How E-mail Works

An e-mail message passes through several steps from source to destination
How E-mail Works

- **MUA** – mail user agent composes/reads mail
- **MSA** – mail submission agent submits mail for transport
- **MTA** – mail transfer agent(s) relay(s) the message along the network
- **MDA** – mail delivery agent gives the mail to its recipient
Overview

- Configure machine to relay mail (MSA, MTA)
- Configure fetchmail to download mail (MDA)
- Configure clients to access downloaded mail (MUA)
  - Evolution
  - KMail
  - Mutt
Relaying Mail

• Some e-mail clients talk directly to your SMTP server

• Others, however, depend on a local Mail Transfer Agent (MTA) to handle this for them

• In any case, you will want to configure your machine to be able to send mail, so that scripts, cron jobs, etc., can send mail
Sendmail

- A mailer developed by Eric Allman
- [www.sendmail.org](http://www.sendmail.org), [www.sendmail.com](http://www.sendmail.com)
- Bloated and hard to configure
- Long, dependable history
- Found on every UNIX platform
Sendmail.cf

# my official domain name

# ... define this only if sendmail cannot automatically determine your domain

#Dj$w.Foo.COM

# host/domain names ending with a token in class P are canonical

CP.

# "Smart" relay host (may be null)

DS
Minimal sendmail setup

• Modify sendmail.cf

  # "Smart" relay host (may be null)
  DSmailhub.iastate.edu

• /etc/aliases

  # Person who should get root's mail
  root: mynetid@iastate.edu

• Run /usr/bin/newaliases
Postfix

- A mailer developed by Wietse Venema (creator of tcpwrappers)
- www.postfix.org
Configuring Postfix

- This configuration will cause Postfix to listen only to localhost, and will relay everything (with a few exceptions) to

mailhub.iastate.edu
Configuring postfix to be the default MTA

- As root:

  ```
yum install postfix
/usr/sbin/system-switch-mail

  Select Postfix to be the default MTA
  chkconfig --level 2345 postfix on
  Configures Postfix to start up automatically on boot up
  chkconfig --level 2345 sendmail off
  Configures sendmail to not start up automatically on boot up
  ```
Setting host and domain name

- Edit `/etc/postfix/main.cf`. If the output of `hostname` returns a fully qualified domain name, then you don't have to set the following line. Otherwise, change the following line to look like the following:

```
myhostname = fnord.its.iastate.edu
```

Of course, put your fully qualified domain name here.
Setting host and domain name

- Set the two following lines in 
  /etc/postfix/main.cf
  mydomain = iastate.edu
  myorigin = $myhostname
Configuring where to listen for mail

- **In /etc/postfix/main.cf** edit the following lines:

  ```
  inet_interfaces = localhost
  mydestination = localhost, $myhostname
  mynetworks = 127.0.0.0/8
  ```
Configuring relaying

• Edit `/etc/postfix/main.cf` and edit the following

  \[
  \text{relayhost} = \text{mailhub.iastate.edu}
  \]

• Add the following lines

  \[
  \text{masquerade_domains} = \text{iastate.edu}
  \]

  \[
  \text{masquerade_exceptions} = \text{root, mailer-daemon}
  \]

  \[
  \text{masquerade_classes} = \text{envelope_header, header_sender, header_recipient, envelope_recipient}
  \]

• Add additional local users to \text{masquerade_exceptions}
Configuring Root Delivery

- Mail for root should go to some real person
- Edit this line in /etc/aliases
  ```
  root: someone@some.place
  ```
- You can also add lines in here for any local users
- Run `newaliases` as root to rebuild aliases database file
Reloading Postfix

- After you make any changes to the postfix configuration files, run
  
  service postfix reload
fetchmail

- Now your system can send mail, but you still need to receive it
- Fetchmail is a package designed to download mail from a variety of different sources (it can even handle multiple accounts) and hand it over to some local program
- It can handle kerberized pop, like we use at ISU
Installing Fetchmail

- Unfortunatly, fetchmail from Red Hat randomly comes with or without kerberos support.
- A version of fetchmail, called kfetchmail, has been compiled locally to always have kerberos support built in.
Installing kfetchmail

• If you do not have Iowa State Linux installed on your machine, do the following:

  yum install krb5-libs
  yum install krb5-workstation
  wget ftp://ftp.iastate.edu/pub/unix/kerberos/krb5.conf
  mv krb5.conf /etc/krb5.conf
  wget ftp://ftp.iastate.edu/pub/unix/kerberos/krb.conf
  mv krb.conf /etc/krb.conf
Installing kfetchmail

rpm -ivh \\nhttp://tech.ait.iastate.edu/linux/linuxed/Mail/kfetchmail-6.2.5-6.rhel4.isu1.i386.rpm
Configuring Fetchmail

- Using your favorite editor, create a file called `.fetchmailrc` in your home directory

```
poll netid.mail.iastate.edu proto KPOP auth kerberos_v4 uid1
principal pop.pop.iastate.edu@IASTATE.EDU
user netid there is localusername here warnings 3600
mda 'procmail -f- -m /home/localusername/.procmailrc'
keep
```

- Replace `netid` and `localusername` with appropriate values

- `chmod 700 .fetchmailrc`
Leaving mail on the server

- That `.fetchmailrc` leaves mail on the server
- To have your mail removed from the central mail server after it has been downloaded, remove the `uidl and keep` words from the configuration file
Procmail

• Fetchmail is now configured to give mail to procmail for final delivery

• Create a `.procmailrc` in your homedir

  MAILDIR=/home/localusername/mail
  ORGMAIL=$MAILDIR/inbox
  DEFAULT=$ORGMAIL
  SHELL=/bin/sh

  :0 :
  $DEFAULT
Configuring Procmail

- Create a `mail` directory in your homedir
- Procmail takes mail from fetchmail and puts it in a inbox file (in a file format called an `mbox` file) in the `mail` directory
  - We put it here rather than in the conventional `/var/spool/mail` so that your inbox is backed up with your homedir and is available if you use AFS or another network file system
Getting Mail

- If you do not already have kerberos tickets, run
  
  `kinit netid@IASTATE.EDU`
  `krb524init`

- Run
  `kfetchmail`

- This will run kfetchmail once to download your mail
Running in daemon mode

- To have fetchmail run in daemon mode run it like
  
  kfetchmail -d 600

- This causes it to run every 600 seconds. Do not set that below 300 seconds

- Before you log out, run
  
  kfetchmail --quit
Evolution

- Evolution is a mail client that to many people resembles Outlook
- Has e-mail as well as a calendar and address book
- To run, type `evolution &` at a prompt. This will start up a configuration wizard
Configuring Evolution

Identity

Please enter your name and email address below. The "optional" fields below do not need to be filled in, unless you wish to include this information in email you send.

Required Information

Full Name: Web Testing
Email Address: webtest@iastate.edu

Optional Information

Make this my default account
Reply-To: webtest@iastate.edu
Organization: IT Services Iowa State University
Configuring Evolution
Configuring Evolution
Evolution
Evolution
Evolution
Evolution

* Highlight a folder to see your mail

* Click on 'Send/Receive Mail' to check for new mail
Evolution
KMail

• KMail is the mail client that comes with KDE
• To many people, it resembles Eudora
• At a prompt, type `kmail &` to start KMail
• Go to Settings -> Configure KMail to add an account
KMail
KMail
KMail
KMail

- After you have added an identity, you have to configure sending and receiving mail.
KMail
KMail

Transport: SMTP

Name: ISU
Host: mailhub.ias.state.edu
Port: 25
Precommand:

- Server requires authentication
- Store SMTP password

- Send custom hostname to server

Hostname:
KMail
KMail
KMail

![KMail interface](image.png)

- Local Folders: Local Folders, inbox, outbox, sent-mail, trash, drafts, Searches
- Unread and Total columns
- Search: text
- Receiver: edsell@iastate.edu
- Date: Today 11:48:42

**Message:**

- From: root <root@ics.iastate.edu>
- To: edsell@iastate.edu
- Date: Today 11:48:42

**Message Content:**

```
test
```
Mutt

- Mutt is a powerful text-mode e-mail client
- www.mutt.org
Configuring Mutt

- **Create a `.muttrc`**

  ```
  set spoolfile=~/mail/inbox
  set folder=~/mail/
  set from="tktest@iastate.edu"
  set realname="TK Test Account"
  set envelope_from=yes
  set edit_headers=yes
  set sig_dashes=no
  unset mark_old
  set move=no
  set autoedit=yes
  set editor=/usr/bin/vim
  ```
Mutt Basics

- To run mutt, type `mutt`
- Opens to your inbox
- Arrow up and down, enter to read a message
- Type `m` to send a new message
- Type `s` to save a message to a different folder
  - Folders in the mail directory in your homedir are preceded with an `=`, i.e. `=work`, `=project`, etc
- Type `c` to change directories
Mutt Basics

- `q` quits mutt
- The top line of the screen is a status line, which offers hints for commands
- Creating messages is done with the editor selected in your `.muttrc`
Mutt