



Manual Prepared by GalaxyVisions Customer Care Team

### **Exim Overview**

- On cPanel servers, both `/usr/lib/sendmail` and `/usr/sbin/sendmail` are symlinks to the Exim binary.
- Most exim processes act separately and are short lived. The exception to this is:
  - 1) Process to listen on SMTP port for incoming TCP/IP connections
  - 2) Process to start up queue runner processes.
- Exim configuration file is stored at `/etc/exim.conf` on cPanel servers. However, all modifications to the `exim.conf` should be made through the Advanced Exim Configuration Editor in WHM.

### **How Exim Delivers Mail...**

- Exim delivers mail using drivers. There are three types of drivers, we'll focus first on routers and transports.
- The first router used by most `exim.conf` files (cPanel has a few misc. routers before this one for optimization purposes) is the `dnslookup` router.
- This router simply looks up the MX record for a domain. If the domain is in the `/etc/localdomains` file, exim is configured to skip this router.
- After this, cPanel uses "accept" routers, accept routers often have preconditions and simply accept ALL mail passed to it (mail goes through the preconditions first)

### **How Exim Delivers Mail...**

- "accept" routers are used first as to accept any mail matching certain conditions prior to any filtering.
- After the "accept" router, mail is passed through a "redirect" router which is used to redirect mail based on user and system filters.
- Most routers have preconditions, once the precondition is met, the router often routes the mail to a suitable transport.



- For instance, when a dnslookup router is successful, it passes the message on to the remote\_smtp transport to be delivered.
- Other transports include “pipe”, “appendfile”, and “smtp”

### **Exim Queue**

- Every message handled by Exim is issued a unique Message-ID.
- The ID is 16 characters and separated into 3 parts by hyphens. Each part is actually a number, encoded in base 62.
- The first part is the unix time the message started to be received. The second part is the PID of the process that received it. The third part is used to distinguish between processes received by the same process at the very same moment.

### **Exim Queue**

- The exim queue on cPanel servers is stored at /var/spool/exim/input
- On cPanel servers, we opt to split the queue into 62 subdirectories. ([a-z], [A-Z], and [0-9]). This causes all messages to be distributed to the separate subdirectories based on the 6th character in the message ID.
- This requires Exim to do more work when scanning the queue, but vastly improves the disk writing performance.
- You can manage the Exim queue from command line very easily.

### **Exim Queue**

- To list the contents of the queue, you would simply use the command: `exim -bp`
- To only give you the number of emails in the spool you simply add a 'c' to the end of the command: `exim -bpc`
- You can examine the contents of a message in queue using the 'exim -Mvl' command followed by the Message ID
- More frequently though, you will use the `eximstats` daemon to monitor your exim queue.

## Eximstats

- Eximstats is a perl script which parses logs and creates a mysql database with many different statistics about Exim.
- Most of this information can be accessed through WHM using the “View Mail Statistics” option.
- To restart eximstats you would use `/scripts/restartsrv_eximstats`

## Troubleshooting Exim via Command Line

- There are many troubleshooting techniques you can use on the command line for Exim.
- To test how Exim would route a message you simply use the 'exim -bt' command, for instance: `exim -bt nick@example.com`
- This will tell you which routers Exim would use to deliver a message to this address.

## Exim Log Files

- There are three log files available for you to monitor the activities of Exim.
  - The main exim log file (`exim_mainlog`) records the arrival of each message as well as the delivery in a single logical line.
  - The reject log file (`exim_rejectlog`) records information about messages and addresses that are rejected based on policy.
  - The exim panic log (`exim_paniclog`) is only used when Exim suffers a disastrous error. (most often related to syntax errors in the log files)

## Exim Configuration Editor

- The exim configuration editor should be used through WHM for modifying any aspect of the `exim.conf`
- This editor also allows you some simple configuration options such as:
  - Always set the Sender: header when the sender is changed from the actual sender. (Unchecking this will stop "On behalf of" data in Microsoft(R) Outlook, but may limit your ability to track abuse of the mail system.)
  - Verify the existence of email senders.
  - Use callouts to verify the existence of email senders.
  - Discard emails for users who have exceeded their quota instead of keeping them in the queue.

### **Maildir vs. Mbox**

- The best advantage of Maildir over other mailbox formats is maildir does not require locks as it's all separate files.
- All mail is written to a tmp directory first, and then written to the 'new' directory.
- Once the MUA finds mail in the 'new' directory, it will move it to the 'cur' directory.
- All cPanel servers now come default using Maildir instead of mbox. However, for any old systems which have not yet been converted to maildir, you can simply use the script:  
`/scripts/convert2maildir`
- Maildir is especially beneficial for servers that pass large volumes of mail.

### **Maildir vs. Mbox**

<http://www.courier-mta.org/mbox-vs-maildir/>