595/.219/.219/0 Blue (from Inklist)

HLC_Override=1/0/1/0 Green (from Inklist)

Overrides the HLCOVERR XJCFSIM table option.

HLCOVERR XJCFSIM Table Option

Chapter 16 “Enabling XJCF simulation processing” in *Section Two: Installing and Customizing XPAF* has been updated to include HLCOVERR as a non-DJDE keywords that can be used in the FORMS, CLASS, DEST and WRITER tables.

Refer to the HLC_OVERRIDE parameter for a description on how to code the HLCOVERR values.

Example:

```
*
* PF1B = Highlight Color Override to Blue
PF1B    @XJCFSIM FORMS, 'XLPRQNAM=STDPF1,LINECT=0, ',
        'HLCOVERR=1/.627/0/0 '
        BLUE
*
* PF1G = Highlight Color Override to Green
PF1G    @XJCFSIM FORMS, 'XLPRQNAM=STDPF1,LINECT=0,HLCOVERR=1/0/1/0 '
*
```

PA55504 / PA1238 – AFP to PostScript Transform (New Feature)

PA55504 adds a new feature, the AFP to PostScript transform enabling IBM Advanced Function Printing documents to be transformed to PostScript for printing on a PostScript capable device.

The AFP to PostScript Transform is license string enabled and requires the purchase of the XPAF_PS feature. Contact the XPAF Order desk at XPAF@xerox.com for order information.

Additional information can be found in Technical Bulletin TB1237.

PA13315 / QA1280 – LCDS Splitting New Trigger file example

Chapter 38 "Using XPAF extended features, Splitting LCDS documents converted to PDF or PCL" in *Section Four: Printing Documents with XPAF* has been updated with the following information:

A new trigger file example has been added and can be found in XPFSAMP(TRIGGERI).

Using the Trigger File

...

The member name used is the same as the job name being processed or is specified by the **XSPLTMEM** XPAF extended JCL keyword.

The following message has been added:

XCD4173I

XCD4173I MEMBER *name* WAS FOUND IN THE LCDS TRIGGER LIBRARY. SPLITTING DOCUMENT PROCESS STARTS

Explanation: The LCDS Splitting Trigger file, *name*, has been found and will be used to split the document.

System response: None. This message is for informational purposes only

User action: None.

PA13320 / QA2027 – New Messages

The following messages have been added:

XPS4174W

XPS4174W TRAY NUMBER MISSING FROM RECORD *recnum* IN THE POSTSCRIPT MEDIA LIST. RECORD STARTS WITH *text*

Explanation: A entry in the PostScript Media List Table does not contain a valid tray number.

Where: *recnum* is the logical record number in the table that is missing a tray number
text contains the first 20 characters of the logical record at fault.

System response: The record in error is ignored

User action: Correct the PostScript Media List and resubmit the job.

XPS4175W MAXIMUM SIZE OF THE POSTSCRIPT MEDIA LIST EXCEEDED WHEN PROCESSING RECORD *recnum* IN THE POSTSCRIPT MEDIA LIST. RECORD STARTS WITH *text*

Explanation: A entry in the PostScript Media List Table does not contain a valid tray number.

Where: *recnum* is the logical record number in the table that causes the table to exceed the maximum size.

text contains the first 20 characters of the logical record at fault.

System response: The record in error and all following records are ignored

User action: Correct the PostScript Media List and resubmit the job. If all records in the PS Media list table are required, contact Xerox technical support,

PA13223/QA2062 – LCDS Ink Substitution Feature

To emulate the replacing of the color toner on a legacy HLC printer, PA13223 provides a new XJCF Simulation table parameter, and @XDIB field, to change the ink names referenced in LCDS documents.

To emulate the replacing of the color toner on a legacy HLC printer, XPAF has been enhanced to allow Inks used in an LCDS document to be dynamically changed at conversion time.

This feature can be used when converting LCDS documents to PCL, PDF or PostScript. Its primary purpose is to allow for the same results on a full color printer that are achieved on a Highlight Color (Black, plus one color) printer, when the color called for by the job is overridden by a different color toner loaded onto the HLC printer.

For example, a job has been defined with a .FRM that calls for various shades of "BLUE" ink. However, when the job is printed on an HLC printer, GREEN toner is loaded into the printer and the job prints the document using various shades of green rather than blue.

Creating an Ink Substitution Table Library

Ink Substitution tables are stored as members in a Partitioned Dataset (PDS or PDS/E) library that is referred to in the XOSF STC procedure with a DD name of XINKSUBT

Create a new dataset with a record format of Fixed Block (FB) and a Record Length of 80 bytes.

Add a new DD card to the XOSF STC JCL, that references the above PDS, called XINKSUBT:

```
//XINKSUBT DD DISP=SHR,DSN=your.hlg.XINKSUBT
```

Creating an Ink Substitution Member

Edit a member in the newly created Ink Substitution Table. To help identify what the table achieves, use a member name that represents the toner change being emulated. For example, if you are creating a table to represent changing a job with blue inks, but is printed with green toner, you could use a member name of "BLU2GRN".

Use the following conventions when creating the table:

- Comments can be specified by placing an '*', in column 1
- Ink names are a maximum of 20 characters long
- The ink name to be changed is specified in columns 1-20
- An equal sign MUST appear in column 21
- The ink name to be used instead of the original name is specified in columns 22-42

An example Ink Substitution Table has been provided in XPFSAMP(INKSUBBG):

```

EDIT      your.hlg.XINKSUBT(BLU2GRN) - 01.04
Command ==>
***** ***** Top of Data *****
000001 *  LCDS Ink Substitution Table
000002 *
000003 *      Old ink name must start in column 1
000004 *      an '=' must be in column 21
000005 *      New ink name must start in column 22
000006 *      '*' in column 1 denotes a comment.
000007 *      Ink names can be a maximum of 20 characters long
000008 *
000009 *          1          2 2          3
000010 *2..5....0....5....0=2..5....0....5....0....5....0....
000011 *
000012 BLUE                      =GREEN
000013 B6                        =G6
000014 B100                      =G100
000015 BLUISH WHITE              =GREENISH WHITE
000016 EXTREMELY PALE BLUE =VERY PALE GREEN
***** ***** Bottom of Data *****

```

Specifying the Ink Substitution Table

The Ink Substitution Table member name can be specified in one of two ways:

Via the INKSUBM parameter in the XJCFSIM table

Using an XPAF User exit to populating the XDIB field, XDIBISM.

XJCFSIM table example

The following example shows how to specify an Ink Substitution member in the XJCFSIM table.

Jobs the specify JES FROM 'B2R' will use the BLU2RED member in the library pointed to by the INKSUBT DD card in the XOSF PROC.

Jobs specifying the JES FORM 'STDG'

B2R	@XJCFSIM FORMS, 'XLPRQNAM=STDNOH, INKSUBM=BLU2RED, '
STDG	@XJCFSIM FORMS, 'XLPRQNAM=STDNOH, INKSUBM=BLU2GRN, '

Displaying additional informational log messages

To assist with determining which inks are being used in Xerox forms (.FRMs) intensive logging informational messages have been added.

When a form is converted, and intensive logging is enabled the inks defined in the form will be listed via message XCD4178I:

```
XCD4178I FORM PPLM04-C USES INK: ..BLACK
XCD4178I FORM PPLM04-C USES INK: DFAULT.DFAULT.BLACK
XCD4178I FORM PPLM04-C USES INK: DFAULT.DFAULT.BLUE
XCD4178I FORM PPLM04-C USES INK: DFAULT.DFAULT.BLUISH WHITE
```

In addition, if an ink substitution table is in effect, message XCD4177I will be issued for each ink that is substituted:

```
XCD4177I FORM INK "BLUE" HAS BEEN SUBSTITUTED FOR NEW INK "GREEN"
XCD4177I FORM INK "BLUISH WHITE" HAS BEEN SUBSTITUTED FOR NEW INK
"GREENISH WHITE"
```

The following new messages have been added:

XCD417AI

XCD417AI MEMBER *member_name* WAS FOUND IN THE INK SUBSTITUTION LIBRARY AND WILL BE USED.

Explanation: XOSF found the specified member, *member_name*, in the Ink Substitution Table Library and will use that member for substituting Ink names during the conversion process.

System Response: None.

User Action: None.

XCD417BW

XCD417BW INVALID INK SUBSTITUTION TABLE ENTRY FOUND ON RECORD *record_number* OF *member* (*info*).

Explanation: XOSF encountered an invalid entry on the indicated record of the specified member. The reason for the error is displayed in parenthesis.

System Response: The invalid entry is ignored. Processing continues.

User Action: Check that the record indicated by the *record_number* in the reported member, *member*, and correct the error.

XCD4176W

XCD4157W MEMBER *member_name* WAS NOT FOUND IN THE INK SUBSTITUTION TABLE LIBRARY (XINKSUBT DD).

Explanation: XOSF was unable to open the Ink Substitution Table, member, in the PDS or PDS/E referenced by the XINKSUBT DD card in the XOSF started task procedure.

System Response: Ink substitution will not be performed for this job. Processing continues.

User Action: Correct and re-enter the member name used for the job, or create an ink substitution table with the specified member name.

XCD4177I

XCD4177I source INK "ink1" HAS BEEN SUBSTITUTED FOR NEW INK "ink2"

Explanation: XOSF has found an ink, ink1, in the type of resource identified by *source* the ink has been substituted for the new ink, *ink2*

System Response: The new ink will be used.

User Action: None.

XCD4178I

XCD4178I FORM *form_name* USES INK: *ink_name*.

Explanation: The LCDS form, *form_name*, contains a reference to ink, *ink_name* .

System Response: None.

User Action: This message is for informational purposes and identifies the inks used by an LCDS form to aid in the creation of an ink substitution table.

XCD4179W

XCD4179W UNABLE TO OPEN THE INK SUBSTITUTION TABLE LIBRARY. INK SUBSTITUTION WILL NOT OCCUR.

Explanation: Whilst converting an LCDS job, XPSF was unable to open the Ink Substitution Table Library.

System Response: Processing continues without ink substitution.

User Action: Examine the XOSFLOG and look for additional messages, preceding XCD4179W, that explain why the ink substitution library could not be opened and correct the problem.

PA13337/QA2293 – Printer dependent Color Conversion Tables

To allow for adjustments in differences in colors between various different color printers, notably between inkjet and laser technologies, XOSF has been enhanced to enable different color conversion tables to be used for different printers.

This feature is enabled by first creating the new color conversion table, and then loading it into the TABLELIB via XOAF, specifying the new table suffix. The XOAF ISPF panels, and the BATCH XOAF command have been updated to allow the, optional, specification of output suffix.

Once the new table has been created and loaded, it can be selected by using the COLOR_NAME_SUFFIX= printer profile parameter.

Updated XOAF command

The “Maintaining the Color Conversion Table” section of the XPAF User Documentation has been updated as follows:

To load the color conversion table, enter 6 on the Manage Tables menu OPTION line and press ENTER. This panel appears:

Xerox Output Administrative Facility Maintain the Color Conversion Table	
COMMAND ==>	
INPUT	
Dataset Name:	
Member:	
OUTPUT	
Dataset Name:	
Table Suffix:	(Optional)

Field	Action
OUTPUT Table Suffix	<ul style="list-style-type: none"> Enter the 1-8 character suffix name for the color conversion table. Leave this name blank, to load the default color conversion table

TSO/Batch command

You can use this TSO/batch command as an alternative to using the Maintain the Color Conversion Table option:

```
LOAD INKS('input-dataset-name(member-name)')
```

```
[TO]('output-dataset-name(table-suffix)')
```

New Printer Profile Parameter

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

COLOR_TABLE_NAME

Description	Specifies the 1-8 character table name suffix to be used for the color conversion table when converting an L
Scope	Color LCDS documents to PCL, PDF, or PostScript.
Syntax	COLOR_TABLE_NAME= <i>name</i> Where <i>name</i> is the 1-8 character name to be used as a suffix for the color conversion table
Default	The default color conversion table will be used
Example	COLOR_TABLE_NAME=COLRCMYK
Overrides	None.