Trevor Hodde Mary Ann Hancock

Matt Morrissey Marcus Knight

Ryan Williams Dan Dufault

Coady LaCroix

Mail Servers

There are many different kinds of mail servers available to users around the world. They are all unique in their own ways, yet they share many similarities. Basically, a mail server is simply computer software that is used to provide email services. There are mail transfer agents, mail delivery agents, and countless other kinds of computer programs that allow this kind of mail transfer to be possible. Common examples of mail servers that people may have heard of include, Microsoft Exchange, sendmail, and Postfix.

The history of mail servers is a shared history with that of the Internet itself. It started in 1950 when the United States Department of Defense raised concern over the ability to survive a nuclear first strike. A study conducted by the RAND Corporation determined that the best option would be a computer network capable of breaking messages apart into several components and sending those components along to the appropriate receiver. Once all of the message units arrived they could be reassembled to form a copy of the entire original message. Out of this the Advanced Research Projects Agency Network (ARPANET) was born.

Early in the development of ARPANET, it was realized that the current method of computer communication was inefficient. If you wanted to talk to someone at MIT, you needed to log on to the terminal connected to another terminal at MIT. Similarly, if you wanted to talk to someone at the University of California, Berkeley, you needed to get up and log on to another terminal. The theory was that there should be one terminal that you could take with you anywhere in order to communicate with any other terminal. This was the theory that drove the development of “packet switching”. With packet switching, one computer could communicate with several other computers on the same network by collecting packets into a datagram. These packets would then be transmitted over the attached network whenever the network was not in use. With this system the network is not only shared, but there need only be once machine to gather and route all the communications.

After ARPANET came the advent of timesharing computers in the 1960s. With timesharing computing, users could run more than one program at a time. Taking advantage of this technology several research groups wrote software to exchange text messages or even chat in real time. The limit of this technology was that only one group of users at a time could send or receive messages. Even with this limitation it was quickly realized that real time chat and the ability to exchange messages was a natural progression of computer technology.

The next advancement came in the 1970's in the form of the TENEX operating system which had a local email system. There were two programs – SNDMSG and READMAIL – that made up the email protocol. In 1971, SNDMSG was updated with the CPYNET program which allowed for the copying of files over the network. From the development came the addressing system that we use for email today: [user@host](mailto:user@host). This early program was quite simple and could only be used from the command line, but it established the basic model that is still in use for all emails sent and received across the globe.

There were several more minor improvements over the next two decades but the real advancement came with the development of sendmail in the early 1980s. This program was included with BSD Unix and essentially created the first ever mail server. This was, and is still, the most commonly used Simple Mail Transfer Protocol (SMTP) server on the Internet.

Recently there have been issues with small businesses and home users being able to run their own mail servers. Most of these users have opted to outsource to a paid service due to the issues with starting a small mail server. The primary reason for this is because of the increasing amount of spam. As of this year, a majority of ISPs automatically block outgoing connections to TCP port 25 on domestic connections. This is done because almost all of the traffic going through there is viruses or other malicious computers trying to send you spam.

Another reason why small mail servers are having problems is because of blacklisting services. These services label new mail servers as spammers by default and make it extremely difficult for someone to run their own server and be able to send mail out. Mail Server Configuration has different configurations that you can choose from when you are trying to configure the server you are working on. One of the most recent standard protocol types for receiving email messages is POP3. POP3 is the Post Office Protocol 3; this server protocol allows the email that is being received, to be held onto for the user by the server that you are currently using. It then can download the messages when it checks back at a given time. POP3 is a server protocol that once the email message is sent to the users inbox it then deletes it from the server.

When you are configuring your Mail server and setting up an account for the first time you will use POP3 as the incoming mail server. Once this step is complete you then want to configure your incoming mail server setting it to your domain. Then you want to configure the Simple Mail Transfer Protocol (SMTP). This is the server for your outgoing mail. You can use other types to set up your mail server but these are the more common ones that are used with Linux mail servers and Outlook mail servers.

Basically, without mail servers, there would be no email. Though there are many different kinds and many different providers, they all still function relatively the same way and they all still accomplish the same tasks. It is unfortunate that it is so difficult to create your own mail server because of the amount of spam, but it is still interesting and useful to know how to create your own. Overall, mail servers have made our lives much easier and communication has become incredibly simple because of their power.