XMITIP – Installation and Customization Guide

SMTP (E-Mail) from z/OS to the World

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Overview

This document is intended to assist with the installation of the XMITIP application. This application is documented in a companion document, the XMITIP Users Reference Guide that is also distributed with the XMITIP application.

Be aware that this document does not tell you how to install and configure SMTP on your z/OS system. For that you will need to see the IBM documentation. If you are not using the host based SMTP server and still want to use this package you can by using the provided UDSMTP program (documented below).

XMITIP is an easy to use TSO command designed to send messages and/or file attachment(s) as electronic mail using the Simple Mail Transport Protocol (SMTP) on z/OS. The command may be used in native TSO or using the Batch Terminal Monitor Program (Batch TMP) for use within regularly scheduled production jobs. A simple to use ISPF interface is also provided that can be used to dynamically generate the XMITIP command for immediate execution under ISPF. An option is also available to generate a complete batch job with the Batch TMP JCL and the XMITIP command that can be submitted or copied into a batch job's JCL.

Please use this document as a guide in the installation of XMITIP. As with any product installation your installation may require special tailoring.

Each of the REXX Execs included with the XMITIP package is reasonably well commented to help you understand the logic.

The XMITIP execs may be compiled using the IBM REXX Compiler, however the ISPF interface is not designed to be compiled (there are restrictions with ISPF and the Compiler that still need to be resolved – by IBM).

As you install, customize, and use the XMITIP package you may have suggestions to improve the application, the documentation, and possibly a correction or two. Please forward them to the author (e-mail lbdyck@gmail.com***).***

NOTE: If you are using the Text to PDF conversion (**TXT2PDF**) routines then you have **Leland Lucius** to thank. He has developed the PDF conversion routine along with the mime conversion routine. The TXT2PDF package is distributed separately from XMITIP as it has grown into an excellent stand alone package.

Change History for Installation

This section will contain a subset of the change history as found in the installation dataset member CHANGES that pertains to the installation and customization.

- March 17, 2016

  - Add new mailfmt configurationkeyword to enable setting the default mail text format to HTML.

  - Add new starttls configuration keyword to enable TLS supported e-mail deliver.

- July 6, 2010

  - Numerous enhancements since the previous comments here. See the CHANGES member of the installation PDS for specifics.

  - XMITIP changed with 10.07 to work with the new z/OS 1.11 CSSMTP server which adheres more closely to the RFC specifications than most other servers (it does not like extra blanks in the RFC mail header records).

- August 25, 2008

  - XMITIPCU enhanced

  - Load modules – use which ever works best for you
    - ZIP   - load module from 09/2000
    - ZIPO   - load module from 01/2000   (Rename to ZIP if you like this one)

- January 02, 2008

  - Change versioning to yy.mm (year.month) to give the user a better idea of when the version they are using was released.

  - Allow FROM and REPLYTO in an AddressFile

  - XMITIPCU has seen a major restructure (thanks Hartmut) and has improved NLS capabilities. Please see the code to fully understand.

  - XMIT#IVP has been added to the distribution PDS (thanks Hartmut). This is an ISPF Edit Macro that will simplify the updates to the IVPJOB

  - See the CHANGES member of the installation PDS for more information on updates.

- October 15, 2007

  - XMITIP has new symbolic &iweek, or &iweek-n, which returns the two digit week number along with &iweeke and &iweekr..

- Allow abbreviations for the following
  FILE   - FI
  FROM   - FR
  FORMAT - FORM
  PRIORITY - PR
  REPLYTO - REP
  SUBJECT - SUB
- - Add new options for NLS codepage_default   encoding_default
- - Add symbolic &ctime hhmmss (compact current time)
- - fix sending all pds members so member name is part of the file name

- SETSDSFK - enclose extract dsn (ldsn) in quotes (') to better work when PROFILE NOPREFIX is used and userid <> prefix and use zdel as delimiter (thx Hartmut)

- XMITIPCU Add new options for NLS codepage_default encoding_default

  - Add symbolic &ctime hhmmss (compact current time)
  - Add new option send_from_check check from address in an external routine i.e. to bypass spam filter

- XMITIPID - Add retry on LDAP query (3 times if needed)

- XMITIPMU – some additional quotes.

- XMITIPTR - Danish addition thx to Frank Allan Rasmussen

- XMITZEX1 - rewrite the from address – see the documentation in the code on how to use this (thx Hartmut)

- XMITZGEN - Encode data to Quoted-Printable for use with NLS. See the comments in the code on how to utilize - (thx Hartmut)

- XMITFDAT – New Date routine used for &week

- Plus – see the $CHANGES member of the installation PDS

- May 3, 2007

  - XMITIP has new end user available symbolic off &job8 (for a 8 character blank padded jobname) and &jobinfo.

  - XMITIPCU updated to add new variable Mime8Bit which when set (to 1) changes the mime header encoding from 7 bit to 8 bit.

  - XMITIPCU rearranged the values returned to place antispoof at the end of the list.

  - IVPJOB – updated to support new symbolics

- April 19, 2007

- o XMITIPCU updated to move the custsym setting variable to the end of the routine.

- o IVPJOB – updated to clearly show the use of the &z symbolic.

- February 2, 2007

  - o XMITIPZP updated to support SLIKZIP with members of PDS data sets.

- January 18, 2007

  - o Updated TZONE_NM routine to correctly handle the start and end of daylight saving time including the 2am time. Improved comments for future customization.

  - o Added a new XMITIPCU value for locally defined symbolic to be used by the XMITIP user. The symbolic is CUSTSYM.

- January 12, 2007

  - o Updated the TZONE_NM routine to correct a bug in determining the start and end date for daylight savings time – thanks to Ulrich.

- December 6, 2006

  - o Update to move setting of ZIP type earlier in XMITIPCU

  - o Replaced the daylight savings time timezone routine with code supplied by Yvon Roy which supports the new start and end dates and is more flexible.

  - o Added new symbolic to XMITIP for symbolic usage that allows concatenation of variables (&Z)

- July 14, 2006

  - o Updated XMITIPCU so that the week day generated for the antispoof block will not be converted to upper case

  - o Updated XMITIPML to use the correct HLQ when allocating the temporary work data set.

- May 23, 1006

  - o Updated STATJCL to match what is distributed in the distribution PDS.

- January 19, 2006

  - o Update description for DISCLAIM keyword to indicate that this keyword references a file that contains what some call a confidentially statement.

- o Update to TXT2RTF to correct a bug with ASA carriage control when using print no-space (+) CC when the no-space record is shorter than the previous record.

- o Enhance DISCLAIM inclusion into the message text when message text is in HTML format to use smaller font and Navy color.

- May 26, 2005

  - o Added new symbolic of &JOBID and updated ISPF Panels to include this new symbolic.

  - o Several other changes to correct minor errors including making the zipwork data set name more unique.

- March 5, 2005

  - o Convert from using Microsoft Office and Adobe Acrobat to using OpenOffice.Org 2.0 (beta) to create both .doc and .pdf

- Version 5.28   January 24, 2005

  - o XMITIPSP correction for the REPORT DD usage

- Version 5.26   October 12, 2004

  - o RECEIVE exec enhanced to correct the device on receive

- Version 5.24   July 28, 2004

  - o XMITIPTR enhanced with Italian language and additional changes

  - o New NOSPOOF keyword in XMITIP (enabled via new disable_antispoof variable in XMITIPCU)

  - o XMITIP code changed for the date format in the antispoof message and to enable masking of the userid in the antispoof message.

  - o XMITIP updated to add userid to the X-Mailer SMTP header tag

  - o XMITIPCU Redesigned the Antispoof generation code to allow masking of userid and jobname.

  - o XMITIPCU - Paper size and margins are now based upon the value of METRIC

  - o XMITIPCU new options:

    - ▪ Dateformat option I for ISO

    - ▪ Special_Chars to be used in a future update for better NLS support. Current usage is for the back slash character only.

- - Send_From is now an option to set the sender field to the From address (if one is specified)

      - This option will help with some mail servers that reject mail if the Sender and the From are different.

- Version 5.22   July 07, 2004

    o Added new RC0 keyword to XMITIP to force a return code of 0 in the event that a file attachment data set is zero

- Version 5.20   June 11, 2004

    o Allow multiple domains to be in the Restrict_Domain variable.

    o Add new variable to XMITIPCU – Restrict_Hlq – to be used in XMITIP to restrict the usage of selected high level qualifiers.

    o Add new variable to XMITIPCU – Default_Lang – to be used in XMITIP for the default language. This is easier than setting the default in XMITIPTR.

    o New installation PDS members OLDOS and OLDOSE to be used if running an older ISPF (prior to OS/390 2.10) that does not support the VER DSNAMEQ.

- Version 5.18   May 19, 2004

    o Add new variable to XMITIPCU – SYSTCPD – used to define the TCP/IP SYSTCPD data set if the default is not used.

    o Move the antispoof date setting from XMITIPCU to XMITIP so that NLS date translation may occur.

- Version 5.14   April 30, 2004

    o Renamed XMITIPDT to XMITIPTR as it will be generalized in the future

    o Added new keyword of LANG to XMITIP to specify the language to be used for the XMITIPTR translation. Currently only used for the date translations.

- Version 5.10   April 5, 2004

    o Update to XMITIPCU to add new VALIDFORMAT option.

    o Update XMITIP to add new LOG option

      - If enabled requires the LOGIT package be downloaded (from the same location as XMITIP) and installed.

    o Update to XMITIPID to use mail= for the mail address query

- o Update SMTPSTAT to check status of sending e-mail addresses using XMITIPID for the Summary Information section of the report

- Version 5.08   March 22, 2004

  - o New site customizable routine XMITIPDT to be customized if the DateFormat is E to include the National Language names of the days of the week and the months.

  - o Add new DateFormat option in XMITIPCU to specify a date format of U for the United States format (e.g. month day, year) or European (e.g. day month year).

  - o Add new From2Rep option to XMITIPCU. If 1 then if there is no REPYTO keyword then the ReplyTo will be set to the value of FROM. If 0 then REPLYTO must be specified to be generated.

  - o Update usage of From_Default to allow option of * and add documentation on from_default to this document.

- Version 5.06   March 11, 2004

  - o Move JOB name for the AntiSpoof from XMITIP to XMITIPCU where the rest of the AntiSpoof is set.

  - o Redesigned the ISPF panel to be more intuitive

  - o Added new RESPOND option to XMITIP

  - o Updated XMITIPCU with new options FAXCHECK, TPAGEEND and TPAGELEN

  - o If FROM specified and no REPLYTO then REPLYTO set to FROM value

  - o Cleaned up LDAP processing (call to XMITIPID)

- Version 5.04   February 5,2004

  - o Updated TXT2RTF with a local customization variable for the font name to be used in the rich text format document.

  - o Removed unused FONT variable from XMITIPCU

- Version 5.00   January 19, 2004

  - o Corrected the code that caused a "No From" error message is the FROMREQ is set to an address and ISPFFROM is set to 1.

  - o Correct FROMREQ so that if it is an address it will now generate a RCPT header (bcc) as it should have done when first implemented.

- Version 4.98   December 9, 2004

- New Restrict_Domain option in XMITIPCU to restrict all outgoing e-mails to the specified domain.

- Version 4.96   November 11, 2003

  - New MAILHFSE exec. An ISPF Edit command to be used like EDITMAIL but to e-mail the current HFS file being edited under ISHELL.

- Version 4.88   September 23,2003

  - New XMITIPSP exec to Split a data set based on lines or pages per split or separate a report by key value.

  - Revised XMITIP to call TXT2RTF (a new exec) for the RTF conversion of the input files.

  - Updated SMTPSTAT to report all local e-mails and all remote e-mails.

  - Updated SMTPSTAT to call SORT to sort the local and remote user lists.

  - Updated STATJCL with updated JCL for SMTPSTAT

  - Added ReadOnly (RO) option for FORMAT RTF. Note that the user can still Microsoft Word Tools->UnProtect Document.

  - Added support for FORMAT ICAL to create an iCalendar file attachment that can be opened by many mail clients to add a calendar entry to the users calendar.

  - Added support for the FOLLOWUP statement to create an iCalendar TODO attachment that when opened by many mail clients will add a TODO item to the users calendar.

- Version 4.84   August 22, 2003

  - New SMTP Server Exit to filter incoming e-mail.

    - Member SMTPEXIT, EXITJCL, and USERMOD in the Installation PDS

  - Updated SMTPSTAT to report the stats for mail rejected by the SMTPEXIT

- Version 4.80   June 19, 2003

  - New option zipcont for determining the continuation for the zip prompt popup.

- Version 4.78   May 2, 2003

  - New option for empty_opt to cause a return code of zero

- o Updated ISPF dialog to dynamically add a //STEPLIB if theT2PINIT is in the ISPLLIB concatenation of libraries.

- Version 4.74   April 1, 2003

  - o New RFC_MaxRecLen customization variable

  - o Additional comments in XMITIPCU to simplify/clarify local customization

- Version 4.72   March 28, 2003

  - o Redo TESTCU to display the variables as they are defined in XMITIPCU.

  - o Remove b64_load variable from XMITIPCU and all other Exec where it was used as it is obsolete since the conversion to using ENCODE64.

  - o Minor change to the variable definitions table of this document.

- Version 4.70   March 14, 2003

  - o New CONDCODE REXX Exec (thanks to Ken Tomiak and Barry Gilder) used by XMITIP for &RC and &RCA symbolic processing.

  - o New PAGE keyword for sending e-mail to pager. See the Usage Notes section below for some guidance on using PAGE.

- Version 4.66   January 14, 2003

  - o New XMITIPCU customization option of FROMREQ.

  - o Support for new user Configuration file or DD which can contain XMITIP keywords and options.

  - o Added IVP step IVPN to verify and demonstrate CONFIGDD process

- Version 4.62   October 17, 2002

  - o Add new feedback option. New feedback_addr value in XMITIPCU

  - o Added new Generalized Feedback facility using GENRFDBK as the primary exec which calls GENRFDBE as the ISPF Edit macro.

  - o Note that NOSTRIP only works if SMTP_SECURE is set in XMITIPCU as this causes XMITIP to send the e-mail using TSO TRANSMIT (see PN69319 in the installation PDS)

- Version 4.60   September 17, 2002

  - o Separate out the TXT2PDF package elements, which now include a full ISPF interface. The TXT2PDF package must be installed separately from XMITIP but should be installed using the same ISPF, REXX, and Load libraries as XMITIP for easy use. All TXT2PDF elements have been removed from the XMITIP package.

- o Updated XMITIP to support the PDF encryption option to provide a read only PDF file.

- o Add message summary option to XMITIPCU used by XMITIP.

- o Add site disclaimer option to XMITIPCU used by XMITIP.

- o Removed the XMITIPTR exec as it was only used by TXT2PDF and is now part of that package as TXT2PDFX.

- o Removed the PDFXLIB exec from the installation pds which was used to create a customized XMITIPTR and moved it into the TXT2PDF package to aid in the creation of the TXT2PDFX exec translation table.

- Version 4.58   August 05, 2002

  - o ENCODE64 updated. ENCODE85 removed.

  - o IVPJOB   added step IVPK to validate txt2pdf with watermark

- Version 4.57   July 31, 2002 (beta)

  - o IMPORTANT: The ENCODE64 load module has been updated from the updated source. This *MUST* be copied into your STEPLIB or Linklist library.

  - o New option in xmitipcu for default_hlq for use mostly with UDSMTP when called by a batch job or started task.

  - o Support addresses where the name includes blanks

    - "group one"@host.com

- Version 4.56   June 25, 2002

  - o Rollup of Beta 4.55 level changes

  - o Minor updates in IVPJOB

  - o Support name-in-archive (nia) for InfoZip using new zip_hlq variable in XMITIPCU appended to the front of the specified nia.

  - o Minor updates to numerous panels for color coordination

  - o Move empty dataset attach message out of dataset attachment and into message area of the e-mail

  - o Verify AddressFile and AddressFileDD address lists to report errors and exit if no valid addresses are specified.

- Version 4.54   May 13, 2002

  - o IVPJOB changes

- New feature is the PDF Indexing and **replacements** for the XMITB64 conversion program with **new** ENCODE64 and ENCODE65 programs. This includes a complete replacement for the XMITIPPD which now calls TXT2PDF. Thanks to Leland Lucius for this update.

- Support for Data21's ZIP390 program which is PKZIP compatible.

- Option to use the free UDSMTP program to directly deliver the e-mail to an external SMTP Server. Thanks to John Ellis for this interface.

- New feature to send all or masked members of a PDS thanks to John Ellis.

- Include in the load library the InfoZip ZIP program and the UDSMTP program.

- Updates to XMITIPCU for UDSMTP support (3 new variables) and new default lpi (deflpi) option.

- Rearrange the variables in XMITIPCU into alpha order.

- Add new exec to send bulk mail – XMITBULK.

- Enhanced the SMTPSTAT utility to better report on the SMTP statistics as well as an optional CSV file with daily information.

- Version 4.51   February 6, 2002

    - Minor bug fixes and additional steps in the IVPJOB

- Version 4.50   January 22, 2002

    - Major redesign of the ISPF Interface

    - Now using ISPF message member XMITI00 instead of the ISPF Edit message ISRZ00. An ISPF message dataset is now provided along with the REXX library and ISPF Panel library.

    - The IVP job has been updated to change **%xmitip** to just **xmitip** to allow for testing of a compiled **xmitip**.

    - XMITIP may now be compiled using the REXX Compiler. Note that this applies only to the batch REXX programs as the ISPF-REXX Compiler handshake is still not working well.

    - Sample disclaimers are now provided in the installation dataset member SAMPDISC.

    - Moved the HTML conversion out of XMITIP to an external REXX program called **TXT2HTML** which is provided in this distribution for use outside of XMITIP.

    - Updated TESTXMIT REXX program to reference the Message library.

o New XMITIPCU variables: margval and descopt.

o Support for PKZIP/MVS Version 5.

o Enhanced reporting in SMTPSTAT.

o If using the SDSFPAGE package then you need to upgrade to SDSFPAGE Version 1.21 to work with this release of XMITIP.

Receiving, Uploading and Installing XMITIP

XMITIP is distributed in compressed format using InfoZip, a freeware file compression utility that is compatible with PKZIP and WinZIP. Within the zip file is a file in TSO Transmit format (xmitip.xmit), containing the installation partitioned data set.

If you plan to allow PDF creation by the XMITIP user then you must also install the TXT2PDF package. This package (in zip format) is no longer included with the XMITIP distribution and does require its own installation steps. Note that the XMITIP IVP job will encounter problems if the TXT2PDF package is not installed as several of the IVP steps test PDF file conversion. The TXT2PDF package can be downloaded from http://www.lbdsoftware.com if you need it.

Upon receiving a copy of the distribution file perform the following steps:

1. Unzip the file.
2. Read the latest version of this document included with the distribution.
3. Connect to your z/OS system and upload the xmitip.xmit file into a data set with RECFM=FB and LRECL=80 characteristics. See the FTP example below.
4. Logon to your z/OS system and get into ISPF.
5. From ISPF option 6 enter
   RECEIVE INDS(*upload.dsname*)
   or
   RECEIVE INDS('*hlq.upload.dsname*')
   to expand the distribution file back into a partitioned data set. For the prompt enter the data set name you want the file restored to. This dataset is referred to as the Installation PDS (or just install.pds).
6. Then execute, again from ISPF option 6, the command:
   EX *install.pds*(RECEIVE)
   or
   EX '*hlq.instlal.pds*(RECEIVE)'
   Follow the prompt to restore the various distribution libraries.
7. You will automatically be placed in browse on some of the members of the installation pds, including the $CHANGES member which contains a change history for this package.
8. Update the three customization REXX execs documented below in the Customization section.
9. If you are using any OS prior to OS/390 2.10 then you should execute the OLDOS member of the installation PDS. This will update all of the XMITIP ISPF Panels to change the VER DSNAMEQ back to VER DSNAME.
10. Review the IEFDB401 member of the installation PDS to determine if you want to install the user exit to notify TSO users when they receive e-mail from the SMTP server.
11. Edit the IVPADDR member in the installation PDS and insert your internet e-mail address.
12. Edit the IVPJOB member in the installation PDS to make the documented changes (e.g. job card, hlq, remove ZIP steps if you don't have a ZIP product, etc.)
13. Edit the TMSGQ member in the installation PDS to change the e-mail address.
14. Run the IVPJOB and review the results.
15. Edit the TESTXMIT member of the installation PDS and then copy into your private SYSPROC or SYSEXEC library so that you can test the XMITIP ISPF interface and application further.

16. Test the XMITIP ISPF application using the TESTXMIT interface. Try all the various options so that you are familiar with them, as one, or more, of your users, will ask you.
17. Copy the XMITIP distribution libraries (EXEC, LOAD, MSGS, and PANELS) into production libraries in your standard TSO/ISPF concatenation. If you prefer you can copy the TESTXMIT into your production SYSPROC or SYSEXEC library under a different name and let your users use it to access the dialog.
    a. When copying the LOAD library be selective and only copy the modules that you will be using (e.g. if you are not using the UDSMTP then don't copy it)
18. Review and Update the XMITIP User's Reference Guide document to customize it for your installation and users.

FTP Upload Example

```
D:\share\tools\xmitip>ftp msys
Connected to msys.crdc.kp.org.
220-FTPD1 IBM FTP CS V2R10 at CDCM.NCAL.KAIPERM.ORG, 16:53:15 on 2001-09-07.
220 Connection will close if idle for more than 5 minutes.
User (msys.crdc.kp.org:(none)): syslbd
331 Send password please.
Password:
230 SYSLBD is logged on.  Working directory is "SYSLBD.".
ftp> quote site recfm=fb lrecl=80
200-BLOCKSIZE must be a multiple of LRECL for RECFM FB
200-BLOCKSIZE being set to 27600
200 SITE command was accepted
ftp> bin
200 Representation type is Image
ftp> put xmitip.xmit
200 Port request OK.
125 Storing data set SYSLBD.XMITIP.XMIT
250 Transfer completed successfully.
ftp: 1522000 bytes sent in 13.08Seconds 116.37Kbytes/sec.
ftp> quit
221 Quit command received. Goodbye
D:\share\tools\xmitip>
```

Usage Notes

There are several things to understand when installing and using XMITIP.

1. The ISPF dialog runs under an ISPF APPLID of XMIT, however it should not be invoked under that APPLID as XMITIPI (the ISPF interface) tests for this APPLID and if it is started under some other APPLID it will create a temporary ISPF command table and then re-invoke itself under APPLID of XMIT. This command table is used for the Find and Repeat Find commands in the various tables used under the dialog (e.g. address book, attachment data set).

2. The security available for sending is very limited. With z/OS SMTP it is possible to restrict the TSO Userids authorized to send mail BUT you cannot secure the contents. Thus an authorized user could still spoof an e-mail FROM address. See the installation member **SPOOF2** for an excellent write up on how to prevent all spoofing providing that your e-mail formats conform to the allowed rules.

3. With newer CSSMTP server there is the ability to restrict e-mail deliveries to TLS enabled secure e-mail servers. The keyword STARTTLS is provided to enable this in the generated e-mails.

4. The e-mail text format formerly defaulted to plain text. With the 16.03 release of XMITIP there is a new mailfmt configuration option that defaults to HTML for the mail text format. Change this to plain (actually anything other than HTML) to revert to the format non-HTML message text.

5. Quoting from the z/OS 1.4 Communications Server IP Configuration Guide: "Because SMTP needs authority to create, read, write and purge data on the JES spool, any security programs such as RACF, protecting JES spool access, must have the SMTP started task name in their definitions of authorized users". Thus you may need to have the local security group issue the appropriate security commands to allow the SMTP server this access level to the spool.

6. The ZIP options require that a ZIP utility be installed. Those that are supported are InfoZip (free at http://sunsite.cnlab-switch.ch/ftp/mirror/infozip/MVS/), SlickZIP (http://www.slickzip.com), ZIP390 (http://www.data21.com), and PKZIP/MVS (http://www.asizip.com). Note that you should be at PKZIP/MVS 2.5 as a minimum level (for the name-in-archive option to be supported).

   a. InfoZip must be installed in a STEPLIB or in a library in the LINKLIST

7. The ISPF dialog includes a batch option. This option will default to ISPF (foreground execution). The batch option requires that a JOB card be defined. Four variables are provided and the user is prompted the first time used to update the variables. The JCL is constructed and the user is provided with the option to Browse, Edit, Submit, or Copy the JCL. If the JOB statements are updated under Edit the variables will also be updated.

8. As e-mail addresses are entered on the ISPF dialog they are also added to the Address Book table. These addresses may be entered in the Recipient field, the

---

CC, or the BCC fields on the panel. If the LDAP validation is enabled then all addresses are validated for the local host domain.

9. The data set table requires that the data sets be explicitly added. The difference is that the addresses may be reused but that the data sets may not be. When a data set is selected its existence is validated.

10. By default the z/OS SMTP Server routes all e-mail for delivery directly to the mail server at the recipient site. This may not be supported at your installation if your z/OS SMTP Server is behind a firewall that blocks port 25. An alternative is to have the z/OS SMTP Server route all outgoing mail through an existing in house SMTP mail server – see the customization section below for details about how to configure this.

11. If you see a message like:

```
EZA5342I SMTP note from spool file job ID jobid was truncated by hostname
```

Then you need to review your SMTP Configuration file MAXMAILBYTES and CHECKSPOOLSIZE statements.

12. If you are planning to use the e-mail address lookup or validation then read the LDAP member in the installation PDS for more information.

13. If you wish to allow your users to use the NOSTRIP option to prevent the removal of trailing blanks then you must::

    a. In XMITIPCU set SMTP_SECURE to cause XMITIP to send the e-mail to the SMTP Server using TSO TRANSMIT (see PN69319 in the installation PDS for more information)

    b. Not use UDSMTP

14. When using the PAGE keyword to send a page the use of &RCA is discouraged as it will generate a lot of information, potentially more than the pager can handle. If AntiSpoof is enabled in XMITIPCU then the Userid of the sender is placed at the end of the Paging text as the entire AntiSpoof block would be too much data.

Customization

XMITIP has been designed to be easily customizable for each site. This is accomplished by three of the REXX Execs included in the hlq.XMITIP.EXEC library that are discussed below. Also to be considered is how to configure the z/OS SMTP Server and National Language support.

TXT2RTF

Change the variable FONTNAME from "Courier New" to some other fixed pitch font if Courier New is not what you prefer for your reports.

XMITIPCU

XMITIPCU is the primary customization member. Think of this program like a dynamic PARMLIB member. Use ISPF Edit to customize the variables documented in the table below.

After updating the XMITIPCU exec use the TESTCU exec to verify that your changes reflect what you want. Ideally you should execute the TESTCU exec using your existing version of XMITIPCU and save the results to compare to the results after you have updated XMITIPCU. This is a very good way to verify that you have not lost any customization that is important to your installation.

Note 1: The defaults coded in the exec are probably valid for 90% of the sites using the package and are the values being used at my installation.

Note 2: This code is provided as a model – there are a number of routines within the code that can, and probably should, be tailored for your installation and local needs. For example see the routine that defines the libraries to be used for your ZIP product.

The **XMITIPCU** REXX exec is relatively simple to customize, however you should be familiar with REXX syntax. Some of the key points are:

- Literals are always enclosed within matching quotes. Either ' or " are acceptable as long as you use the same style to enclose the literal.

- A SELECT clause ends with an END and has within it WHEN clauses which can also invoke a DO/END clause. An OTHERWISE statement should always be used within the SELECT/END clause to handle situations not covered by the WHEN clauses.

- Using the ISPF Edit Hilite function is very useful and helps to identify mismatches in quotes and missing END statements.

- Use the TESTCU REXX exec to test the validity of your modified XMITIPCU. This code will also validate the dataset names used for the ZIP load library and the XMITB64 load library.

Keyword	Definition
antispoof	Defines whether the antispoof message will be included at the end of every XMITIP generated e-mail. The users ID, Name, System name, and Node name are included. The users name is extracted from the security system (ACF2, RACF, or Top Secret). If blank, the antispoof message will not be generated. The format of the variable is defined in the code.
append_domain	Defines a host domain to be appended to any e-mail addresses that is entered without a domain. This allows the user to enter an address as First.Last instead of First.Last@your.domain. Default is null.
atsign	Defines the symbol to be used for the @ symbol if using a non-English code page. Default is @. If you need to test for multiple symbols because of national language concerns you can define multiple with this variable. Note that only the first character will be used for generated addresses.

batch_idval	Defines the level of validation that will occur if the LDAP lookup is enabled in the XMITILDAP exec (see below). The supported values are:
	
	       0 = Allow validation in batch and ISPF with Lookup
	
	       1 = Do not allow any validation no Lookup
	
	       2 = Allow validation in ISPF only with Lookup
	
	       3 = Allow Lookup but no Validation

center	The NJE Node where the z/OS SMTP server is running. Default is your currently active NJE Node. This should be set regardless of whether you have the SMTP server running on another NJE Node.
char	Defines the character set specified for the Multipurpose Internet Mail Encoding (MIME) headers. Default is iso-8859-1
charuse	An option for those installations whose e-mail reader does not accept the default mail header specifications. Default is 1
codepage_default	`Defines the code page to use for NLS translation`

Keyword	Definition
conf_msg	Defines whether a privacy/confidential message is generated in the message text based upon the contents of the SENSITIVITY field. See the disclaim option if this is not adequate. The valid options are: **Top** insert before message text **Bottom** insert after message text (after signature) **Null** no message text The messages are: This E-Mail is Confidential and is intended for use by the recipient(s) only. This E-Mail is Company-Confidential. This E-Mail is Personal and is intended for use by the recipient(s) only. This E-Mail is Private and is intended for use by the recipient(s) only
create_dsn_lrecl	Defines the logical record length if the ***create*** value is specified in the Attachment Data Set name field.
custsym	Defines installation desired symbolic. The format is: CUSTSYM = "&symbolic_1 value1 &symbolic_2 value2 …" The value may be a literal or generated value but must **NOT** contain a **/** character.
dateformat	Defines the date format to use: E = European U = United States (default) See REXX Exec XMITIPTR to customize the names of the days of the week and the names of the months if using E.
deflpi	Default LPI used for Format PDF.
default_hlq	Used for UDSMTP e-mails when the batch job does not have a TSO Profile. This is a default hlq if the HLQ keyword is not used.
default_lang	Set the default language (or null) to be used in the XMITIPTR date translation routine.

Keyword	Definition
def_orient	Default page orientation of Portrait or Landscape.
descopt	Description Option. 0 = use input dataset name or ddname for FILEDESC not 0 = use FILENAME for FILEDESC
disclaim	Defines a sequential data set that contains the text of your installations disclaimer, or confidentiality statement, that will be appended to the end of every e-mail generated. This type of information should more properly be inserted into all outgoing mail by a mail gateway and not by any package that generates e-mail however if the gateway does not provide this ability then this option is available.
empty_opt	Defines how XMITIP will handle empty attachment data sets. 0 = Issue warning message and continue with a return code of 4 1 = Issue error message and exit with return code 8 2 = Issue warning message and continue with a return code of 0
encoding_default	Code page for encoding the e-mail text and text attachments.
faxcheck	Defines a value (case insensitive) to test in the TO address to determine if the e-mail is going to a FAX server. If found then the antispoof block will not be generated. If null then no FAX checking is performed.
feedback_addr	Defines the e-mail address to which the Feedback e-mails are to be sent. **Please** set this to a local e-mail address.
file_suf	Defines the default file suffix when neither FORMAT nor FILENAME is specified. A value of null is acceptable.
font_size	Default font size for PDF and RTF attachments (e.g. 9).

Keyword	Definition
fromreq	Determines if a FROM e-mail address is required. 0 = Not required 1 = Required or a valid e-mail address that will be inserted into the BCC (see below for **From Required Considerations**. If required then XMITIP will generate an error message and terminate with a return code of 8.
from2rep	Defines if a Reply-To header will be generated. If 0 then the user must specify the REPLYTO keyword If 1 then if there is no REPLYTO keyword then the Reply-To header will be set using the value from FROM.
from_default	Is a system generated default from e-mail address. If set to * and if fromreq is non-zero then the user specified FROM will be used for the from_default. This value is used in the SMTP SENDER field in the SMTP envelop.
interlink	Code 1 if you are using the Interlink TCP/IP, otherwise set to 0. This should be set based on where the SMTP server is running.
ispffrom	If 1 then the ISPF dialog interface will require that a FROM mail address be specified. Default is 1
log	This option enables or disables logging. Set to null to disable logging. Set to a log data set name to enable logging. See section on Logging for more details.
mailfmt	This option defines the default message text format. The options are: HTML to use HTML formatted text which results in a fixed pitch font for the message text. *** Default Anything else for plain text formatting.

Keyword	Definition
mail_relay	This should normally be null unless your mail environment requires this. If used it will generate an address of mail_relay:recipient_address@host
margins	The margins, Top, Bottom, Left, and Right are defined in inches (e.g. 1 or 1.0 or 0.5)
metric	Defines the measurement metric to use for margins and for paper size.; I for Inches C for Centimeters If centimeters then the value defined by the user is converted to inches for processing.
mime8bit	Set the MIME header to either 7 bit or 8 bit: 0 = 7 bit 1 = 8 bit
msg_summary	Message summary determines if a 2 line summary of the number of records and number of files is included in the message. 0 = off 1 = on
nullsysout	Defines a SYSOUT Class that is defined with COPIES=0 so that all output goes to the bit bucket. This is used in XMITIP with FORMAT XMIT and ZIPXMIT to suppress the TSO Transmit messages.
paper_size	Defines the default paper size. Valid values are: A4, Legal, Letter, or wwXhh Where ww is width and hh is height (e.g. 8.5x11)
receipt_type	Defines the statement that will be generated for a return receipt request. 1 = Return-Receipt-To 2 = Disposition-Notification-To Option 2 works well for Lotus Notes and most other mailers.

Keyword	Definition
restrict_domain	Defines one, or more, domains to be used to test all specified e-mail addresses (to, cc, bcc) and if the domains do not match then the e-mail will not be sent. No action if null
restrict-hlq	Defines an action and a list of high level qualifiers that are not allowed to be used. The syntax: restrict_hlq = "action hlq1 hlq2 …" Actions allowed are: LOG to warn the user and continue. TERM to tell the user of their error and terminate. If the LOG variable is enabled then both actions will generate a log entry.
rfc_maxreclen	Defines the processing that is to occur if the maximum encountered record length exceeds the RFC 2821 limit of 998. 0 = Ignore 1 = Warning message and continue processing 2 = Error message and terminate processing.
send_from	Indicates that the Sender SMTP Header is to use the address specified in the FROM keyword. This option does not require the setting of fromreq or from_default. 1 = enabled anything else = disabled
send_from_check	Name of an external routine (e.g. XMITZEX1) to confirm the format of the from e-mail address format.
site_disclaim	Text that will be displayed by XMITIP in the SYSTSPRT if not null. May be used as a disclaimer that this is freeware and not officially supported. A **#** symbol is used as a line delimiter to create multiple lines of text on the output. This should **not** be confused with a confidentiality statement.

Keyword	Definition
size_limit	Defines the largest allowed e-mail in bytes.
smtp	The name of the SMTP server Default is SMTP.
smtp_address	This variable is dynamically generated.
smtp_domain	Defines the domain for the smtp mail.
smtp_loadlib	Defines the load library where the UDSMTP interface program is installed. Must be entered fully qualified without quotes.
smtp_method	Indicates if the existing z/OS SMTP server is to be used or if the free UDSMTP interface is to be used.
smtp_secure	Indicates that the SMTP Secure mail option has been selected. Coding 1 will cause all XMITIP generated mail to be sent using the TSO Transmit command. The default of 0 just writes the mail directly to a SYSOUT file. This option is ignored if smtp_method is set to UDSMTP.
smtp_server	Used by UDSMTP as the address of the SMTP Server to deliver all SMTP mail to.
special_chars	This option defines the special characters to be used. This is for NLS support. The current usage is for the back slash character only. See the code for particulars.
starttls	Enables the addition of the STARTTLS SMTP keyword in the generated e-mails. On - enables for every e-mail Off – disabled unless the user requests it using the TLS parameter.
sysout_class	The class that will be used for non-SMTP secure e-mails. This class must be defined as an external writer class for JES3 and can be any class for JES2.
systcpd	Defines the TCP/IP SYSTCPD data set to use if the default is not being used. e.g. systcpd = "tcpip.tcpip.data" (this is one of the defaults)
text_enter	A value of Y will cause the ISPF interface, when creating a new message, to open with the ISPF Edit Text Entry (TE) display.

Keyword	Definition
tpageend	Defines the action to take if the text for a PAGE exceeds the TPAGELEN (text pager length) value. 0 = Warning 1 = Abort
tpagelen	Defines the maximum number of characters allowed for a text page. 0 is unlimited. Note that the user can override this with the TPAGELEN keyword in the XMITIP command.
validfrom	Defines the action to take to validate the FROM and REPLYTO addresses: 0 – no action 1 – validate and terminate if invalid 2 – validate and warn if invalid This option requires that LDAP be enabled.
vio	The esoteric device name where the XMITIP work data sets will be allocated. No default.
writer	The optional writer name required by some sites to have the SMTP server pick up the mail from the JES SPOOL. Default is null.
zipcont	Defines how the ZIP prompt popup panel will continue: 0 – any key will continue 1 – PF3 is required to continue
zip_hlq	Defines the high-level qualifier used in constructing the dataset name for the InfoZip Name-In-Archive.
zip_load	Defines the load library where the zip load module can be found. If the module is in the linklist then set this variable to null.

Keyword	Definition
zip_type	Defines the zip compression utility available. The supported types are: InfoZIP, ISPZIP, and PKZIP/MVS. InfoZip is freeware available from http://www.mirror.ac.uk/sites/ftp.freesoftware.com/pub/infozip/MVS/ ISPZIP is available from http://www.ispzip.com PKZIP/MVS is available from http://www.asizip.com
zip_unit	Defines the DASD device type used for PKZIP. This must be an "*" for the system default or a device type (e.g. 3390) and may not be a esoteric (e.g. sysda).
zone	This variable allows you to set your time zone, if set to null then the time zone is dynamically determined.

Timezone and Daylight Saving Time Considerations

The determination of the timezone and the current time can be important if you are looking for meaningful time stamps in your e-mail. This is handled by two routines and you only need to use one or the other.

If you z/OS system is set to use UTC (aka GMT) and you have defined the offset in the system parmlib then your CVT has the UTC offset and the timezone and correct time are easy to determine.

If your z/OS system is using local time then you need to uncomment the highlighted statement in the code below so that the tzone_NM routine is called. This routine has several variables that you will need to customize as well.

```
/* --------------------------------------------------- *
 * Time-Zone Setup                                     *
 * set to your local time zone (e.g. PST)              *
 * or set to null to force call to timezone function   *
 * which sets the timezone based on cvt gmt offset      *
 * --------------------------------------------------- */
zone  = null
/* or call timezone routine */
 if zone = null then
    zone = timezone()

/* ----------------------------------------- *
 * If you don't use GMT then you might want to *
 * call the Tzone_NM routine instead after    *
 * you adjust the routine for your timezone.  *
 * ----------------------------------------- */
/*    zone = tzone_NM()    */
```

The tzone_NM routine has these variables that you must review and probably update:

```
/* the result returned will be one or the other of these */
STANDARD_TIME = 'PST'
DAYLIGHT_TIME = 'PDT'
/* or if you prefer the offset to UTC/GMT */
/* STANDARD_TIME = '-0008' */
/* DAYLIGHT_TIME = '-0007' */
```

The STANDARD_TIME and DAYLIGHT_TIME are the values that will be inserted into the time stamp header record for the e-mail. You can code either the character code for the timezone (e.g. PDT for Pacific Daylight Time) or the UTC offset.

The other variables that may need to be changed are those that define when daylight savings time starts and ends. By default these are set for the United States rules.

```
/* Change SODST and EODST according to your needs in the form 'ddmm'*/
SODST='0315' /* USA: DST starts at second sunday of march */
EODST='1108' /* USA : DST ends at first sunday in november */
/* SODST='0401' Europe: DST starts at last sunday in march */
/* EODST='1101' Europe: DST ends at last sunday in october */
```

As you can see the variables SODST is the Start Date for daylight savings time and refers to the month and day of the latest day in the calendar of that month when daylight savings time would begin plus 1. Thus when daylight savings time starts on the second Sunday of March the SODST setting would bd 0315. The EODST is the End Date for daylight savings time.

From Required Considerations

If using the **fromreq** keyword the use of 0 for no checking or 1 for FROM keyword and address required is straightforward. The other option is to specify a valid e-mail address which will then be inserted into the blind copy (bcc) field for the current e-mail. That e-mail address would then receive a copy of every e-mail that is requested using XMITIP that does not have a FROM keyword and address specified. By checking the e-mail delivered to that address it is a simple matter, hopefully, to then contact the individual users to have them add the FROM keyword and address to their XMITIP usage. Then once the majority of users have added the FROM keyword and address the **fromreq** value can be changed to 1 which will cause XMITIP to generate an error message and terminate with a return code of 8.

The use of an e-mail address for this variable is intended as a transition option should you decide to begin requiring a FROM keyword and address.

XMITIPTR

This member in the hlq.XMITIP.EXEC library is used only if the XMITIPCU option **DateFormat** is set to **E**. This member contains the translation tables used to translate the English names for the days of the week and the months of the year into the desired language.

The calling syntax is x=xmitiptr(option)

- Option may be a date only in which case it will be translated using the default language.

- Option may be preceded by –**L language** where language is one of the defined languages in XMITIPTR.

XMITLDAP

This member of the hlq.XMITIP.EXEC library is used to define your LDAP environment. If you have one it can be used to allow the application to (1) validate all local e-mail addresses using the XMITIPID exec, and (2) allow the ISPF dialog to provide a LOOKUP option to look up addresses by name using the XMITIPML exec.

The values to set are:

Keyword	Definition
ldap_server	Defines the host name of your LDAP server. In many cases your existing mail server may already be running a directory of mail addresses that supports an LDAP interface.
ldap_o	Defines the search criteria. e.g. o=Kaiser Permanente,c=US
local_nodes	Defines your local host names that will limit the addresses to be validated. e.g. kp.org ncal.kaiperm.org kpsal.org

If these values are null then no LDAP validation will occur and the XMITIPI exec will not enable the LOOKUP option in the address book.

LDAP usage notes:

1. One key piece is to insure that the LDAP Load Library is in your Linklist. This library is shipped as GLD.SGLDLNK.

2. If you have command limiting enabled then you need to add the TSO Command GLDSRCH to that list, as this is the LDAP search command used.

XMITIPM

This exec defines the **privacy** messages that are generated if the conf_msg variable in XMITIPCU is enabled. It is called by XMITIP to return an appropriate message. See the code for particulars if you want to change the message text.

LOGGING

If you plan to use logging you must:

1. Download and install the LOGIT package. The package can be found at the same location as the XMITIP package and must be installed in the same REXX library as XMITIP.

2. Insert into the code the following to use LOGGING:

```
If log <> null then
   Address TSO "%logit" log "log message text"
```

The log value is the variable containing the log data set name.

The "log message text" is any text you want to have written to the log data set.

The log data set must be allocated and defined so that every user can write to it.

> e.g. **ADDSD 'log-dsname' UACC(UPDATE) GENERIC OWNER(group)**
> **PERMIT 'log-dsname' GENERIC AC(ALTER) ID(group)**

The log message text will be written to the log data set with a header that consists of the date (yyyymmdd) time (hh:mm:ss) jobname userid system-id.

It is recommended that it be allocated RECFM=VB LRECL=255 BLKSIZE=0 using BLOCK allocation.

If the log data set does not exist then the LOGIT routine returns with no errors or messages.

If the log data set does not have any free space (as determined by using the LISTDSI service to find the allocated and used space and then subtracting used from allocated) then the LOGIT routine returns with no errors.

If the log data set is not available to write into (using DISP=MOD) then the LOGIT routine will use the USS Sleep routine for 1 second and will retry 10 times before returning without an error.

The log data set should never be browsed or used directly – it should be copied (use the LOGITCPY command) and the copy then used. This is to prevent the log data set from being unavailable for logging.

To view the current active log use the sample VXMITLOG exec which will make a temporary copy of the current log data set and then place the user in ISPF View on the copy.

A sample SXMITLOG exec is provided which can be used on a weekly, or other scheduled, basis to copy and clear the log.

See the $DOC member of the LOGIT package for more details.

Provided logging:

1. XMITIP Invalid FROM Address
2. XMITIP Invalid REPLYTO Address

Sample Log Data:

```
20040415 06:38:32 Z700601  Z700601   D10C Invalid From Address lbd@kp.org
20040415 09:57:29 CMNOTIFY  SERVER    D10C Invalid From Address changeman@crdc.kp.org
20040415 09:57:32 CMNOTIFY  SERVER    D10C Invalid From Address changeman@crdc.kp.org
20040415 09:57:35 CMNOTIFY  SERVER    D10C Invalid From Address changeman@crdc.kp.org
20040415 09:57:38 CMNOTIFY  SERVER    D10C Invalid From Address changeman@crdc.kp.org
20040415 09:57:41 CMNOTIFY  SERVER    D10C Invalid From Address changeman@crdc.kp.org
20040415 10:21:47 OXSVCDMP  OXINIT    D10C Invalid From Address
dump.notify@kp.org
```

SMTP Server routing to a pre-existing Mail Server

If you want your z/OS or z/OS SMTP Server to send all mail to an existing mail server within your enterprise do the following:

z/OS

1. In the SMTP CONFIG data add the **IPMAILERADDRESS** statement. The syntax is **IPMAILERADDRESS** xx.xx.xx.xx where the xx.xx.xx.xx is the numeric IP address of the target mail server.

2. In the SMTP CONFIG data add the statement: **RESOLVERUSAGE NO**

SMTP will now forward all mail for which it is unable to resolve the target host name to the server defined in the **IPMAILERADDRESS**.

National Language Support

To customize XMITIP and SMTP for your national language look at these members of the installation PDS:

PDFXLTB	Build a national language translate table for **XMITIPTR.** The XMITIPTR has been converted to TXT2PDFX and is included in the TXT2PDF package. Use this tool to create a national language translation table.
SMTPXLTB	Build a national language translate table for **SMTP**
PQ36249	Documents IBM APAR for @ support for other languages

SMTP Installation Verification

If you have just installed SMTP on your z/OS system you should verify that it has been installed and configured properly. To do this you can use the sample job found in the XMITIP **installation data set** in member **SMTPVFY**. This JCL is shown below:

```
1.  //jobname  JOB....
2.  //          MSGLEVEL=(1,1),NOTIFY=&SYSUID
3.  //HOLD    OUTPUT JESDS=ALL,DEFAULT=N,OUTDISP=(HOLD,HOLD)
4.  //SMTP    OUTPUT DEST=njenode.SMTP
5.  //GENER     EXEC PGM=IEBGENER
6.  //SYSPRINT DD SYSOUT=*
7.  //SYSIN    DD DUMMY
8.  //SYSUT2   DD SYSOUT=A,OUTPUT=*.SMTP,
9.  //          DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)
10. //SYSUT1   DD *
11. helo njenode
12. mail from:<your.mail.addr@host>
13. rcpt to:<your.mail.addr@host>
14. data
15. Date: dd mmm yy hh:mm:ss tz
16. From: your.mail.addr@host
17. To: your.mail.addr@host
18. Subject: SMTP Verification Test
19.
20. This is a test message to verify that SMTP is properly
21. installed and configured on this system. If this message
22. remains in the JES SPOOL then the SMTP server is (1) not
23. running, (2) not authorized to read data from the SPOOL, or
24. (3) an incorrect sysout class is being used on the SYSUT2.
25. /*
```

You will need to change several things in this job:

1. Insert your own JOB card (card 1)
2. Change njenode to the correct node name where the SMTP server runs (cards 4 and 11)
3. Change SMTP to the name of your SMTP started task (card 4)
4. Change your.mail.addr@host to your e-mail address (cards 12, 13, 16 and 17))
5. Change the date to the correct:
   a. dd = day of month
   b. mmm = month (3 characters)
   c. yy = 2 digit year
   d. hh = hour
   e. mm = minutes
   f. ss = seconds
   g. tz = timezone (e.g. PST)

Verification of XMITIP

Included with the package in the installation PDS is member IVPJOB, which is a job consisting of 15 steps to verify different options of the XMITIP application. This verification job can only verify the batch options. To verify the ISPF interface use the TESTXMIT command, also found in the installation PDS, which uses ALTLIB and LIBDEF to access the ISPF dialog in the installation libraries.

IVPJOB

You will need to edit the IVPJOB member in the installation PDS to:

1. Change the job card for your installation.

2. Add a //SYSTCPD DD if required at your shop.

3. Change the //SYSEXEC dsname for the exec library.

    a. c rexx.lib hlq.xmitip.new.exec all

    b. c hlq.load hlq.xmitip.new.load all

4. Change the //STEPLIB dsname for the load library.

5. Change the install dsname.

    a. c install.pds hlq.xmitip.pds all

6. Change the e-mail address to your own

    a. c your.email@address your.real@address all

7. Update the text for step IVP0.

8. If you don't have ISPZIP, PKZIP/MVS or INFOZIP then remove steps IVP7, IVP8 IVPB, and IVPGZ.

9. Update member IVPADDR to have valid e-mail addresses.

The steps in the IVPJOB are documented at the beginning of the JCL.

If you have other verification steps you'd like to see included please let me know, or just send me what you have created.

TESTXMIT

This REXX Exec is included in the installation PDS. To use it you will need to edit it to verify and/or change the data set names defined in the ALTLIB and LIBDEF statements. The Exec is very simple and is in the figure below:

```
/* rexx */

address tso
'altlib activate application(exec) dataset(xmitip.new.exec)'
address ispexec
'libdef ispllib dataset id(xmitip.new.load) stack'
'libdef ispmlib dataset id(xmitip.new.msgs) stack'
'libdef ispplib dataset id(xmitip.new.panels) stack'
'select cmd(%xmitipi) newappl(isr) passlib'
address tso
'altlib deactivate application(exec)'
address ispexec
'libdef ispllib'
'libdef ispmlib'
'libdef ispplib'
```

TESTCU

The TESTCU command will display the current settings of the defaults specified in the XMITIPCU REXX Exec. You will find this Exec in the hlq.XMITIP.EXEC library. IVP step IVPZ (the last step) executes this exec.

The following sample can be coded and put into a REXX library to run TESTCU for verification purposes:

```
/* rexx */
'altlib activate application(exec) dataset(xmitip.new.exec)'
'%testcu'
```

Generalized Feedback Facility

The Generalized Feedback Facility is implemented using two REXX Exec. The ISPF application that you wish to have a Feedback option needs to execute the GENRFDBK command with the right parameters. GENRFDBK will then change to the XMIT ISPF Application ID and invoke the GENRFDBE ISPF Edit Macro on a new ISPF Edit session where the user will enter information about their feedback.

The GENRFDBK syntax is:

%GENRFDBK application-name application-version feedback-email-address

Look in XMITIPI for an example of how this is used.

For XMITIP the feedback Edit session looks like this:

```
EDIT       SYSLBD.FEEDBACK.TEXT                             Columns 00001 00080
Command ===>                                                Scroll ===> CSR
****** ***************************** Top of Data ********************************
000001 XMITIP Feedback Form.
000002
000003 Environment: XMITIP 4.61     ISPF 5.0     OS/390 02.10.00
000004 Date: 30 Sep 2002 Time: 07:56:58 System: ASYS on Node: NKAISERA
000005
000006 Is this a problem __  a suggestion __ a comment __
000007
000008 Enter a description of your issue with as much information as you can.
000009 Include the XMITIP command syntax used and any error messages.  If a
000010 suggestion or comment please be as specific as possible.  Use as many
000011 lines as you need.
000012 ▌
****** ***************************** Bottom of Data *****************************
```

SMTP Statistics

As part of the XMITIP package is a REXX tool that can be used to generate statistics of SMTP usage. This REXX tool is fairly simple and can easily be customized.

The tool is found in the hlq.XMITIP.EXEC library as SMTPSTAT with sample JCL in the installation PDS as STATJCL.

SMTPSTAT Syntax

%SMTPSTAT input-smtp-logfile csvfile

Where

input-smtp-logfile is the data from the SMTP started task LOGFILE DD

csvfile is optional and may be either a dataset name of a new dataset to be created or DD:ddname which references a prealloced DD statement.

SMTPSTAT Sample JCL

```
//jobname  JOB  ......,NOTIFY=&SYSUID,                <=== Change
//           MSGLEVEL=(1,1),MSGCLASS=?                <=== Change
/*JOBPARM S=ASYS                                      <=== Change
//TSOA EXEC PGM=IKJEFT1B
//SYSEXEC  DD DISP=SHR,DSN=rexx.exec                  <=== Change
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//LOG      DD DSN=hlq.LOGFILE.LIST,DISP=(,CATLG),     <=== Change
//           UNIT=SYSDA,SPACE=(TRK,(300,300),RLSE),
//           DCB=(RECFM=VB,LRECL=255,BLKSIZE=23440)
//SYSTSIN  DD *
%sdsfext smtp logfile log (active
//TSOB EXEC PGM=IKJEFT1B
//SYSEXEC  DD DISP=SHR,DSN=rexx.exec                  <=== Change
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//REPORT   DD DISP=(,PASS),UNIT=SYSDA,SPACE=(TRK,(15,15)),DSN=&&STATS,
//    DCB=(RECFM=VB,LRECL=133,BLKSIZE=0)
//CSV      DD DISP=(,PASS),UNIT=SYSDA,SPACE=(TRK,(15,15)),DSN=&&CSV,
//    DCB=(RECFM=VB,LRECL=455,BLKSIZE=0)
//SYSTSIN  DD *
%smtpstat logfile.list dd:csv / nosort
delete logfile.list
//TSOB2    EXEC PGM=IKJEFT1B
//STEPLIB  DD DISP=SHR,DSN=txt2pdf.load               <=== Change or remove
//SYSEXEC  DD DISP=SHR,DSN=rexx.exec                  <=== Change
//SYSPRINT DD  SYSOUT=*
//SYSTSPRT DD  SYSOUT=*
//STATS    DD  DISP=(OLD,DELETE),DSN=&&STATS
//CSV      DD  DISP=(OLD,DELETE),DSN=&&CSV
//PDF      DD DISP=(,PASS),UNIT=SYSDA,SPACE=(TRK,(15,15)),
//           DCB=(RECFM=VB,LRECL=32760,BLKSIZE=0)
//SYSTSIN  DD  *
%txt2pdf IN DD:STATS OUT dd:PDF +
    CC No +
```

```
      CONFIRM Yes +
      TM .5 BM .5 LM .5 RM .5 +
      ORIENT Landscape +
      PAGE None/SinglePage +
      BG "Textmark/BU/Navy/Yellow/15/SMTP Statistics" +
      PAPER let/BlueBar/
%xmitip your.address@host.com +                    <=== Change
   from your.address@host.com +                    <=== Change
   subject 'SMTP Statistics &date from &sysid' +
   nomsg +
   filedd (pdf csv) +
   format (pdf csv) +
   filename (smtpstat.pdf smtpstat.csv)
```

Above is an example of the JOB provided in the installation PDS for generating the SMTPSTAT report. Note the changes required for your installation.

Sample SMTPSTAT Report

```
SMTP Statistics from 01/20/02 04:45:52 to 01/31/02 07:09:32
Category                        Count
-------------------------------------
Host Messages Sent   :          6196
SMTP Message Received :           582
SMTP Average E-Mail Size:     334,378
SMTP Recipients Total  :        13363
SMTP Recipients Local  :        12843
SMTP Recipients NJE    :           11
SMTP Recipients Other  :          509
SMTP Error Notices     :           64
Maximum Recipients     :           10
Maximum Mail Size      :    15,784,877
# Mails over 1MB in size:         439
Average size of mail>1mb:   4,057,915


Nodes Received from    :            4
->node1.domain.org
->node2.domain.com
->node3.domain.com
->node4.domain.com


The following messages exceeded the limit of: 9,999,999

From: user@DOMAIN.ORG              Bytes:   10,935,417 on 01/20/02 14:20:22
From: user@DOMAIN.ORG              Bytes:   10,935,417 on 01/20/02 14:21:53
From: user@DOMAIN.ORG              Bytes:   10,755,977 on 01/21/02 02:26:31
From: user@DOMAIN.ORG              Bytes:   10,138,632 on 01/21/02 05:11:58
From: user@DOMAIN.ORG              Bytes:   10,755,977 on 01/21/02 05:14:10
From: user@DOMAIN.ORG              Bytes:   10,029,463 on 01/21/02 13:09:36
From: user@DOMAIN.ORG              Bytes:   10,029,463 on 01/21/02
```

SMTPEXIT - A SMTP Server Exit to Filter Unwanted Mail

This exit is documented in the IBM Communications Server IP Configuration Guide and provided as a sample in the SEZAINST library. The version included with this package has been customized to do the following:

1. reject redirect routing where an e-mail is sent to a address like user%domain.com@your-domain.com

2. reject incoming mail that does not come from your companies domain

This is intended to prevent spam as well as prevent your z/OS SMTP Server from being used to deliver spam to others.

This exit can also be used to filter based on the IP address of the sending SMTP Server. This would be a very useful option if your z/OS SMTP Server is connected directly to the public internet. For this you will have to do your own coding as this is not included in the provided exit.

Caveat: This will NOT prevent 100% of spam as a spammer could create a FROM address that appears to be from your domain.

The requirements to use this exit are:

- z/OS 1.2 Communication Server

The installation data set contains three members for this exit:

- EXITJCL is the assembly and linkedit JCL for the SMTPEXIT if you wish to install the exit outside of SMP/E

- SMTPEXIT is the assembly source code for the exit

- USERMOD is the SMP/E usermod for the exit

The installation steps are:

1. Update the source code to change the IDTABLE to include your companies domain name(s). For example if you are IBM you would specify IBM.COM - not US.IBM.COM unless you want to really be restrictive.

2. The exit must be assembled and linked as RENT, AMODE(31), and Authorized and placed into an authorized link (recommended) or lpa library.

3. Update your PROGxx member of PARMLIB to include the statement:
EXIT ADD EXITNAME(EZBTCPIPSMTPEXIT) MODNAME(SMTPEXIT)

*** Note that the PROGxx EXIT statement the MODNAME can be what ever name you choose to name the exit load module - it does not have to be SMTPEXIT. However the EXITNAME must remain as specified here.

The exit will now be active with the next IPL.

If you don't want to wait for an IPL, or you want to update the exit dynamically then these steps are necessary:

1. The exit must be assembled and linked as RENT, AMODE(31), and Authorized and placed into an authorized LINKLIST (recommended) or LPA library.

2. Update your PROGxx member of PARMLIB to include the statement:
EXIT ADD EXITNAME(EZBTCPIPSMTPEXIT) MODNAME(SMTPEXIT)

3. Create another PROGxx member of PARMLIB with this statement:
EXIT DELETE EXITNAME(EZBTCPIPSMTPEXIT) MODNAME(SMTPEXIT) FORCE(YES)

4. Create a CSVLLAxx member of PARMLIB with this statement:
LIBRARIES(*your.linklist.library*)

Where *your.linklist.library* is where you installed the load module.

5. Issue from an operator console (or console interface):

- F LLA,UPDATE=xx   (the xx from the CSVLLAxx)

- T PROG=xx   (the xx from the PROGxx with EXIT DELETE)

- T PROG=xx   (the xx from the PROGxx with EXIT ADD)

6. From an authorized (see the SMTP Config SMSGAUTHLIST) TSO Userid Issue:

   smsg tcpsmtp stopexit

and then

   smsg tcpsmtp startexit

** where tcpsmtp is the name of the TCP/IP SMTP started task

Notes:

Some things I learned while working on this exit:

1. The Buffer length contains the length of the buffer but the buffer appears to be padded. Thus I was unable to add the buffer length to the starting address of the buffer and then subtract the length of the domain to check (less 1 more byte for the ending > character) because of the buffering characters.

2. If the z/OS SMTP Server is routing all outgoing e-mail to an in house SMTP server and is connected directly to the public internet then it might be better to change the exit to filter based on the inbound SMTP Server IP address.

Support

There is no formal support provided for this package nor is there any warranty available. This package has been made available to the z/OS community as my way of saying thanks for all the help over the years that I've received from tools that others have made available on the MVS Tools Tape, the CBT Tools Tape, and more recently from various web sites with tools and helpful information.

For peer support please check out the Yahoo Group for XMITIP at:

http://tech.groups.yahoo.com/group/xmitip/

Having said this, please forward any problems, suggestions, or comments about the package to lbdyck@gmail.com and I will attempt to provide a resolution (as if you've found a problem then the same problem could potentially affect my users).

Check for updates at http://www.lbdsoftware.com on the TCP/IP page.

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