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This Manual applies to Release 1
Modification 3 or later of E-mail Utilities™

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INTRODUCTION

E-mail Utilities is a product that will perform various E-mail and E-commerce functions. It's main features are:

E-mail data, spool, or IFS files to Internet users

Write data or spool files to IFS directories

E-mail features allow the users to send AS/400 data via SMTP mail services to Internet users. The AS/400 must have a properly configured TCP interface with SMTP and MSF active. The following CL commands are provided. These commands can be executed from the command line, from our main menu or user written menus, or from user-written CL programs:

EMLDTAF	E-mail a data file
EMLSPLF	E-mail spool files
EMLISF	E-mail an IFS file

IFS directory features allow the user to place AS/400 data in the Integrated File System. Once in the IFS the data can be accessed by other tasks. For example an OS/400 HTTP Server or network server may also access the target IFS directory, giving Web browsers in your intranet or on the Internet access to the copied files. The following commands are provided. . These commands can be executed from the command line, from our main menu or user written menus, or from user-written CL programs:

DIRDTAF	Write a data file to an IFS Directory
DIRSPLF	Write a spool file to an IFS Directory

E-mail a Data File

The **EMLDTAF** command sends one or more data file members via E-mail to one or more Internet users. Physical files, logical files, source physical files, and save files can be sent. Up to 50 files can be specified. Up to 50 members can be specified for each file. Each file member appears as an attachment to the E-mail message. Each attachment is encoded using Base 64, a standard encoding scheme understood by all E-mail viewers. The user can specify 2-part attachment names (*i.e.* abc.txt) for each member.

The user can specify a subject, from address, and up to 50 recipients. The user can also specify a file which contains the list of recipients. The recipient file can be a physical file, logical file, or source physical file. Addresses can be in one of the following formats:

SMTP addresses in the form of *user@domain.com*.
User profile
SNADS User ID, User Address

For User Profile and SNADS formats, the SMTP address must be defined in the system. Addresses can be specified with a name and address or just an address. Blind Carbon Copy (Bcc) recipients can also be specified. Bcc address recipients will not appear in the message.

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The attachments can be placed into the message in one of the following formats:

Text: Text format converts the EBCDIC data to ASCII and places line separators (CRLF) between the data file's records. The user can optionally truncate trailing blanks from each record and can optionally remove the sequence number and change date fields from source physical files.

Binary: Binary format performs no data conversion. Each record is placed into the attachment without any separators. This format is ideal for sending save files and other data which is meant to be read by computer programs.

CSV and TSV (Spreadsheet, database): CSV (Comma Separated Values) and TSV (Tab Separated Values) formats are standard formats recognized by most commercial Spreadsheet and Database applications. For example Microsoft Excel and Microsoft Access can read data in CSV and TSV formats. The EMLDTAF command will look at each field of the data file and convert it to an ASCII value. The following AS/400 DDS field types will be converted. All others will be treated as character data.

- A Character**
- S Zoned Decimal**
- P Packed Decimal**
- B Binary (2, 4, and 8 byte)**
- F Float**

An optional Note can be specified. The note will appear in the message as inline text. The user can specify up to 50 lines of text and/or specify a file containing the note. The Note file can be a physical file, logical file, or source physical file.

E-mail Spool Files

The **EMLSPLF** command sends one or more AS/400 spool entries via E-mail to one or more Internet users. Up to 50 spool entry attachments can be sent in one E-mail message.

The user can specify a subject, from address, and up to 50 recipients. The user can also specify a file which contains the list of recipients. The recipient file can be a physical file, logical file, or source physical file. Addresses can be in one of the following formats:

SMTP addresses in the form of *user@domain.com*.

User profile

SNADS User ID, User Address

For User Profile and SNADS formats, the SMTP address must be defined in the system. Addresses can be specified with a name and address or just an address. Blind Carbon Copy (Bcc) recipients can also be

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specified. Bcc address recipients will not appear in the message.

For attachments, each attachment is encoded using Base 64, a standard encoding scheme understood by all E-mail viewers. The user can specify 2-part attachment names (*i.e.* abc.txt) for each member.

The spool entry can be placed into the message in one of the following formats:

Inline Text: Text format converts the EBCDIC data to ASCII and places line separators (CRLF) after each print line.

Attachment Text: The report is added as an attachment. The attachment is an ASCII text file.

CSV or TSV (Spreadsheet, database): CSV (Column Separated Values) and TSV (Tab Separated Values) formats are standard formats recognized by most commercial Spreadsheet and Database applications. For example Microsoft Excel and Microsoft Access can read data in CSV or TSV format. The user specifies the rows/columns in the report to correspond to cells in the CSV or TSV format.

Adobe PDF: The report is converted to an Adobe PDF format. Users can read the PDF file using Adobe Acrobat Reader.

An optional Note can be specified. The note will appear in the message as inline text. The user can specify up to 50 lines of text and/or specify a file containing the note. The Note file can be a physical file, logical file, or source physical file.

E-mail an IFS File

The **EMLIFS** command sends one or more IFS files (stream files) via E-mail to one or more Internet users. Thus a user can build high quality HTML or PDF attachments via PC applications, move them to the AS/400 IFS as stream files, and send them to Internet users.

Up to 50 IFS files can be specified. Each file can appear as inline text or as an attachment. Attachments are encoded using Base 64, a standard encoding scheme understood by all E-mail viewers. The user can specify 2-part attachment names (*i.e.* abc.txt) for each member.

The user can specify a subject, from address, and up to 50 recipients. The user can also specify a file which contains the list of recipients. The recipient file can be a physical file, logical file, or source physical file. Addresses can be in one of the following formats:

SMTP addresses in the form of *user@domain.com*.

User profile

SNADS User ID, User Address

For User Profile and SNADS formats, the SMTP address must be defined in the system. Addresses can be specified with a name and address or just an address. Blind Carbon Copy (Bcc) recipients can also be

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specified. Bcc address recipients will not appear in the message.

The attachment's Content Type and Subtype (text/plain, text/html, etc.) can be specified. Files can be appended to the previous attachments.

Copy a Data File to an IFS Directory

The **DIRDTAF** command sends a data file member to an Integrated File System directory. Physical files, logical files, source physical files, and save files can be sent.

The IFS file can be one of the following formats:

Text: Text format converts the EBCDIC data to ASCII and places line separators (CRLF) between the data file's records. The user can optionally truncate trailing blanks from each record and can optionally remove the sequence number and change date fields from source physical files.

Binary: Binary format performs no data conversion. Each record is placed into the attachment without any separators. This format is ideal for sending save files and other data which is meant to be read by computer programs.

CSV and TSV (Spreadsheet, database): CSV (Comma Separated Values) and TSV (Tab Separated Values) formats are standard formats recognized by most commercial Spreadsheet and Database applications. For example Microsoft Excel and Microsoft Access can read data in CSV and TSV formats. The EMLDTAF command will look at each field of the data file and convert it to an ASCII value. The following AS/400 DDS field types will be converted. All others will be treated as character data.

- A Character**
- S Zoned Decimal**
- P Packed Decimal**
- B Binary (2, 4, and 8 byte)**
- F Float**

Copy a Spool File to an IFS Directory

The **DIRSPLF** command sends an AS/400 spool entry via E-mail to an Integrated File System directory. The spool entry can be placed into the IFS file in one of the following formats:

Text: Text format converts the EBCDIC data to ASCII and places line separators (CRLF) after each print line.

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CSV or TSV (Spreadsheet, database): CSV (Column Separated Values) and TSV (Tab Separated Values) formats are standard formats recognized by most commercial Spreadsheet and Database applications. For example Microsoft Excel and Microsoft Access can read data in CSV or TSV format. The user specifies the rows/columns in the report to correspond to cells in the CSV or TSV format.

Adobe PDF: The report is converted to an Adobe PDF format. Users can read the PDF file using Adobe Acrobat Reader.

HTML: The report is converted to HTML format.

CSV and TSV (Spreadsheet, database): CSV (Comma Separated Values) and TSV (Tab Separated Values) formats are standard formats recognized by most commercial Spreadsheet and Database applications. For example Microsoft Excel and Microsoft Access can read data in CSV and TSV formats. The EMLDTAF command will look at each field of the data file and convert it to an ASCII value. The following AS/400 DDS field types will be converted. All others will be treated as character data.

Data Encryption

E-mail Utilities has the ability to encrypt data. The following commands support data encryption:

- DIRDTAF
- DIRSPLF
- EMLDTAF
- EMLSPLF
- EMLIFS

E-mail Utilities data encryption uses the Rijndael symmetric algorithm with 128 bit keys, and industry standard strong encryption method. The encrypted data is placed into a self-extracting file that can be executed on a Windows PC. The PC user will be prompted to enter a password to access the encrypted data. The decrypted file can then be opened or saved to disk.

Spool PDF Overlay/400™ Interface

E-mail Utilities can use the features of Spool PDF Overlay/400™ product if it is installed. Spool PDF Overlay/400 is a separate product from BDS that provides the additional features when creating Adobe PDF files, such as:

Overlays
Images
Multiple Fonts

Refer to Spool PDF Overlay/400 documentation or contact BDS for more information on its features. The following **E-mail Utilities** functions can utilize Spool PDF Overlay/400 features when creating a PDF:

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EMLSPLF cmd

DIRSPLF cmd

Refer to the E-mail Utilities documentation for more information.

Acknowledgements

The following third party products have been incorporated into Email Utilities:

Flate - Flate is an industry-standard compress/decompress algorithm written by Jean-loup Gailly and Mark Adler. BDS has adopted their code to run on the AS/400 platform. The Adobe PDF format supports Flate. You can contact them at <http://www.zip.org/>.

INSTALLATION

Prerequisites

The following hardware and system software is needed to execute E-mail Utilities. Please ensure that all needed system software is installed before beginning the installation.

AS/400:

- + OS/400 Version 6, Release 1, Modification 0 or greater
- + Security level 40 or less

To create encrypted files:

- Cryptographic Access Provider for AS/400 (57xx-AC3)

Decrypt files:

To decrypt E-mail Utilities encrypted files:

- + Windows 2000, Windows XP, Windows 2003, or Windows 7
- + DotNet Framework 1.1 or greater

Installation

- 1) Sign on as **QSECOFR**

WARNING:

The instructions below are for loading E-mail Utilities onto your system for the first time. If you are updating your existing E-mail Utilities to a new release, refer to the document “**E-mail Utilities Update Instructions**”.

- 2) Restore the install routines from the media.

Mount the media and enter one of the following:

If you are using Tape:

```
RSTOBJ OBJ(BEMIN*) SAVLIB(EMAL40) DEV(xxxxxxx) VOL(*MOUNTED)  
RSTLIB(QTEMP)
```

If you are using CD-ROM:

```
RSTOBJ OBJ(BEMIN*) SAVLIB(EMAL40) DEV(OPT01) VOL(BDS)  
RSTLIB(QTEMP) OPTFILE(EMAL40)
```

If you are using a Save file:

```
RSTOBJ OBJ(BEMIN*) SAVLIB(EMAL40) DEV(*SAVF) SAVF(IIII/ffff)  
RSTLIB(QTEMP)
```

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Enter the lib/name of the save file containing library **EMAL40**.

Press **ENTER**

3) Execute the install procedure. Enter one of the following:

If you are using Tape or CD-ROM:

QTEMP/BEMINS DEV(xxxxx)

If you are using a Save file:

QTEMP/BEMINS DEV(*SAVF) PGMSAVF(aaaaa) DTASAVF(bbbbb)

Enter the save file containing library **EMAL40** for aaaaa. Enter the save file containing library **EMAL40DATA** for bbbb..

Press **ENTER**.

You will receive the message “Installation of E-mail Utilities complete”. You may need to call Broderick Data Systems to activate your 30 day trial package. You will first need to add library **BRODERICK** to your library list.

4) Access the BDS Software Server (optional).

Note: Your AS/400 must be connected to the Internet to perform this procedure.

a) If you have not done so previously, access the tailoring options screen:

BRODERICK/BEMSETUP

b) Note the fields “BDS Access Userid” and “Password”. You will need a user ID and password to access some of the server options. If needed, contact BDS administration to get this information. If you add your user id and password, press **ENTER** to enter them and re-enter the setup command.

c) Press F14, E-Comm. The Software Server display will appear. Take note of the options available to you. When you are finished, press F3 to exit

MAIN MENU

To access E-mail Utilities Main Menu, enter the following command:

EMLADM Administrator Main Menu

The following screen should appear:

```

                                     E-Mail Utilities (TM)      1/30/02   08:58:32
                                     Administrator Main Menu  01 01 0000  QSECOFR

Administration
  1. Tailoring Options                (BEMSETUP)
  2. Manage CSV/TSV Specifications
  3. Manage PDF Specifications
  4. Manage HTML Specifications
  5. Manage Encryption Specifications

Operation
 11. E-mail a data file                (EMLDTAF)
 12. E-mail a spool file               (EMLSPLF)
 13. E-mail an IFS file                (EMLIFS)
 14. Copy a file to IFS Directory      (DIRDTAF)
 15. Copy a spool entry to IFS Dir    (DIRSPLF)

90. Sign off

Selection: ____ F3=Exit F6=Messages F10=Command Entry
(C) Copyright 1999, 2002 - Broderick Data Systems
```

Administration

Options 1 thru 5 are used to describe various components to E-mail Utilities. The above options have the following definitions:

1. Tailoring Options

Allows the Administrator to enter passwords, set various system options, and define E-mail Utilities Logging options. For more information, refer to Chapter 4, "Define Tailoring Options".

2. Manage CSV/TSV Specifications

Allows the Administrator to define Comma Separated Values (CSV) and Tab Separated Values (TSV) Specifications. CSV/TSV Specs allow E-mail to be in sent in CSV or TSV format, which most PC Spreadsheet and Database applications can support.

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3. Manage PDF Specifications

Allows the Administrator to define PDF Specifications. PDF Specs allow E-mail to be in sent in Adobe PDF format, which most can be read by Adobe Acrobat Reader.

4. Manage HTML Specifications

Allows the Administrator to define HTML Specifications. PDF Specs allow IFS Directory files to be formatted in HTML.

5 Manage Encryption Specifications

Allows the Administrator to define Encryption Specifications. Encryption Specs are used by E-mail Utilities commands, allowing data to be encrypted.

Operation

Options 11 thru 15 have the following definitions:

11. E-mail a data file

Executes the **EMLDTAF** command, which will E-mail data files to Internet users.

12. E-mail a spool file

Executes the **EMLSPLF** command, which will E-mail a spool entry to Internet users.

13. E-mail an IFS file

Executes the **EMLIFS** command, which will E-mail IFS files to Internet users.

14. Copy a data file to IFS Directory

Executes the **DIRDTAF** command, which copy a data file to an IFS Directory.

15. Copy a spool file to IFS Directory

Executes the **DIRSPLF** command, which copy a spool entry to an IFS Directory.

DEFINE TAILORING OPTIONS

This allows the Administrator to define system wide options. To access the Tailoring Options screen, select option 1 from the Menu or enter the following command:

BRODERICK/BEMSETUP

The following screen will appear:

```

                                E-mail Utilities (TM)          5/7/00 10:41:07
                                Setup Display
System Statistics: Rel   Mod   PTF   System Name   CPU Serial   Model
                   01    00    0000   BDS400          00000000    F10
  Passwords: Permanent          Temporary          High Avail
              F1F2F3F4F5F6F7F8   FAFBFCFDFF       F1F2F3F4F5F6F7F8

                EBCDIC CCSID:   37
                ASCII CCSID:    437
                Character Set:   us-ascii

                BDS Access Userid: _____ Password: _____

F3=Exit w/o Update F12=Exit w/o Update F14=BDS SwSvr
Copyright 2000, 2001 Broderick Data Systems
```

The above parameters have the following definitions:

System Statistics

Rel, Mod and PTF

This is the Release, Modification and Program Temporary Fix level of E-mail Utilities you have installed.

Note: When the update to E-mail Utilities is done, it will update these fields. If you update E-mail Utilities and these fields do not update, verify you have executed the update procedure in the E-mail Utilities Update Instructions.

System Name

The system name assigned to the AS/400 computer running the E-mail Utilities software.

CPU Serial Number

The CPU serial number assigned to this AS/400 computer.

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Model

The model number of this AS/400 computer.

Passwords

Permanent and Temporary Passwords

Passwords are provided by Broderick Data Systems to allow access to E-mail Utilities. Certain key functions test these passwords before executing. If the password tests fail, a message will appear on the QSYSOPR message queue and the function stops.

High Availability Password

If this machine is being replicated to a High Availability machine, specify the Permanent Password for the HA machine here. This will allow you to cut over to the HA machine without changing passwords. Note: You must purchase an HA license from Broderick Data Systems in order to receive an HA password.

BDS Access User ID and Password

Specifies the user ID and password needed to access the BDS Software Server. Contact BDS Administration for your user ID and password.

Other Options

EBCDIC and ASCII CCSID

Specifies the EBCDIC to ASCII conversion scheme to use. Please note that the AS/400 is an EBCDIC machine and most E-Mail recipients reside on PC's which are ASCII machines. E-mail Utilities will convert the E-mail message to the specified ASCII character set ID before passing the message to OS/400 routines. For more information refer to AS/400 National Language Support, Appendix G.2 "Code Pages and CCSID's"

Notes:

- 1) Specified CCSID's will be checked by issuing a test string to convert. Errors will be reported back to the user. For a list of errors and their meanings refer to "OS/400 National Language API's", Chapter 3.2.2 "CDRCVRT API Feedback Codes and Conditions". No error message does not insure a proper conversion. We recommend you test the conversion by sending a message to a recipient and have the recipient display the sent message.
- 2) CCSIDs 37 and 437 are US English EBCDIC and ASCII.

Character Set

Specifies, for E-mail, the character set to be placed into the message header. This value will appear in the MIME Message Header in the "charset=" parameter. Example values are:

DEFINE TAILORING OPTIONS

us-ascii
iso-8859-1

F3 (Return)

Press F3 to exit without updating.

Access the BDS Software Server

If **F14** is chosen, the screen showing BDS Software Server options is displayed. To access the BDS Software Server the AS/400 must be connected to the Internet. The following display will appear:

```

                                                                 12/03/01   11:45:21
                    BDS Software Server Display

Select one of the following:

  1. Check for updates
  2. Download Software Update
  3. Download Software Patch
  4. Upload Captured Problem Data

Option:

F3=Exit  F12=Exit
```

Some of the following options require a user ID and password. If you do not have one, contact BDS Administration. These options use the Internet to connect to a server at Broderick Data Systems. Therefore your AS/400 must be connected to the Internet. If behind a firewall, the firewall must allow outbound sessions through it.

Check for updates

Retrieves the latest available release of the product. Displays the BDS and OS/400 prerequisites releases required to install the latest release of the product.

Download Software Update

Downloads the latest release of the product into save files on your system. The update procedure can then be done using these save files. The product may be active and running while you perform this download.

Download Software Patch

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Downloads objects into a save file on your system. Usually you will use this option while working with BDS tech support.

Upload Captured Problem Data

Uploads a save file on your system (containing objects that you have saved) into a save file on the BDS server. Usually you will use this option while working with BDS tech support.

F3 (Return)

Press F3 to exit.

F12 (Return)

Press F12 to exit.

DEFINE FILE FORMAT SPECIFICATIONS

E-mail utilities allow the user to format output into popular standards such as Adobe PDF. These standards are complex. Placing all available options on the E-mail utilities commands would make them unmanageable. To prevent this, E-mail Utilities places many options in specifications and refers to these specs by name.

CSV /TSV Specifications

E-Mail sent by E-mail Utilities can be placed into Spreadsheet and Database applications. E-mail Utilities supports Part Types CSV (Comma Separated Values) and TSV (Tab Separated Values), which can be loaded or imported by most PC Spreadsheet and Database applications.

E-mail Utilities' spool entry commands use CSV/TSV specifications. Since CSV is a row-column oriented format, the administrator must think of the spool entry's page as columns of data. For each column, the administrator determines the type (character or numeric), and the start/end columns on the page. Up to 30 columns can be specified.

Select **F6** to add a new Specification. Enter the name of the Spec to create and press **ENTER**. The following screen should appear:

DEFINE FILE FORMAT SPECIFICATIONS

Starting Page

Specifies the starting page. This option allows you to skip initial pages such as Specifications pages that do not contain wanted data.

Generate Headings

Specifies if Headings are to be placed into the output. If specified, the same columns specified for the data columns will be used to build the heading lines. Note that heading cells will always be character. If Generate Headings is specified, you will specify From and To lines. Specify one of the following:

*NO: No headings will be generated.

*ONCE: Heading lines will be generated before the first page's data lines are generated.

*ALL: Heading lines will be generated before each page's data lines are generated.

From/To Line

Specifies the line range to include as Headings. Only print lines that fall within this range will be included.

PDF Specifications

E-mail Utilities can generate output in **PDF** format. **PDF** is a format developed by Adobe Systems Inc. and can be read by their Acrobat readers on PC's. Options that control the appearance of the **PDF** output are contained in **PDF** Specifications.

Please note: **PDF** keywords are not fully syntax checked by E-mail Utilities. The administrator should test the generated output. For more information on **PDF** keywords and their valid values, refer to an Adobe **PDF** reference manual.

Press **F6** to enter new specifications and enter a unique name. The following screen will appear:

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Spec: P1	E-mail Utilities™	10/20/10
	Define PDF Specs	15:06:31
Font Keywords:		
Font ID:	<u>Courier</u>	
Font Size:	<u>.000</u>	
Page Keywords		
Measure Method:	<u>*TGTSIZE</u>	(*TGTSIZE, *SPLFILE)
Width:	<u>8.500</u>	
Length:	<u>11.000</u>	
Rotate Column:	<u>80</u>	
Spool PDF Overlay/400 Spec Name: <u>*NONE</u>		
Compress Page Data:	<u>*YES</u>	(*YES, *NO)
Descriptive Text:	<u></u>	
F3=Exit F12=Cancel Current Operation		

Font ID

Specifies the Font **ID** to use. E-mail Utilities uses the Type1 Base Fonts when generating **PDF** output. Select from one of the following Adobe Type1 Base Fonts:

- + Courier
- + Courier-Bold
- + Courier-BoldOblique
- + Courier-Oblique
- + Helvetica
- + Helvetica-Bold
- + Helvetica-BoldOblique
- + Helvetica-Oblique
- + Times-Roman
- + Times-Bold
- + Times-Italic
- + Times-BoldItalic
- + Symbol
- + ZaphDingbats

Font Size

Specifies the size of the font in points. Specify a point size or the following:

0: E-mail Utilities will calculate the font point size based on page width and characters per line values.

DEFINE FILE FORMAT SPECIFICATIONS

Measure Method:

Specifies how E-mail Utilities will calculate the page size. Most AS/400 output is generated to print on 14 by 11 inch paper, and most PC printers are 8.5 by 11 inches. E-mail Utilities can convert the output size if desired. Specify one of the following:

***TGTSIZE:** The size of the target system's paper (specified below) will be used to calculate the page size.

***SPLFILE:** The spool file's attributes will be used to calculate the page size.

Width:

Specifies, if ***TGTSIZE** is specified above, the Page Width in inches.

Length:

Specifies, if ***TGTSIZE** is specified above, the Page Length in inches.

Rotate Column:

Specifies if E-mail Utilities is to rotate output 90 degrees and print in landscape mode. If the spool entry's characters per line attribute is greater than the specified value the output page size will be rotated 90 degrees so that the spool entry will print in landscape mode.

Spool PDF Overlay/400 Spec Name:

Specifies, for Adobe PDF files, if the Spool PDF Overlay/400™ Product will be used to create the PDF file. Spool PDF Overlay/400 is a separate product from BDS that supports Overlays, Images, and multiple Fonts. It must be installed on your machine in order to use this feature. Spool PDF Overlay/400 options will override any PDF options specified in E-mail Utilities. Specify one of the following:

***NONE:** Specifies that Spool PDF Overlay/400 will not be used to create the PDF file.

name: Specifies the Spool PDF Overlay/400 Options Spec name to use. The Options Spec must have been created in the Spool PDF Overlay/400 product. Refer to the Spool PDF Overlay/400 documentation for more information on available features and options.

***DFT:** Specifies the default Spool PDF Overlay/400 Options Spec will be used.

Compress Page Data:

Specifies, for Adobe PDF files, if internal page data will be compressed using the FLATE algorithm. Compressing page data can greatly reduce the size of the output PDF file. Specify one of the following:

***YES:** Page data will be compressed.

***NO:** Page data will not be compressed.

Text

Specify up to **30** characters of descriptive text.

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HTML Specifications

E-mail Utilities can generate output in **HTML** format. Options that control the appearance of the **HTML** output are contained in **HTML Specifications**.

Please note: **HTML** keywords are not fully syntax checked by E-mail Utilities. The administrator should test the generated output. For more information on **HTML** keywords and their valid values, refer to an **HTML** reference manual.

Press **F6** to enter new specifications and enter a unique name. The following screen will appear:

Spec: H1	E-mail Utilities™	10/20/00
	Define HTML Specs	15:06:31
General Keywords:		
Title:	_____	==
Content Type:	text/html	==
Character Set:	iso-8859-1	==
Meta Keywords:		
Keywords:	_____	==
Title:	_____	==
Body Keywords:		
Text Color:	_____	==
Backgr Color:	_____	==
Font Keywords:		
Family:	_____	==
Style:	_____	==
Variant:	_____	==
Weight:	_____	==
Size:	_____	==
Descriptive Text:	_____	==
F3=Exit F12=Cancel Current Operation		

General Keywords

Title

Specifies the *title* keyword, used to give the web page a title. Specify a value or spaces for none.

DEFINE FILE FORMAT SPECIFICATIONS

Meta Keywords

Content Type

Specifies the values placed on the META *content-type* .keyword. For most installations, text/html is recommended. Specify a value or spaces for none.

Note: If Content Type is non-blank, Character Set must be non-blank.

Character Set

Specifies the values placed on the META *character-set* .extension of the *content-type* keyword. For most installations, iso-8859-1 is recommended. Specify a value or spaces for none.

Note: If Character Set is non-blank, Content Type must be non-blank.

Keywords

Specifies the Meta *keywords* keyword, used to assign search keywords to the web page. Specify values separated by commas, or spaces for none.

Title

Specifies the Meta *title* keyword, used to assign a title to the web page. Specify a value, or spaces for none.

Body Keywords

E-mail Utilities generates an imbedded style sheet in the **HEAD** section of the web page. A **BODY** subsection is added to the style sheet, which will make the attributes specified here valid for the entire web page. For more information, refer to Style Sheets in an **HTML** reference manual. The following keywords are placed into the *Body* subsection of the style sheet. **Please note:** that the Font Keywords listed below are also placed into the *Body* subsection of the style sheet.

Text Color

Specifies the *color* keyword, used to assign the color of typed text. Specify a value, or spaces for none.

Background Color

Specifies the *bcolor* keyword, used to assign the color of the background. Specify a value, or spaces for none.

Font Keywords

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The following keywords are part of the font family of keywords and are placed into the **Body** subsection of the style sheet.

Family

Specifies the *font-family* keyword. Specify a value, or spaces for none. Some examples of font families are:

Times New Roman
Courier

Style

Specifies the *font-style* keyword. Specify a value, or spaces for none. Some examples of font styles are:

italic
oblique

Variant

Specifies the *font-variant* keyword. Specify a value, or spaces for none. Some examples of font variants are:

Small-caps

Weight

Specifies the *font-weight* keyword. Specify a value, or spaces for none. Some examples of font weights are:

bold
lighter

Size

Specifies the *font-size* keyword. Specify a value, or spaces for none. Some examples of font sizes are:

xx-small
medium
12pt

Text

Specify up to **30** characters of descriptive text.

E-MAIL COMMANDS

E-mail Utilities has the following commands that can send data via E-mail:

- + **EMLDTAF** E-mail a data file
- + **EMLSPLF** E-mail spool files
- + **EMLIFS** E-mail an IFS file

E-mail a Data File

The **EMLDTAF** command will send one or more data file members via E-mail to one or more Internet users. Physical files, logical files, source physical files, and save files can be sent. Up to 50 files can be specified. Up to 50 members can be specified for each file. Each file member appears as an attachment to the E-mail message. Each attachment is encoded using Base 64, a standard encoding scheme understood by all E-mail viewers. The user can specify 2-part attachment names (*i.e.* abc.txt) for each member.

If the **EMLDTAF** command is prompted using **F4** the following screens will appear:

```
Send a data file via E-Mail (EMLDTAF)

Type choices, press Enter.

From Address . . . . . _____
_____
From Name . . . . . _____
_____
To Address . . . . . _____
_____
+ for more values _____
_____
To Name . . . . . _____
_____
+ for more values _____
_____
Subject. . . . . _____
_____
More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

E-MAIL UTILITIES™

Send a data file via E-Mail (EMLDTAF)

Type choices, press Enter.

Attachment Files:

AS/400 file name	_____	Name
AS/400 library name	_____	Name, *LIBL
Member Name	_____	Name, *FILE, *NONE
+ for more values	_____	
Attachment Type	<u>*BIN</u>	*BIN, *TXT, *CSV, *TSV
Attachment File Name	<u>*MBR</u>	
Attachment File Suffix Name . .	<u>*ATCHTYPE</u>	
Options	<u>*NONE</u>	*NONE, *CVTSRC, *TRUNCATE
Encryption Spec Name	<u>*NONE</u>	Character value, *NONE
Encryption Password	<u>*ENCSPC</u>	
+ for more values	_____	

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

E-MAIL COMMANDS

Send a data file via E-Mail (EMLDTAF)

Type choices, press Enter.

Optional Note *NONE

+ for more values

File containing note *NONE Name, *NONE

*LIBL Name, *LIBL

Note file member *FILE Name, *FILE

EBCDIC CCSID *DFT 1-65535, *DFT

ASCII CCSID *DFT 1-65535, *DFT

File containing Recipient List *NONE Name, *NONE

*LIBL Name, *LIBL

Recipient file member *FILE Name, *FILE, *FIRST

Blind Carbon Copy (Bcc) Addr *NONE

Blind Carbon Copy (Bcc) Name *BLANK

+ for more values

File containing Bcc list *NONE Name, *NONE

*LIBL Name, *LIBL

Bcc file member *FILE Name, *FILE, *FIRST

CSV/TSV Heading Option *NONE *NONE, *TEXT, *COLHDG...

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display

F24=More keys

E-MAIL UTILITIES™

```
Send a data file via E-Mail (EMLDTAF)

Type choices, press Enter.

Blind Carbon Copy (Bcc) Addr      *NONE_____
_____
Blind Carbon Copy (Bcc) Name      *BLANK_____
_____

          + for more values _
File containing Bcc list . . . . . *NONE_____      Name, *NONE
          *LIBL_____      Name, *LIBL
Bcc file member . . . . . *FILE_____      Name, *FILE, *FIRST
CSV/TSV Heading Option . . . . . *NONE_____      *NONE, *TEXT, *COLHDG...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

The **EMLDTAF** command has the following parameters:

From Address, From Name (FROMADDR) Parameter

Specifies the sender. Specify up to 64 characters for each or the following special value:

***BLANK:** The name portion of the from-address attribute will be omitted.

Note: See “Address Formats” below for allowable address types and values.

To Address, To Name (TOADDR) Parameter

Specifies, with the **TONAME** parameter, the recipient. Specify up to 64 characters. Specify up to 50 E-mail address/name pairs or one of the following special values:

***FILE:** The recipient list is contained in a physical file specified by the **TOFILE** and **TOMBR** parameters listed below.

***BLANK:** The name portion of the recipient will be omitted.

Note: See “Address Formats” below for allowable address types and values.

- 1) Name/Addresses will appear on the message in the form *from-address* or *from-name <from-address>*.
- 2) E-mail Utilities performs minor edit checking of names and addresses. OS/400 will not notify the **EMLDTAF** command if the recipient list's addresses are found to be invalid. The user must insure the correct name/addresses are entered.

E-MAIL COMMANDS

Subject (SUBJECT) Parameter

Specifies the subject. Specify up to 70 characters, which can include one or more of the following substitution values:

- ***SPLFILE:** The Spool File Name of the spool entry will be substituted.
- ***JOBNAME:** The Job Name of the job that created the spool entry will be substituted.
- ***JOBUSER:** The User Profile Name of the job that created the spool entry will be substituted.
- ***JOBNUM:** The Job Number of the job that created the spool entry, prefixed by 'J' will be substituted.
- ***SPLNUM:** The Spool File Number of the spool entry, prefixed by 'F' will be substituted.
- ***FORMTYP:** The Form Type attribute of the spool entry will be substituted.
- ***USRDTA:** The User Data attribute of the spool entry will be substituted.
- ***OUTQ:** The Outq Name attribute of the spool entry will be substituted.

Attachment File (ATCHFILE) Parameter

Specifies the attachment files to place in the message. Specify up to 50 attachment files. For each attachment file, specify the AS/400 file and library name, up to 50 members, the format type, the attachment name and extension, and options.

Each attachment is encoded using Base 64, a popular encoding method understood by all web browsers.

AS/400 file name Element

Specifies the file on the AS/400 you wish to send. The file must exist on the AS/400.

AS/400 library name Element

Specifies the library where the AS/400 file resides.

Member Name Element

Specifies the members you wish to send. Specify up to 50 members. Each member will appear as a separate attachment in the E-mail message.

***FILE:** The member name is the same as the file name.

***NONE:** No member is specified. This value is only valid for save files, where it is required.

Attachment Type Element

Specifies how the attachment will be formatted. Select one of the following:

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***BIN:** The attachment is a binary file. No EBCDIC to ASCII conversion is performed. No record separators are inserted after each record. This format is useful when sending objects such as save files to other AS/400 machines.

***TXT:** The attachment is a text file. EBCDIC to ASCII conversion is performed. Carriage Return (CRLF) characters are inserted after each record.

***CSV:** The attachment is a Comma Separated Values (CSV) file. CSV is a format understood by most database and Spreadsheet applications including Microsoft Access and Microsoft Excel.

***TSV:** The attachment is a Tab Separated Values (TSV) file. TSV is a format understood by most database and Spreadsheet applications including Microsoft Access and Microsoft Excel.

Attachment File Name and File Suffix Name Elements

Specifies the name of the attachment once it is placed into the E-mail message. Specify a name and optionally a suffix. The attachment name will be generated in the form *name.extention*.

***MBR:** The AS/400 member name is used as the Attachment file name.

***ATCTYPE:** The Attachment type determines the File Suffix name:

*BIN	(no suffix)
*TXT	.txt
*CSV	.csv
*TSV	.tsv

Attachment Options Element

Specifies various formatting options. Select one or more of the following:

***NONE:** No additional options are specified.

***CVTSRC:** For Attachment types *TXT, *CSV, and *TSV only, specifies that the Sequence Number and Change Date fields are dropped. This parameter is ignored if the AS/400 file is not a source physical file.

***TRUNCATE:** For Attachment type *TXT only, specifies if trailing blanks are to be truncated before inserting the CRLF characters.

Encryption Spec Name Element

Specifies the name of the Encryption Spec to use to encrypt the attachment. The Encryption Spec must already exist. Refer to Chapter 8, Manage Encryption Specifications for more information. Select one of the following:

***NONE:** No encryption will be performed on the attachment.

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Encryption Password Element

Specifies, for encrypted attachments, the password needed to access the attachment. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

Optional Note (OPTNOTE) Parameter

Specifies an optional note that will be placed in the message. Specify up to 5 lines of up to 70 characters or one of the following special values:

***NONE:** No optional note is placed into the message.

***BLANK:** A blank line is to be placed into the optional note.

File containing Note (NOTEFILE) Parameter

Specifies the file that contains an additional note to be placed into the message. The file must be a physical file or source physical file. Each record in the file will be formatted as a line in the message. The note will be placed into the message as inline text. It will be converted from EBCDIC to ASCII and a CRLF will be inserted after each (blank truncated) record.

Specify the file and library names or the following special value:

***NONE:** No file is specified.

Note File Member (NOTEMBR) Parameter

Specifies the member to use. Specify a name or one of the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

EBCDIC CCSID (ECCSID) Parameter

Specifies, if EBCDIC to ASCII conversion is performed, the EBCDIC CCSID to pass to the conversion routine. Specify a number (i.e. 37 is US English) or the following:

***DFT:** The default EBCDIC CCSID, specified on the Tailoring Options screen, is used.

ASCII CCSID (ACCSID) Parameter

Specifies, if EBCDIC to ASCII conversion is performed, the ASCII CCSID to pass to the conversion routine. Specify a number (i.e. 437 is US English) or the following:

***DFT:** The default ASCII CCSID, specified on the Tailoring Options screen, is used.

File containing Recipient List (TOFILE) Parameter

Specifies, if TOADDR(*FILE) is specified, the file which contains the recipient addresses and names.

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The file must exist. The file must be a physical file, logical file, or source physical file. Each record in the file will be processed as a recipient of the message. The record length of the file is optional but 128 bytes is recommended. Place the address in the first 64 characters of the record. Place the name (if desired) in positions 65 thru 128. The name portion can be left blank. Record lengths other than 128 will be padded with blanks or truncated as needed.

Place an * in column 1 to designate a comment record. Comment records will be ignored.

Specify the file and library names or the following special value:

***NONE:** No file is specified.

Recipient File Member (TOMBR) Parameter

Specifies, the member to use. Specify a name or the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

Blind Carbon Copy (Bcc) Address, (BCCADDR) Parameter

Specifies Bcc recipients. Bcc recipients' name/addresses will not appear anywhere in the message.

Specify up to 64 characters. Specify up to 50 E-mail address/name pairs or one of the following special values:

***FILE:** The recipient list is contained in a physical file specified by the **BCCFILE** and **BCCMBR** parameters listed below.

***BLANK:** The name portion of the Bcc recipient will be omitted.

Note: See "Address Formats" below for allowable address types and values.

File containing Bcc Recipient List (BCCFILE) Parameter

Specifies, if **BCCADDR(*FILE)** is specified, the file which contains the Bcc recipient addresses and names. The file must exist. The file must be a physical file, logical file, or source physical file. Each record in the file will be processed as a recipient of the message. The record length of the file is optional but 128 bytes is recommended. Place the address in the first 64 characters of the record. Place the name (if desired) in positions 65 thru 128. The name portion can be left blank. Record lengths other than 128 will be padded with blanks or truncated as needed.

Place an * in column 1 to designate a comment record. Comment records will be ignored.

Specify the file and library names or the following special value:

***NONE:** No file is specified.

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Bcc Recipient File Member (BCCMBR) Parameter

Specifies, the member to use. Specify a name or the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

CSV/TSV Heading Option (HDGOPT) Parameter

Specifies, for part types *CSV and *TSV only, the type of heading records to write prior to writing the data records. The field description for each field will be examined. All generated heading cells will be treated as character text. If no non-blank cells are found, the line will not be generated. Specify one of the following:

***NONE:** No heading records will be generated.

***TEXT:** The TEXT attribute of each field will be used to generate the heading record. One heading record will be generated.

***COLHDG:** The COLHDG (Column Heading) attribute of each field will be used to generate the heading record. One heading record will be generated. If more than one COLHDG value is defined for a field (up to 3 are allowed), the defined values will be blank-concatenated together to make 1 value.

***COLHDG1:** The COLHDG (Column Heading) attribute of each field will be used to generate the heading record. One heading record will be generated. If more than one COLHDG value is defined for a field (up to 3 are allowed), only the first value will be used.

***FLDNAME:** The Field Name attribute of each field will be used to generate heading records. One heading record will be generated.

***AFLDNAME:** The Alternative Name attribute of each field will be used to generate heading records. One heading record will be generated.

Example: The following command will send a data file to an Internet user:

```
EMLDTAF FROMADDR('me@here' 'Me at Here') TOADDR(('you@there' 'You at There'))
SUBJECT('Test subject') ATCHFILE((QGPL/QCLSRC (MBR1) *TXT *MBR
ATCHTYPE (CVTSRC)))
```

E-mail a Spool File

The **EMLSPLF** (E-mail a spool file) command can send a spool entry in an OS/400 outq via E-mail to one or more Internet users. The users can use common E-mail viewers such as Microsoft Outlook or Netscape Communicator to view the sent E-Mail. The spool entry can appear in the mail inline or as an

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attachment. Attachments can be unformatted or can be in Adobe PDF, CSV (Comma Separated Values), or TSV (Tab Separated Values) format. The user can specify up to 50 recipients or can specify a data file which contains the list of recipients.

If executed the following screens will appear:

```
Send a spool entry via E-Mail (EMLSPLF)

Type choices, press Enter.

Spool entry's file name . . . . _____      Name
Spool entry's Job Name . . . . *CURRENT       Name, *CURRENT
  User . . . . . _____      Name
  Number . . . . . _____     000000-999999
Spool entry's file number . . . *LAST         Name, *ONLY, *LAST
From Address . . . . . _____
_____
_____
_____
From Name . . . . . _____
_____
_____
_____
More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

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Send a spool entry via E-Mail (EMLSPLF)

Type choices, press Enter.

To Address _____

+ for more values _____

To Name _____

+ for more values _____

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

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```
Send a spool entry via E-Mail (EMLSPLF)
Type choices, press Enter.

Addl Spool Entry Atchmnt List:
Spool entry's file name . . . *PREVENT      Name, *PREVENT
Spool entry's Job Name . . . *PREVENT      Name, *PREVENT, *CURRENT
  User . . . . .                _____ Name
  Number . . . . .              _____ 000000-999999
Spool entry's file number . . *PREVENT      Number, *ONLY, *LAST...
Attachment Type . . . . .      *PREVENT      *PREVENT, *INLUNF, ...
Attachment Name . . . . .      *PREVENT      _____=
Attachment name suffix . . . . *PREVENT      _____=
CSV/TSV or PDF Spec Name . . . *PREVENT      Character, *PREVENT...
Encryption Spec Name . . . . . *PREVENT      Character, *PREVENT...
Encryption Password . . . . . *PREVENT      _____=

+ for more values

Bottom

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

The **EMLSPLF** command has the following parameters:

Spool entry's file name (SPLFILE) Parameter

Specifies, with the **SPLJOB** and **SPLNBR** parameters, the spool entry to E-Mail. OS/400 uses the combination of Job name, spool file name, and spool file number to uniquely identify a spool entry in the system

Spool entry's Job name (SPLJOB) Parameter

Specifies, with the **SPLFILE** and **SPLNBR** parameters, the spool entry to E-Mail. Specify the Job name, user, and number. The user may also specify the following special value:

***CURRENT:** The job that issues the **EMLSPLF** command will be used to identify the spool entry.

Spool entry's file number (SPLNBR) Parameter

Specifies, with the **SPLFILE** and **SPLJOB** parameters, the spool entry to E-Mail. Specify the file number or one of the following special values:

***LAST:** The last spool file which the job created will be sent.

***ONLY:** The only spool file which the job created will be sent.

From Address (FROMADDR) Parameter

Specifies, with the **FROMNAME** parameter, the sender. Specify up to 256 characters.

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From Name (FROMNAME) Parameter

Specifies, with the **FROMADDR** parameter, the sender. Specify up to 256 characters or the following special value:

***BLANK:** The name portion of the from-address will be omitted.

To Address (TOADDR) Parameter

Specifies, with the **TONAME** parameter, the recipient. Specify up to 256 characters. Specify up to 50 E-mail addresses or the following special value:

***FILE:** The recipient list is contained in a physical file specified by the **TOFILE** and **TOMBR** parameters listed below.

To Name (TONAME) Parameter

Specifies, with the **TOADDR** parameter, the recipient. Specify up to 256 characters. Specify up to 50 names or the following special value:

***BLANK:** The name portion of the recipient will be omitted.

Notes:

- 1) Name/Addresses will appear on the message in the form *from-address* or *from-name <from-address>*.
- 2) **TOADDR** and **TONAME** parameters will be paired together when building the recipient list. Care must be taken when specifying a large list of recipients.
- 3) E-mail Utilities performs very little edit checking of names and addresses. OS/400 will not notify the **EMLSPLF** command if the recipient list's addresses are found to be invalid. The user must insure the correct name/addresses are entered.

Subject (SUBJECT) Parameter

Specifies the subject. Specify up to 70 characters:

Optional Note (OPTNOTE) Parameter

Specifies an optional note that can be sent in front of the spool entry. Specify up to 5 lines of up to 70 characters or one of the following special values:

***NONE:** No optional note is placed into the message.

***BLANK:** A blank line is to be placed into the optional note.

Attachment Type (PARTTYPE) Parameter

Specifies the type of formatting to use when building the attachment. Select one of the following:

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***INLUNF:** The spool file is placed in the message as inline, unformatted text.

***ATHUNF:** The spool file is placed in the message as an unformatted text file attachment.

***PDF:** The spool file is placed in the message as a PDF attachment.

***CSV:** The spool file is placed in the message as a Comma Separated Values (CSV) attachment.

***TSV:** The spool file is placed in the message as a Tab Separated Values (TSV) attachment.

Attachment Name (ATHNAME) Parameter

Specifies, for Attachment Types *ATHUNF, *PDF, *CSV, and *TSV, the file name of the attachment: Specify up to 32 characters or one of the following:

***SPLFILE:** The spool entry's spool file name is used as the attachment name.

***JOBNAME:** The spool entry's Job Name is used as the attachment name.

***JOBUSER:** The spool entry's Job User ID is used as the attachment name.

***SPLNUM:** The spool entry's Spool File Number is used as the attachment name.

***FORMTYP:** The spool entry's form type attribute is used as the attachment name.

***USRDTA:** The spool entry's User Data attribute is used as the attachment name.

***OUTQ:** The spool entry's Outq name attribute is used as the attachment name.

Attachment Name Suffix (ATHTYPE) Parameter

Specifies, for Attachment Types *ATHUNF, *PDF, *CSV, and *TSV, the file name suffix of the attachment: Specify up to 32 characters or the following:

***PARTYP:** The Attachment type is used to determine the suffix:

*ATHUNF	.txt
*PDF	.pdf
*CSV	.csv
*TSV	.tsv

File containing Recipient List (TOFILE) Parameter

Specifies, if **TOADDR(*FILE)** is specified, the file which contains the recipient addresses and names. The file must exist.

The file must be a physical file. Each record in the file corresponds to a recipient of the message. The

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record length of the file is optional but 128 bytes is recommended. Place the address in the first 64 characters of the record. Place the name (if desired) in positions 65 thru 128. The name portion can be left blank. Record lengths other than 128 will be padded with blanks or truncated as needed.

Place an * in column 1 to designate a comment record. Comment records will be ignored.

Specify the file and library names or the following special value:

***NONE:** No file is specified.

Recipient File Member (TOMBR) Parameter

Specifies, the member within the To-file to use. Specify a name or one of the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

CSV/TSV or PDF Spec Name (SPECNAME) Parameter

Specifies, for CSV, TSV, and PDF types, the Specifications name to use. PDF/CSV specs contain options used when formatting the spool entry. The spec must be defined prior to use. Specify a name or the following.

***NONE:** No Spec will be used.

Encryption Spec Name Parameter

Specifies the name of the Encryption Spec to use to encrypt the attachment. The Encryption Spec must already exist. Refer to Chapter 8, Manage Encryption Specifications for more information. Select one of the following:

***NONE:** No encryption will be performed on the attachment.

Encryption Password Parameter

Specifies, for encrypted attachments, the password needed to access the attachment. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

Bcc Address (BCCADDR) Parameter

Specifies Bcc (Blind Carbon Copy) recipients. Bcc recipients will not appear in the message header. Specify up to 256 characters. Specify up to 50 E-mail addresses or one of the following special values:

***EMLSPC:** The E-Mail specification entered above contains the to-address value to place into the message. Please note that the distribution list will not be used. See *EMLDST below.

***EMLDST:** The E-Mail specification entered above contains the to-address and the distribution list

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to use as the recipient list.

***FILE:** The recipient list is contained in a physical file specified by the **BCCFILE** and **BCCMBR** parameters listed below.

***NONE:** No address is specified.

***USRPRF(xxxxx):** The SMTP address associated with the specified user profile will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

USRPRF(*JOBUSER): The SMTP address associated with the sending job's user profile will be used as the address.

USRPRF(*SPLUSER): The SMTP address associated with the spool entry's user profile attribute will be used as the address.

***SNADSUSR(xxxxx yyyy):** The SMTP address associated with the specified SNADS User will be used as the address. Use the Work with directory entries command (WRKDIRE) to determine SMTP address associations.

***BLANK:** The name portion of the recipient will be omitted.

File containing Bcc Recipient List (BCCFILE) Parameter

Specifies, if **BCCADDR(*FILE)** is specified, the file which contains the recipient addresses and names. The file must exist.

The file must be a physical file. Each record in the file corresponds to a Bcc recipient of the message. The record length of the file is optional but 128 bytes is recommended. Place the address in the first 64 characters of the record. Place the name (if desired) in positions 65 thru 128. The name portion can be left blank. Record lengths other than 128 will be padded with blanks or truncated as needed.

Place an * in column 1 to designate a comment record. Comment records will be ignored.

Specify the file and library names or one of the following special values:

***NONE:** No file is specified.

Bcc Recipient File Member (BCCMBR) Parameter

Specifies, the member within the Bcc-file to use. Specify a name or one of the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

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Add Spool Entry Attachment List (ATCHLST) Parameter

Specifies additional spool entry attachments to place into the message. Specify up to 50 entries. For each entry, specify a E-mail Specification, Spool File Name and Number, Job Name User and Number, a PDF/CSV/TSV Spec name, a File Attachment Name, an Encryption Spec name, and an Encryption Password . See the corresponding attributes described earlier for a complete description of each element. Specify up to 50 entries. Note the following special values:

***PREVENT:** Use the value specified on the previous entry for this entry. If this is the first additional entry, use the value specified on the corresponding first attribute (EMLSPC attr, SPLFILE attr, etc) for this value.

Example: The following command will send a spool entry created by you to an internet user

```
EMLSPLF SPLFILE(ACT0200) SPLJOB(*CURRENT) SPLNBR(*LAST)
FROMADDR('me@here') FROMNAME('Me at Here') TOADDR('you@there')
TONAME('You at There') SUBJECT('Weekly Accounting Report')
```

E-mail an IFS File

The **EMLIFSF** command will send one or more IFS (stream) files via E-mail to one or more Internet users. The IFS files can be created via PC applications and transferred to the AS/400, allowing the user to create high quality attachments for their E-mail. An example of creating and sending a formatted HTML message is provided below.

Up to 50 files can be specified. Each file can appear as an attachment to the E-mail message or as inline text. Attachments are encoded using Base 64, a standard encoding scheme understood by all E-mail viewers. Files can be appended to the previous file. The user can specify 2-part attachment names (*i.e.* abc.txt) for each member.

If the **EMLIFSF** command is prompted using **F4** the following screens will appear:

E-MAIL COMMANDS

Send an IFS file via E-Mail (EMLIFSF)

Type choices, press Enter.

From Address _____

From Name _____

To Address _____

+ for more values _____

To Name _____

+ for more values _____

Subject. _____

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

E-MAIL UTILITIES™

Send an IFS file via E-Mail (EMLIFSF)

Type choices, press Enter.

Attachment Files:

AS/400 IFS Path and File Name . _____

Attachment Type *INLINE *INLINE, *ATCHMNT
Attachment Content Type 'text'
Attachment Content Subtype 'plain'
Attachment File Name *ATCHTYPE
Convert EBCDIC to ASCII. *FILE *FILE, *YES, *NO
Append to previous attachment *NO *YES, *NO
Encryption Spec Name *NONE Character value, *NONE
Encryption Password *ENCSPC
+ for more values -

Optional Note *NONE

+ for more values _____

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

E-MAIL COMMANDS

```

Send an IFS file via E-Mail (EMLIFSF)

Type choices, press Enter.

File containing note . . . . . *NONE_____ Name, *NONE
                               *LIBL_____ Name, *LIBL
Note file member . . . . . *FILE_____ Name, *FILE
EBCDIC CCSID . . . . . *DFT_____ 1-65535, *DFT
ASCII CCSID . . . . . *DFT_____ 1-65535, *DFT
File containing Recipient List . *NONE_____ Name, *NONE
                               *LIBL_____ Name, *LIBL
Recipient file member . . . . . *FILE_____ Name, *FILE, *FIRST

Blind Carbon Copy (Bcc) Addr _____ *NONE_____
Blind Carbon Copy (Bcc) Name _____ *BLANK_____

+ for more values _
File containing Bcc list . . . . . *NONE_____ Name, *NONE
                               *LIBL_____ Name, *LIBL
Bcc file member . . . . . *FILE_____ Name, *FILE, *FIRST
Primary Content Subtype . . . . . 'mixed'_____

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

The **EMLIFSF** command has the following parameters:

From Address, From Name (FROMADDR) Parameter

Specifies the sender. Specify up to 64 characters for each or the following special value:

***BLANK:** The name portion of the from-address attribute will be omitted.

Note: See “Address Formats” below for allowable address types and values.

To Address, To Name (TOADDR) Parameter

Specifies, with the **TONAME** parameter, the recipient. Specify up to 64 characters. Specify up to 50 E-mail address/name pairs or one of the following special values:

***FILE:** The recipient list is contained in a physical file specified by the **TOFILE** and **TOMBR** parameters listed below.

***BLANK:** The name portion of the recipient will be omitted.

E-MAIL UTILITIES™

Note: See “Address Formats” below for allowable address types and values.

- 1) Name/Addresses will appear on the message in the form *from-address* or *from-name <from-address>*.
- 2) E-mail Utilities performs minor edit checking of names and addresses. OS/400 will not notify the **EMLIFSF** command if the recipient list's addresses are found to be invalid. The user must insure the correct name/addresses are entered.

Subject (SUBJECT) Parameter

Specifies the subject. Specify up to 70 characters:

Attachment File (ATCHFILE) Parameter

Specifies the attachment files to place in the message. Specify up to 50 attachment files. For each attachment file, specify the path and file name, the attachment type, and options.

AS/400 Path and file name Element

Specifies the IFS file on the AS/400 you wish to send. The path and file must exist on the AS/400. For example:

/mydir/myfile.html

Attachment Type Element

Specifies how the attachment will be formatted. Select one of the following:

***INLINE:** The IFS file is placed into the message as inline text.

***ATCHMNT:** The IFS file is placed into the message as an attachment. The attachment is encoded using Base 64, a popular encoding method understood by all web browsers.

Attachment Content Type and Subtype Elements

Specifies the type/subtype values to place into MIME Content-Type header attribute. Refer to RFC 2045 thru 2048 for a description of MIME messages.

text/plain: The value text/plain will be placed into the Content-Type header field.

Attachment File Name Element

Specifies the name of the attachment once it is placed into the E-mail message.

***IFSF:** The AS/400 IFS file name is used as the Attachment file name.

Convert EBCDIC to ASCII Element

Specifies if the IFS file data is to be converted to ASCII. The EBCDIC and ASCII CCSID's to use for the conversion are specified below. Select one or more of the following:

E-MAIL COMMANDS

***FILE:** The CCSID of the IFS file is examined. If it is different than the specified ASCII CCSID, conversion will take place. Otherwise no conversion will take place.

***YES:** EBCDIC to ASCII conversion will take place using the EBCDIC and ASCII CCSIDs specified below.

***NO:** No EBCDIC to ASCII conversion will take place.

Append to previous attachment Element

Specifies if this IFS file's data is to be added to the data in the previous file. This parameter is ignored if the previous attachment type (*INLINE, *ATCHMNT) is different. This parameter is also ignored if the Encryption Spec or password is different. The first IFS file can be appended to the note lines or file if they are specified. The note is considered *INLINE. Select one or more of the following:

***NO:** Do not append this file to the previous file.

***YES:** Append this file to the previous file data.

Encryption Spec Name Element

Specifies the name of the Encryption Spec to use to encrypt the attachment. The Encryption Spec must already exist. Refer to Chapter 8, Manage Encryption Specifications for more information. Select one of the following:

***NONE:** No encryption will be performed on the attachment.

Encryption Password Element

Specifies, for encrypted attachments, the password needed to access the attachment. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

Optional Note (OPTNOTE) Parameter

Specifies an optional note that will be placed in the message. Specify up to 5 lines of up to 70 characters or one of the following special values:

***NONE:** No optional note is placed into the message.

***BLANK:** A blank line is to be placed into the optional note.

File containing Note (NOTEFILE) Parameter

Specifies the file that contains an additional note to be placed into the message. The file must be a physical file or source physical file. Each record in the file will be formatted as a line in the message. The note will be placed into the message as inline text. It will be converted from EBCDIC to ASCII and a CRLF will be inserted after each (blank truncated) record.

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Specify the file and library names or the following special value:

***NONE:** No file is specified.

Note File Member (NOTEMBR) Parameter

Specifies, the member to use. Specify a name or one of the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

EBCDIC CCSID (ECCSID) Parameter

Specifies, if EBCDIC to ASCII conversion is performed, the EBCDIC CCSID to pass to the conversion routine. Specify a number (i.e. 37 is US English) or the following:

***DFT:** The default EBCDIC CCSID, specified on the Tailoring Options screen, is used.

ASCII CCSID (ACCSID) Parameter

Specifies, if EBCDIC to ASCII conversion is performed, the ASCII CCSID to pass to the conversion routine. Specify a number (i.e. 437 is US English) or the following:

***DFT:** The default ASCII CCSID, specified on the Tailoring Options screen, is used.

File containing Recipient List (TOFILE) Parameter

Specifies, if **TOADDR(*FILE)** is specified, the file which contains the recipient addresses and names. The file must exist. The file must be a physical file, logical file, or source physical file. Each record in the file will be processed as a recipient of the message. The record length of the file is optional but 128 bytes is recommended. Place the address in the first 64 characters of the record. Place the name (if desired) in positions 65 thru 128. The name portion can be left blank. Record lengths other than 128 will be padded with blanks or truncated as needed.

Place an * in column 1 to designate a comment record. Comment records will be ignored.

Specify the file and library names or the following special value:

***NONE:** No file is specified.

Recipient File Member (TOMBR) Parameter

Specifies, the member to use. Specify a name or the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

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Blind Carbon Copy (Bcc) Address, (BCCADDR) Parameter

Specifies Bcc recipients. Bcc recipients' name/addresses will not appear anywhere in the message. Specify up to 64 characters. Specify up to 50 E-mail address/name pairs or one of the following special values:

***FILE:** The recipient list is contained in a physical file specified by the **BCCFILE** and **BCCMBR** parameters listed below.

***BLANK:** The name portion of the Bcc recipient will be omitted.

Note: See "Address Formats" below for allowable address types and values.

File containing Bcc Recipient List (BCCFILE) Parameter

Specifies, if **BCCADDR(*FILE)** is specified, the file which contains the Bcc recipient addresses and names. The file must exist. The file must be a physical file, logical file, or source physical file. Each record in the file will be processed as a recipient of the message. The record length of the file is optional but 128 bytes is recommended. Place the address in the first 64 characters of the record. Place the name (if desired) in positions 65 thru 128. The name portion can be left blank. Record lengths other than 128 will be padded with blanks or truncated as needed.

Place an * in column 1 to designate a comment record. Comment records will be ignored.

Specify the file and library names or the following special value:

***NONE:** No file is specified.

Bcc Recipient File Member (BCCMBR) Parameter

Specifies, the member to use. Specify a name or the following special values:

***FILE:** The member name is the same as the file name.

***FIRST:** The first member added to the file will be used.

Examples: The following command will send an IFS file to an Internet user:

```
EMLIFSF FROMADDR(tech@broderickdata.com 'Tech Support') TOADDR((you@there.com
'To Name')) SUBJECT('Appendix A') ATCHFILE('/yourdir/appxa.pdf'
*ATCHMNT)) OPTNOTE('Here is appendix A in PDF format.')
```

Address Formats

The E-mail Utilities addresses (from, to, Bcc) can be in the following formats:

SMTP

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User profile
SNADS user

SMTP: SMTP addresses must be in the format:

name@domain

The name and domain values cannot contain special characters (<, [] etc).

User Profile: User profiles must be specified as USRPRF(XXXXX), where XXXXX is a valid user profile and has an SMTP address defined for it in the system directory. E-mail Utilities will look up the SMTP address for the specified user and substitute its SMTP address.

SNADS user: SNADS users must be specified as SNADSUSR(XXXXX yyyyy), where XXXXX yyyyy is a valid SNADS user and has an SMTP address defined for it in the system directory. E-mail Utilities will look up the SMTP address for the specified user and substitute its SMTP address.

Example HTML Attachment

Using E-mail utilities, you can assemble high-quality E-mail messages and send them to desired users. Below is an example of how to do this.

1) On a PC, create a new directory. Use Microsoft's FrontPage or another HTML editor to create an HTML page (page1.htm). Copy any graphics (company logos, etc) used by your page into the new directory.

If your page does not have any referebced files (SRC=, etc) you do not need an HTTP server to serve them and can skip to step 4.

2) Create a subdirectory on an HTTP server that is available to public (or at least available to your recipients) web browsers. Browsers should be able to access a page in this directory using the URL

<http://yourserver.com/yourdir/page1.htm>

Copy the files in your new PC directory to the server's directory.

Note: The AS/400 has an excellent HTTP server. If you use it you may not need to copy files.

3) Edit the HTML page again, changing the file references. Look for 'SRC=' and 'HREF='. For example SRC="graphic1.jpg" must be changed to SRC="<http://www.yourserver.com/yourdir/graphic1.jpg>". You must do this because your recipient's PC will not have your directory and files on it.

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4) Copy the HTML file (page1.htm) to an IFS directory on your AS/400. You do not need to copy the files that your HTML file refers to over to the AS/400.

5) Test the message. Send the file to yourself or your home computer. Verify all files and links are working properly:

```
EMLIFSF FROMADDR(you@you.com 'Tech Support') TOADDR((you@you.com 'To addr'))  
SUBJECT('Test HTML') ATCHFILE('/http/test1/page1.htm' *INLINE 'text'  
'html'))
```

6) Prepare a recipient list. Consider using the BCCADDR parameter instead of the TOADDR parameter. You may build the recipient list into a file.

7) Send the file using the EMLIFSF command, specifying the actual recipients.

IFS DIRECTORY COMMANDS

E-mail Utilities can move data to an **IFS** Directory. Once moved, other tasks can access the spool entries. For example if **OS/400 HTTP** server is setup, Internet users can access the spool entries in the **IFS** directory from web browsers. **FTP** clients can also access the files written by E-mail Utilities into **IFS** directories. The following E-mail Utilities commands can write to **IFS** directories:

- + **DIRDTAF** command
- + **DIRSPLF** command

Copy a Data File to IFS Directory

The **DIRDTAF** command copies data files to an IFS directory. Physical files, logical files, source physical files, and save files can be copied. Files written to **IFS** directories can be in the following formats:

- + Text
- + Binary
- + CSV (Spreadsheet, database)
- + TSV (Spreadsheet, database)

Enter the **DIRSPLF** command and press **F4**. The following screen will appear:

```

                Move a data file to IFS Dir (DIRDTAF)
Type choices, press Enter.

Path and File Name . . . . . _____

AS/400 File name . . . . . _____      Name
AS/400 library name . . . . .  *LIBL      Name, *LIBL
Member Name . . . . .  *FILE      Name, *FILE, *NONE
Format Type . . . . .  *BIN      *BIN, *TXT, *CSV, *TSV
Options . . . . .  *NONE      *NONE,*CVTSRC, *TRUNCATE

EBCDIC CCSID . . . . .  *DFT      1-65535, *DFT
ASCII CCSID . . . . .  *DFT      1-65535, *DFT
Data Authorities Assigned . . . . .  *DFT      *DFT, *IRUSR, *IWUSR...
      + for more values
Encryption Spec Name . . . . .  *NONE      Character value, *NONE
Encryption Password . . . . .  *ENCSPC

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

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Path and File Name (FILENAME) Parameter

Specifies the path and file name of the moved spool entry.

Note: Include a leading forward slash.

Note: File System QDLS is not supported.

AS/400 File Name (A400FILE) Parameter

Specifies the file on the AS/400 to copy to the IFS area:

Name Qualifier

Specifies the file name.

Library Qualifier

Specifies the library. Specify a name or the following:

***LIBL:** The job's library list is searched for the file.

Member Name (A400MBR) Parameter

Specifies the member to copy. Specify a name or one of the following:

***FILE:** The member name is the same as the file name.

***NONE:** No member is specified. This value is only valid for save files, where it is required.

File Format (FILETYPE) Parameter

Specifies the format of the output files generated. Specify one of the following:

***BIN:** The IFS file is a binary file. No EBCDIC to ASCII conversion is performed. No record separators are inserted after each record. This format is useful when sending objects such as save files to other AS/400 machines.

***TXT:** The IFS file is a text file EBCDIC to ASCII conversion is performed. Carriage Return (CRLF) characters are inserted after each record.

***CSV:** The IFS file is a Comma Separated Values (CSV) file. CSV is a format understood by most database and Spreadsheet applications including Microsoft Access and Microsoft Excel.

***TSV:** The IFS file is a Tab Separated Values (TSV) file. TSV is a format understood by most database and Spreadsheet applications including Microsoft Access and Microsoft Excel.

EBCDIC CCSID (ECCSID) Parameter

IFS DIRECTORY COMMANDS

Specifies, if EBCDIC to ASCII conversion is performed, the EBCDIC CCSID to pass to the conversion routine. Specify a number (i.e. 37 is US English) or the following:

***DFT:** The default EBCDIC CCSID, specified on the Tailoring Options screen, is used.

ASCII CCSID (ACCSID) Parameter

Specifies, if EBCDIC to ASCII conversion is performed, the ASCII CCSID to pass to the conversion routine. Specify a number (i.e. 437 is US English) or the following:

***DFT:** The default ASCII CCSID, specified on the Tailoring Options screen, is used.

Data Authorities Assigned (DTAAUT) Parameter

Specifies, if the IFS file is created, the data authorities assigned to the IFS file. See “Data Authorities” below for a description of the valid values.

***DFT:** The *IRWXU and *IRWXO values (see below) will be used.

Encryption Spec Name Parameter

Specifies the name of the Encryption Spec to use to encrypt the data. The Encryption Spec must already exist. Refer to Chapter 8, Manage Encryption Specifications for more information. Select one of the following:

***NONE:** No encryption will be performed on the attachment.

Encryption Password Parameter

Specifies, for encrypted files, the password needed to access the data. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

Copy a Spool File to IFS Directory

The **DIRSPLF** command moves a spool to an IFS directory. Files written to **IFS** directories can be in the following formats:

- + Text
- + Adobe PDF
- + HTML
- + CSV (Spreadsheet, database)
- + TSV (Spreadsheet, database)

Enter the **DIRSPLF** command and press **F4**. The following screen will appear:

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```
Move Spool Entry to IFS Directory (DIRSPLF)
Type choices, press Enter.

Spool entry's file name . . . . . _____ Name
File Path and Name . . . . . _____

-----
Spool entry's Job Name . . . . . *CURRENT Name, *CURRENT
  User . . . . . _____ Name
  Number . . . . . _____ 000000-999999
Spool entry's file number . . . *LAST Number, *ONLY, *LAST
File Format . . . . . *TXT *PDF, *HTML, *CSV, *TXT
PDF, CSV/RSV, or HTML Spec Name . *NONE Character value
Data Authorities Assigned . . . . *DFT *DFT, *IRUSR, *IWUSR...
      + for more values _____
Encryption Spec Name . . . . . *NONE Character value, *NONE
Encryption Password . . . . . *ENCSPC
Combine Overprint Lines . . . . . *DFT *DFT, *YES, *NO
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

Spool entry's file name (SPLFILE) Parameter

Specifies the spool file name to move.

File Path and Name (FILENAME) Parameter

Specifies the path and file name of the moved spool entry.

Note: Include a leading forward slash.

Note: File System QDLS is not supported.

Spool entry's Job name (SPLJOB) Parameter

Specifies the Job name to move. Specify Name, User, and Number or the following:

***CURRENT:** The current job's job, user, and number will be used.

Spool entry's File Number (SPLNBR) Parameter

Specifies the spool file number to move. Specify a number or one of the following:

***LAST:** The last file will be used.

***ONLY:** The only file will be used.

Note: The 5 values, *Spool file name*, *Job Name/user/number*, and *spool file number*, uniquely identify a spool entry to OS/400.

IFS DIRECTORY COMMANDS

File Format (FILETYPE) Parameter

Specifies the format of the output files generated. Specify one of the following:

***TXT:** Text files will be created.

***PDF:** Adobe PDF files will be created.

***HTML:** HTML files will be created.

***CSV:** Comma Separated Values (CSV) files will be created.

***TSV:** Tab Separated Values (TSV) files will be created.

Spec Name (SPECNAME) Parameter

Specifies, for types ***PDF**, ***HTML**, ***CSV**, and ***TSV**, the specifications name to use. The spec name contains parameters used to create the output file, for example Font point size. This field is required for type ***CSV** and ***TSV**. The spec must exist. Specify a name or the following:

***NONE:** No specification will be used. For types ***PDF** and ***HTML**, default values will be used.

Data Authorities Assigned (DTAAUT) Parameter

Specifies, if the IFS file is created, the data authorities assigned to the IFS file. See “Data Authorities” below for a description of the valid values.

***DFT:** The ***IRWXU** and ***IRWXO** values (see below) will be used.

Encryption Spec Name Parameter

Specifies the name of the Encryption Spec to use to encrypt the data. The Encryption Spec must already exist. Refer to Chapter 8, Manage Encryption Specifications for more information. Select one of the following:

***NONE:** No encryption will be performed on the attachment.

Encryption Password Parameter

Specifies, for encrypted files, the password needed to access the data. Specify a value or select one of the following:

***ENCSPC:** The password is contained in the Encryption Spec specified above.

Data Authorities

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Specifies, for created IFS Files only, the Data Authorities assigned to the created file. The valid values and their meanings are:

- ***IRUSR**: The creating user will have **read** access to the created file.
- ***IWUSR**: The creating user will have **write** access to the created file.
- ***IXUSR**: The creating user will have **execute** access to the created file.
- ***IRWXU**: The creating user will have **all** access to the created file.
- ***IRGRP**: The creating user's group will have **read** access to the created file.
- ***IWGRP**: The creating user's group will have **write** access to the created file.
- ***IXGRP**: The creating user's group will have **execute** access to the created file.
- ***IRWXG**: The creating user's group will have **all** access to the created file.
- ***IROTH**: The public will have **read** access to the created file.
- ***IWOTH**: The public will have **write** access to the created file.
- ***IXOTH**: The public will have **execute** access to the created file.
- ***IRWXO**: The public will have **all** access to the created file.

Combine Overprint Lines (CMBOVPRT) Parameter

Specifies that overprinted lines (multiple print lines that have the same line number) should be combined into one output print line. For example, it is a programming technique to print a line of data, and then print a line of underlines onto the same print line. Specify one of the following:

- ***DFT**: Use the Email Utilities default. This value is set on the Tailoring Options display.
- ***YES**: Combine overprint lines. The first record of the group is inserted into the output. Additional records on the same print line are inserted only if the characters at their position to be inserted are blank, otherwise the characters are discarded.

Note: The IBM spool entry display shows the last printed characters, not the first.

- ***NO**: Do not combine overprint lines. All overprint records will appear as separate print lines in the output.

DEFINE ENCRYPTION SPECIFICATIONS

E-mail Utilities can encrypt E-mail attachments and IFS files. The encrypted file is an executable (exe) that can run on a Microsoft Windows PC. See the section "Prerequisites" in Chapter 2 for the supported versions of Windows. Users must specify a password to access the encrypted files. The following E-mail Utilities functions can encrypt data:

EMLDTAF	E-mail a data file
EMLSPLF	E-mail spool files
EMLIFS	E-mail an IFS file
DIRDTAF	Write a data file to an IFS Directory
DIRSPLF	Write a spool file to an IFS Directory

E-mail Utilities encryption uses the Rijndael algorithm with a 128 bit key. Rijndael is considered a strong encryption method by the industry.

To encrypt a file, the E-mail Utilities Administrator first defines an Encryption Specification. Next the administrator refers to the Encryption Spec on the desired function, such as the ENCRSPEC parameter of the EMLSPLF command.

To access the Define Encryption Specifications screen, Select **Option 5**, from the Menu.

Press **F6** to add an Encryption Description and enter a name. The following screen will appear:

```

                                E-mail Utilities/400
7/11/05
                                Define Encryption Specifications                                11:28:49
Spec Name: TEST

                                Password: _____
Save File dft Path:  *MYFAVORITES
Save File Name:     *ATHFILE
Save File Extension: *PARTYP
Attachment Extension: exe
Allow Open option:  *YES
Form Text:  E-mail Utilities Encrypted File
Descriptive Text:  _____

F3=Exit  F12=Cancel Current Operation
                                COPR 1989, 2005 BRODERICK DATA SYSTEMS
```

The above parameters have the following definitions:

Password

Specifies the password the user must provide to access the file. When the encrypted file is executed on

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the Windows PC, a form will appear asking for the password. This value cannot be blank.

Save File Dft Path

Specifies the path to display on the Save dialog if the Save button is selected. Specify a valid Windows path or one of the following:

***MYCOMPUTER:** The path for the MyComputer directory will be displayed

***MYDESKTOP:** The path for the user's desktop directory will be displayed

***MYFAVORITES:** The path for the user's favorites directory will be displayed

***SYSTEMDRIVE:** The path for the system drive will be displayed

***HOMEDRIVE:** The path for the user's home directory will be displayed

Save File Name

Specifies the File Name that will be displayed in the Save Dialog if the user clicks the Save button on the target system. Specify a valid Windows file name or one of the following:

***ATHFILE:** The name of the attach file will appear in the Save Dialog's File Name field.

Save File Extension

Specifies the extension that will be displayed in the Save Dialog if the user clicks the Save button on the target system. Specify a valid Windows file extension.

Note: The extension exe is recommended. However some e-mail servers will block e-mail attachments that have an extension of exe. For most of these servers, this blocking of exe files is an option that can be changed by the e-mail server's administrator. Also note that many e-mail clients (such as Microsoft Outlook) also block incoming attachments of type exe, and the user can change settings to allow incoming attachments of type exe. The E-mail Utilities administrator may elect to specify a different attachment type (i.e. exz) and instruct the user to save the attachment to disk and rename the file to xxx.exe.

Allow Open option

Specifies if the user will see an option to Open the file in addition to an option to save the file to disk. Select *YES or *NO.

Form Text

Specifies the text that will appear on the top of the form displayed when the user executes the file. Specify up to 64 characters.

Descriptive Text

Specify up to 30 characters of descriptive text.

APPENDIX A: ELECTRONIC MEDIA DISTRIBUTION

The user can distribute E-mail Utilities to remote systems electronically. Thus the user can install or update E-mail Utilities on similar remote systems (i.e. AS/400 to AS/400's). A working **APPC/APPN** or **TCP** link to the remote system, and a file transfer program such as **FileXfer3X/400** or **FTP** is needed to do this. The Administrator may also use E-mail Utilities to transfer the save files. Below are the steps you must perform to transmit E-mail Utilities to remote systems. **Please note** that a thorough knowledge of the operating systems involved is suggested.

The **AS/400** media consists of **2** libraries:

EMAL40
EMAL40DATA

The steps to distribute E-mail Utilities are:

Source System

- 1) Restore libraries **EMAL40** and **EMAL40DATA** from the **BDS**. Media. For optical disk, the libraries are contained in optical files **EMAL40** and **EMAL40D**.

Note: You must be signed on as a user with ***SECADM** authority when performing the restores.

- 2) Create two save files **SAVEMAL** and **SAVEMALD**.
- 3) Save library **EMAL40** into save file **SAVEMAL**, and library **EMAL40DATA** into save file **SAVEMALD**.
- 4) Delete the libraries **EMAL40** and **EMAL40DATA**.
- 5) Transmit the save files to the remote system(s).

Remote System(s)

- 1) Create and receive the transmitted save files, if necessary.
- 2) Proceed with the update or install instructions with the following:

When requested to restore the install or update objects into library **QTEMP**, use the save file option. Enter save files **SAVEMAL** and **SAVEMALD**.

When executing the install or update command (**BEMINS** or **BEMUPD**) use the save file option. Enter save files **SAVEMAL** and **SAVEMALD**.

E-mail Utilities will be installed or updated.

OS/400 E-MAIL SETUP

To be able to send spool entries via E-Mail to internet users, OS/400 must be set up properly. Below are some OS/400 setup suggestions for OS/400 version 4. For more information contact your E-Mail server's tech support team or IBM.

Sending Mail

To send mail on the AS/400, verify the following steps have been performed.

- 1) Verify the following OS/400 tasks are active:

TCP/IP	STRTCP
SMTP	STRTCPSVR *SMTP
MSF	STRMSF

- 2) Determine the system name of your installations Mail Server. Verify the AS/400 can communicate to it via TCP/IP. For example:

GO CFGTCP

Select option 10, "Work with TCP host table entries"

Add the E-Mail server if necessary.

PING xxxx (xxxx is the E-Mail server's Host Name)

- 3) Add a special directory entry name:

**ADDIRE USRID(INTERNET GATEWAY) USRD('Send mail') SYSNAME(TCPIP)
MSFSRVLVL(*USRIDX) PREFADR(NETUSRID *IBM ATCONXT)**

- 4) Change your distribution attributes:

CHGDSTA SMTPRTE(INTERNET GATEWAY)

- 5) Change your SMTP attributes:

**CHGSMTPA SYSNAME(TCPIP) MAILROUTER(mail.router.name) FIREWALL(*YES)
FWDHUBSVR(mail.router.name)**

If you have a firewall or proxy server, enter the **mail router** and **firewall** parameters.

mail.router.name is your E-mail server and is in your Host Table (step 2)

Note: The **FWDHUBSVR** parameter applies to V7R1 and later.

E-MAIL UTILITIES™

- 6) If changes are made, stop and restart IBM components:

```
ENDTCPSVR *SMTP
ENDMSF
STRTCPSVR *SMTP
STRMSF
```

- 7) Verify your time zone. Enter the following command:

```
WRKSYSVAL QUTCOFFSET
```

Change the value if necessary. Common US time zones are:

	Standard	Daylight Savings
Eastern	-5:00	-4:00
Central	-6:00	-5:00
Mountain	-7:00	-6:00
Pacific	-8:00	-7:00

Note: You must remember to change this value when switching to and from Daylight Savings time.

- 8) To test your setup, use the following OS/400 command to send a test message:

```
SNDDST TYPE(*FILE) TOINET((user@company.com)) DSTD(D1)
      DOCFILE(BDSDATA/BEMHTM) DOCMBR(BEMHTM) DOCTYPE(*FFT)
      SNDFMT(*NOTE)
```

If you do not receive mail as a result of the above command, contact IBM or your network support personnel for assistance.

Preventing Split Messages

As shipped from IBM, OS/400 will split up large outgoing E-mail messages. The split message will appear to most browsers as several messages, each labeled in the message header as message/partial. The problem with this is most E-Mail viewers including Netscape Navigator, Internet Explorer, and Lotus Notes will not properly reassemble message parts back into one large message. To get around this IBM added a POP attribute in version V4R4. Enter the following command:

```
CHGPOPA (Press F4)
```

Change the "Message split size" parameter to *NOMAX. You must end and restart the POP server for the change to take effect (ENDTCPSVR *POP).

For OS/400 versions prior to V4R4, IBM released PTF **SF37157**, which will cause OS/400's POP server

OS/400 E-MAIL SETUP

to not split large messages. PTF SF37157 is very simple; to implement it you only need to create a data area. You may look up PTF SF37157 or enter the following command:

CRTDTAARA QUSRSYS/QTMSNOSPLT TYPE(*CHAR)

You must end and restart the POP server for the change to take effect (ENDTCPSVR *POP).