TETRA TRAINING DOC

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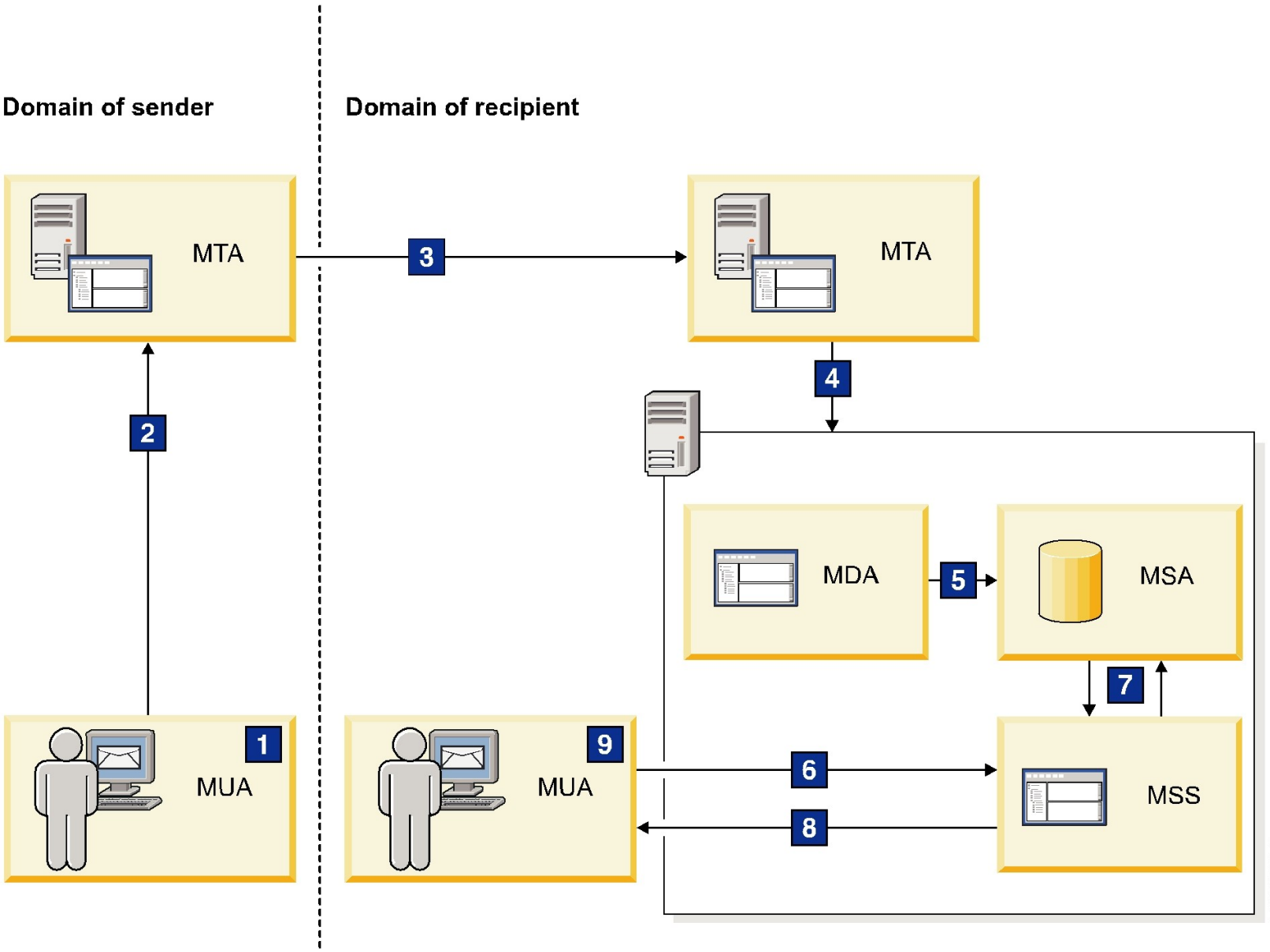
What Is Mail Server?

A server that stores incoming mail and sends it to the correct user, and stores outgoing mail and transfers it to the correct destination server on the Internet.

Mail server components, descriptions, and examples

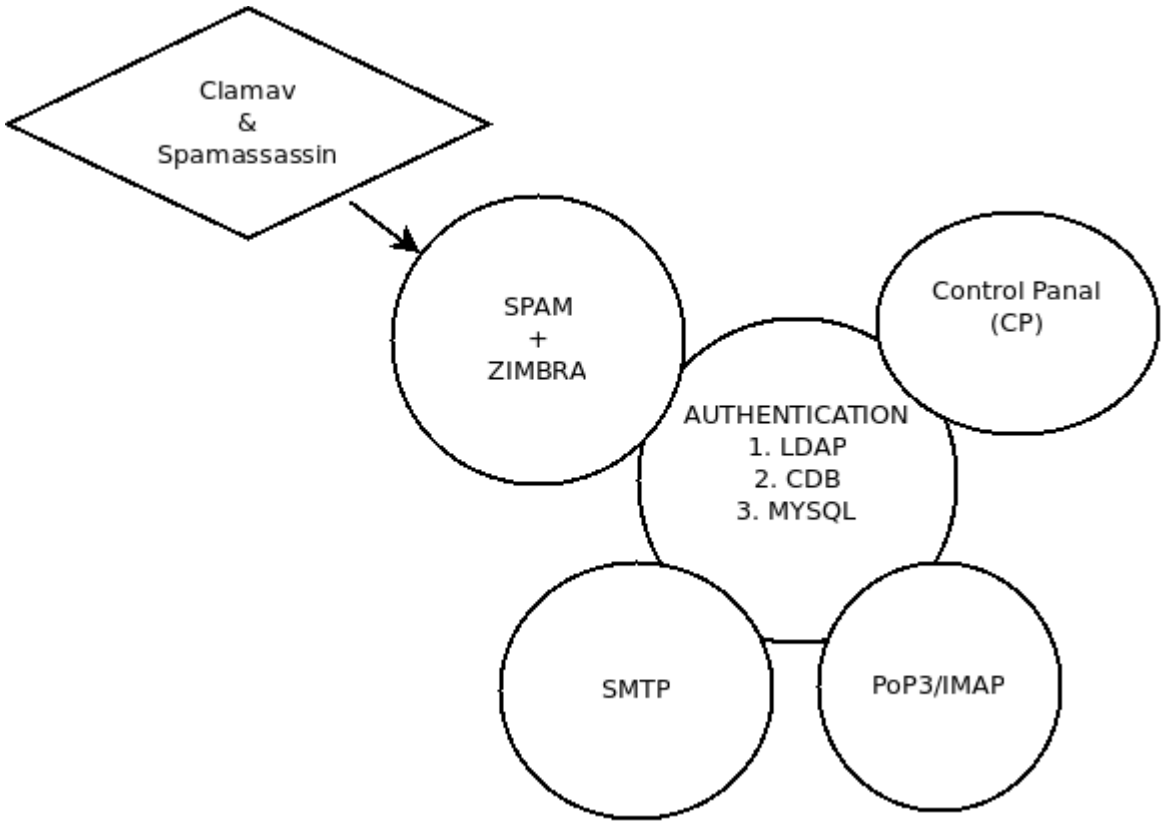
Component	**Description**	**Examples**
Mail User Agent (MUA)	An application with which users can create, view, send, and receive email. The MUA is located on a client system, such as a workstation or PC.	Microsoft Outlook Express Mozilla Thunderbird Mutt E-Mail Client
Mail Transfer Agent (MTA)	An application that sends, receives, and stores email. This program determines where and how to store email.	Postfix Sendmail Lotus Domino Server Microsoft Exchange
Mail Delivery Agent (MDA)	An application that saves received email to the MSA. This program might also perform additional tasks such as filtering email or delivering email to subfolders.	The Postfix, Dovecot, and Cyrus applications each implement some or all of the functions of the MDA.
Mail Storage Area (MSA)	A local system or server where the MTA stores email. This is also the location from which the MSS retrieves email at the request of the MUA.	Mbox Maildir /var/mail/spool/*username*/
Mail Storage Server (MSS)	An application that retrieves email from the MSA and returns it to the MUA.	Dovecot Cyrus



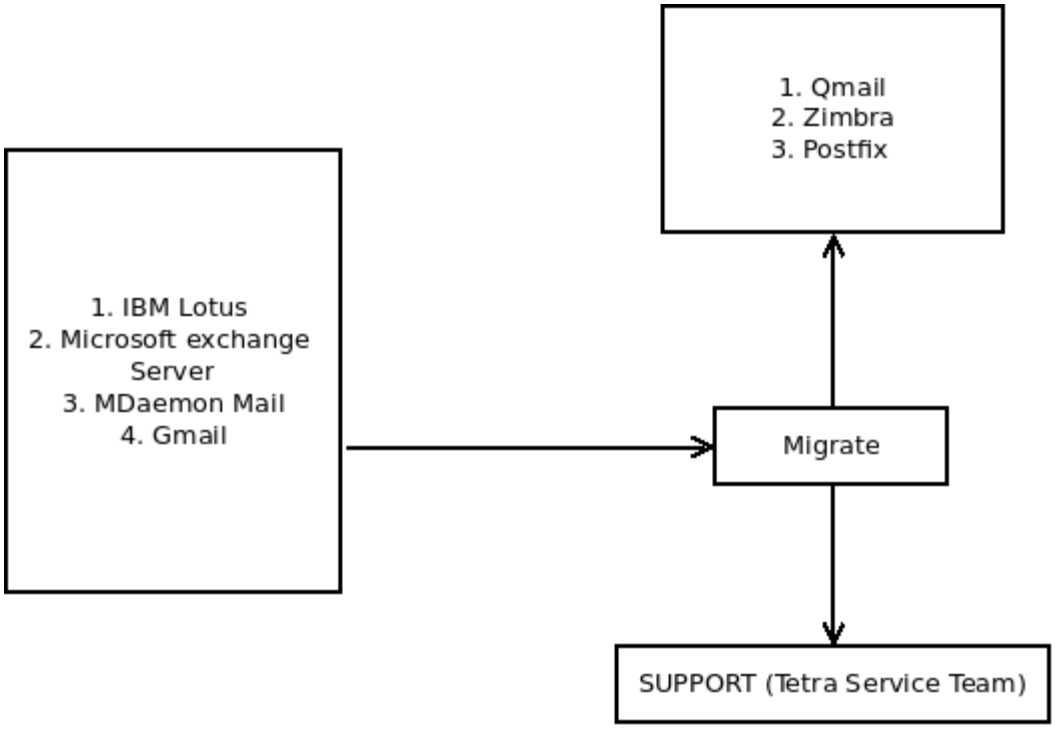
Email flows through the mail server components as follows:
1. From their MUA, the sender creates an email and clicks Send.
2. The MUA uses SMTP to send the email to an MTA.
3. The MTA relays and routes the email to an MTA in the domain of the recipient.
4. The MTA in the domain of the recipient sends the email to an MDA of the system of the recipient.
5. The MDA stores the email in an MSA.
6. The MUA of the recipient queries an MSS.
7. The MSS uses IMAPv4 or POP to retrieve the email for the recipient from the MSA.
8. The MSS returns the email to the MUA.
9. From their MUA, the recipient reads the email created by the sender.

In conjunction with mail server applications and email clients, you can use additional applications to
pre-process and post-process email. For example, you can use filtering applications, anti-virus software,
or anti-spam applications.

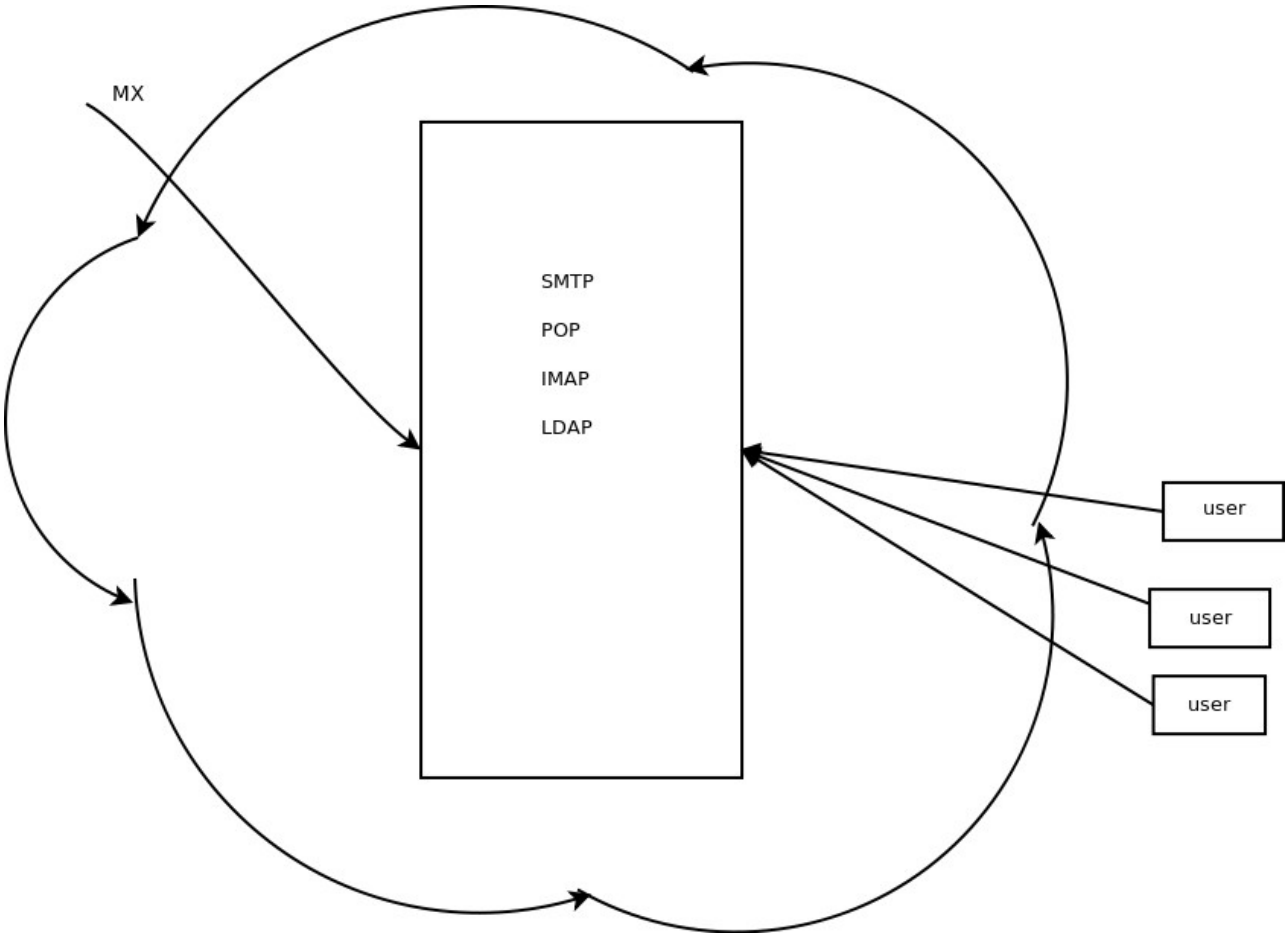
Composition Of mail server -



Migration From Proprietary Server To Open Source Server :

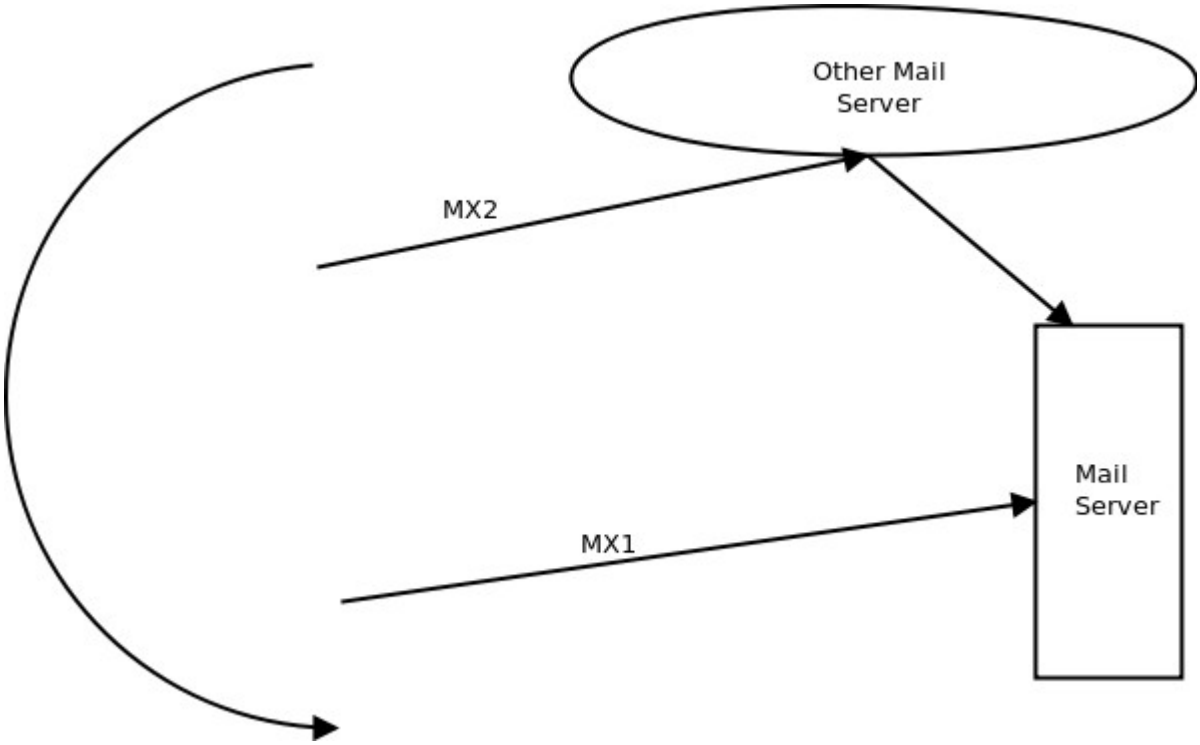


ARCHITECTURE:



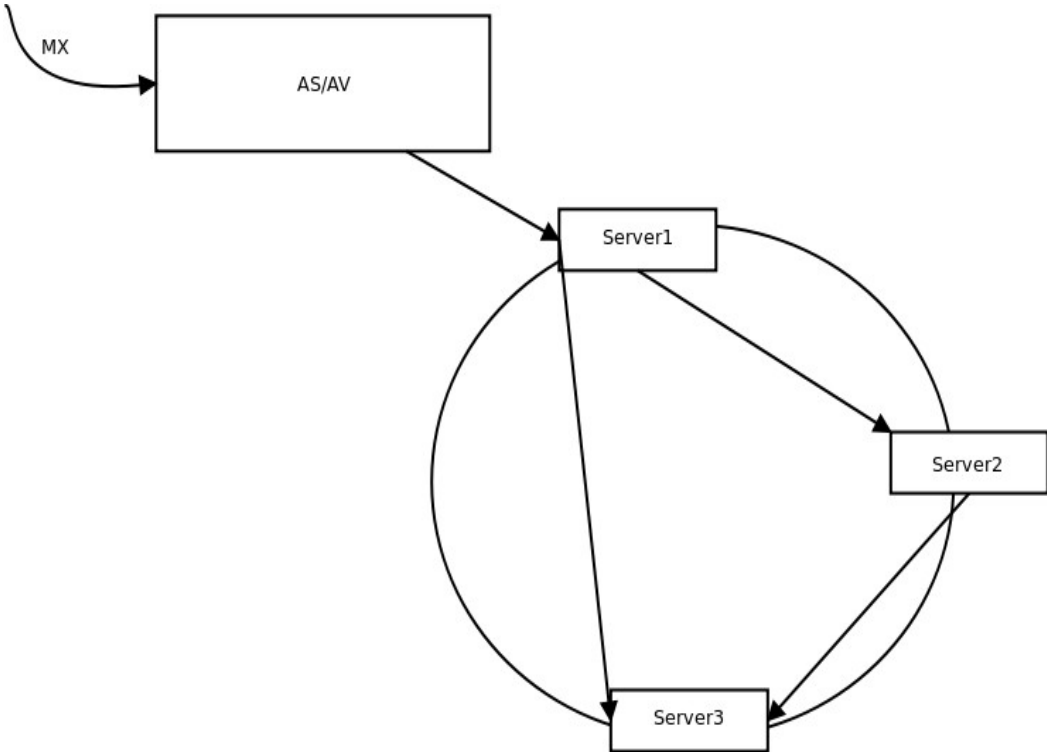
1. This is single level architecture where one server have all required services like pop, imap, smtp, ldap
2. Mx directly pointed to this server.
3. Through this server all user can see or download there mail.
4. This archtecture followed by
   a. heromotocorp.biz
   b. sahara prime city

2 . ARCHITECTURE



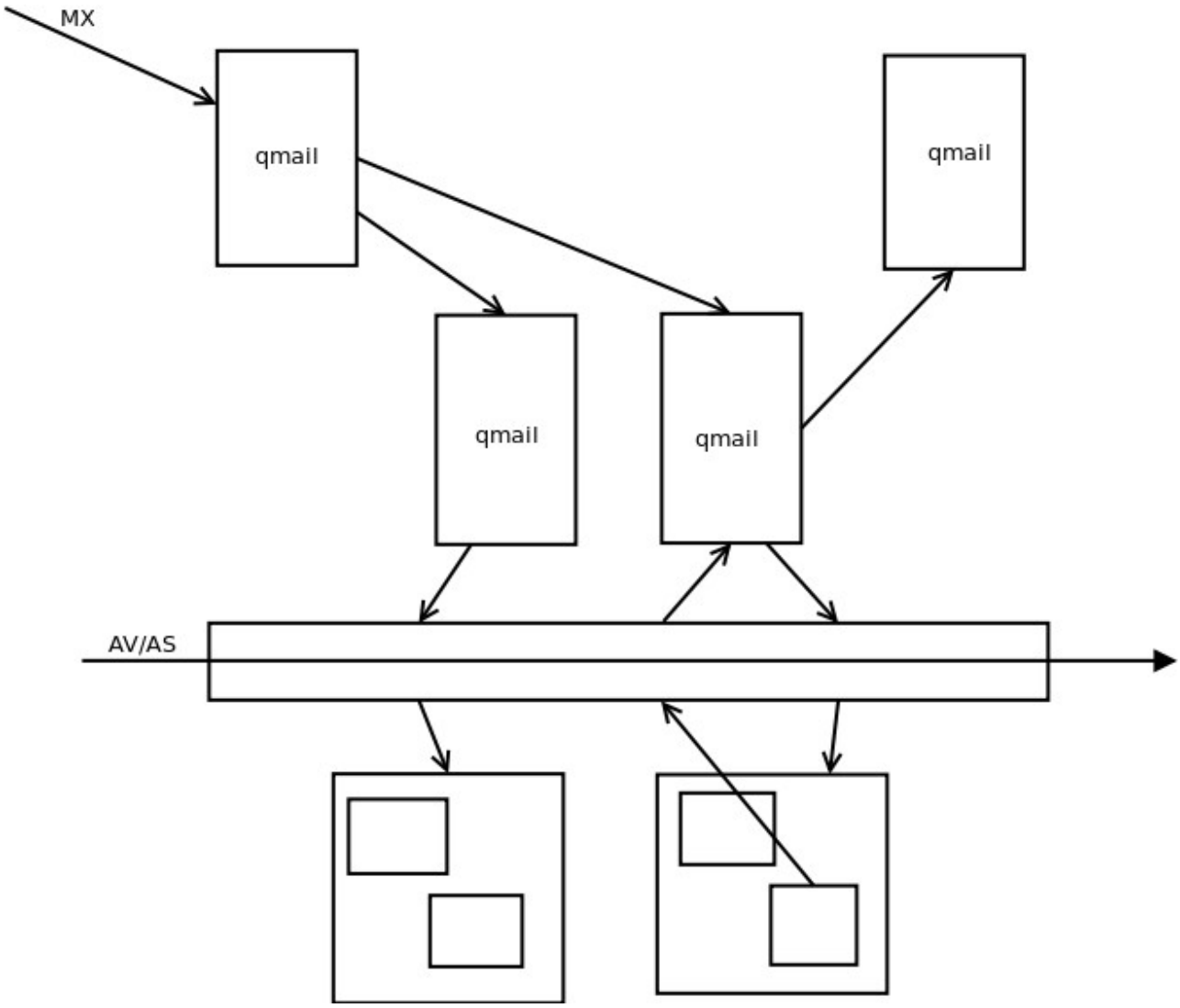
1. In this type of Architecture one fetchmail are present through which we fetch the mail from other server or we puch the mail from one server to another server.
2. Primarily if some user send mail then mail first land to fetchmail server if it's line is conjected then mail redirect to second mail server that giver in above figure.
3. Some organization working on this architecture
   a. krishna grp
   b. jbindia
4. krishna maruti
5. satyam cineplex

ARCHITECTURE 3: **Single domain/Multiple Server**



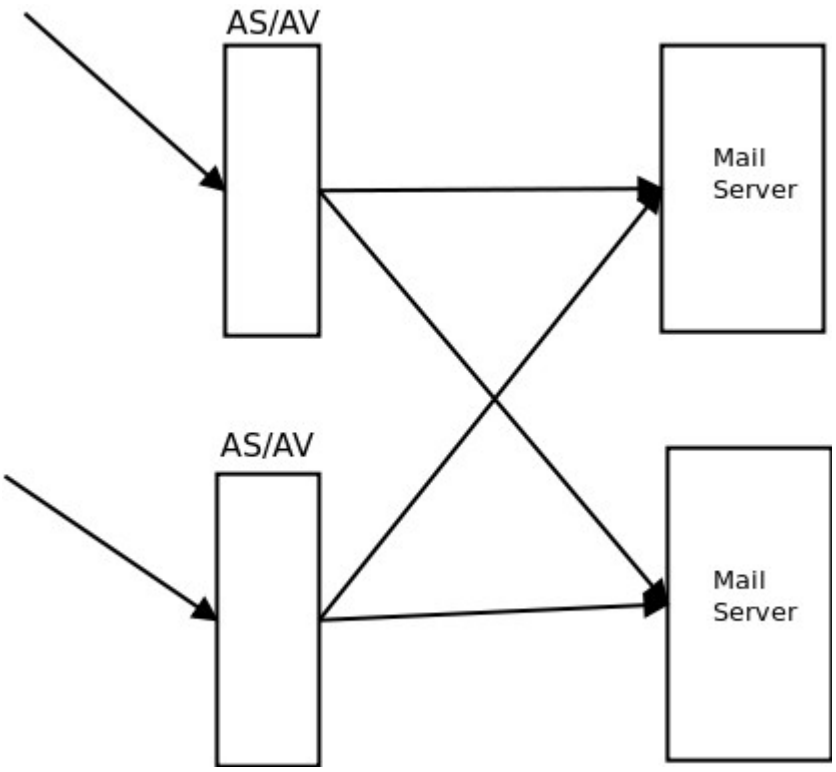
1. In this architecture when some one send you the mail then it land to the as/av after checking spam and viruses it send to main server
2. second thing is that all server inter linked with each other through which they communicate with each other or passes mail to exact location , these link can be vpn or leased line depending on customer end.
3. These type of structure followed by vardhman client

Architecture 4:



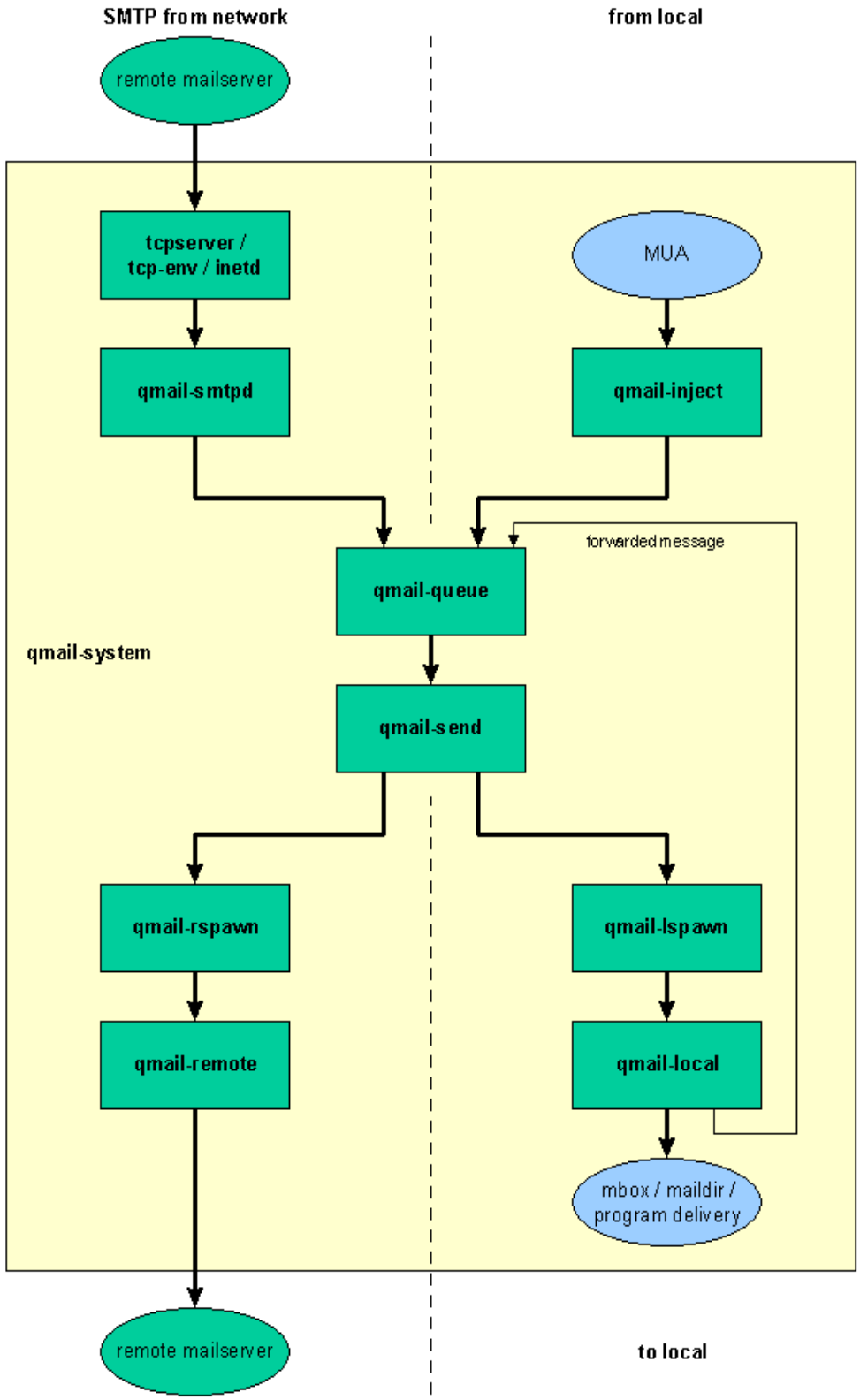
1. In this of architecture when some one send mail from outer side it land first to one of the server of qmail containing MX which is located anywhere in the world if we talk about heromotocorp.com it server exist in US . And it check spamingg and viruses .
2. This server send it to another qmail servers. We use 2 server for safety purpose because if one of them have more load it send it to second qmail server.
3. After that qmail server send mail to AS/AV for checking spam and viruse again
4. After this is forwarded to local users through lotus software

Architecture 5 :



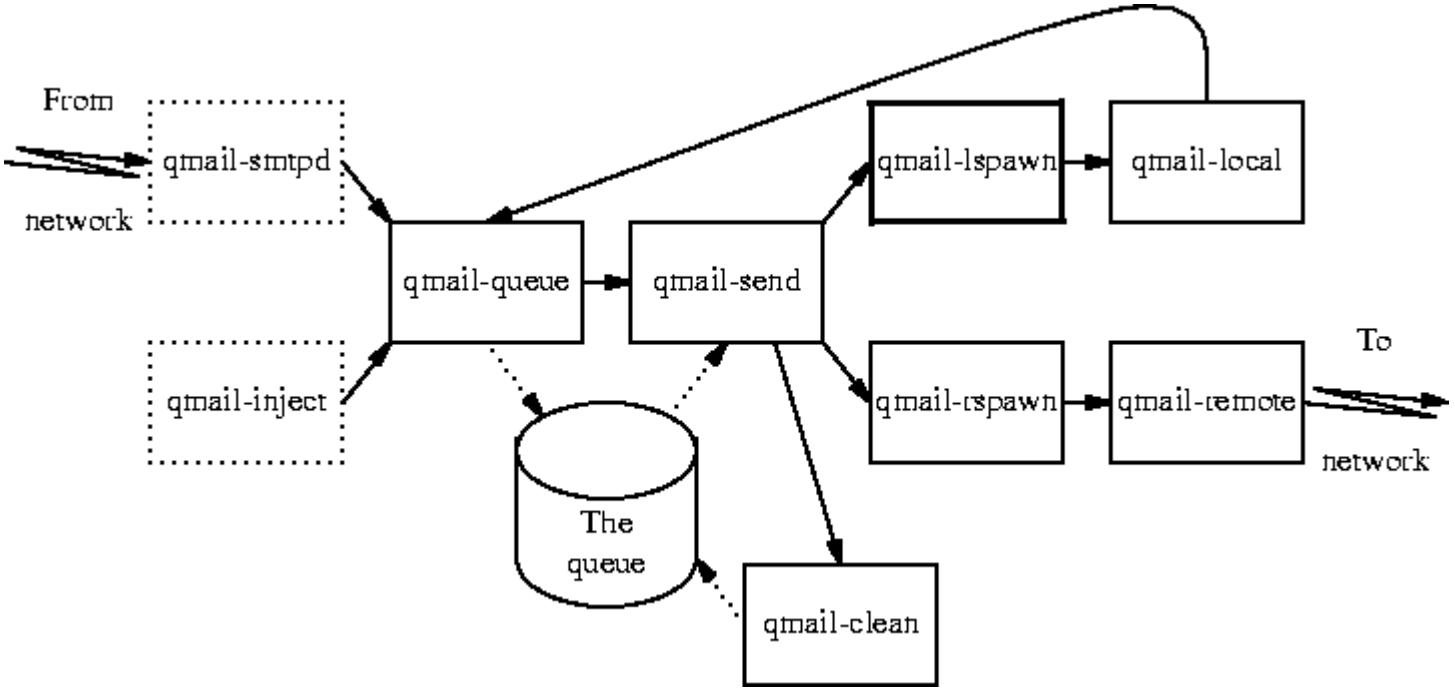
1. In this type of structure when some one send mail to our domain it direclty land to server which contain AS/AV it that server is busy it send to another server as shown in figure.
2. After checking spam and virus it send to mail server if main server are busy then it send to another one .
3. They all are interconnected so it can communicte very easily.

Architecture of Qmail:



qmail- qmail is an Internet Mail Transfer Agent (MTA) for UNIX-like operating systems. It's a drop-in
replacement for the Sendmail system provided with UNIX operating systems. qmail uses the Simple
Mail Transfer Protocol (SMTP) to exchange messages with MTA's on other systems.

qmail Basic Structure-



The **queue** resides on disk

- It is a repository for all messages that have not yet been delivered

- `qmail-queue` puts a new message in the queue and pulls a trigger
- This wakes up `qmail-send`, the primary component
- `qmail-send` examines the message for addresses
- For remote deliveries, it invokes `qmail-rspawn`, which runs `qmail-remote`
- For local deliveries, it invokes `qmail-lspawn`, which runs `qmail-local`
- When a message is fully delivered, it invokes `qmail-clean` to remove it from the queue

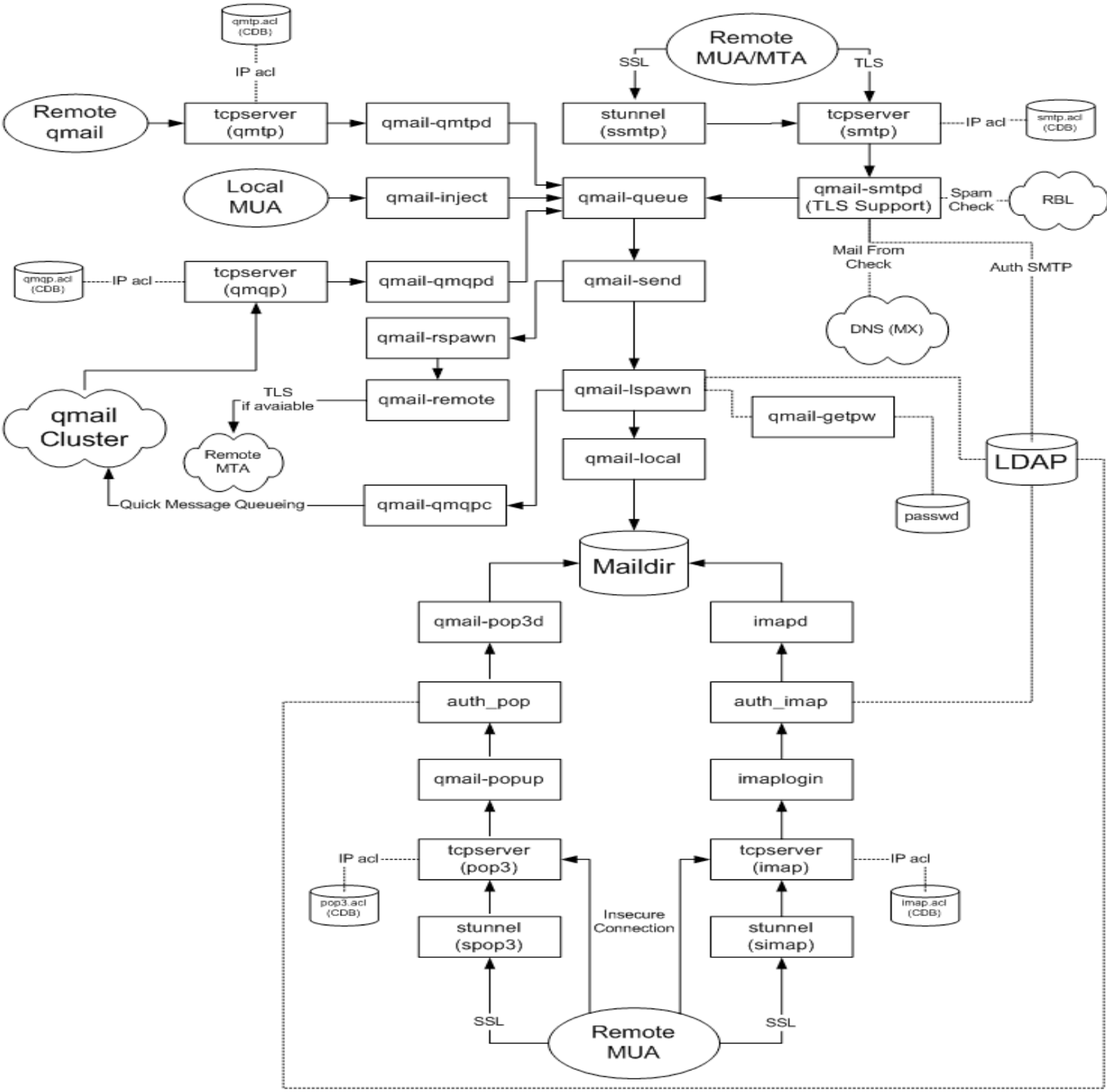


Fig. Above figure is The Big Picture Of qmail

Components of qmail-ldap

qmail-queue

qmail-queue takes messages and places them in the queue. It always adds a "received"-line and does no further message inspection.

qmail-send

qmail-send handles messages placed in the outgoing queue by qmail-queue and uses qmail-lspawn for local deliveries and qmail-rspawn for remote deliveries. qmail-send will reschedule all messages in the queue for immediate delivery.

qmail-todo

qmail-todo does the mail preprocessing to reduce the work load in qmail-send. With qmail-todo the overall performance on high throughput mail servers is far better because of the so called "silly qmail syndrom" caused by a over loaded qmail-send process.

qmail-lspawn

qmail-lspawn looks up the user for a mail to be delivered locally and invokes qmail-local to perform it.

qmail-local

qmail-local performs the delivery. It also handles the .qmail-files.

qmail-rspawn

qmail-rspawn invokes qmail-remote for remote deliveries.

qmail-remote

qmail-remote sends a mail to a remote host via SMTP.

qmail-inject

qmail-inject reads a message from its stadard input, adds headers and invokes qmail-queue to handle the delivery.

qmail-smtpd

qmail-smtpd normally listens on port 25/tcp and receives messages from remote hosts via SMTP.

qmail-qmqpd

qmail-qmqpd receives messages from remote hosts via QMQP, the Quick Message Queuing Protocol. It will relay _every_ message, so you must make sure only preauthorized hosts can connect. QMQP is used for in-cluster deliveries, if you want to use qmail-ldap's clusteriung you must set up qmail-qmqpd.

qmail-popup

qmail-popup reads username and password for POP3 from the network and invokes a subprogram (usually auth_pop) for authentification.

qmail-pop3d

qmail-pop3d is invoked from qmail-popup and handles the POP3-session.

auth_pop

Is normally invoked from qmail-popup to authentificate the user. It is also responsible for pop3-session forwarding inside a qmail-ldap cluster.

auth_imap

As auth_pop, but for IMAP. Handles also session forwarding.

qmail-ldaplookup

Is a tool to check if your ldap setup is correct. Use qmail-ldaplookup -u [uid] or qmail-ldaplookup -m [mail address].