HylaFAX Frequently Asked Questions

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Master FTP Site: sgi.com (192.48.153.1), directory sgi/fax
Home Page: http://www.vix.com/hylafax/

This is a living list of frequently asked questions about the FlexFAX/HylaFAX fax software system. The point of this document is to circulate existing information, and to avoid rehashing old answers. Better to build on top than start again. Please read this document before ever posting to the HylaFAX mailing list. To get a single document with the *entire contents* of the HylaFAQ (except for those pages that are part of the normal HylaFAX documentation), click on the ***Collect Pages*** button below.

Create a single document with the FAQ (suitable for printing or saving).

Alternatively, a PostScript copy of a snapshot of this documentation is available by public ftp in the directory ftp://ftp.sgi.com/sgi/fax/doc.

Your comments, additions and fixes to this document are welcome: please send them to flexfaq@flake.asd.sgi.com by electronic mail or use this on-line form. You can also give feedback on specific questions through links provided on each individual page.

Legend:
- old (*unchanged* since 08:55:35 PM 03/28/95)
- new (*added* since 08:55:35 PM 03/28/95)
- updated (*modified* since 08:55:35 PM 03/28/95)

Introductory

Troubleshooting

Miscellaneous Stuff

Q2: Why should I use HylaFAX instead of some other fax package?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q2. *Why should I use HylaFAX instead of some other fax package?*

A2. HylaFAX is designed to be very robust and reliable. The fax server is designed to guard against unexpected failures in the software, in the configuration, in the hardware, and in general use. HylaFAX uses an intelligent scheduling policy that attempts to recognize different types of failures and optimize retry attempts. An important design goal is that users must never worry about transmit jobs being lost or mishandled: jobs are either completed successfully or the submitter is notified what happened to their job *and why the job failed*. If you are willing to shepherd your facsimile transmissions then other software packages may be more suitable for you.

HylaFAX supports a wide variety of modems and is designed to support **any** Class 1, Class 2, or Class 2.0 modem *without modification to the source code*. If you have a modem that provides only a Class 1 interface then HylaFAX is likely to be the only freely available software package that will work with your modem.

HylaFAX supports multiple modems and heavy traffic load. If you expect to send or receive more than 1 or 2 facsimile a day, then HylaFAX is likely to be the best package for you to use.

HylaFAX is expressly designed to be highly configurable *without modification or access to the source code*. The software comes with extensive documentation to assist in understanding how the software functions and how to configure it.

HylaFAX is freely available. There is no GNU copyleft policy. There are no requests for remuneration, constraints on use, or constraints on incorporation into products (compare this with other ‘‘*freely available fax packages*’’). The software copyright only restricts the use of the author’s name and/or Silicon Graphics’ name in any advertising; consult the copyright text for details.

Q4: What machines does HylaFAX run on?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q4. *What machines does HylaFAX run on?*

A4. HylaFAX is intended to run on any UNIX system that supports a particular set of features: FIFO special files, BSD-style sockets and the TCP/IP communication protocols, BSD-style file locking (flock) or equivalent functionality from which it can be emulated (fcntl, lockf), and POSIX 1003.1-style interfaces, including termios for manipulating tty devices.

The following systems are known to have these features: AIX v3.x, BSD/386, FreeBSD, HP-UX 9.x, IRIX, ISC4.0, Linux, OSF/1 V1.3 and V3.0, SCO 3.2v4 (ODT 3), Solaris 2.x, SunOS 4.1.x, System V Release 4 on an Intel x86, Ultrix 4.4.

Q5: What is the current version/status of HylaFAX?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q5. *What is the current version/status of HylaFAX?*

A5. HylaFAX is distributed in two versions: a *released version* and a *beta version*.

Released versions represent software that has been carefully tested on all supported platforms and is believed to compile, install, and function correctly (except where noted in the distribution documentation). Released versions take a long time to create. The last few released versions have been at least 6 months apart.

Beta versions are test versions of the software that are distributed more frequently than released versions. These versions include new facilities and/or support for new systems. They are typically tested on one or two systems, but not as thoroughly as released versions and not on all supported systems.

The current released and beta versions are always displayed on the HylaFAX home page.

See also Q10 for how to identify which version of HylaFAX you have.

Q7: What documentation exist for HylaFAX?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q7. *What references exist for HylaFAX?*

A7. HylaFAX comes with lots of documentation that is also available via the World Wide Web: //www.vix.com/hylafax/.

There is also a mailing list of HylaFAX users; see the chapter in the documentation for information on joining the list.

Q8: What other related software is available?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q8. *What other HylaFAX software is available?*

A8. HylaFAX is purely a command-line-based facsimile transport system; much like mail transport packages such as sendmail and MMDF. There are several freely available packages that provide a front-end to the HylaFAX software for sending facsimile and/or for monitoring the HylaFAX send and receive queues:

- faxtool is a GUI package written by Tom Corson for Sun systems; it requires XView.
- winflex is a Windows 3 client written by Peter Bentley
- faxmgr2 is a successor to *faxmgr* written by Chris Beekhuis; it too is available only in a binary installable for for SGI systems. faxmgr2 is available in a variety of locations including several CD-ROMS distributed to SGI customers (Developers Toolkit, IndiZone, etc.)
- tkflexfax is a TCL/Tk-based GUI package written by Andy Moskoff.
- sfax is a simple, terminal based interface to the HylaFAX sendfax program written by Ken Hornstein.
- macflex is a Macintosh client written by Rob Newberry.

A bit unrelated, but perhaps interesting, is the "Remote Printing Experiment" being conducted by folks on the Internet. This provides a distributed fax delivery service that uses email to relay facsimile to a local site for delivery. For info about that stuff send mail to tpc-faq@town.hall.org or visit their WWW site.

Q9: What should I do if I have a problem?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q9. *What should I do if I have problems?*

A9. Read (again) the **README** file and the HTML-based documentation included in the HylaFAX distribution (this information is provided online through the HylaFAX Home Page.) In particular, read the Troubleshooting section in the documentation.

Check this FAQ.

See if a similar problem is listed in the HylaFAX mailing list archives. Summary lists of articles sent to the mailing list are posted periodically and there is an on-line interface to the mailing list archives that supports searching.

As a last resort: submit your problems to other users:

- To the HylaFAX mailing list; see Q11 for information on submitting bug reports.
- To the USENET newsgroup comp.dcom.modems or comp.dcom.fax, but only if it a problem with the modem or a fax machine.

Q11: How should I report bugs?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q11. *How should I report bugs?*

A11. HylaFAX bugs and questions should be sent by mail to the HylaFAX mailing list flexfax@sgi.com. When corresponding about the software please always specify:

- What version of HylaFAX you have
- What compiler (including version) your are using
- What system you are running on: system type and OS version
- What kind of modem and the modem firmware revision
- A description on how to reproduce the problem
- A minimal trace log that shows your problem

For example: "HylaFAX v3.0beta099 under Solaris 2.3 with gcc 2.6.3; ZyXEL 1496E with 6.11a firmware."

Do not send large trace log or PostScript files to the mailing list; the list is quite large.

Do not send traces with binary i/o or timer tracing.

Please read the documentation about Troubleshooting problems.

Q13: Problems compiling HylaFAX on SCO Unix?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q13. *Problems compiling HylaFAX on SCO Unix?*

I'm having some problems compiling FlexFax on SCO Unix - in particular, I don't seem to have a **netdb.h** file, which means **FaxClient.c++** and **SendFaxClient.c++** won't compile. (This is with latest versions of SCO, TCP/IP and the SCO dev sys with gcc 2.4.5).

A13. **netdb.h** is part of the TCP/IP DevSys from SCO and include in the Open Desktop Development System. It is not part of the standard Unix devsys.

I built flexfax-2.2 here with libg++-2.5.3 with no problems. I haven't tried the latest beta yet.

I have modified some of the system header files, and have patch files necessary to create these available on ftp.celestial.com. We also have flexfax-2.2 compiled there for SCO.

Q14: [Linux] Output file requires shared library libc.so.4?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q14. *[Linux] Output file requires shared library 'libc.so.4'?*

My setup:

Linux 1.1.89
gcc 2.6.2p2 (note -- there is no release of gcc 2.6.3 for Linux yet)
libc 4.6.27
libg++ 2.6.2.1

The problem: make craps out with the following error:

```
ld: Output file requires shared library 'libc.so.4' gcc: Internal compiler
error: program ld got fatal signal 6 make: *** [t] Error 1
```

It appears to be a combination of the "-g" option and the need of a "-l" library.

A14. I found a mention of a similar problem on one of the Linux newsgroups. It appears there was a system configuration problem for me (and some others...).

This seems to be the fix:

> Thanks to those who replied and pointed me in the right direction.
>I was linking using the -g and -pg options. It turns out that I needed to

>make two symbolic links in /usr/lib:
>
> libg.sa -> libc.sa
> libc_p.sa -> libc.sa
>
>After that, the problem went away.

I have rebuilt HylaFAX using these options. I no longer had any of the errors.

Q15: How do I view received facsimile?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q15. *How do I view received facsimile?*

Just a quick question - what do you use to view incoming faxes? xv wants to allocate an 8 bit/pixel bitmap, and takes forever to display an image on my linux box. It also doesn't seem to be able to display anything other than the first page (not that I've looked real hard). I had a look through the archives, and found xtiff. It loads faster, and I hacked it to display lowres faxes in the right aspect ratio, but it doesn't have a page preview mode (ie, you can only see a small part of the page at any one time), and it periodically dumps core in XCreateImage(). What other choices are available?

A15. There are at least two solutions:

Many people use the fax2ps or tiff2ps programs together with GNU ghostview; e.g.

```
fax2ps /var/spool/fax/recvq/faxVAAa0051G | ghostview
```

There is also faxview, an unfinished, but usable, X-based viewer in the contributed software area on sgi.com

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Q16: How do I create a fax cover page template?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q16. *How do I create a fax cover page template?*

I'd like to create a new cover template page as I would prefer for our faxes to *not* go out with the Silicon Graphics logo. :)

Does anyone have experience doing this? Can someone point me toward the proper instructions? I've read the faxcover man page, which tells me how to use an alternative template, but I can't figure out how to create one.

A16. Look on sgi.com in the directory ~ftp/pub/sgi/fax/contrib/covers. This contains (among other things) a compressed and tarred file called make_faxcover.tar.Z It contains instructions as well as a script for converting a "tgif" eps file to a fax cover template. It was put together by Thomas Erskine.

A16. (From Randy Davis) Here's how I did mine, and it works great. But, please note, I do *not* know postscript, I just figured out a good deal of it by trial and error and playing with modifying postscript source files.

Here's what you do:

1. create a postscript file that contains your customized cover sheet that looks exactly as you like it, WITH sample text in each of the fields that you want the package to replace with the real text in actual use.

   I used FrameMaker to make ours, complete with company logo, and had FrameMaker output a postscript file. I suppose you could even use troff and use a troff-to-postscript converter if you like. The key part is to get a postscript file that looks as you like, and has sample text in each of the fields to be filled in by the program, each sample text of which is unique to each field so you can find each one buried in the postscript later on.
2. Make a copy of this postscript file (just to be safe :-), and start modifying the copy this way:

   a) Modify the prologue (the first part of the postscript file prior to the actual pages) to add the following macros - I added them immediately after the first block comments at the top of the file (comments are denoted by a % at the beginning of the line).

```
---------------------------------------------------------------------------
1 setlinejoin
/nullstring () def
/IS {
    dup where {
        pop
        load dup nullstring ne {S} {pop} ifelse
    } {pop} ifelse
} bind def
/M  { moveto } bind def
/S { show  } bind def
---------------------------------------------------------------------------
```

   You will have to see if the /M, /S, or /IS macros are redefined later on in the prologue, and if they are, you may have to make some decisions and do some work outside of the scope of this short instruction sheet. As I recall, the postscript file output by the version of FrameMaker *did* redefine one of them, yet I could not find it used anywhere in the rest of the document, so I just removed it with no ill effects. In any event, it is a good idea to have a postscript printer or working version of ghostscript handy so you can check your work after each modification to make sure the file still works (and backtrack if it breaks).

b)

Find your sample text strings in the postscript file (they will be enclosed in paranthesis) and change them to use the IS macro and M macros:

This is the hard-to-explain part. Let me preface it with a quick intro into postscript text drawing. Each text string is enclosed in parenthesis, and either in front or after the text string on the same line is a macro and a set of coordinates detailing where to "draw" the text on the page. In addition, some packages, like FrameMaker, will sometimes break a string into two or more separate strings in the postscript document, for no reason that I can find. For instance, the phrase "Now is the time for all good men to come to the..." might all be on one line, not broken, in whatever utility you use to generate the postscript, etc, but your output postscript file may "draw" it in three sections, and even out of order, e.g.:

```
(e for all good men to co) 120 523.33 T
(Now is the tim) 72 523.33 T
(me to the...) 173.5 523.33 T
```

But, note that you can combine this into one string by just using the coordinates for the string that began the line (look for the smallest "x" coordinate, which is the first of the two coordinates), e.g.:

```
(Now is the time for all good men to come to the...) 72 523.33 T
```

And you should be unable to tell the difference on the output page.

OK, so you need to find the sample text you put in to mark the location of the fields. This is best explained by example. For instance, in my template page straight from FrameMaker after I combined any broken strings, I have the following lines (which happen to be in order):

```
(Please deliver to:) 72 523.33 T
(Name:) 206.71 505.33 T
(to-name) 270 505.33 T
(Company:) 180.04 487.33 T
(to-company) 270 487.33 T
(Recipient\325s Extension:) 99.35 469.33 T
(to-voice-number) 270 469.33 T
(FAX Number:) 154.15 451.33 T
(to-fax-number) 270 451.33 T
```

(In each of these cases, it turns out that FrameMaker put the text strings preceding the coordinates, ending the line with "T", which turns out to be a macro which is defined in the prologue with a line or group of lines begining with "/T {" and which expects this line ordering.)

If you will notice in my sample postscript exerpt above, you can identify the sample strings I put in to determine the exact coordinates of where I wanted the fields to be. Those sample strings are "to-name" (on the third line), "to-company" (on the fifth line), etc...

Now, what you want to do is to convert each sample text line to the format expected by the faxcover EPSI wrapper. This involves changing, in my case, the format of:

```
(text)   T
```

to the new format of:

```
  M / IS
```

All you really need is the x/y coordinates and to know which parameter should go at these coordinates. Note that you only have to change JUST the lines that you want the program to fill the text in for - you don't have to change any other text lines, and should probably leave them alone. The s are defined on the faxcover man page. In my case, the modified exerpt becomes:

```
(Please deliver to:) 72 523.33 T
(Name:) 206.71 505.33 T
270 505.33 M /to IS
(Company:) 180.04 487.33 T
270 487.33 M /to-company IS
(Recipient\325s Extension:) 99.35 469.33 T
270 469.33 M /to-voice-number IS
(FAX Number:) 154.15 451.33 T
270 451.33 M /to-fax-number IS
```

Thats basically all there is to it, or was to it for me. Hope this helps - feel free to ask me more if I missed something. Note that I only installed the package about four weeks ago, yet it all works fine, including the cover sheet. :-)

Q17: Sendfax doesn't put the company name and location on my cover pages?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q17. *Sendfax doesn't put the company name and location on my cover pages?*

I noticed yesterday that the parameter order for sendfax can make a difference in the cover sheet. If the "-x" is specified after the "-d", the company name gets dropped from the cover sheet.

```
sendfax -c"aaa" -r"bbb" -D -d"Greg Rowe@482-4001" -x"Metaphase" file
```

Since I always put the -d last in the command line, I never noticed it before. Is this a known problem or do I have a problem with my cover sheet?(It's the SGI one with my logo) I'm running the new beta release on a SGI box.Thanks.

A17. I prefer to call it a ‘‘*feature*’’ . The -d flag causes a new destination to be recorded using the current specifications for company and location (the -x and -y options). You can see this in the code. I'll see about clarifying this in the manual page.

Q18: How do I keep private information off the cover page?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q18. *How do I keep private information off the cover page?*

```
> This is probably a simple question, but I haven't been able to figure
> out an answer to it yet....... We have a 6 digit ID that needs to
> be plugged in for long distance calls (like a calling card). When I
> use "sendfax -d "John Doe@4157779999,123456" the faxcover sheet has
> my id number in the Fax Number field. What do I need to do to
> prevent this ? Thanks.
```

Good question!!! We have the same sort of calling card number for long distance calls and users around here are concerned about making these numbers visible. They're supposed to be kept secret. We also want to prevent these numbers from appearing in any log files.

A18. To keep private information off of the fax cover sheet and out of the publicly displayed information (such as the queue listings shown by faxstat) you need to create a dialrules file that's used on systems where HylaFAX client applications are run.

For example, if calling card information is specified as a trailing comma-prefixed number string (perhaps with trailing whitespace) then the following rules would strip it off when creating an *displayable representation* of the dial string:

```
DisplayNumber = [
    ",[0-9]+[ ]*" =      ! strip calling card info and trailing ws
]
```

Using the dialtest program to test out the rules:

```
% /var/spool/fax/bin/dialtest -v dialrules
Define AreaCode = "415"
Define CountryCode = "1"
Define InternationalPrefix = "011"
Define LongDistancePrefix = "1"
DisplayNumber := [
  ",[0-9]+[ ]*" = ""
]
Warning, no "CanonicalNumber" rules.
Warning, no "DialString" rules.
ready> 4157779999,123456
input = "4157779999,123456"
canonical = "4157779999,123456"
dial-string = "4157779999,123456"
display = "4157779999"
ready>^D
%
```

The above rules must be placed in the HylaFAX client application library area on each client machine; for example, in the file **/usr/local/lib/fax/dialrules**.

Note that on the server the session logs **must be protected** to insure the unadulterated dialstrings are not readable by normal users. This is done using the **LogFileMode** configuration parameter; e.g.

```
LogFileMode: 600        # protect logs with calling card info
```

If the faxcron administrative script is run on the fax server machine, then it's also a good idea to shorten the **AGELOG** parameter that controls how long session logs are kept around. Either that, or the script could be changed to automatically strip privileged information once it's no longer needed for debugging failed calls.

Q19: How do I send WordPerfect files from a DOS machine?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q19. *How do I send WordPerfect files from a DOS machine?*

I have a user who uploads Wordperfect text-output files from his PC to our network, and then attempts to fax the files. The files have a trailing ^Z (DOS EOF marker?), so sendfax doesn't recognize the files as ascii and aborts.

We can clean up the files manually using a dos2unix filter, but what can I use as a typerule to automate this? The EOF marker is not at any fixed offset, and the file won't match ascii only because of the EOF marker. Has anyone already done this for me?

A19. **Date**: *Wed, 16 Mar 94 15:17:31 MST*
From: *morrow@cns.ucalgary.ca (Bill Morrow)*
Subject: *SUMMARY: faxing Wordperfect files directly*

last week I asked about how to get sendfax to handle Wordperfect format files directly, so that users would not have to convert their WP files to text or Postcript by hand. The following is what I came up with.

I've attached the "source" below, it's fairly simple and short.

Note that this requires Unix Wordperfect, we have version 5.0.

Thanks to les@fb.com (Les Mikesell) for hints, and the wptops script.

First add this rule to your typerules:

```
---------------------- cut here ----------------------------------
0       byte            0xff            error   WordPerfect document
>1      string          WPC             ps      /usr/local/bin/wpr %i >%o
---------------------- cut here ----------------------------------
```

the wpr script converts WP format to Postscript by running Wordperfect's wprint, which WP cleverly did not make a filter.

```
---------------------- cut here ----------------------------------
#!/bin/sh
# wpr - output Postscript from a WP file

infile=/tmp/WP2PSin$$;
outfile=/tmp/WP2PSout$$;
cat $1 > $infile
/usr/local/wp/sun4/bin/wprint -i$outfile $infile  > /dev/null 2>&1
# wait for wprint to finish
while [ ! -f $outfile ]; do
        sleep 1
done
/usr/local/etc/wptops < $outfile
/bin/rm -f $infile $outfile
---------------------- cut here ----------------------------------
```

wptops is Les Miksell's perl script which cleans up Word Perfect's corrupt Postscript files.

```
---------------------- cut here ----------------------------------
#!/usr/local/bin/perl
# Original version came from Angus Duggans's psutils
# modified version from les@fb.com (Les Mikesell )
# fixwpps: get semi-conforming PostScript out of WordPerfect 5.[01] file
# feed this into perl

#eval 'exec perl -S $0 "$@"'
#   if $running_under_some_shell;
$page = 0;
while (<>) {
        s/^ *%!/%!/;
        s/\015//;
        s/\004//;
#   s/(_[a-zA-Z]+)([0-9]+)/\1 \2/g;
   if (/^_bp/) {
      $page++;
      print STDOUT "%%Page: $page $page\n";
      print STDOUT $_;
   } elsif (/^([^\/].*\S.*)(_bp.*)/) {
      $page++;
      print STDOUT "$1\n";
      print STDOUT "%%Page: $page $page\n";
      print STDOUT "$2\n";
   } elsif (/^_ed/) {
      print STDOUT "%%Trailer:\n";
      print STDOUT $_;
      print STDOUT "%%Pages: $page\n";
   } elsif (/^([^\/].*\S.*)(_ed.*)/) {
      print STDOUT "$1\n";
      print STDOUT "%%Trailer:\n";
      print STDOUT "$2\n";
      print STDOUT "%%Pages: $page\n";
   } else {
      print STDOUT $_;
   }
}
---------------------- cut here ----------------------------------
```

Q20: Document file is not valid TIFF ...?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q20. *"Document file is not valid TIFF ..."?*

I have compiled v2.2.2beta043, but still no go! Can only receive fax but sending results in errors. I use

```
sendfax -d xxxxxx -lm -p -v plot.ps
```

to submit a fax (plot.ps genterated by gnuplot, checked wtih gs) and I get this error

```
"Document file is not valid TIFF (check for PostScript conversion problems)"
```

in the server trace log. I don't know why the PostrScript file is not valid. What other debug commands can I use? Your help is really appreciated.

A20. This diagnostic means that the server invoked the PostScript interpreter to image a submitted PostScript document but the resultant document file was invalid (TIFF is the file format used for imaged facsimile). If the server machine is setup correctly this should never happen. (Incorrect PostScript documents should be returned to the user with a different diagnostic.)

The problem must be debugged on the server machine. The following step-by-step procedure might be used:

1. Run faxquit to stop the fax server.
2. Submit the problematic job using the sendfax program or similar.
3. Position yourself at the top of the server spooling area;

   ```
   cd /usr/spool/fax
   ```

4. Invoke the PostScript interpreter script as done by the fax server:

   ```
   bin/ps2fax -o t.tif docq/doc*.cover
   ```

   and look for problems. (Actually the above command line is a simplified version of the one used by the fax server; you can find the exact command line used by the fax server in the server trace log.)

From this you should see exactly why the PostScript interpreter is not functioning as expected. Once you've done that you can backtrack to figure out the step in the installation procedure that was not done correctly. If step 4 generates a valid TIFF file in the output file **t.tif**, then there is some problem associated with the environment the server runs in (e.g. the environment variable that specifies where to search for dynamically loaded libraries).

Q21: Faxing TIFF G4 images?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q21. *Faxing TIFF G4 images?*

I have now installed flexfax on and AIX 3.2.5 system using a Miracom modem and everything works well in the testing so far. ie. sending PS, text files etc....

However, my real reason for installing flexfax is to send from our image system. The image spec is as follows.

```
A4 scanned image
KIPP TIFF files
Width x Height: 2448 x 3510
Number of colours: 2
DPI: 300 x 300
Image size inches: 8.16 x 11.70
```

I have a copy of image Alchemy which can convert to TIFF G3 I can not reduce the resolution, but flexfax will understand that it is a TIFF G3 image. Alas I do not have the Alchemy version which can create PS files.

So my question is,
a) Can flexfax actaully send G4 images and is so what spec.
b) If the answer to (a) is no, does anyone feel like changing it so that it can.
c) if the answer to (b) is no, is there a TIFF G4 to PS converter out there.

A21. *a) Can flexfax actaully send G4 images and is so what spec.*

HylaFAX will not directly send G4 images, they must be converted either to G3 or to PostScript (see hylafax(1)).

b) If the answer to (a) is no, does anyone feel like changing it so that it can.

No, converting formats at the client makes much more sense (based on experience doing it the other way around).

c) if the answer to (b) is no, is there a TIFF G4 to PS converter out there.

fax2ps should handle G4 images. Alternatively tiff2ps from the TIFF distribution will handle them.

Q22: How do I use modems connected to a Telebit NetBlazer?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q22. *How do I use modems connected to a Telebit NetBlazer?*

Does FlexFAX work with following configuration:

```
--------------          -----------------
|            |          |               |      ---------
|            |          |               |------| Modem |  ZyXEL
|  UNIX Host |----------| NetBlazer     |      ---------
|            |          |               |      ---------
|            |          |               |------| Modem |  ZyXEL
--------------          -----------------      ---------
```

I’ve a Netblazer with a couple of modems attached. I’m able to connect to the modems from the UNIX Host via Telnet (I can assign an IP address to each modem l line). When Telnetting to the modem it’s almost the same than saying "cu" or "tip".

A22. **Date**: *Tue, 24 Aug 93 19:21:55 -0700*
From: *cslater@Telebit.COM (Charlie Slater)*
To: *flexfax@sgi.sgi.com*
Subject: *how to use FlexFAX with NetBlazer*

How to Use FlexFAX with a NetBlazer by C. Slater, Rev 0.1, 8/24/93

Configure your NetBlazer.

On the NetBlazer running version 2.1, I set up my modem on line01 with these line commands:

```
auto  01 off

talk 01
AT&FS58=2&W
(suspend talk, with ctl-])

flow 01 cts
dsrtime 01 0
ctstime 01 0
dtrtime 01 200
login 01 off
char 01 raw
reset 01
```

The line parameters should now look something like this:

```
c58:Top>Configure>Line> l 01
Line    Modem        Char's     Use        Command    MFlags
line01  <>     raw        none       <>
Flags:  0019284f
DSR: ON        DCD: ON        CTS: ON       RTS: ON       DTR: ON
Speed: 19200    Flow control: cts/rts
Login: OFF      Callin: ON     Access: all     Autoconfigure: off
Modem command delay: 0 milliseconds
Modem status delay (seconds): DCD=0.320     DSR=0.000     CTS=0.000
DTR off time: 100 milliseconds
Idle times (minutes):   receive=27     transmit=27     auto-reset=0
Trace: ON        Callback monitor: OFF
IP address: 143.191.10.58:7001
Terminal type: <>        Rows: not set        Cols: not set
Process = Event Manager, Dial Protocol = Console, state = Idle
```

Then I did

```
server start raw
save
```

Get "nd". (I got my copy from ftp.uu.net in networking/cisco.) Build and install it (easy, it's small).

Start nd:

```
nd -\& -r tcpcon -r 1 -l /dev/ptyqe  <7000 + line>
```

On my BSDI workstation, I did:

```
nd -\& -r tcpcon -r 1 -l /dev/ptyqe c58 7001
```

to connect nd to line01 on the netblazer named, "c58".

Telnet to the NetBlazer and run line trace. (E.g. trace 01 on). tcpcon should make a connection to line01 and line01 should move to state "TALK". The line parameters should now look like this:

```
Line    Modem        Char's     Use        Command    MFlags
line01  <>     raw        RAW_CONNEC <>
Flags:  0019284f
DSR: ON        DCD: ON        CTS: ON       RTS: ON       DTR: ON
Speed: 19200    Flow control: cts/rts
Login: OFF      Callin: ON     Access: all     Autoconfigure: off
Modem command delay: 0 milliseconds
Modem status delay (seconds): DCD=0.320     DSR=0.000     CTS=0.000
DTR off time: 100 milliseconds
Idle times (minutes):   receive=30     transmit=30     auto-reset=0
Trace: ON        Callback monitor: OFF
IP address: 143.191.10.58:7001
Terminal type: <>        Rows: not set        Cols: not set
Process = line01, Dial Protocol = Console, state = Talk
```

In another window, use "tip" or something to test ttyqe. Send commands like "at", "at+fmfr?", and "at+fclass=?" to the modem. When I did this, I saw responses like, "OK", "Telebit", and "0,2".

Get out of tip (or whatever). Line trace should show the line moving to Idle and then back to TALK.

Almost ready to go. Now you need to make one source modification.

faxd goes nuts lowering and raising DTR to make sure that DTR really comes back on, it closes and opens the tty file. This is bad for the raw TCP connection that makes the "nd-NetBlazer" team work. FlexFAX does all this for good reasons, but those reasons don't apply to this configuration. In my copy, I took the reopen out of of the FaxModem::reset(long ms) function in FaxModem.c++.

The code I took out out looks like this:

```
#ifdef NOTDEF
    /*
     * On some systems lowering and raising DTR is not done
     * properly (DTR is not raised when requested); thus we
     * reopen the device to insure that DTR is reasserted.
     */
```

```
    server.reopenDevice();
#endif
```

Build, install and start faxd. On my BSDI system I did "/usr/libexec/faxd -m /dev/ttyqe".

At this point I could send FAXs to various number using sendfax.

Notes:

I used a WorldBlazer in my test, but I don't think it matters. Any modem that works with FlexFAX should work with the NetBlazer in this configuration. I used FlexFAX 2.1 and the 2.2beta041 code.

The dtrtime value (the time the NetBlazer waits for the modem to boot) of 200 milliseconds is an order of magnitude shorter than it needs to be in normal worldblazer/netblazer configurations. I faxd does its own waiting and it takes a while for flexfax/nd/netblazer raw TCP will allow to get going. This gives the modem the extra 2.5 seconds it needs to finish booting.

Many people would like a more general solution that allowed them to use a single modem for anything (SLIP, FAX, etc.) without manual reconfiguration. I don't know how to do this, yet.

I am sure I missed something in the instructions, so when you find it let me know.

Thanks! -charlie
cslater@telebit.com

Q23: Do I have to restart a server after changing the modem config file?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q23. *Do I have to restart a server after changing the modem config file?*

On another note does one have to restart faxd in order for changes in the modem configuration file to take effect?

A23. No. The HylaFAX servers will re-read a config file (if needed) before each send and on any reset. This means you only need to explicitly restart a server if you change it before doing a receive. You can also avoid restarting it if you use cu/tip to talk to the modem since this will cause the server to wakeup and then reset itself when you exit from cu/tip.

Q24: How do I make a prototype config file from a working config file?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q24. *How do I make a prototype config file from a working config file?*

Also, how can I set up a config.ppi file to be automagically selected correctly by faxaddmodem, for the Practical Peripherals modems? I don't know enough shell script to untangle the faxaddmodem awk and grep cleverness properly. And, in case it helps to set it up, here are the +FMxx responses for these modems.

```
Manufacturer=" (c) Practical Peripherals Inc., 1992, 1993."
Model="PM14400FXMT [6R1]"
```

A24. If you look at another Class 2 modem config file you'll see a comment of the form:

```
# CONFIG: CLASS2: ZyXEL*-RTSTCTS
```

The faxaddmodem script will grep for lines of this sort and select one according to the modem type (CLASS1 or CLASS2) and DTE-DCE flow control scheme. The glob pattern to the right of the CLASS2: is then massaged into a Bourne shell case statement and applied to the string

```
"$Manufacturer-$Model-$FlowControl"
```

where $Manufacturer is the string returned by the modem in response to a +FMFR? command, $Model is the string return for +FMDL?, and $FlowControl is either RTSCTS or XONXOFF according to whether hardware or software flow control is to be used. Thus, the above example matches all modems manufactured by ZyXEL. For your case, you can probably add a line like

```
# CONFIG: CLASS2: *PM14400FXMT-XONXOFF
```

though it would be good to come up with something that works for all PPI modems that share the configuration.

See also the prototype config file descriptions in faxaddmodem(1M) and config(4F).

Q25: How do I change HylaFAX to use mailx instead of sendmail?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q25. *How do I change HylaFAX to use mailx instead of sendmail?*

I would like to request that the scripts that are hardcoded to use sendmail be made configurable. For example:

```
util/notify.sh:
    change last line from :
            ) | 2>&1 $SENDMAIL -t -ffax -oi
                                   ^^^^^
    to :
            MAIL_CMD=mailx
            ) | 2>&1 $MAIL_CMD
```

A25. These won't do the same thing. The -t option to sendmail tells it to extract the address(es) from the header. If you use /bin/mail or mailx you'll have to put the address on the command line yourself.

To switch over to mailx you'll need to make more extensive modifications. If you get things all working, please send the appropriate patches so they can be shared with others.

Q26: [Dell SVR4] No trace logging under Dell SVR4?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q26. *No trace logging under Dell SVR4?*

I installed 2.2beta019 out of the box; no problems. However, it's not working. Even more important, I get no log information, even if I (presumably) turn on all the logging bits by setting the tracing parameters to 2047.

If I start faxd on an unconfigured device, I do get messages from syslog.

A26. I wasn't getting any syslog information under Dell SysVr4 until I made /dev/log writable by ordinary users.

Q27: Ghostscript-imaged fonts look funny?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q27. *Ghostscript-imaged fonts look funnny?*

I've found that the default font used by textfmt leaves a little to be desired during the rendering process. I realize that this is more a ghostscript issue than a FlexFAX one, but I was wondering what other users of FlexFAX have found. [...] I tried using Type 1 fonts, rather than the bitmap ones supplied with ghostscript, and they don't look any better.

A27. If the problem is occurring on the faxes themselves, make sure that the Fontmap entry for Ghostscript is really pointing to the Type 1 fonts. (Try feeding "/Times-Roman findfont" (substitute whichever font you're using for Times-Roman) to gs and verify that the path from which it is loading the font is correct.)

If your observation is based on a preview using Ghostscript 2.6 or later, try running gs with -dNOPLATFONTS (alternatively, you can add "Ghostscript*UseExternalFonts: false" to your X resources if you're previewing with X).

Q28: How do I get a line of text across the top of each outgoing page?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q28. *How do I get a line of text across the top of each outgoing page?*

On our old fax machine, stuff was printed out at the top of each outbound page. Does this show up with HylaFAX?

A28. HylaFAX calls this line of text a *tag line*. Tag line configuration is described in the advanced server setup documentation.

Q29: [PC] Why can't I get HylaFAX to use RTS/CTS on a Digiboard port?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q29. *Why can't I get FlexFAX to use RTS/CTS on a Digiboard port?*

Has anyone got any experience of using FlexFAX with Digiboards and Hardware Flow Control ? Under System V.4?

A29. Yes, I have it working with Dell SysVr4, an eisa Digiboard, and a recent Boca modem. Using the CCON/16 where the connector box doubles as an RS232 breakout box it is easy to see that h/w flow control is working. I understand that it might not work with other fax modems, though.

Q29. *I've been using FlexFAX on a "normal" sas driven com port on Esix 4.0.4 with no problem. I expected to be able to simply switch it and the same modem over to a digiboard port. I use /dev/ttyi1a hard-linked to /dev/term/i1a. My problem is that I can't get the port to hold on to RTS/CTS flow control when using flexfax. Neither uucp nor ppp have any trouble with the Digiboard, but FlexFAX does. I can put hw flow control on the port with ditty, but as soon as FlexFAX runs its gone.*

I have to admit I'm out of my depth with how the port knows what its supposed to be (I can read man pages, but that's not the same as knowing:-)). I've tried fiddling around with all sorts of things including ttymon, but had no luck so far.

Any tips would be most appreciated.

A29.

```
> Digiboard uses two device naming schemes with their drivers.
> On SVR4, these are:
>
>       /dev/term/i#x
>           and
>       /dev/term/i#X
> Where:
>       "/dev/term/i" is the root name of all ports
>       "#" is the board number (ie. 1 for the first board, 2 for the second)
>       "x" or "X" is a letter a-z or A-Z (a for the first port, etc)
>       An upper case letter is used to denote the hardware flow control
>       port (or modem control port).  This port blocks on open until
>       carrier is raised and enables RTS/CTS flow control.  To use the
>       port without carrier, you need to open it with O_NDELAY set.
>       A lower case letter denotes a software flow control port that
>       does not need carrier for the open to succeed.
```

The CX drivers use

```
 /dev/term/a##s and /dev/term/a##m

where: a is a letter corresponding to which of the 16-port boxes you want
       ## is the port number (01-16) on that unit
       m indicates hardware modem control, s indicates software.

> SVR4 added a an easy way to enable hardware flow control with the
> termiox(7) extensions to termio(7), but some serial board makers haven't
> seen the light yet.
```

I thought these worked, but now it occurs to me that I have not had any occasion where I wanted to turn off h/w flow control if the connected device used it.

```
> I have had to modify several programs to enable hardware flow control
> for both SVR4 and Digiboard drivers.  I wish I could just use the SVR4
> termiox(7) method.
```

I've just used the modem control device in the first place and if necessary, modified the software to use O_NDELAY in the open(). In my opinion, software that talks to modems should be aware that carrier detect is not going to be present before dialing.

```
> So, you could add some code to FlexFax to enable RTS/CTS flow control,
> but it will only work for Digiboards or you can try to use the modem
> control devices.
```

FlexFAX will open the modem control device without any changes. However you may need to use the device without modem control for the faxaddmodem script and change the name afterwards. Version 5A of kermit has a "set carrier off" command so you can easily chat with off-line modems. I used it to send an "AT&C0&D0" command to the modem so it would temporarily hold carrier detect up for the faxaddmodem and probemodem scripts. I recommend keeping a copy around if you need a handy way to set up modems.

Q30: [Sun] How do I get HylaFAX to use RTS/CTS on a Sun serial port?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q30. *How do I get FlexFAX to use RTS/CTS on a Sun serial port?*

I have been following the list for the last month or so and notice a lot of Sun - ZyXEL users out there. I tried to get FlexFAX going with hardware flow control on the sun and was told by the list that this is not possible.

Does anyone know why? I have been talking to Sun here who said they used truefax software and "did not do anything special with flow control."

A30. **Date**: *Sat, 17 Apr 93 16:47:45 EDT*
From: *bst%tt@CAM.ORG (Brent Townshend)*
To: *flexfax@sgi.sgi.com*
Subject: *Sun RTS/CTS problems summarized.*

I'd like to recap the current status of the SUN RTS/CTS flow control problems, and see if anyone has anything further to add. Perhaps these problems should go noted in a README file in the port/sun directory. I'm running SunOS 4.1.1 with a U1496E+ with 6.00 ROMS and FlexFAX beta 97. Here is the problem as I see it:

The Sun driver for the Sparcstation on-board zs serial port behaves somewhat differently than one may expect. If hardware flow control is requested by the host and carrier detect is not asserted by the modem then data from the modem to the Sun is discarded. Note that data from the host to the modem works fine under these conditions. Once carrier detect is asserted, RTS/CTS works as expected. The problem is that when flexfax awaits responses from its 'AT' commands, the replies are thrown away by the OS since Carrier Detect is not present.

One would think that the recent changes to FlexFAX in regards to setting the CLOCAL bit would fix this problem. However, it appears that the CLOCAL bit is having no effect.

As mentioned by Steven Grimm, and further verified by looking at the data sheets, the problem arises from the Zilog Z8530 chip used for serial communications. On that chip there is a single control bit which turns on automatic RTS/CTS handling. This same bit turns the CD input into a receiver enable. Thus if the hardware is set for RTS/CTS flow control, then input is discarded whenever CD is inactive. This explains why the OS can't do what we'd like when CLOCAL is set.

One fix for this is to set the modem to always assert CD using AT&C0. However, this will cause problems in disconnecting after a call is finished. Another fix is to use XON/XOFF flow control, but effective RTS/CTS would be better, especially for data connections.

I believe the only way we are going to get around this problem is if FlexFAX would allow independent flow-control selection for setup, data transfer, and FAX transfer. This would also help out handling for modems like the ZyXEL which always do Xon/Xoff flow control when sending faxes.

A30. **Date**: *Wed, 17 Nov 93 22:07:42 CST*
From: *katzung@katsun.chi.il.us (Brian Katzung)*
To: *flexfax@sgi.sgi.com*
Subject: *Bidirectional hardware flow control for Sun zs users!*

An infamous and long-standing hardware flow control problem with Sun's built-in serial ports, which Sun customers have often been led to believe was insoluable, has at last been solved.

Sun has released a new jumbo tty patch 100513-04 for SunOS 4.1.2 and 4.1.3 that incorporates changes that I have developed for the ZS 8530 serial communications driver (which most notably affects the built-in serial ports) to support bidirectional hardware flow control.

My changes eliminate a problem in which the receiver is disabled if CRTSCTS mode is enabled but CD (carrier detect) is not present, and add support to lower RTS (request to send) when the input buffers are getting full and reassert it when the buffers drain.

If you are not running SunOS 4.1.2 or 4.1.3 but you have a software support contract with Sun and are interested in seeing this enhancement supported in the release you are running, I suggest you contact your Sun software support representative.

I would like to take this opportunity to thank Dr. R. P. C. Rodgers of the National Library of Medicine Lister Hill Center, Peter Glassenbury of the University of Canterbury, Christchurch, New Zealand, and Arborvitae Software, all of whom provided invaluable assistance.

A30. Starting with v2.3beta036 there is sufficient support in the configuration file escape code mechanism to workaround the Sun tty driver limitations regarding DCD and RTS/CTS. Specifically you can configure the fax server so that it will use RTS/CTS flow control only when carrier is known to be asserted. To do this set the modem up to initially use no flow control:

```
ModemFlowControl:       None    # initially disable host-side flow control
```

and then when carrier is known to be asserted, when dialing out or when receiving an incoming call, switch to use hardware flow control:

```
#
# Enable RTS/CTS on the host only after carrier is established.
#
ModemSendBeginCmd:      "<rts>"
ModemAnswerFaxBeginCmd: "<rts>"
ModemAnswerDataBeginCmd:"<rts>"
```

Consult the config(4F) manual page for complete details.

Q31: How do I force HylaFAX to set the tty device to mode 664?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q31. *How do I force FlexFAX to set the tty device to mode 664?*

I'm running flexfax v2.1.0 on a Sun Sparc, and it works fine. The only problem I'm having is that after I halt the faxd server using faxquit, my modem's tty, /dev/dialer0, has had it's file permissions changed to 600, so as tip won't work unless I su to root and chmod the file back to 664. Not a big deal, but kind of weird...

A31. Look at the **DeviceMode** configuration parameter in config(4F); it can be used to control the protection mode that HylaFAX sets for the tty device

---

Q32: How do I get faxd to print everytime I receive a facsimile?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q32. *How do I get faxd to print everytime I receive a facsimile?*

I am wondering how to get fax to printed everytime I receive one. Man pages say that changing the bin/faxrcvd script will do it. As it is now, faxes are being saved in TIFF format (I think thats the default)

A32. TIFF/Class F is the format in which HylaFAX stores received facsimile. There is documentation on the faxrcvd script invoked by the fax server for each received facsimile. To print each received fax just modify the script according to your local needs. For example, you might use fax2ps (in the HylaFAX distribution) piped to ghostscript with the Laserjet driver.

```
/usr/local/bin/fax2ps $1 | gs -q -sDEVICE=ljet3 -dNOPAUSE -sOutputFile=- | lp
```

Another useful program to use when printing TIFF images is the tiff2ps program that is included in the TIFF software distribution.

Q33: No answer from remote (extending the connect time)?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q33. *"No answer from remote" (extending the connect time)?*

I had a user attempt a fax to "01149364142xxxx" (Germany). It failed numerous times, with "no answer from remote". I dialled the number myself, after 10-15 seconds, a modem answered, but without any rings first. Is this what is confusing my fax modem? S7 is 60 seconds. We have successfully faxed to numerous places in Europe before.

A33. That is not enough. It may take much longer for some connections overseas to get established. I'm using the following in the configuration file:

```
ModemWaitTimeCmd:       S7=80           # Wait up to 80 seconds for a connect
```

Consult config(4F) for more information.

Q34: Help with etc/dialrules?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q34. *Help with etc/dialrules?*

At our University, we can dial 4 digit numbers to reach internal lines, and must dial 9 to get an external line.

I'd like to be able to use the same rules for sending faxes, and I've read (but not understood) the dialrules manpage, but I'm not sure what I have to change for this to work.

If anyone else has already done this, could you please share the changes with us?

Right now, I'm using something like: sendfax -d Jack@9,9787320 /etc/fstab But I'd like to be able to use: sendfax -d Jack@7320 /etc/fstab (for internal faxes), and: sendfax -d Pizza@9671111 /etc/pizza (for external calls).

A34. You perhaps want to match numbers with more than 7 digits and automatically preprend "9,". If so, then something like

```
^[0-9]{7,}$      = 9,&
```

would do the trick I think (use the dialtest program to debug your rules).

Q35: Why have fax user?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q35. *Why have fax user?*

I've been trying to figure out why there is a need for a "fax" user. I'm running AIX 3.2.5 (and I checked this under Solaris as well). It seems that if the fax user has the same userid as uucp, then for any sort of lookup, uucp will be returned when one might want fax's userid.

For example, I have a file. I do a 'chmod fax filename' and then do an ls -l. ls shows that the file is now owned by uucp. In addition, if I try to use faxrm from the fax userid to remove someone elses job, faxrm reports that I'm not the fax user. So, in the end, I can not remove anyone's fax job if I am not the fax user, which I will never be because faxid = 5 = uucpid.

So, why the fax user? Why not run everything under uucp? If there are compelling reasons, where is the code which faxrm uses to check if you are the owner of a fax or the "fax" user? (I looked and looked, but nothing seemed obvious)

A35. Because the "fax" user has a separate passwd file entry it can have a private passwd different from uucp. The reason that it's got the same uid as uucp is to simplify management of the UUCP lock files and tty device protections. It should be possible to have a uid different from uucp (at one time it did), but right now the code has some assumptions that require it to be identical. At some point in the future the requirement that the fax&uucp uids be the same may be eliminated (patches welcome).

Q36: What is the purpose of putting '@' at the end of the dial string?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q36. *What is the purpose of putting '@' at the end of the dial string?*

Could someone explain the purpose or advantage of putting '@' at the end of the dial string when dialling out in FAX mode?

The modem manual (Worldblazer) says it puts in 5 seconds of silence, but it is not clear from the FlexFAX docs or the modem manual why or when this is a Good Thing (unless I have missed it).

Currently I don't have the '@', and it seems to work OK.

A36. The @ is used to get result codes that disambiguate "NO ANSWER" from "NO CARRIER". That is, whether the phone was not answered, or whether it was answered, but no carrier was recognized. By doing this one should be able to recognize when a person answers the phone (and thereby not redial). Unfortunately some modems do not properly implement @ and/or do not return useful results that permit one to recognize when a non-modem answers the phone. The ZyXEL is a prime example of a modem that does not implement the @ dial modifier correctly. I personally would never setup a high-volume fax service with a modem that did not properly implement the @ dial modifier because of the potential for harassing folks as a result of dialing wrong numbers.

BTW, the "@-trick" is due to Stuart Lynne.

Q37: Retrain negative (pages lost during transmit)?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q37. *Retrain negative (pages lost during transmit)?*

Here is my situation:

FlexFax v2.2.2pl1, Sparc LX, Solaris 2.3
Multi-Tech 1432 BA/A, fw 0111 (AT&T chip).

I constantly loose page eight from a ten page document received from a fax back system. Pages 1-7 look O.K., but after page 8, I get a "retrain negative", Then receive two more pages (Pages 9 and 10). Faxinfo claims 9 pages but the log looks like it received 10 pages. One thing is that page 8 (missing page), has two RECV lines in the log. The second line says 1592 lines received. (There is a lot of white space on this page. Is this significant?) Is this simply another case of the remote unable to resend the page and/or protocol violation, or is there something more?

Here is the log beginning with page 8 to the end.

```
Jun 22 17:01:09.32: [  751]: RECV recv MPS (more pages, same document)
Jun 22 17:01:09.33: [  751]: RECV send MCF (message confirmation)
Jun 22 17:01:09.33: [  751]: --> [2:OK]
Jun 22 17:01:09.33: [  751]: <-- [6:AT+FDR]
Jun 22 17:01:10.55: [  751]: --> [14:+FHT:FF 13 8C ]
Jun 22 17:01:11.29: [  751]: --> [7:CONNECT]
Jun 22 17:01:11.29: [  751]: RECV: begin page
Jun 22 17:01:11.30: [  751]: MODEM set XON/XOFF/FLUSH: input disabled, output enabled
Jun 22 17:01:11.30: [  751]: <-- data [1]
Jun 22 17:01:20.18: [  751]: RECV: 16384 bytes of data, 523 lines
Jun 22 17:01:29.07: [  751]: RECV: 12524 bytes of data, 1592 lines
Jun 22 17:01:29.07: [  751]: MODEM set XON/XOFF/DRAIN: input enabled, output enabled
Jun 22 17:01:29.08: [  751]: --> [24:+FPTS:2,2113,105,45,1960]
Jun 22 17:01:32.50: [  751]: --> [14:+FHR:FF 13 4F ]
Jun 22 17:01:32.50: [  751]: --> [6:+FET:0]
Jun 22 17:01:32.50: [  751]: RECV recv MPS (more pages, same document)
Jun 22 17:01:32.51: [  751]: RECV send RTN (retrain negative)
Jun 22 17:01:32.51: [  751]: --> [2:OK]
Jun 22 17:01:32.51: [  751]: <-- [6:AT+FDR]
Jun 22 17:01:33.66: [  751]: --> [14:+FHT:FF 13 4C ]
Jun 22 17:01:35.49: [  751]: --> [26:+FHR:FF 13 83 00 62 F8 00 ]
Jun 22 17:01:39.75: [  751]: --> [14:+FHT:FF 13 84 ]
Jun 22 17:01:40.14: [  751]: --> [5:+FCFR]
Jun 22 17:01:40.14: [  751]: --> [21:+FDCS:1,5,0,2,0,0,0,0]
Jun 22 17:01:40.15: [  751]: REMOTE wants 14400 bit/s
Jun 22 17:01:40.15: [  751]: REMOTE wants page width 1728 pixels in 215 mm
Jun 22 17:01:40.15: [  751]: REMOTE wants unlimited page length
Jun 22 17:01:40.16: [  751]: REMOTE wants 7.7 line/mm
Jun 22 17:01:40.16: [  751]: REMOTE wants 1-D MR
Jun 22 17:01:40.51: [  751]: --> [7:CONNECT]
Jun 22 17:01:40.51: [  751]: RECV: begin page
Jun 22 17:01:40.52: [  751]: MODEM set XON/XOFF/FLUSH: input disabled, output enabled
Jun 22 17:01:40.52: [  751]: <-- data [1]
Jun 22 17:01:49.35: [  751]: RECV: 16384 bytes of data, 540 lines
Jun 22 17:01:58.11: [  751]: RECV: 16384 bytes of data, 374 lines
```

```
Jun 22 17:02:07.04: [  751]: RECV: 16384 bytes of data, 407 lines
Jun 22 17:02:15.90: [  751]: RECV: 16384 bytes of data, 393 lines
Jun 22 17:02:24.40: [  751]: RECV: 15596 bytes of data, 551 lines
Jun 22 17:02:24.41: [  751]: MODEM set XON/XOFF/DRAIN: input enabled, output enabled
Jun 22 17:02:24.51: [  751]: --> [18:+FPTS:1,2264,0,0,0]
Jun 22 17:02:25.67: [  751]: --> [14:+FHR:FF 13 4F ]
Jun 22 17:02:25.67: [  751]: --> [6:+FET:0]
Jun 22 17:02:25.67: [  751]: RECV recv MPS (more pages, same document)
Jun 22 17:02:25.68: [  751]: RECV send MCF (message confirmation)

[page 8]

Jun 22 17:02:25.68: [  751]: --> [2:OK]
Jun 22 17:02:25.68: [  751]: <-- [6:AT+FDR]
Jun 22 17:02:26.85: [  751]: --> [14:+FHT:FF 13 8C ]
Jun 22 17:02:27.61: [  751]: --> [7:CONNECT]
Jun 22 17:02:27.61: [  751]: RECV: begin page
Jun 22 17:02:27.62: [  751]: MODEM set XON/XOFF/FLUSH: input disabled, output enabled
Jun 22 17:02:27.62: [  751]: <-- data [1]
Jun 22 17:02:36.36: [  751]: RECV: 16384 bytes of data, 579 lines
Jun 22 17:02:45.32: [  751]: RECV: 16384 bytes of data, 424 lines
Jun 22 17:02:54.11: [  751]: RECV: 16384 bytes of data, 384 lines
Jun 22 17:02:59.46: [  751]: RECV: 8701 bytes of data, 878 lines
Jun 22 17:02:59.46: [  751]: MODEM set XON/XOFF/DRAIN: input enabled, output enabled
Jun 22 17:02:59.47: [  751]: --> [18:+FPTS:1,2264,0,0,0]
Jun 22 17:03:04.44: [  751]: --> [14:+FHR:FF 13 2F ]
Jun 22 17:03:04.44: [  751]: --> [6:+FET:2]
Jun 22 17:03:04.44: [  751]: RECV recv EOP (no more pages or documents)
Jun 22 17:03:04.45: [  751]: RECV send MCF (message confirmation)

[page 9]

Jun 22 17:03:04.45: [  751]: --> [2:OK]
Jun 22 17:03:04.46: [  751]: <-- [6:AT+FDR]
Jun 22 17:03:05.65: [  751]: --> [14:+FHT:FF 13 8C ]
Jun 22 17:03:07.39: [  751]: --> [14:+FHR:FF 13 FB ]
Jun 22 17:03:07.39: [  751]: --> [7:+FHNG:0]
Jun 22 17:03:07.39: [  751]: REMOTE HANGUP: Normal and proper end of connection (code 0)
Jun 22 17:03:07.96: [  751]: --> [2:OK]
Jun 22 17:03:12.01: [  751]: RECV: end
Jun 22 17:03:12.02: [  751]: SESSION END
```

A37. The remote never retransmitted the bad page. The fax server overwrites bad pages when a retransmitted copy is supposed to be delivered. That is why your file only has 9 pages in it. I can't recall the exact wording in the T.30 spec, but I believe it's not required that the sender be capable of retransmitting a bad page. FlexFAX will properly retransmit a page if it receives RTN.

Q38: [SunOS] Utmp/motd not updated on SunOS-4.1.3_U1?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q38. *[SunOS] Utmp/motd not updated on SunOS-4.1.3_U1?*

I'm finding that login(1) only updates lastlog, leaving utmp and wtmp alone.

A38. This happens when you don't have a ttytab entry for the dial-in device, or if a device has multiple links and the reference in ttytab is not the first one in /dev. See also ttyslot(3V).

Q39: terminal-based sendfax interface available

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q39. *terminal-based sendfax interface available*

A39. **Date**: *Thu, 11 Aug 1994 17:02:15 -0400*
From: *Ken Hornstein <kenh@wrl.EPI.COM>*

I've written a simple, terminal based interface to "sendfax". It pops up a little form with various fields for you to fill in (FaxNumber, FaxCompany, etc), lets you select files to include, and optionally e-mail a copy of your message to someone. It's nothing wonderful, but it works and it's proven useful to people here who are daunted by all the arguments to sendfax.

It's called "sfax", and it's written in Perl. It is available in the FlexFAX contrib area, so you can find it on sgi.com in the contrib area.

There isn't a man page, but a README file that explains how you use it and a sample form file is provided.

Suggestions and bug reports welcome.

Q41: TCL/Tk GUI front-end to FlexFAX/HylaFAX

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q41. *TCL/Tk GUI front-end to FlexFAX*

A41. Andy Moskoff has written a tcl/tk front-end to FlexFAX. It can be retrieved from ftp.aud.alcatel.com:/tcl/code/tkflexfax.tar.gz. There is also a README file.

Supporting software required:

- FlexFAX (at least v2.2)
- ghostview
- tcl/tk (only tk3.6, not tk4.0)
- X11 (at least R3)

Current features:
- Batching fax destinations
- Builtin faxnumber database
- Fast cover sheet generation
- Cover sheet preview
- Cover sheet ONLY transmission option
- Directory browser
- Fax job dequeuing made easier
- Fax job scheduling made easier
- Highly configurable

Andy Moskoff: email andy@wx.gtegsc.com

Q42: Macintosh client for FlexFAX/HylaFAX

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q42. *Macintosh client for FlexFAX*

A42. **Date**: *Mon, 20 Mar 1995 23:29:08 -0500*
To: *flexfax@sgi.sgi.com*
From: *rob@eats.com (Rob Newberry)*
Subject: *MacFlex 1.0 Beta 2 Available*

MACFLEX 1.0 BETA 2 AVAILABLE

There is a new version of MacFlex available. It is available at:
ftp://eats.com/pub/MacFlex-1-0-B2.sea.hqx

This version includes many fixes, most notably:
1. the FAX number doesn't get munched using "print-to-fax"
2. seems to work with MS Word and MS Excel (wow!)
3. the FAX number isn't ignored when submitting manually (dumb, dumb, dumb)
4. better logging and status information (including the imaging process)

On the downside, there's still a couple of things I haven't gotten to. They aren't essential for operation and use, but I do have them on my list.

1. cover sheet support
2. ability to alter and remove jobs
3. a phone book

In the future, I intend to take advantage of HylaFAX features. Before the official release, I probably will change the name and credits to reflect HylaFAX, but the software should still work with FlexFAX for a while. BTW, I could use some ideas for a Macintosh/HylaFAX name combination (HylaMac just doesn't sound all that great to me...)

There are some bugs I haven't been able to find, but they may have gone away due to the other ones I fixed (please do not give me a programming lecture just for hoping :-). They are:

1. crashes during the imaging process:

   I haven't been able to make this part of the program crash. If you find a file that crashes the program -- PLEASE -- look in
   "System Folder:MacFlex Folder:Print"
   There should be a resource file there. Send it to me if possible.

2. problems with preferences:

   I am always able to change the preferences. If someone still finds a problem, please send me some more info!

Thanks to all the people who have used and tested it -- both for the information you gave me, and for not being to angry when it screwed up :-).

Please give the new version a try!

Rob

Q43: Windows 3.1 client for FlexFAX/HylaFAX

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q43. *Windows client for FlexFAX/HylaFAX?*

A43. WinFlex is a WinSock based client for FlexFAX (and HylaFAX) from Peter Bentley . WinFlex 0.4 is only available in binary and from ftp.tecc.co.uk:/pub/winflex.

Q44: What does it mean to get CONNECT 19200 when I try to send a fax...?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q44. *I get the following when trying to send a fax to our hardcopy Fax machine:*

```
May 24 17:16:39.03: [  480]: SESSION BEGIN
May 24 17:16:39.07: [  480]: DIAL xxxxxxx
May 24 17:16:39.07: [  480]: <-- [14:ATDT9,xxxxxxx@]
May 24 17:17:08.93: [  480]: --> [13:CONNECT 19200]
May 24 17:17:08.95: [  480]: <-- [4:ATH0]
May 24 17:17:10.60: [  480]: --> [13:@I~8T`^~  ]
May 24 17:17:10.60: [  480]: --> [10:NO CARRIER]
May 24 17:17:10.65: [  480]: MODEM ERROR: No carrier
May 24 17:17:10.67: [  480]: SEND FAILED: unknown problem (check modem power)
May 24 17:17:10.67: [  480]: <-- [4:ATH0]
May 24 17:17:11.05: [  480]: --> [2:OK]
May 24 17:17:11.05: [  480]: SESSION END
```

A44. "CONNECT 19200" indicates that the modem established a data connection, not a fax connection. If a fax connection was established, "+FCON" should have been returned. If you did in fact reach a fax machine only to establish a data connection then your modem probably was placed the call in Class 0 instead of Class 1 or 2; check your configuration file to be certain outgoing fax calls are dialed in the proper class.

Q45: Encoding errors in facsimile received with my Everex 24/96E?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q45. *Encoding errors in encoded facsimile received with my Everex 24/96E?*

I use an EverFax modem 24/96E that FlexFAX knows as a 24/96D. Everything seems fine except a problem i find every time i have to convert a received fax with 2D encoding to postscript using fax2ps. No problems for the received 1D encoded faxes.

I always get the following errors:

```
fax000219: Fax3Decode1D: Bad code word at scanline 27 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 28 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 29 (x 5).
```

```
fax000219: Fax3Decode1D: Bad code word at scanline 30 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 31 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 32 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 33 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 34 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 35 (x 5).
fax000219: Fax3Decode1D: Bad code word at scanline 36 (x 5).
```

and so on.... do you think it is *always* a problem of noisy line ? Why do i have no problem with 1D encoded fax ?

A45. Several people have reported problems with corrupted reception of 2D-encoded data. At one point this worked fine with my Everex 24/96D, but it looks to be broken now. You can workaround the problem by disabling the reception of 2D-encoded data through the **Class2DCCQueryCmd** configuration parameter; e.g.

```
#
# +FDCC=? query syntax is:
#        (vr),(br),(wd),(ln),(df),(ec),(bf),(st)
# where,
#       vr      vertical resolution
#       br      bit rate
#       wd      page width
#       ln      page length
#       df      data compression
#       ec      error correction
#       bf      binary file transfer
#       st      scan time/line
#
Class2DCCQueryCmd:      "!(0,1),(0-3),(0-4),(0-2),(0),(0),(0),(0-7)"
```

Q46: Converting received facsimile with fax2ps generates warnings?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q46. *Converting received facsimile with fax2ps generates warnings?*

Every time I receive a fax, I get this warning:

```
sdl:/var/spool/fax/recvq#> fax2ps fax029087 >x
Fax3Decode1D: fax029087: Premature EOF at scanline 1056 (x 0).
Fax3Decode1D: fax029087: Premature EOF at scanline 1056 (x 0).
sdl:/var/spool/fax/recvq#>
```

Is there something that I can do about this or is it on the sending end?

A46. This problem is (was) on the receiving end; however the warnings can be ignored.

Prior to the addition of copy quality checking in v2.3beta036, the server code wrote the raw received fax data stream into the file without properly parsing for end-of-line (EOL) and return-to-control (RTC) codes. As a result the recorded number of received lines in a facsimile page was potentially too large if the raw data stream did not include the 6 EOL codes that make up the RTC mark that signals the end of a facsimile page. The fax2ps program scans each page of data without regard for the number of lines recorded in the TIFF file so it would sometimes generate extraneous complaints.

Q47: What does +FHNG:2 mean?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q47. *What does +FHNG:2 mean?*

Sending a fax always fails the same way. Here as example log file:

```
Jul  2 14:07:00.42: [14040]: SESSION BEGIN
Jul  2 14:07:00.46: [14040]: DIAL 8871896
Jul  2 14:07:00.46: [14040]: <-- [11:ATDT8871896]
Jul  2 14:07:14.81: [14040]: --> [5:+FCON]
    <...stuff deleted...>
Jul  2 14:07:30.43: [14040]: <-- data [2]
Jul  2 14:07:32.13: [14040]: SEND end page
Jul  2 14:07:32.23: [14040]: --> [2:OK]
Jul  2 14:07:32.23: [14040]: <-- [8:AT+FET=0]
Jul  2 14:07:32.23: [14040]: --> [7:+FHNG:2]
Jul  2 14:07:32.23: [14040]: REMOTE HANGUP: Call aborted,  from +FK or <CAN> (code 2)
```

A47. The +FHNG status string from the modem indicates that the modem firmware encountered some problem--there is no way for the fax software to recover from this as the line has already been hung up. These types of errors typically indicate a firmware problem, though in this case the status code is very odd. The only thing I can possible think to check is whether or not the order of bits sent to the modem is correct. The probemodem result indicates that the modem understands the +FBOR command, so there should be no problem.

I would try other fax machines to see if the problem is repeatable.

Q48: [SunOS 4.1.x] Getty aborts with Interrupted system call?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q48. *[SunOS 4.1.x] Getty aborts with "Interrupted system call"?*

faxd answers the phone, determines it's a data call, and runs getty. Nothing happens for a few seconds, then I get the following message in syslog:

```
May 22 15:04:58 hbar getty: /dev/ttya: Interrupted system call
```

(Relevant line from config file: GettyArgs: "std.%s %l")

A48. I had this problem too until I changed GettyArgs. Try using "std.%s -" instead of "std.%s %l". This tells getty to use the stdin it was passed instead of opening the device itself.

Q49: What do I need to do to share a tty line between fax and data calls?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q49. *What needs to be done to share a tty line between fax and data calls?*

A49. To use a line for outgoing fax and data calls the calling software must either setup the modem appropriately or HylaFAX must be configured to leave the modem in Class 0 (data mode) when it is not actively being used. To do this force the modem to Class 0 through the **ModemSetupAACmd** configuration parameter (this is known to be the last command sent to the modem during setup):

```
ModemSetupAACmd:        AT+FCLASS=0
```

HylaFAX will automatically switch the modem to the apprioriate Class when placing an outbound call. Inbound calls are a bit more of a problem; you must insure the faxgetty process answers the phone in the appropriate state; for example, for a Class 2 modem:

```
ModemAnswerCmd: AT+FCLASS=2;A
```

will switch the modem into Class 2 before answering an inbound call.

A more robust solution to this problem is to insure software other than HylaFAX always forces Class 0 when using the modem for data. This however may be problematic with some software packages.

For sharing the line for incoming calls the HylaFAX server must be configured to answer incoming calls using an adaptive answer scheme that distinguishes fax from data calls. For Class 1 modems this can potentially be done by the server. For Class 2 and Class 2.0 modems it is best if the modem supports adaptive-answer in the modem (typically this is enabled with an `AT+FAA=1` command). It is also possible for Class 1,2 and 2.0 modems to use the adaptive answer support in the server to answer calls first as data and then as fax; see the descriptions of the **ModemSetupAAcmd**, **AnswerRotary**, and **AdaptiveAnswer** configuration parameters in the config(4F) manual page. See also the chapter on Advanced Server Setup.

Q50: How do I diagnose the following PostScript conversion problem?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q50. *How do I diagnose the following PostScript conversion problem?*

I submit a fax. It ends up in the docq directory. **/usr/adm/messages** states the following:

```
Sep  3 12:39:50 jack FaxServer[20522]: SEND: REJECT docq/doc1.cover+ because: "Can not open file"
Sep  3 12:43:54 jack FaxServer[20522]: SEND: REJECT docq/doc2.cover+ because: "Can not open file"
Sep  3 12:44:18 jack FaxServer[20522]: SEND: REJECT docq/doc3.cover+ because: "Can not open file"
Sep  3 12:45:34 jack FaxServer[20522]: SEND: REJECT docq/doc4.cover+ because: "Can not open file"
Sep  3 12:53:54 jack FaxServer[20522]: SEND: REJECT docq/doc5.cover+ because: "Can not open file"
Sep  3 13:17:35 jack FaxServer[22670]: SEND: REJECT docq/doc6.cover+ because: "Can not open file"
Sep  3 13:17:41 jack FaxServer[22670]: SEND: REJECT docq/doc7.cover+ because: "Can not open file"
```

The files are in the directory owned by uucp and permissions 600, but the file names do not have a "+" at the end of them.

Of course, at this point the fax is tossed out and mail sent to the sender.

A50. Filenames with a trailing "+" are the converted (imaged) documents created by processing the submitted PostScript with the ps2fax converter program [*Ed: this was true for FlexFAX but not for HylaFAX; consult hylafax(4F) for up to date information*]. A converted file may not be opened for many reasons: it was not created, the permission or owner of the file prevents the fax server from accessing it, etc. This problem is almost always caused by the Ghostscript package being incorrectly installed and/or configured. Be sure that you have Ghostscript properly installed and that the submitted cover page is "good PostScript". One possible step-by-step method for diagnosing such a problem is described here.

Q51: Why do my transmitted faxes appear squished at the receiver?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q51. *Why do my transmitted faxes appear squished at the receiver?*

I recently installed FlexFAX, Version 2.3beta on a Sparc IPC using gcc 2.5.8. I am using a Practical Peripherals PM14400FXMT modem hanging off my ttyb serial port.

When I send faxes they are printed on the other end in about half the vertical space they should take up.

I see these entries in the log:

```
Oct 23 14:44:05.42: [20266]: REMOTE best vres 7.7 line/mm
 ...
Oct 23 14:44:05.44: [20266]: USE 3.85 line/mm
```

and this looks fishy to me. I scanned a few back issues of the archive for this mailing list and see the same thing in other logs, but with no complaints of squashed faxes.

When I generate a tiff file and view it it does not appear to be squashed. So it isn't ghostscript to blame.

Any hints on what the problem could be?

A51. This problem is caused by the modem firmware not properly implementing the Class 2 specification. Some modems are incapable of accepting an `AT+FDIS` command to set the session parameters between the time a call is placed and a page is transmitted. Modems with this sort of problem may ignore the `AT+FDIS` command which causes incorrect session parameters being used to interpret the page data (often resulting in ''*squished pages*''), or abort the session, returning a `+FHNG:` status message to the host. If you encounter this problem use the `Class2DDISCmd` configuration parameter to enable workaround support in the fax server (*this support was added in v2.3beta036.*)

Q52: Need help with phase error while receiving?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q52. *Need help with phase error while receiving?*

I have a SupraFAXModem with ROM version V1.400-03-CS29. This is connected to a Sun IPC running SunOS 4.1.2. I’m trying to use FlexFAX v2.3beta036 compiled with gcc 2.5.8 and libg++ 2.5.3. I’m using the standard config file for this modem type. I didn’t list it here, but if people think it would be helpful, I could.

Everything else works ok (sending faxes, data connections in and out). Just receiving has a problem. I’ve been trying to send from a regular fax machine. The fax machine complains that the remote unit (my system) isn’t responding and times out. The log I get is:

```
Jan 06 11:22:38.02: [ 5459]: SESSION BEGIN
Jan 06 11:22:38.04: [ 5459]: <-- [3:ATA]
Jan 06 11:22:39.80: [ 5459]: --> [3:FAX]
Jan 06 11:22:45.83: [ 5459]: --> [5:+FCON]
Jan 06 11:22:45.84: [ 5459]: ANSWER: FAX CONNECTION
Jan 06 11:22:45.84: [ 5459]: STATE CHANGE: ANSWERING -> RECEIVING
Jan 06 11:22:45.92: [ 5459]: RECV: begin
Jan 06 11:25:46.08: [ 5459]: TIMEOUT: reading line from modem
Jan 06 11:25:46.09: [ 5459]: REMOTE HANGUP: Unspecified Receive Phase B error (code 70)
Jan 06 11:25:46.09: [ 5459]: RECV: Unspecified Receive Phase B error (begin)
Jan 06 11:25:46.11: [ 5459]: RECV: empty file "/bigtmp/faxAAAa05459" deleted
Jan 06 11:25:46.16: [ 5459]: RECV: end
Jan 06 11:25:46.16: [ 5459]: SESSION END
```

A52. You probably have the ModemRate set to other than 19.2. Most Supra modems lock the DTE-DCE speed to 19.2 when receiving in Class 2 (see http://www.vix.com/flexfax/Modems/supra-v32bis.html). You can either run at 19.2 all the time or try switching to 19.2 when a fax session is initiated (see **ModemAnswerFaxBeginCmd**).

Q53: Unrecognized Transparent data command (code 44)?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q53. *Unrecognized Transparent data command (code 44)?*

I have a new USR Courier. Flexfax works fine with the Courier as a Class1 modem, but with Class2.0 I get this error:

REMOTE HANGUP: Unrecognized Transparent data command (code 44).

The modem is configured for hardware flow control. The transcript is attached.

```
Feb 03 13:24:20.21: [17852]: <-- [6:AT+FDT]
Feb 03 13:24:20.39: [17852]: --> [20:+FCS:0,5,0,2,0,0,0,5]
Feb 03 13:24:27.01: [17852]: --> [7:CONNECT]
Feb 03 13:24:27.02: [17852]: SEND begin page
Feb 03 13:24:30.07: [17852]: SENT 14196 bytes of data
Feb 03 13:24:30.07: [17852]: SEND 1D RTC
Feb 03 13:24:30.34: [17852]: SEND end page
Feb 03 13:24:30.35: [17852]: SEND send EOP (no more pages or documents)
Feb 03 13:24:30.45: [17852]: --> [2:]
Feb 03 13:24:30.46: [17852]: --> [7:+FHS:44]
Feb 03 13:24:30.46: [17852]: REMOTE HANGUP: Unrecognized Transparent data comma-d (code 44)
```

A53. This is caused by improper DTE-DCE flow control. The modem failed to see the Return To Control (RTC) command from the host and/or the <DLE><ETX> message the punctuates the end of the page data to be sent. You either have flow control misconfigured or the modem does not properly support hardware flow control in Class 2.0.

Q54: Unspecified Transmit Phase C error (code 40)?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q54. *Unspecified Transmit Phase C error (code 40)?*

I've been trying to install a GVC class 2 modem for my Solaris 2.4 system for a week now. I've made it to the point where server seems to start up ok, but each sending hangs with "Unspecified Transmit Phase C error (code 40)". The log show the following:

```
    <...stuff deleted...>

Feb 15 13:34:00.94: [  347]: <-- [23:AT+FDIS=0,3,0,2,0,0,0,4]
Feb 15 13:34:02.32: [  347]: --> [9:+FHNG: 40]
Feb 15 13:34:02.33: [  347]: REMOTE HANGUP: Unspecified Transmit Phase C error (code 40)
```

A54. Read about the **Class2DDISCmd** in config(4F).

Q63: Where can I get CCITT test patterns?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q63. *Where can I get CCITT test patterns?*

A63. There are CCITT fax test patterms.

The earlier CCITT (now ITU-T) fax test charts are in the 1988 Blue Book Volume VII Fascimile VII.3 (available from CCITT document distributors: UN, ANSI, Omnicom, others?) designated T.20 and T.21. T.20 and T.21 are being replaced by T.22. I assume that T.22 is also available from ITU-T document distributors, but it may not as the distribution of Recommendations often lags the Recommendation completion by substantial times (6 to 12 months). Be sure to ask for completed

T.22, not drafts.

All these Recommendations are physical images, not electronic.

There is also work, almost complete, on a Recommendation "T.test-images" which will be published in electronic form (CD-ROM). I would need to check if the images are also available in any standard file formats. images are also available in any standard file formats.

I am technical editor of Communications Standards Review which report on the work in different ITU-T Study Groups and US technical committees including SG 8 where the test charts are developed. Subscribers to Communications Standards Review can acquire draft documents. We prefer not to provide drafts to non-subscribers:

1. We don't make any money for our efforts
2. Concern that the draft they have will change without their knowledge.

For information on subscribing to CSR ($795.00 per year) contact E. Baskin at:72540.113@compuserve.com, fax +1 415 856-6591, tel +1 415 856-9018

A63. An incomplete scanned set of the CCITT test images are available at: http://www.cs.waikato.ac.nz/~singlis/ccitt.html

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Q64: Where did FlexFAX/HylaFAX come from (and other comments)?

Got something to say about this answer? Use the feedback form to send your comments to the HylaFAQ maintainers, or hit the question mark button to invoke the mailer.

Q64. *Where did FlexFAX/HylaFAX come from (and other comments)?*

A64. From time to time it's worthwhile to remind folks of some things about the software that I give out and my involvement. I work full time for Silicon Graphics doing work (that's supposed to be) totally unrelated to fax software. HylaFAX (aka FlexFAX) is a project that I've been working on, and giving away, for more than 5 years. I use only SGI equipment. I do my best to make sure the software functions on non-SGI platforms solely because I believe that everyone (especially SGI users) benefits from the widest possible distribution and use of the software. In particular, I believe that the more users there are, the more cross-platform bugs that will be found, the more modems that will be supported, the more enhancements that will be contributed. That said, people should understand that I make an effort only to insure that the software functions correctly on SGI machines (and in particular, *my* SGI machines) and that it does what I need. I am sympathetic to folks with non-SGI environments and/or with needs that differ from my own. However, if you want something fixed or want something enhanced, then you should send me a complete patch so that I can easily understand the change and integrate it. Otherwise the problem/enhancement is likely to be ignored. Please note also, that if you send me something that I don't feel belongs in the basic software then I'll likely stick it in the contrib area on sgi.com.

In general I spend lots more time on HylaFAX than I should. I cannot promise that I will provide timely answers to questions or new distributions; though people that know me recognize that I try my best to keep people happy.

BTW, be sure to check out the acknowledgements section. You will see that many people have contributed to this software besides myself; many more than are listed there. I really do appreciate contributions, comments, critiques, etc. despite the brusk and/or curmudgeonly attitude that often comes across in my notes ☺.

Sam Leffler / sam@engr.sgi.com