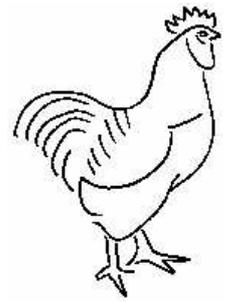


## CLTC Documentation Sheet 4:

# Configuring the *Sendmail* Email Server and POP3 Access



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*And we ought not to confound speech with the natural movements which indicate the passions, and can be imitated by machines as well as manifested by animals; nor must it be thought with certain of the ancients, that the brutes speak, although we do not understand their language.*

Descartes, *Discourse on Reason*

Email was the 'killer application' that made the Internet a viable technology. It is still the critical communications medium of the Internet today (as opposed to web sites, which are a one-way medium). Setting up email is therefore a priority for any networked training platform. This documentation sheet works through the process of setting up email on the CLTC. For this we use *sendmail* as the transport agent, and *pop-3* as the delivery agent.

## *sendmail* and MTAs

A mail transport agent (MTA) takes email and moves it somewhere. Usually it moves from one computer to another. But on the CLTC we use an MTA to receive email, hold it, and then send it on to its recipients.

There are various MTAs. On the CLTC we're restricted to the one that arrives with Red Hat 7.1 - *sendmail*. But there are others that could be used such as *exim* or *postfix* (which also are a little more lightweight, especially on the configuration).

*sendmail* is one of the leading MTAs. It's also a huge and complex program, capable of sophisticated email processing across networks. For the needs of the CLTC it's overkill - which is why we use hardly any of its functions. All we configure is the bare essentials to make the program shuffle email around the CLTC server.

In addition to *sendmail*, we use a *pop-3* mail delivery program to transfer email to the client machines. This program is part of the *imap* package, although we do not use *imap* itself

on the CLTC server (yet).

## Configuring *sendmail*

Configuring *sendmail* is complex - you can buy very thick books on doing so if you wish. On the CLTC server we only use *sendmail* to shuffle email between the user accounts, and so we use a very basic configuration.

Configuring *sendmail* mainly involves a text editor and the command line. We begin with the file `/etc/mail.sendmail.mc`. This is *sendmail*'s configuration file. The first thing we have to do is make an uncorrupted backup of the file using the copy command:

```
cd /etc/mail
cp sendmail.mc sendmail.mc.backup
```

Now we open *sendmail.mc* with a text editor and look for the line, near the end of the file, beginning with '*DAEMON\_OPTIONS*'. Then we change the IP address in this line from 127.0.0.1 to 192.168.66.1. Then we save the file.

Next, we have to process the file `/etc/sendmail.cf`. The `sendmail.mc` file is a list of instructions for the `m4` macro processor. These instructions control the content of `sendmail.cf`. Currently the `sendmail.cf` file is working properly, so we back that up as well:

```
cp sendmail.cf sendmail.cf.backup
```

Next we run `m4` to generate the necessary configuration data `sendmail` requires.

```
m4 /etc/mail/sendmail.mc >
    /etc/sendmail.cf
```

Next we need to edit the `/etc/mail/access` file. This file restricts the servers that can send mail through `sendmail`. Open the file with a text editor and add the following lines at the bottom:

```
192.168.66.0/24    OK
cltc.lan           OK
```

Then save the file.

What this does is allow any machine on the whole CLTC subnet to access `sendmail`. The access file itself is not used directly, and must be translated into a new file for `sendmail` to use. We do this next with the command:

```
makemap hash /etc/mail/access <
    /etc/mail/access
```

Now we need to edit the file `/etc/mail/local-host-names`. This file needs to hold all the host/domain names that are used on the local system. We insert the following lines into the file:

```
cltc.lan
epsilon.cltc.lan
localhost
localhost.localdomain
```

Then save the file.

Next we open a blank document with the text editor and enter the following lines:

```
cltc.lan
epsilon.cltc.lan
```

Then we save the file as `/etc/mail/sendmail.cw`. The purpose of this file is to identify the hosts/domains that `sendmail` delivers mail to.

Next we have to create some aliases to divert the mail which would normally go to the web

server accounts to their ordinary counterparts. To do this we edit the file `/etc/aliases`. Insert the following lines as a block somewhere in the file:

```
# CLTC email aliases
alphaweb:  alpha
betaweb:   beta
gammaweb:  gamma
deltaweb:  delta
```

Then save the file.

What this does it make `sendmail` divert email sent to the web server account to the ordinary accounts. This happens as `sendmail` receives incoming email and transfers it to the 'spool' that it keeps for each user.

Like the `access` file, the `aliases` file must be processed before `sendmail` can use it. To process the file enter the following command:

```
newaliases
```

You can now restart `sendmail` using the command:

```
/etc/rc.d/init.d/sendmail restart
```

`sendmail` is now ready to receive mail. You can test this by configuring a client and sending email to one of the users on the server.

## Configuring mail delivery

Being able to send mail is not a lot of good without being able to receive it. The next task is to configure the `pop-3` mail delivery daemon to provide users with their email.

The delivery daemon, `ipop3`, is provided with the package `imap`. This should have been installed as part of the Red Hat installation process. To enable the daemon we just use the program `ntsysv` to enable the `ipop3` daemon, as we have done with other daemon programs on the system.

The `ipop3` daemon is maintained as part of the 'Internet services' system of Linux, not as part of the network services. For this reason we have to restart the Internet services system to initialise the `pop-3` program:

```
/etc/rc.d/init.d/xinetd restart
```

## Email lists created with aliases

As outlined earlier, we can send mail to a different destination by creating an alias name. This also has another application - we can create email groups. These act like small email lists. What it means is that any email send to the alias address will be copied to anyone attached to the alias name.

Usually email lists are managed by more complex programs called list servers. These not only handle mail forwarding, but they also manage the needs of list users, and control spam and bounced email. Rather than install a more complex program, such as Mailman, at this stage we're using email groups on the local server as a short-cut. What we're going to do is set up an email group called '*email.list*'.

Open the file `/etc/aliases`. Insert the following line after the block you inserted earlier:

```
email.list: alpha, beta, gamma,  
           delta, epsilon
```

Then save the file.

As before, the *aliases* file must be processed before `sendmail` can use it. Enter the command:

```
newaliases
```

What this does it make `sendmail` copy email to all the email users listed on the line.

You do not have to re-start `sendmail` in order for these changes to take effect. You can now use *email.list* as a simulated email list.

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