# FenPrint

A utility to print directly to email and fax.

**Version 1.0.0**


# User Guide

# **Introduction**

The purpose of FenPrint is to allow email addresses and fax numbers to be treated as "virtual printers" thus giving a common interface to the print, mail, and fax systems. A virtual printer name is in the form of *virtual-printer:destination*. For example, printing a document to *mail:someone@a-company.com* causes it to be sent as an email attachment to *someone@a*-company.com. Similarly, printing to *fax:123456789* causes the document to be sent by fax to the number *123456789*.

If the specified printer is not a virtual printer, FenPrint calls the standard print program and passes the entire command line to it. The virtual printers are programs, or shell scripts, which copy the input stream to the appropriate system, formatting it as necessary. When used with **FenForm™**, documents which require pre-printed stationery can also be sent by fax or email.

FenPrint is a modular system. The main control module calls other modules depending on which "printer" is specified. Modules to send prints by email or fax are included in the package but other modules can easily be added. The included modules use **sendmail** and **efax** to send email and faxes respectively. A version of efax is included on the CD.

To use FenPrint, simply call it instead of the usual print program. E.g. -

>> *application-pgm* | **fenprint -P***printer-name*

If *printer-name* is not a virtual printer, the effect of the above command is identical to

>> *application-pgm* | **lpr -P***printer-name*

(presuming your usual print program as specified in /etc/fenprint/fenprint.conf is **lpr**).

Alternatively, FenPrint can be called like this -

>> **fenprint -P***printer-name file1* ...

where *file1* is the file to be printed. Multiple files can be specified as *file1 file2 file3* ... etc.

To send the print to an email address or a fax machine, simply use

>> *application-pgm* | **fenprint -P**MAIL:*user@host.com*

or

>> *application-pgm* | **fenprint -P**FAX:*destination-fax-number*

The virtual printers "MAIL:" and "FAX:" are defined in the default /etc/fenprint/virtual-printers file. Examples of virtual printers using FenForm are also given.

FenPrint accepts two other command line parameters , **-T** and **-J**, which are passed to the printing module as the second and third command line parameters respectively (the first parameter being the destination). The email module (fenprint-mail) uses the **-T** parameter as the Subject: line of the email and the **-J** parameter as the description of the attachment. The current fax module (fenprint-fax) ignores these parameters.

# The Email and Fax Modules

The email module simply reads the input stream (stdin) to build a MIME attachment for an email containing the text from /etc/fenprint/mail-intro-text and passes it to the mail transfer agent (MTA). Development and testing was done using sendmail as the MTA but other MTAs can be used if they accept a single command line parameter containing the destination address.

The fax module is more complex than the email module. Any introductory text has to be converted to a fax file to be sent with the document. One way of doing this is to create a standard cover page and save it as a TIFF, or PostScript file. This file can then be sent as the first page of the fax. The disadvantage of this method is that no details of the transmission can be added to the cover page. Another way is to use FenForm and Ghostscript, in the shell script, to create a TIFF or PostScript file for each transmission. An example script is given at the end of this guide.

The efax system can only accept plain text, TIFF, or PostScript input so any other types of file, including text files with formatting codes, will need to be converted to one of these formats first. Formatted text can be sent by using FenForm to print the text onto a blank form. The script fenprint-fax.text uses this method.

# Using FenForm with FenPrint

As previously stated, the virtual-printer modules read the input stream and, after some processing, passes the data to the appropriate transmission (email or fax) system. To incorporate FenForm, all that is needed is a virtual-printer shell script which first passes the data through FenForm and Ghostscript. A command something like -

    **cat** *text-file* | **fenform -f***form-file* | **gs** *various-parameters* | **fenprint-mail -P***MAIL:user@host.com*

Example scripts are included in the package which can easily be copied and amended for your purposes. In most cases, the only change required will be the form name. An example script is also given at the end of this guide.

For details of setting up FenForm and Ghostscript, see the documentation accompanying those packages.

# The Configuration File

The main configuration file, "fenprint.conf", is in the /etc/fenprint directory. Other configuration files ("virtual-printers" and "mail-intro-text") can but put elsewhere as their paths are specified in fenprint.conf but it is probably best to keep them all in the /etc/fenprint directory.

In fenprint.conf blank lines and lines beginning with a hash mark ('#') are ignored.


**sendmail_path:** *&#47;full&#47;path&#47;to&#47;sendmail*

**printer_path:** *&#47;full&#47;path&#47;to&#47;lpr*
This is the path to the usual print program. This program will be called by FenPrint whenever the specified printer is not a virtual printer.

**printer_list:** *&#47;full&#47;path&#47;to&#47;virtual_printer_list*
This file links the virtual printer name with its corresponding program.

**print_to:** *printer-name-identifier*
This parameter allows the printer name to be specified in the print file instead of on the command line allowing different pages of a print to be sent to different printers. If the first line of a page begins with the *printer-name-identifier* that line is not printed. To use the printer specified in the print file, the printer specified on the command line must be '-' e.g.

> *application-pgm* | **fenprint -P-**

The printer is specified on the first line of the page as *printer-name-identifier printer-name.* The print will the be sent to *printer-name* until another printer is specified on a subsequent page.

If another printer name (real or virtual) is given on the command line, that printer will be used instead.

**mail_title:** *"Default title (subject) for prints sent by email"*
When a print is sent by email, the title to be shown in the subject line can be specified with the -T switch. If no title is given, this default will be used instead.

**mail_intro:** *&#47;full&#47;path&#47;to&#47;email_intro_text*
This file holds some introductory text for prints sent by email and form the body of the email. The prints are attached to that email.

**reply_to:** *user@this_domain.com*
This email address is used as the Reply-To: address for prints sent by email. If this parameter is omitted, the email address of the user calling FenPrint will be used instead.

# Example Configuration File (fenprint.conf)

This is a copy of the default configuration file as supplied.  Please note that the "reply_to:" entry is commented out in this example.

```
##############################################
#
#   FenPrint (tm) main configuration file
#
##############################################

# Full path names of the "sendmail" and "lpr" programs

sendmail_path:    /usr/bin/sendmail
printer_path:     /usr/bin/lpr

# Full path name of the file holding the list of virtual printers

printer_list:     /etc/fenprint/virtual-printers

# Characters to identify a printer line.
# See the manual for details of using this.

print_to: ">>>>>print_to:"

# Default "Subject" for emails.  This will be used if no
# title is given to the print with the -T switch.

mail_title: "Document from FENPRINT"

# Full path name of the file holding standard text for the email.
# When FenPrint prints to email, the email will comprise the contents
# of this file with the printed document(s) as MIME attachments.

mail_intro: /etc/fenprint/mail-intro-text

# Email address to be used in the "From:" line of the email.
# If this parameter isn't defined, the user's email address will
# be used instead.

#reply_to:  fenprint@mycompany.com
```

# Example "virtual-printers" File

This is a copy of the "virtual-printers" file as supplied.  The virtual printers *.inv and *.rmt use FenForm to print invoices and remittances respectively.

```
#################################################
# This file links a virtual-printer with a
# program or script to process the print-file.
#################################################
FAX:         /usr/bin/fenprint-fax
FAX-INV:     /usr/bin/fenprint-fax.inv
FAX-RMT:     /usr/bin/fenprint-fax.rmt
MAIL:        /usr/bin/fenprint-mail
MAIL-INV:    /usr/bin/fenprint-mail.inv
MAIL-RMT:    /usr/bin/fenprint-mail.rmt
```

# A virtual-printer (email) Script Using FenForm

```
#!/bin/bash

FORM=invoice
PAPERSIZE=a4

OUTPUT_FORMAT=pdfwrite


FF_PATH=/usr/bin/fenform
PM_PATH=/usr/bin/fenprint-mail
GS_PATH=/usr/bin/gs


if [ "$2" ]; then
  TITLE=$2
else
  TITLE=$FORM
fi

if [ "$3" ]; then
  DESC=$3
else
  DESC=$FORM
fi

$FF_PATH -f$FORM | $GS_PATH -q -dNOPAUSE -dSAFER -dPARANOIDSAFER \
-sstdout=%stderr -sDEVICE=$OUTPUT_FORMAT -sPAPERSIZE=$PAPERSIZE \
-sOutputFile=- - | $PM_PATH $1 "$TITLE" "$DESC"
```

# Example Fax Script with a Cover Page

This virtual printer script uses FenForm and Ghostscript to produce a cover page for the fax.  In this example, the "Title" and "Description"  are added to the cover page form.  The form should contain all the standard company details and any introductory text.

```
#!/bin/bash

# Note:  The FAX_COVER form must exist in the
# FenForm forms file.

FAX_COVER=fax_cover
PAPERSIZE=a4

OUTPUT_FORMAT=tiffg3
TEMP_FILE=/var/spool/fax/fenprint/fax_$$
COVER_PAGE=/var/spool/fax/fenprint/cover_page_$$

FF_PATH=/usr/bin/fenform
FAX_PATH=/usr/bin/fax
GS_PATH=/usr/bin/gs


if [ "$2" ]; then
  TITLE=$2
else
  TITLE=$FORM
fi

if [ "$3" ]; then
  DESC=$3
else
  DESC=$FORM
fi

echo "\n\n\n$TITLE  $DESC" | $FF_PATH -f$FAX_COVER | $GS_PATH -q \
-dNOPAUSE -dSAFER -dPARANOIDSAFER -sstdout=%stderr \
-sDEVICE=$OUTPUT_FORMAT -sPAPERSIZE=$PAPERSIZE -sOutputFile=
$COVER_PAGE -

cat > $TEMP_FILE

$FAX_PATH send $1 $COVER_PAGE $TEMP_FILE
```