

NAME

faxmail – *HylaFAX* mail-to-fax gateway application

SYNOPSIS

faxmail [*options*] [*destination* [*from*]]

DESCRIPTION

faxmail takes an electronic mail message on standard input and submits it as a facsimile to a *HylaFAX* server for transmission.

faxmail is designed for use in constructing electronic mail to facsimile gateway services. For example, mail aliases may be created to automatically transmit electronic mail; e.g.

sam: "/usr/local/bin/faxmail sam@5551212"

or *faxmail* may be used as a “mail transport agent”, extracting the necessary delivery information directly from the envelope of the mail message.

FORMATTING

faxmail formats a mail message according to the following rules: First it parses the envelope information interpreting any meta-header information (see below) that is present. Once the entire envelope has been collected it emits a formatted set of header lines. By default all header information except the “From”, “To”, “Cc”, “Subject”, and “Date” lines are discarded. Header lines that are kept have the *tag* (the string to the left of the “:”) set in a *bold font* and the *value* (the string to the right of the “:”) set in an *italic font*. Mail messages that conform to the Multipurpose Internet Mail Extensions (MIME) specification are parsed and handled according to the rules given below. Plain text body parts of a mail message are formatted in a *text font* with any long lines wrapped at word boundaries unless the `-c` option has been specified.

By default, *faxmail* sets all text in 10 point type on an 8.5" by 11" portrait-oriented page with .35" top margin, .25" bottom margin and .25" left and right hand margins. There are command-line options to control the point size, page dimensions, orientation, and multi-column formatting. Text formatting can also be controlled through meta-header directives placed in the envelope of the mail message.

ENVELOPE PROCESSING

faxmail pre-processes the envelope information (i.e. the header lines) before formatting the message contents. Header lines whose names begin with “X-FAX-” (case-insensitive) are handled specially—they are treated as command directives that specify how to generate the resultant POSTSCRIPT or, optionally, how to deliver the resulting document as facsimile. The set of known meta-headers corresponds to the set of configuration parameters defined below. A meta-header is specified as “X-FAX-*parameter*” where *parameter* is the name of a configuration parameter; e.g. “X-FAX-TabStop” to set the number of spaces between tab stops.

Controls for specifying headers to be passed through in the formatted text identify not only which headers but also the order in which the headers should be emitted. *faxmail* initializes the set of headers to retain to: “To From Subject Cc Date”. If this order is acceptable then additional headers can simply be added with the X-FAX-Headers directive; e.g. “X-FAX-Headers: Message-id”. If however a different order is desired then the header set should be cleared with a “clear” header tag and then completely specified in the desired order; for example,

```
X-FAX-Headers: clear Message-id Date To Subject From Cc
```

will cause headers to be emitted in the order “Message-Id Date To Subject From Cc” (depending on what headers are present). Note in particular that all header lines in the envelope can be suppressed by specifying “X-FAX-Headers: clear”; this is useful, for example, when the body of the mail message contains a preformatted document that is to be transmitted.

In addition to the above controls, *faxmail* can also be instructed to substitute an arbitrary string for a header tag when generating the final envelope. This facility can be used to better format ad-hoc header information that is passed through the envelope of the message. The “X-FAX-MapHeader” meta-header specifies how to map a header line. For example,

X-FAX-MapHeader: x_FAX_For Deliver FAX To

would cause any header “x_FAX_For” that appeared in the envelope to be replaced in the formatted envelope by “Deliver FAX To”.

MIME PROCESSING

faxmail parses MIME mail messages and does some rudimentary work to:

- decode encoded parts,
- formats the message and text parts into a Postscript document
- insert “digest dividers” between multipart/digest subparts,
- format message/rfc822 parts as described above for the top-level envelope, and
- submit all other attached documents to be faxed.

MIME processing is fairly simple and (currently) somewhat constrained. *faxmail* has builtin support for the following MIME parts: text/plain, multipart/mixed, multipart/digest, message/rfc822, application/postscript, and application/x-faxmail-prolog. Parts can also be processed through external processing scripts that *faxmail* looks for in a “MIME converters” directory hierarchy. External scripts may override builtin processing or supplement the builtin support. For each MIME body part with type *T* and subtype *S* *faxmail* checks first for an executable script named T/S in the converter hierarchy. If a script exists then it is run and the resulting output is saved as a document submitted to *HylaFAX*. If the output is empty, the part is suppressed, and will not be submitted. All other parts will be saved as documents and submitted to *HylaFAX*. *faxmail* uses the *typerules*(5F). mechanism to convert file formats into one of the format *HylaFAX* supports.

The builtin handling support is as follows: text/plain parts are formatted using the default *text font* and point size; multipart/mixed are “burst” and interpreted per the specification but are otherwise unformatted; multipart/digest are burst and an optional “digest divider” marking may be inserted before each subpart; message/rfc822 are formatted as described above with envelope header lines culled and formatted with bold and italic fonts (in addition, if there is insufficient space in the current output page/column for the message envelope, optional divider, and one line of text, then *faxmail* will insert a “break” so the the message starts at the top of the next page/column); application/postscript are copied through untouched to the output; application/x-faxmail-prolog are copied through untouched to the end of the prologue section of the generated PostScript document to permit customization of the formatted output.

faxmail supports the following Content-Transfer-Encoding schemes: 7bit, 8bit, binary, base64, quoted-printable, and x-uuencode. Any character set that is not us-ascii is treated as iso-8859-1.

SERVER DELIVERY

When *faxmail* is invoked it delivers the formatted document directly to a *HylaFAX* server for transmission as facsimile. Command line arguments may be supplied to specify the delivery destination and sender identity; typically from information extracted by the mail transport facility. A command line *destination* is specified with the same syntax as the argument for the **-d** option to the *sendfax*(1) command. Similarly any *from* identity specified on the command line follows the same rules as the **-f** option to *sendfax*. An explicit dialstring to use in delivery can also be specified with an X-FAX-Dialstring header in the mail message envelope. If no sender identity is provided on the command line then *faxmail* will extract it from the “From” line in the envelope. *faxmail* will not submit a message for delivery if either the dialstring or sender identity is missing or null.

X-FAX- header lines may be included in the mail message envelope to control the submission and delivery process. As above these lines are specified as “X-FAX-*parameter*” where *parameter* is the name of a configuration parameter for the *sendfax* program; e.g. “X-FAX-VRes” to set the vertical resolution of the transmitted facsimile. By default automatic cover page generation is enabled when direct delivery is used; this can be overridden with the **-n** option on the command line or by including an X-FAX-AutoCoverPage header in the message envelope.

OPTIONS

- 1** Set text in one column (default).
- 2** Set text two columns.
- b font** Make *font*, a POSTSCRIPT font name, the “*bold font*” used to set header lines. The default bold font is Helvetica-Bold.
- c** Clip long text lines instead of wrapping them at page margins.
- C cover** Use the cover page template file specified by *cover*.
- f font** Make *font*, a POSTSCRIPT font name, the text font used to set the body of mail messages. The default text font is Courier.
- H height** Use *height* as the height, in inches, of the output page. The default page height is taken from the default page size.
- i font** Make *font*, a POSTSCRIPT font name, the “*italic font*” used to set header lines. The default italic font is Helvetica-Oblique.
- Ml=#,r=#,t=#,b=#**
Set the page margins; the default margins are: left and right .25 inch, top .35 inch, bottom .25 inch.
- n** Suppress auto cover page generation.
- N** Suppress formatting of mail envelope headers.
- p size** Set all text using *size* for the font point size.
- r** Set pages rotated by 90 degrees (in “Landscape mode”).
- R** Set pages unrotated (in “Portrait mode”).
- s size** Set the page size to use. Cover pages are normally generated using a system-default page size (usually letter-size pages, 8.5" by 11", for sites in North America). Alternate page sizes are specified symbolically using either the name or abbreviation of an entry in the *pagesizes(5F)* database; e.g. *a3* (ISO A3), *a4* (ISO A4), *a5* (ISO A5), *a6* (ISO A6), *b4* (ISO B4), *na-let* (North American Letter), *us-leg* (American Legal), *us-led* (American Ledger), *us-exe* (American Executive), *jp-let* (Japanese Letter), and *jp-leg* (Japanese Legal). Comparisons are case-insensitive and any match of a substring of the full page-size name is sufficient; e.g. “legal” would match “American Legal”.
- t notify** Specify the notify value to use
- T** Trim leading blank lines from text parts. If the text part is completely empty, it will effectively be skipped.
- u user** Set the user name to use when logging in to do direct delivery. By default the user is specified by the **MailUser** configuration parameter (see below). If a null user name is specified, then the facsimile will be submitted using the identity of the user that invoked *faxmail*.
- v** Enable tracing of envelope, MIME, and job submission processing. Diagnostic information is written to the standard error (envelope and MIME processing) and standard output (job submission).
- W width** Use *width* as the width, in inches, of the output page. The default page width is taken from the default page size.

CONFIGURATION PARAMETERS

faxmail reads configuration information from the files **/usr/local/lib/fax/hyla.conf**, **/usr/local/lib/fax/sendmail.conf**, **/usr/local/lib/fax/faxmail.conf**, and **~/.hylarc**; in that order. Configuration files follow the conventions described in *hylafax-client(1)*. In addition to the formatting configuration parameters below, all of the parameters listed in the *sendfax(1)* man page apply as well.

The following configuration parameters are recognized to support formatting:

Tag	Type	Default	Description
AutoCoverPage	boolean	Yes	automatically generate cover page
BoldFont	string	Helvetica-Bold	font for setting header tags
Columns	integer	1	number of columns in formatted output
DigestDivider	string	–	multipart/digest divider POSTSCRIPT command
FontPath	string	<i>see below</i>	directory for font metric files
GaudyHeaders	boolean	No	enable/disable gaudy page headers
Headers	string	<i>see below</i>	headers to retain in envelope
ISO8859	boolean	Yes	use ISO 8859-1 character encoding
ItalicFont	string	Helvetica-Oblique	font for setting header values
LineWrap	boolean	Yes	wrap/truncate text lines
MailUser	string	–	user identity for doing direct delivery
MarkDiscarded	boolean	Yes	mark discarded MIME body parts
MapHeader	string	–	define header mapping
MIMEConverters	string	<i>see below</i>	pathname of MIME converter scripts
Orientation	string	portrait	orientation of text on page
OutlineMargin	inches	0	width of outline line
PageCollation	string	forward	collate pages in forward or reverse direction
PageHeaders	boolean	Yes	enable/disable page headers
PageHeight	float	–	output page height
PageMargins	string	<i>see below</i>	margins for formatted page
PageSize	string	default	output page size from database
PageWidth	float	–	output page width
Prologfile	string	<i>see below</i>	pathname of POSTSCRIPT prologue file
TabStop	integer	8	inter-stop setting in characters
TextFont	string	Courier	name of font for setting text
TextLineHeight	inches	–	text formatting line height control
TextPointSize	inches	<i>see below</i>	size to use in setting text
Verbose	boolean	No	trace envelope and MIME processing

Values marked as *inches* are specified using a syntax that identifies one of several possible units:

###bp	big point (1in = 72bp)
###cc	cicero (1cc = 12dd)
###cm	centimeter
###dd	didot point (1157dd = 1238pt)
###in	inch
###mm	millimeter (10mm = 1cm)
###pc	pica (1pc = 12pt)
###pt	point (72.27pt = 1in)
###sp	scaled point (65536sp = 1pt)

Unit names can be upper or lower case but no white space is permitted between the number and the unit. Values specified with no unit are interpreted as points.

The configuration parameters are explained below. Most parameters correspond to a command line option. Parameter values identified above as *inches* are converted according to the conventions described above.

AutoCoverPage Control whether or not a cover page is automatically generated for each job.

BoldFont The name of the font to use to set header tags (i.e. the string to the left of the “:”).

Columns The number of columns to set text in. (Equivalent to the **–m** option.)

DigestDivider The string to emit in the output before each subpart of a multipart/digest mail message. This string is typically a POSTSCRIPT procedure that draws a mark of some sort. Dividers are expected to use no more vertical space on the output page than a line of text.

FontPath The path where Adobe Font Metric (AFM) files are located; by default /home/mountie/.fonts:/usr/share/ghostscript/8.61/lib:/usr/share/ghostscript/8.61/Resource:/usr/share/ghostscript/fonts:/v

GaudyHeaders	Control whether or not to use a gaudy-style page header. Enabling gaudy headers implicitly enables page headers.
Headers	Define the headers retained from the envelope and specify the order that they should be emitted in the formatted output. The set of headers is initialized to “To From Subject Cc Date”. Headers specified are appended to this list except for a “clear” header that causes the current set of headers to be discarded.
ISO8859	Control the use of ISO 8859-1 encoding in the generated POSTSCRIPT
ItalicFont	The name of the font to use to set header values (i.e. the string to the right of the “:”).
LineWrap	Control whether long text lines are wrapper or truncated at the right hand margin. (Equivalent to the <code>-c</code> option.)
MailUser	The account name to use to login to a fax server when doing direct delivery. Note that this account name is not used for the identity of the sender; this comes from the command line or the “From” line in the mail message. If a null account name is specified, then the facsimile will be submitted using the identity of the user that invoked <i>faxmail</i> .
MapHeader	Define a substitution for the specified header that should be done each time the header is emitted in the formatted envelope. Header tags are matched in a case-insensitive manner.
MarkDiscarded	Control whether discarded MIME parts are replaced by a text message indicating the original content was removed.
MIMEConverters	The pathname of a directory hierarchy that has scripts for external processing of MIME body parts. The default pathname is <code>/usr/local/sbin/faxmail</code> .
Orientation	Control whether pages are oriented horizontally (“landscape”) or vertically (“portrait”). (Equivalent to the <code>-r</code> and <code>-R</code> options.)
OutlineMargin	Control whether columns of text have a line drawn around them and the width of the line. Setting this parameter to 0 disables outlines.
PageCollation	Control whether the output file has pages collated in the same order as the input file (“forward”) or in reverse order (“reverse”).
PageHeaders	Control whether page headers are generated.
PageHeight	Set the output page height (in inches).
PageMargins	Set the output page margins. Margins are specified as string of the form: “ <code>l=#,r=#,t=#,b=#</code> ” where l indicates the left margin, r indicates the right margin, t indicates the top margin, b indicates the bottom margin, and numbers are interpreted as <i>inches</i> . (Equivalent to the <code>-M</code> option.)
PageSize	Set the output page dimensions by name. (Equivalent to the <code>-s</code> option.)
PageWidth	Set the output page width (in inches).
PrologFile	The pathname of a file containing POSTSCRIPT that should be included in the prologue section of the generated POSTSCRIPT. The default prologue file is <code>/usr/local/lib/fax/fax-mail.ps</code> .
TabStop	Set the tab stop distance (in characters).
TextFont	Set the name of font to use for setting text. (Equivalent to the <code>-f</code> option.)
TextLineHeight	Set the vertical text line height and spacing.
TextPointSize	Set the point size to use in setting plain text. (Equivalent to the <code>-p</code> option.)
Verbose	Control tracing envelope and MIME processing.

NOTES

Because a sender's identity in an electronic mail message is inherently untrustworthy, using *faxmail* to build a mail to fax gateway is problematic. Unless mail service is somehow restricted or the sender's identity is verified using a mechanism such as RFC 1847's multipart/signed MIME type there is no reliable way to restrict access to facilities setup with *faxmail*.

BUGS

Only the last instance of a header is kept and written to the output. This means, for example, that only the last of many "Received" lines will be included in the formatted output.

FILES

<code>~/hylarc</code>	per-user configuration file
<code>/usr/local/lib/fax/pagesizes</code>	page size database
<code>/usr/local/lib/fax/faxmail.ps</code>	POSTSCRIPT prologue
<code>/usr/local/lib/fax/hyla.conf</code>	system-wide configuration file
<code>/usr/local/lib/fax/faxmail.conf</code>	system-wide configuration file
<code>/usr/local/lib/fax/sendfax.conf</code>	system-wide configuration file for direct delivery
<code>/usr/local/sbin/faxmail</code>	hierarchy for external MIME converters
<code>/home/mountie/.fonts:/usr/share/ghostscript/8.61/lib:/usr/share/ghostscript/8.61/Resource:/usr/share/ghostscript/fonts:/var/lib/cups/fonts</code>	font paths
<code>/var/spool/hylafax/tmp/faxmailXXXXXX</code>	temporary files

SEE ALSO

hylafax-client(1), *textfmt(1)*, *sendfax(1)*