Linux Mail−Queue mini−HOWTO

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*Queue Remote Mail + Deliver Local Mail The Configuration Changes Neccessary to Make Sendmail Deliver Local Mail ***Now*** While Stashing Remote Mail in The Queue Until "I Say So".*

1.Introduction

The document is written by two authors. The NON dial−on−demand solutions part (oldest part) is written by Leif Erlingsson <leif@lege.com>, and the newer dial−on−demand solutions part is written by Jan P Tietze <jptietze@mail.hh.provi.de>.

2.NON dial−on−demand solutions PART

Written by Leif Erlingsson <leif@lege.com>.

The original version of this part contained a lot of unnecessary stuff. This is all it takes, really...

2.1 Starting sendmail

Slackware et al: /etc/rc.d/rc.M:

```
echo "Starting sendmail daemon (/usr/sbin/sendmail -bd -os) [queue only mode]..."
/usr/sbin/sendmail -bd -os      # NOT "-bd -q 15m", the "standard" flags!
```

RedHat et al: /etc/rc.d/init.d/sendmail.init:

```
echo -n "Starting sendmail: [queue only mode]"
daemon sendmail -bd -os         # NOT daemon sendmail -bd -q1h
```

The −os is not really essential, all it does is this:

```
SuperSafe [s] Be super-safe when running things, i.e.,
        always instantiate the queue file,  even  if
        you are going to attempt immediate delivery.
        Sendmail always instantiates the queue  file
        before  returning  control  the client under
        any  circumstances.   This   should   really
        always be set.
```

This should already be configured in the default sendmail.cf anyway.

2.2 Configuring sendmail

Serious sendmail users use the m4 source for this. I recommend this solution if you ever plan on upgrading sendmail and also make anything but trivial changes to sendmail.cf.

If you never intend to fix sendmail so envelope return headers et al works even though you might be on dynamic dial in IP or something, then you may not need to get the m4 source.

Configuring sendmail.cf directly, for trivial configurations

This way of doing things is extremeley version dependent vs. sendmail.cf versions. The following solution is *only* valid for sendmail−8.8.x.

Edit /etc/sendmail.cf:

```
# avoid connecting to "expensive" mailers on initial submission?
O HoldExpensive=True
```

... later ...

```
#####  @(#)smtp.m4      8.33 (Berkeley) 7/9/96  #####

Msmtp,          P=[IPC], F=mDFMuXe, S=11/31, R=21, E=\r\n, L=990,
                T=DNS/RFC822/SMTP,
                A=IPC $h
Mesmtp,         P=[IPC], F=mDFMuXae, S=11/31, R=21, E=\r\n, L=990,
                T=DNS/RFC822/SMTP,
                A=IPC $h
Msmtp8,         P=[IPC], F=mDFMuX8e, S=11/31, R=21, E=\r\n, L=990,
                T=DNS/RFC822/SMTP,
                A=IPC $h
Mrelay,         P=[IPC], F=mDFMuXa8e, S=11/31, R=61, E=\r\n, L=2040,
                T=DNS/RFC822/SMTP,
                A=IPC $h
```

The important flag above is ``e''. Don't fuss if the other flags look different in your file. Keep your flags as−is, only add ``e'' to your flags according to the above examples, unless it's there already. ``e'' marks the mailers as ``expensive''.

Configuring sendmail.cf using m4 source

In the following I will, for simplicity, assume that the sendmail version is 8.8.7. If you have a different version, replace 8.8.7 with that version number below! Also, the instructions will not work for older versions of sendmail. Get the latest sendmail!

Download the sendmail source. Try ``http://WWW.Sendmail.ORG'' or possibly ``ftp.sendmail.org''.

I also recommend that you obtain my patch for allowing envelope sender reverse aliasing and other nice stuff to really make you take control over your mail environment.

Write to ``Sendmail Patch <sendmail@lege.com>'', Subject: ``sendmail−8.8.7'', if 8.8.7 is your sendmail version.

They are also available from ``http://www.lege.com'', as is the sgml source of this mini−HOWTO!

You don't have to get my patches in order to get ``Queue Remote Mail + Deliver Local Mail'' to work. My patches solve other things. But I just thought this would be a nice place to mention them, as many Linux users will find them extremely useful. (They will even give you properly working virtual domains, if you like. The virtual domains don't have to be ``local''. They will give you ``xaliases'', or in other words ``reverse aliasing''.)

Unpack the sendmail source. You may get /usr/src/sendmail−8.8.7/. cd /usr/src/sendmail−8.8.7/cf

Now overlay my patch, if you want it, otherwise skip this step: If you don't want to use procmail as Local Delivery Agent, save away your /usr/src/sendmail−8.8.7/cf/ostype/linux.m4 before doing this... Save my patch to ``/tmp/sendmail−8.8.7−cf−cpio−idcmu.gz'', then...

```
cd /usr/src/sendmail-8.8.7/cf
gzip -dc < /tmp/sendmail-8.8.7-cf-cpio-idcmu.gz | cpio -idcmu
```

If you didn't want to use procmail, write back the saved copy of /usr/src/sendmail−8.8.7/cf/ostype/linux.m4 again.

And regardless of if you applied my patch or not, you must make sure these lines or very similar ones are added to /usr/src/sendmail−8.8.7/cf/cf/yourhostname.smtp.mc (but if you applied my patch you may want to investigate filenames containing the word ``elijah'', under /usr/src/sendmail−8.8.7/cf):

```
dnl # Defer Delivery to "expensive" mailers until next time the
dnl # queue is processed using "O HoldExpensive=True" and make
dnl # sure smtp mailers are "expensive".
dnl # (See original "sendmail" book Chapter 30: Options,
dnl # "Oc - Don't connect to expensive mailers", or
dnl # 2nd Edition "sendmail" book Chapter 34.8.29,
dnl # "HoldExpensive (c), Queue for expensive mailers".)
dnl #                           / Leif Erlingsson <leif@lege.com>
define(`confCON_EXPENSIVE', `True')
define(SMTP_MAILER_FLAGS, e)
MAILER(local)dnl
MAILER(smtp)dnl
```

2.3 Menu support suggestions

The 1.x versions of this document contained Menu support suggestions for /var/X11R6/lib/fvwm/system.fvwmrc. I have dropped those in the current version, but they are available on request:

Write to ``Menu support suggestions <fvwmrc@lege.com>'', Subject: ``Menu support suggestions''

3.Dial−on−demand solutions PART

Written by Jan P Tietze <jptietze@mail.hh.provi.de>.

Many Linux users access the Internet through a dialup line, and many have decided to implement dial−on−demand facilities on their system. That is, whenever an IP packet of some sort has to leave the local network or the local host, the link to an Internet Service Provider (ISP) will automatically be established. The link will be dropped after some period of time that no packet has travelled across.

Although this is very comfortable and cost effective, there is one special case in which this is neither comfortable (as the time to bring up a "traditional" modem dialup is very noticeable) nor cost effective, and this is sending e−mail. E−Mail is commonly sent by SMTP, either delivered by your own system or through a SMTP host on the Internet that usually resides in your ISP's network.

With dialup lines, every time you send a message the link will have to be brought up. This is quite okay if you send only one message, but if you happen to create and send multiple messages, bringing up the line more than once can be tedious and cost ineffective. Also, if your ISP imposes limits as to what times you are allowed to login, this would also restrict you to postpone messages at certain times of the day, and you would have to manually send them later.

Section 1 of this document will solve the situation, however in situations where an external DNS lookup would cause the link up, the link will still be established even if e−mail is just being queued. The reason is that sendmail wishes to "canonify" host names.

The solution to this problem is twofold: First, we'll have to moderately change sendmail.cf. And then we have to define the process of actual mail delivery. Personally, I prefer to have cron do the job for me and describe the necessary changes below.

3.1 Configuring sendmail.cf

For the reasons stated in [1.2], I recommend modifying the m4 sources instead of editing sendmail.cf directly. It will actually save you a lot of hassle and make configuration changes more verbose.

First, perform all the changes described in the first part of this document. Then go through the dial−on−demand specific stuff.

Configuring sendmail.cf directly, for trivial configurations

Configuring directly is highly impractical and anything but verbose, but obviously, this is your decision.

Close to very bottom of your sendmail.cf should be a line that reads:

```
R$* < @ $* $~P > $*               $: $1 < @ $[ $2 $3 $] > $4
```

Precede that line with a "#" so that it reads

```
#R$* < @ $* $~P > $*              $: $1 < @ $[ $2 $3 $] > $4
```

Configuring sendmail.cf using the m4 source.

Add the following line to /usr/src/sendmail−8.8.7/cf/cf/yourhostname.smtp.mc:

```
FEATURE(nocanonify)dnl
```

Your final sendmail.cf can then be built by issuing the following commands. Remember to always back up your old /etc/sendmail.cf before installing the new one:

```
cp /etc/sendmail.cf /etc/sendmail.cf.bak
cd /usr/src/sendmail-8.8.7/cf/cf
m4 yourhostname.smtp.mc > /etc/sendmail.cf
```

3.2 Adding dial delay

It is oftentimes useful, especially when using modem lines, to have a dial delay installed. This means that if sendmail tries to initiate a connection in an attempt to send an e−mail (and this causes the line to go up) but the link actually takes more time to get established than what sendmail thinks should be a reasonable timeout, sendmail will simply wait some seconds and then retry.

Configuring sendmail.cf directly

Somewhere in your sendmail.cf could be a line that would read:

```
#O DialDelay=10s
```

(or very similar). Delete the ``#''. If there's no ``#'' at the beginning of the line, things should be considered okay (it just means this had already been enabled before).

If there is no such line in your sendmail.cf, add one (it is a wise thing to do to add this in the "options" part of the file):

```
O DialDelay=10s
```

Now change the ``10s'' part to the number of seconds you deem suitable.

Configuring sendmail.cf using m4 source

Add the following line to /usr/src/sendmail−8.8.7/cf/cf/yourhostname.smtp.mc:

```
define(`confDIAL_DELAY',`10s')
```

Now change the ``10s'' part to the number of seconds you deem suitable.

Your final sendmail.cf can then be built by issuing the following commands. Remember to always back up your old /etc/sendmail.cf before installing the new one:

```
cp /etc/sendmail.cf /etc/sendmail.cf.bak
cd /usr/src/sendmail−8.8.7/cf/cf
m4 yourhostname.smtp.mc > /etc/sendmail.cf
```

4.Delivering e−mail

E−Mail delivery can be invoked by issuing the command "sendmail −q". For those who are interested in what sendmail actually does, "sendmail −q −v" will give a more verbose version of the delivery process.

It is very convenient to automate the process of e−mail delivery. A tool commonly used for this process is cron.

4.1 How to have e−mail delivered at special times.

Edit your crontab:

```
crontab -e
```

Add lines of the form:

```
05 18-23,0-7     * * Mon,Tue,Wed,Thu,Fri /usr/sbin/sendmail -q
05 *             * * Sat,Sun             /usr/sbin/sendmail -q
```

Please refer to the crontab man page (available through "man 5 \ crontab") for further information. I think the format is pretty obvious. The example crontab entries shown above send e−mail (if, and only if, e−mail is available from the queue) 5 minutes after an hour on weekdays, starting at 6:05 pm, and stopping at 7:05 am. On weekends, e−mail is delivered 5 minutes after an hour, starting at 12:05 pm on Saturday, and stopping 11:05 pm on Sunday.

As a dial−on−demand user, it is sometimes desirable to have your system collect your e−mail via the POP3 protocol at certain times of the day. You could therefore add an entry similar to the following to your crontab:

```
0 21             * * * popclient -3 -u <your pop3 user name
goes here> -p <put your password here> -o /var/spool/mail/<the user
on your system that should receive the collected e-mail>
<mailhost.somedomain.com>
```

Of course, this should all go on a single line.

Then, save the file and leave the editor. The crontab should now be installed.