Exim's command line takes the standard Unix form of a sequence of options, each starting with a hyphen character, followed by a number of arguments. The options are compatible with the main options of Sendmail, and there are also some additional options, some of which are compatible with Smail 3. Certain combinations of options do not make sense, and provoke an error if used. The form of the arguments depends on which options are set.

1. Setting options by program name

If Exim is called under the name *mailq*, it behaves as if the option **-bp** were present before any other options. The **-bp** option requests a listing of the contents of the mail queue on the standard output. This feature is for compatibility with some systems that contain a command of that name in one of the standard libraries, symbolically linked to */usr/sbin/sendmail* or */usr/lib/sendmail*.

If Exim is called under the name *rsmtp* it behaves as if the option **-bS** were present before any other options, for compatibility with Smail. The **-bS** option is used for reading in a number of messages in batched SMTP format.

If Exim is called under the name *rmail* it behaves as if the **-i** and **-oee** options were present before any other options, for compatibility with Smail. The name *rmail* is used as an interface by some UUCP systems.

If Exim is called under the name *runq* it behaves as if the option **-q** were present before any other options, for compatibility with Smail. The **-q** option causes a single queue runner process to be started.

If Exim is called under the name *newaliases* it behaves as if the option **-bi** were present before any other options, for compatibility with Sendmail. This option is used for rebuilding Sendmail's alias file. Exim does not have the concept of a single alias file, but can be configured to run a given command if called with the **-bi** option.

2. Trusted and admin users

Some Exim options are available only to *trusted users* and others are available only to *admin users*. In the description below, the phrases "Exim user" and "Exim group" mean the user and group defined by EXIM_USER and EXIM_GROUP in *Local/Makefile* or set by the **exim_user** and **exim_group** options. These do not necessarily have to use the name "exim".

- The trusted users are root, the Exim user, any user listed in the **trusted_users** configuration option, and any user whose current group or any supplementary group is one of those listed in the **trusted_groups** configuration option. Note that the Exim group

is not automatically trusted.

Trusted users are always permitted to use the **-f** option or a leading "From " line to specify the envelope sender of a message that is passed to Exim through the local interface (see the **-bm** and **-f** options below). See the **untrusted_set_sender** option for a way of permitting non-trusted users to set envelope senders.

For a trusted user, there is never any check on the contents of the *From:* header line, and a *Sender:* line is never added. Furthermore, any existing *Sender:* line in incoming local (non-TCP/IP) messages is not removed.

Trusted users may also specify a host name, host address, interface address, protocol name, ident value, and authentication data when submitting a message locally. Thus, they are able to insert messages into Exim's queue locally that have the characteristics of messages received from a remote host. Untrusted users may in some circumstances use **-f**, but can never set the other values that are available to trusted users.

- The admin users are root, the Exim user, and any user that is a member of the Exim group or of any group listed in the **admin_groups** configuration option. The current group does not have to be one of these groups.

  Admin users are permitted to list the queue, and to carry out certain operations on messages, for example, to force delivery failures. It is also necessary to be an admin user in order to see the full information provided by the Exim monitor, and full debugging output.

  By default, the use of the **-M**, **-q**, **-R**, and **-S** options to cause Exim to attempt delivery of messages on its queue is restricted to admin users. However, this restriction can be relaxed by setting the **prod_requires_admin** option false (that is, specifying **no_prod_requires_admin**).

  Similarly, the use of the **-bp** option to list all the messages in the queue is restricted to admin users unless **queue_list_requires_admin** is set false.

Warning: If you configure your system so that admin users are able to edit Exim's configuration file, you are giving those users an easy way of getting root. There is further discussion of this issue at the start of chapter 6.

3. Command line options

Exim's command line options are described in alphabetical order below. If none of the options that specifies a specific action (such as starting the daemon or a queue runner, or testing an address, or receiving a message in a specific format, or listing the queue) are present, and there is at least one argument on the command line, **-bm** (accept a local message on the standard input, with the arguments specifying the recipients) is assumed. Otherwise, Exim outputs a brief message about itself and exits.

--

This is a pseudo-option whose only purpose is to terminate the options and therefore to cause subsequent command line items to be treated as arguments rather than options, even if they begin with hyphens.

--help

This option causes Exim to output a few sentences stating what it is. The same output is generated if the Exim binary is called with no options and no arguments.

--version

This option is an alias for **-bV** and causes version information to be displayed.

-Ac
-Am

These options are used by Sendmail for selecting configuration files and are ignored by Exim.

-B<*type*>

This is a Sendmail option for selecting 7 or 8 bit processing. Exim is 8-bit clean; it ignores this option.

-bd

This option runs Exim as a daemon, awaiting incoming SMTP connections. Usually the **-bd** option is combined with the **-q**<*time*> option, to specify that the daemon should also initiate periodic queue runs.

The **-bd** option can be used only by an admin user. If either of the **-d** (debugging) or **-v** (verifying) options are set, the daemon does not disconnect from the controlling terminal. When running this way, it can be stopped by pressing ctrl-C.

By default, Exim listens for incoming connections to the standard SMTP port on all the host's running interfaces. However, it is possible to listen on other ports, on multiple ports, and only on specific interfaces. Chapter 13 contains a description of the options that control this.

When a listening daemon is started without the use of **-oX** (that is, without overriding the normal configuration), it writes its process id to a file called *exim-daemon.pid* in Exim's spool directory. This location can be overridden by setting PID_FILE_PATH in *Local/Makefile*. The file is written while Exim is still running as root.

When **-oX** is used on the command line to start a listening daemon, the process id is not written to the normal pid file path. However, **-oP** can be used to specify a path on the command line if a pid file is required.

The SIGHUP signal can be used to cause the daemon to re-execute itself. This should be done whenever Exim's configuration file, or any file that is incorporated into it by means of the **.include** facility, is changed, and also whenever a new version of Exim is installed. It is not necessary to do this when other files that are referenced from the configuration (for example, alias files) are changed, because these are reread each time they are used.

-bdf

This option has the same effect as **-bd** except that it never disconnects from the controlling terminal, even when no debugging is specified.

-be

Run Exim in expansion testing mode. Exim discards its root privilege, to prevent ordinary users from using this mode to read otherwise inaccessible files. If no arguments are given, Exim runs interactively, prompting for lines of data. Otherwise, it processes each argument in turn.

If Exim was built with USE_READLINE=yes in *Local/Makefile*, it tries to load the **libreadline** library dynamically whenever the **-be** option is used without command line arguments. If successful, it uses the *readline()* function, which provides extensive line-editing facilities, for reading the test data. A line history is supported.

Long expansion expressions can be split over several lines by using backslash continuations. As in Exim's run time configuration, white space at the start of continuation lines is ignored. Each argument or data line is passed through the string expansion mechanism, and the result is output. Variable values from the configuration file (for example, $qualify_domain) are available, but no message-specific values (such as $sender_domain) are set, because no message is being processed (but see **-bem** and **-Mset**).

Note: If you use this mechanism to test lookups, and you change the data files or databases you are using, you must exit and restart Exim before trying the same lookup again. Otherwise, because each Exim process caches the results of lookups, you will just get the same result as before.

-bem *<filename>*

This option operates like **-be** except that it must be followed by the name of a file. For example:

```
exim -bem /tmp/testmessage
```

The file is read as a message (as if receiving a locally-submitted non-SMTP message) before any of the test expansions are done. Thus, message-specific variables such as $message_size and $header_from: are available. However, no *Received:* header is added to the message. If the **-t** option is set, recipients are read from the headers in the normal way, and are shown in the $recipients variable. Note that recipients cannot be given on the command line, because further arguments are taken as strings to expand (just like **-be**).

-bF *<filename>*

This option is the same as **-bf** except that it assumes that the filter being tested is a system filter. The additional commands that are available only in system filters are recognized.

-bf *<filename>*

This option runs Exim in user filter testing mode; the file is the filter file to be tested, and a test message must be supplied on the standard input. If there are no message-dependent tests in the filter, an empty file can be supplied.

If you want to test a system filter file, use **-bF** instead of **-bf**. You can use both **-bF** and **-bf** on the same command, in order to test a system filter and a user filter in the same run. For example:

```
exim -bF /system/filter -bf /user/filter </test/message
```

This is helpful when the system filter adds header lines or sets filter variables that are used by the user filter.

If the test filter file does not begin with one of the special lines

```
# Exim filter
# Sieve filter
```

it is taken to be a normal *.forward* file, and is tested for validity under that interpretation. See sections 22.4 to 22.6 for a description of the possible contents of non-filter

redirection lists.

The result of an Exim command that uses **-bf**, provided no errors are detected, is a list of the actions that Exim would try to take if presented with the message for real. More details of filter testing are given in the separate document entitled *Exim's interfaces to mail filtering*.

When testing a filter file, the envelope sender can be set by the **-f** option, or by a "From " line at the start of the test message. Various parameters that would normally be taken from the envelope recipient address of the message can be set by means of additional command line options (see the next four options).

-bfd *<domain>*

This sets the domain of the recipient address when a filter file is being tested by means of the **-bf** option. The default is the value of $qualify_domain.

-bfl *<local part>*

This sets the local part of the recipient address when a filter file is being tested by means of the **-bf** option. The default is the username of the process that calls Exim. A local part should be specified with any prefix or suffix stripped, because that is how it appears to the filter when a message is actually being delivered.

-bfp *<prefix>*

This sets the prefix of the local part of the recipient address when a filter file is being tested by means of the **-bf** option. The default is an empty prefix.

-bfs *<suffix>*

This sets the suffix of the local part of the recipient address when a filter file is being tested by means of the **-bf** option. The default is an empty suffix.

-bh *<IP address>*

This option runs a fake SMTP session as if from the given IP address, using the standard input and output. The IP address may include a port number at the end, after a full stop. For example:

```
exim -bh 10.9.8.7.1234
exim -bh fe80::a00:20ff:fe86:a061.5678
```

When an IPv6 address is given, it is converted into canonical form. In the case of the second example above, the value of $sender_host_address after conversion to the canonical form is `fe80:0000:0000:0a00:20ff:fe86:a061.5678`.

Comments as to what is going on are written to the standard error file. These include lines beginning with "LOG" for anything that would have been logged. This facility is provided for testing configuration options for incoming messages, to make sure they implement the required policy. For example, you can test your relay controls using **-bh**.

Warning 1: You can test features of the configuration that rely on ident (RFC 1413) information by using the **-oMt** option. However, Exim cannot actually perform an ident callout when testing using **-bh** because there is no incoming SMTP connection.

Warning 2: Address verification callouts (see section 42.45) are also skipped when testing using **-bh**. If you want these callouts to occur, use **-bhc** instead.

Messages supplied during the testing session are discarded, and nothing is written to any of the real log files. There may be pauses when DNS (and other) lookups are taking place, and of course these may time out. The **-oMi** option can be used to specify a specific IP interface and port if this is important, and **-oMaa** and **-oMai** can be used to set parameters as if the SMTP session were authenticated.

The *exim_checkaccess* utility is a "packaged" version of **-bh** whose output just states whether a given recipient address from a given host is acceptable or not. See section 52.8.

Features such as authentication and encryption, where the client input is not plain text, cannot easily be tested with **-bh**. Instead, you should use a specialized SMTP test program such as *swaks*.

-bhc <*IP address*>

This option operates in the same way as **-bh**, except that address verification callouts are performed if required. This includes consulting and updating the callout cache database.

-bi

Sendmail interprets the **-bi** option as a request to rebuild its alias file. Exim does not have the concept of a single alias file, and so it cannot mimic this behaviour. However, calls to */usr/lib/sendmail* with the **-bi** option tend to appear in various scripts such as NIS make files, so the option must be recognized.

If **-bi** is encountered, the command specified by the **bi_command** configuration option is run, under the uid and gid of the caller of Exim. If the **-oA** option is used, its value is passed to the command as an argument. The command set by **bi_command** may not contain arguments. The command can use the *exim_dbmbuild* utility, or some other means, to rebuild alias files if this is required. If the **bi_command** option is not set, calling Exim with **-bi** is a no-op.

-bI:help

We shall provide various options starting `-bI:` for querying Exim for information. The output of many of these will be intended for machine consumption. This one is not. The **-bI:help** option asks Exim for a synopsis of supported options beginning `-bI:`. Use of any of these options shall cause Exim to exit after producing the requested output.

-bI:dscp

This option causes Exim to emit an alphabetically sorted list of all recognised DSCP names.

-bI:sieve

This option causes Exim to emit an alphabetically sorted list of all supported Sieve protocol extensions on stdout, one per line. This is anticipated to be useful for ManageSieve (RFC 5804) implementations, in providing that protocol's `SIEVE` capability response line. As the precise list may depend upon compile-time build options, which this option will adapt to, this is the only way to guarantee a correct response.

-bm

This option runs an Exim receiving process that accepts an incoming, locally-generated message on the standard input. The recipients are given as the command arguments (except when **-t** is also present – see below). Each argument can be a comma-separated list of RFC 2822 addresses. This is the default option for selecting the overall action of an Exim call; it is assumed if no other conflicting option is present.

If any addresses in the message are unqualified (have no domain), they are qualified by the values of the **qualify_domain** or **qualify_recipient** options, as appropriate. The **-bnq** option (see below) provides a way of suppressing this for special cases.

Policy checks on the contents of local messages can be enforced by means of the non-SMTP ACL. See chapter 42 for details.

The return code is zero if the message is successfully accepted. Otherwise, the action is controlled by the **-oe***x* option setting – see below.

The format of the message must be as defined in RFC 2822, except that, for compatibility

with Sendmail and Smail, a line in one of the forms

```
From sender Fri Jan  5 12:55 GMT 1997
From sender Fri, 5 Jan 97 12:55:01
```

(with the weekday optional, and possibly with additional text after the date) is permitted to appear at the start of the message. There appears to be no authoritative specification of the format of this line. Exim recognizes it by matching against the regular expression defined by the **uucp_from_pattern** option, which can be changed if necessary.

The specified sender is treated as if it were given as the argument to the **-f** option, but if a **-f** option is also present, its argument is used in preference to the address taken from the message. The caller of Exim must be a trusted user for the sender of a message to be set in this way.

-bmalware <*filename*>

This debugging option causes Exim to scan the given file, using the malware scanning framework. The option of **av_scanner** influences this option, so if **av_scanner**'s value is dependent upon an expansion then the expansion should have defaults which apply to this invocation. ACLs are not invoked, so if **av_scanner** references an ACL variable then that variable will never be populated and **-bmalware** will fail.

Exim will have changed working directory before resolving the filename, so using fully qualified pathnames is advisable. Exim will be running as the Exim user when it tries to open the file, rather than as the invoking user. This option requires admin privileges.

The **-bmalware** option will not be extended to be more generally useful, there are better tools for file-scanning. This option exists to help administrators verify their Exim and AV scanner configuration.

-bnq

By default, Exim automatically qualifies unqualified addresses (those without domains) that appear in messages that are submitted locally (that is, not over TCP/IP). This qualification applies both to addresses in envelopes, and addresses in header lines. Sender addresses are qualified using **qualify_domain**, and recipient addresses using **qualify_recipient** (which defaults to the value of **qualify_domain**).

Sometimes, qualification is not wanted. For example, if **-bS** (batch SMTP) is being used to re-submit messages that originally came from remote hosts after content scanning, you probably do not want to qualify unqualified addresses in header lines. (Such lines will be present only if you have not enabled a header syntax check in the appropriate ACL.)

The **-bnq** option suppresses all qualification of unqualified addresses in messages that originate on the local host. When this is used, unqualified addresses in the envelope provoke errors (causing message rejection) and unqualified addresses in header lines are left alone.

-bP

If this option is given with no arguments, it causes the values of all Exim's main configuration options to be written to the standard output. The values of one or more specific options can be requested by giving their names as arguments, for example:

```
exim -bP qualify_domain hold_domains
```

However, any option setting that is preceded by the word "hide" in the configuration file is not shown in full, except to an admin user. For other users, the output is as in this example:

```
mysql_servers = <value not displayable>
```

If **configure_file** is given as an argument, the name of the run time configuration file is output. If a list of configuration files was supplied, the value that is output here is the name of the file that was actually used.

If the **-n** flag is given, then for most modes of **-bP** operation the name will not be output.

If **log_file_path** or **pid_file_path** are given, the names of the directories where log files and daemon pid files are written are output, respectively. If these values are unset, log files are written in a sub-directory of the spool directory called **log**, and the pid file is written directly into the spool directory.

If **-bP** is followed by a name preceded by +, for example,

```
exim -bP +local_domains
```

it searches for a matching named list of any type (domain, host, address, or local part) and outputs what it finds.

If one of the words **router**, **transport**, or **authenticator** is given, followed by the name of an appropriate driver instance, the option settings for that driver are output. For example:

```
exim -bP transport local_delivery
```

The generic driver options are output first, followed by the driver's private options. A list of the names of drivers of a particular type can be obtained by using one of the words **router_list**, **transport_list**, or **authenticator_list**, and a complete list of all drivers with their option settings can be obtained by using **routers**, **transports**, or **authenticators**.

If invoked by an admin user, then **macro**, **macro_list** and **macros** are available, similarly to the drivers. Because macros are sometimes used for storing passwords, this option is restricted. The output format is one item per line.

-bp

This option requests a listing of the contents of the mail queue on the standard output. If the **-bp** option is followed by a list of message ids, just those messages are listed. By default, this option can be used only by an admin user. However, the **queue_list_requires_admin** option can be set false to allow any user to see the queue.

Each message on the queue is displayed as in the following example:

```
25m  2.9K 0t5C6f-0000c8-00 <alice@wonderland.fict.example>
          red.king@looking-glass.fict.example
          <other addresses>
```

The first line contains the length of time the message has been on the queue (in this case 25 minutes), the size of the message (2.9K), the unique local identifier for the message, and the message sender, as contained in the envelope. For bounce messages, the sender address is empty, and appears as "<>". If the message was submitted locally by an untrusted user who overrode the default sender address, the user's login name is shown in parentheses before the sender address.

If the message is frozen (attempts to deliver it are suspended) then the text "*** frozen ***" is displayed at the end of this line.

The recipients of the message (taken from the envelope, not the headers) are displayed on subsequent lines. Those addresses to which the message has already been delivered are marked with the letter D. If an original address gets expanded into several addresses via an alias or forward file, the original is displayed with a D only when deliveries for all of its child addresses are complete.

-bpa

This option operates like **-bp**, but in addition it shows delivered addresses that were generated from the original top level address(es) in each message by alias or forwarding operations. These addresses are flagged with "+D" instead of just "D".

-bpc

This option counts the number of messages on the queue, and writes the total to the standard output. It is restricted to admin users, unless **queue_list_requires_admin** is set false.

-bpr

This option operates like **-bp**, but the output is not sorted into chronological order of message arrival. This can speed it up when there are lots of messages on the queue, and is particularly useful if the output is going to be post-processed in a way that doesn't need the sorting.

-bpra

This option is a combination of **-bpr** and **-bpa**.

-bpru

This option is a combination of **-bpr** and **-bpu**.

-bpu

This option operates like **-bp** but shows only undelivered top-level addresses for each message displayed. Addresses generated by aliasing or forwarding are not shown, unless the message was deferred after processing by a router with the **one_time** option set.

-brt

This option is for testing retry rules, and it must be followed by up to three arguments. It causes Exim to look for a retry rule that matches the values and to write it to the standard output. For example:

```
exim -brt bach.comp.mus.example
Retry rule: *.comp.mus.example  F,2h,15m; F,4d,30m;
```

See chapter 32 for a description of Exim's retry rules. The first argument, which is required, can be a complete address in the form *local_part@domain*, or it can be just a domain name. If the second argument contains a dot, it is interpreted as an optional second domain name; if no retry rule is found for the first argument, the second is tried. This ties in with Exim's behaviour when looking for retry rules for remote hosts – if no rule is found that matches the host, one that matches the mail domain is sought. Finally, an argument that is the name of a specific delivery error, as used in setting up retry rules, can be given. For example:

```
exim -brt haydn.comp.mus.example quota_3d
Retry rule: *@haydn.comp.mus.example quota_3d  F,1h,15m
```

-brw

This option is for testing address rewriting rules, and it must be followed by a single argument, consisting of either a local part without a domain, or a complete address with a fully qualified domain. Exim outputs how this address would be rewritten for each possible place it might appear. See chapter 31 for further details.

-bS

This option is used for batched SMTP input, which is an alternative interface for non-interactive local message submission. A number of messages can be submitted in a single run. However, despite its name, this is not really SMTP input. Exim reads each message's envelope from SMTP commands on the standard input, but generates no responses. If the caller is trusted, or **untrusted_set_sender** is set, the senders in the SMTP MAIL commands are believed; otherwise the sender is always the caller of Exim.

The message itself is read from the standard input, in SMTP format (leading dots doubled), terminated by a line containing just a single dot. An error is provoked if the terminating dot is missing. A further message may then follow.

As for other local message submissions, the contents of incoming batch SMTP messages can be checked using the non-SMTP ACL (see chapter 42). Unqualified addresses are automatically qualified using **qualify_domain** and **qualify_recipient**, as appropriate, unless the **-bnq** option is used.

Some other SMTP commands are recognized in the input. HELO and EHLO act as RSET; VRFY, EXPN, ETRN, and HELP act as NOOP; QUIT quits, ignoring the rest of the standard input.

If any error is encountered, reports are written to the standard output and error streams, and Exim gives up immediately. The return code is 0 if no error was detected; it is 1 if one or more messages were accepted before the error was detected; otherwise it is 2.

More details of input using batched SMTP are given in section 47.11.

-bs

This option causes Exim to accept one or more messages by reading SMTP commands on the standard input, and producing SMTP replies on the standard output. SMTP policy controls, as defined in ACLs (see chapter 42) are applied. Some user agents use this interface as a way of passing locally-generated messages to the MTA.

In this usage, if the caller of Exim is trusted, or **untrusted_set_sender** is set, the senders of messages are taken from the SMTP MAIL commands. Otherwise the content of these commands is ignored and the sender is set up as the calling user. Unqualified addresses are automatically qualified using **qualify_domain** and **qualify_recipient**, as appropriate, unless the **-bnq** option is used.

The **-bs** option is also used to run Exim from *inetd*, as an alternative to using a listening daemon. Exim can distinguish the two cases by checking whether the standard input is a TCP/IP socket. When Exim is called from *inetd*, the source of the mail is assumed to be remote, and the comments above concerning senders and qualification do not apply. In this situation, Exim behaves in exactly the same way as it does when receiving a message via the listening daemon.

-bt

This option runs Exim in address testing mode, in which each argument is taken as a recipient address to be tested for deliverability. The results are written to the standard output. If a test fails, and the caller is not an admin user, no details of the failure are output, because these might contain sensitive information such as usernames and passwords for database lookups.

If no arguments are given, Exim runs in an interactive manner, prompting with a right angle bracket for addresses to be tested.

Unlike the **-be** test option, you cannot arrange for Exim to use the *readline()* function, because it is running as *root* and there are security issues.

Each address is handled as if it were the recipient address of a message (compare the **-bv**

option). It is passed to the routers and the result is written to the standard output. However, any router that has **no_address_test** set is bypassed. This can make **-bt** easier to use for genuine routing tests if your first router passes everything to a scanner program.

The return code is 2 if any address failed outright; it is 1 if no address failed outright but at least one could not be resolved for some reason. Return code 0 is given only when all addresses succeed.

Note: When actually delivering a message, Exim removes duplicate recipient addresses after routing is complete, so that only one delivery takes place. This does not happen when testing with **-bt**; the full results of routing are always shown.

Warning: **-bt** can only do relatively simple testing. If any of the routers in the configuration makes any tests on the sender address of a message, you can use the **-f** option to set an appropriate sender when running **-bt** tests. Without it, the sender is assumed to be the calling user at the default qualifying domain. However, if you have set up (for example) routers whose behaviour depends on the contents of an incoming message, you cannot test those conditions using **-bt**. The **-N** option provides a possible way of doing such tests.

-bV

This option causes Exim to write the current version number, compilation number, and compilation date of the *exim* binary to the standard output. It also lists the DBM library that is being used, the optional modules (such as specific lookup types), the drivers that are included in the binary, and the name of the run time configuration file that is in use.

As part of its operation, **-bV** causes Exim to read and syntax check its configuration file. However, this is a static check only. It cannot check values that are to be expanded. For example, although a misspelt ACL verb is detected, an error in the verb's arguments is not. You cannot rely on **-bV** alone to discover (for example) all the typos in the configuration; some realistic testing is needed. The **-bh** and **-N** options provide more dynamic testing facilities.

-bv

This option runs Exim in address verification mode, in which each argument is taken as a recipient address to be verified by the routers. (This does not involve any verification callouts). During normal operation, verification happens mostly as a consequence processing a **verify** condition in an ACL (see chapter 42). If you want to test an entire ACL, possibly including callouts, see the **-bh** and **-bhc** options.

If verification fails, and the caller is not an admin user, no details of the failure are output, because these might contain sensitive information such as usernames and passwords for database lookups.

If no arguments are given, Exim runs in an interactive manner, prompting with a right angle bracket for addresses to be verified.

Unlike the **-be** test option, you cannot arrange for Exim to use the *readline()* function, because it is running as *exim* and there are security issues.

Verification differs from address testing (the **-bt** option) in that routers that have **no_verify** set are skipped, and if the address is accepted by a router that has **fail_verify** set, verification fails. The address is verified as a recipient if **-bv** is used; to test verification for a sender address, **-bvs** should be used.

If the **-v** option is not set, the output consists of a single line for each address, stating whether it was verified or not, and giving a reason in the latter case. Without **-v**, generating more than one address by redirection causes verification to end successfully, without considering the generated addresses. However, if just one address is generated, processing continues, and the generated address must verify successfully for the overall

verification to succeed.

When **-v** is set, more details are given of how the address has been handled, and in the case of address redirection, all the generated addresses are also considered. Verification may succeed for some and fail for others.

The return code is 2 if any address failed outright; it is 1 if no address failed outright but at least one could not be resolved for some reason. Return code 0 is given only when all addresses succeed.

If any of the routers in the configuration makes any tests on the sender address of a message, you should use the **-f** option to set an appropriate sender when running **-bv** tests. Without it, the sender is assumed to be the calling user at the default qualifying domain.

-bvs

This option acts like **-bv**, but verifies the address as a sender rather than a recipient address. This affects any rewriting and qualification that might happen.

-bw

This option runs Exim as a daemon, awaiting incoming SMTP connections, similarly to the **-bd** option. All port specifications on the command-line and in the configuration file are ignored. Queue-running may not be specified.

In this mode, Exim expects to be passed a socket as fd 0 (stdin) which is listening for connections. This permits the system to start up and have inetd (or equivalent) listen on the SMTP ports, starting an Exim daemon for each port only when the first connection is received.

If the option is given as **-bw**<*time*> then the time is a timeout, after which the daemon will exit, which should cause inetd to listen once more.

-C <*filelist*>

This option causes Exim to find the run time configuration file from the given list instead of from the list specified by the CONFIGURE_FILE compile-time setting. Usually, the list will consist of just a single file name, but it can be a colon-separated list of names. In this case, the first file that exists is used. Failure to open an existing file stops Exim from proceeding any further along the list, and an error is generated.

When this option is used by a caller other than root, and the list is different from the compiled-in list, Exim gives up its root privilege immediately, and runs with the real and effective uid and gid set to those of the caller. However, if a TRUSTED_CONFIG_LIST file is defined in *Local/Makefile*, that file contains a list of full pathnames, one per line, for configuration files which are trusted. Root privilege is retained for any configuration file so listed, as long as the caller is the Exim user (or the user specified in the CONFIGURE_OWNER option, if any), and as long as the configuration file is not writeable by inappropriate users or groups.

Leaving TRUSTED_CONFIG_LIST unset precludes the possibility of testing a configuration using **-C** right through message reception and delivery, even if the caller is root. The reception works, but by that time, Exim is running as the Exim user, so when it re-executes to regain privilege for the delivery, the use of **-C** causes privilege to be lost. However, root can test reception and delivery using two separate commands (one to put a message on the queue, using **-odq**, and another to do the delivery, using **-M**).

If ALT_CONFIG_PREFIX is defined *in Local/Makefile*, it specifies a prefix string with which any file named in a **-C** command line option must start. In addition, the file name must not contain the sequence `/../`. However, if the value of the **-C** option is identical to the value of CONFIGURE_FILE in *Local/Makefile*, Exim ignores **-C** and proceeds as usual. There is no default setting for ALT_CONFIG_PREFIX; when it is unset, any file name can be used with **-C**.

ALT_CONFIG_PREFIX can be used to confine alternative configuration files to a directory to which only root has access. This prevents someone who has broken into the Exim account from running a privileged Exim with an arbitrary configuration file.

The **-C** facility is useful for ensuring that configuration files are syntactically correct, but cannot be used for test deliveries, unless the caller is privileged, or unless it is an exotic configuration that does not require privilege. No check is made on the owner or group of the files specified by this option.

-D<*macro*>=<*value*>

This option can be used to override macro definitions in the configuration file (see section 6.4). However, like **-C**, if it is used by an unprivileged caller, it causes Exim to give up its root privilege. If DISABLE_D_OPTION is defined in *Local/Makefile*, the use of **-D** is completely disabled, and its use causes an immediate error exit.

If WHITELIST_D_MACROS is defined in *Local/Makefile* then it should be a colon-separated list of macros which are considered safe and, if **-D** only supplies macros from this list, and the values are acceptable, then Exim will not give up root privilege if the caller is root, the Exim run-time user, or the CONFIGURE_OWNER, if set. This is a transition mechanism and is expected to be removed in the future. Acceptable values for the macros satisfy the regexp: `^[A-Za-z0-9_/.-]*$`

The entire option (including equals sign if present) must all be within one command line item. **-D** can be used to set the value of a macro to the empty string, in which case the equals sign is optional. These two commands are synonymous:

```
exim -DABC  ...
exim -DABC= ...
```

To include spaces in a macro definition item, quotes must be used. If you use quotes, spaces are permitted around the macro name and the equals sign. For example:

```
exim '-D ABC = something' ...
```

-D may be repeated up to 10 times on a command line.

-d<*debug options*>

This option causes debugging information to be written to the standard error stream. It is restricted to admin users because debugging output may show database queries that contain password information. Also, the details of users' filter files should be protected. If a non-admin user uses **-d**, Exim writes an error message to the standard error stream and exits with a non-zero return code.

When **-d** is used, **-v** is assumed. If **-d** is given on its own, a lot of standard debugging data is output. This can be reduced, or increased to include some more rarely needed information, by directly following **-d** with a string made up of names preceded by plus or minus characters. These add or remove sets of debugging data, respectively. For example, **-d+filter** adds filter debugging, whereas **-d-all+filter** selects only filter debugging. Note that no spaces are allowed in the debug setting. The available debugging categories are:

```
acl             ACL interpretation
auth            authenticators
deliver         general delivery logic
dns             DNS lookups (see also resolver)
dnsbl           DNS black list (aka RBL) code
exec            arguments for execv() calls
expand          detailed debugging for string expansions
filter          filter handling
hints_lookup    hints data lookups
```

```
host_lookup     all types of name-to-IP address handling
ident           ident lookup
interface       lists of local interfaces
lists           matching things in lists
load            system load checks
local_scan      can be used by local_scan() (see chapter 44)
lookup          general lookup code and all lookups
memory          memory handling
pid             add pid to debug output lines
process_info    setting info for the process log
queue_run       queue runs
receive         general message reception logic
resolver        turn on the DNS resolver's debugging output
retry           retry handling
rewrite         address rewriting
route           address routing
timestamp       add timestamp to debug output lines
tls             TLS logic
transport       transports
uid             changes of uid/gid and looking up uid/gid
verify          address verification logic
all             almost all of the above (see below), and also -v
```

The `all` option excludes `memory` when used as `+all`, but includes it for `-all`. The reason for this is that `+all` is something that people tend to use when generating debug output for Exim maintainers. If `+memory` is included, an awful lot of output that is very rarely of interest is generated, so it now has to be explicitly requested. However, `-all` does turn everything off.

The `resolver` option produces output only if the DNS resolver was compiled with DEBUG enabled. This is not the case in some operating systems. Also, unfortunately, debugging output from the DNS resolver is written to stdout rather than stderr.

The default (**-d** with no argument) omits `expand`, `filter`, `interface`, `load`, `memory`, `pid`, `resolver`, and `timestamp`. However, the `pid` selector is forced when debugging is turned on for a daemon, which then passes it on to any re-executed Exims. Exim also automatically adds the pid to debug lines when several remote deliveries are run in parallel.

The `timestamp` selector causes the current time to be inserted at the start of all debug output lines. This can be useful when trying to track down delays in processing.

If the **debug_print** option is set in any driver, it produces output whenever any debugging is selected, or if **-v** is used.

-dd<*debug options*>

This option behaves exactly like **-d** except when used on a command that starts a daemon process. In that case, debugging is turned off for the subprocesses that the daemon creates. Thus, it is useful for monitoring the behaviour of the daemon without creating as much output as full debugging does.

-dropcr

This is an obsolete option that is now a no-op. It used to affect the way Exim handled CR and LF characters in incoming messages. What happens now is described in section 46.2.

-E

This option specifies that an incoming message is a locally-generated delivery failure report. It is used internally by Exim when handling delivery failures and is not intended for external use. Its only effect is to stop Exim generating certain messages to the postmaster, as otherwise message cascades could occur in some situations. As part of the same option, a message id may follow the characters **-E**. If it does, the log entry for the receipt of the new message contains the id, following "R=", as a cross-reference.

-ex

There are a number of Sendmail options starting with **-oe** which seem to be called by

various programs without the leading **o** in the option. For example, the **vacation** program uses **-eq**. Exim treats all options of the form **-e***x* as synonymous with the corresponding **-oe***x* options.

-F <*string*>

This option sets the sender's full name for use when a locally-generated message is being accepted. In the absence of this option, the user's *gecos* entry from the password data is used. As users are generally permitted to alter their *gecos* entries, no security considerations are involved. White space between **-F** and the <*string*> is optional.

-f <*address*>

This option sets the address of the envelope sender of a locally-generated message (also known as the return path). The option can normally be used only by a trusted user, but **untrusted_set_sender** can be set to allow untrusted users to use it.

Processes running as root or the Exim user are always trusted. Other trusted users are defined by the **trusted_users** or **trusted_groups** options. In the absence of **-f**, or if the caller is not trusted, the sender of a local message is set to the caller's login name at the default qualify domain.

There is one exception to the restriction on the use of **-f**: an empty sender can be specified by any user, trusted or not, to create a message that can never provoke a bounce. An empty sender can be specified either as an empty string, or as a pair of angle brackets with nothing between them, as in these examples of shell commands:

```
exim -f '<>' user@domain
exim -f "" user@domain
```

In addition, the use of **-f** is not restricted when testing a filter file with **-bf** or when testing or verifying addresses using the **-bt** or **-bv** options.

Allowing untrusted users to change the sender address does not of itself make it possible to send anonymous mail. Exim still checks that the *From:* header refers to the local user, and if it does not, it adds a *Sender:* header, though this can be overridden by setting **no_local_from_check**.

White space between **-f** and the <*address*> is optional (that is, they can be given as two arguments or one combined argument). The sender of a locally-generated message can also be set (when permitted) by an initial "From " line in the message – see the description of **-bm** above – but if **-f** is also present, it overrides "From ".

-G

This option is equivalent to an ACL applying:

```
control = suppress_local_fixups
```

for every message received. Note that Sendmail will complain about such bad formatting, where Exim silently just does not fix it up. This may change in future.

As this affects audit information, the caller must be a trusted user to use this option.

-h <*number*>

This option is accepted for compatibility with Sendmail, but has no effect. (In Sendmail it overrides the "hop count" obtained by counting *Received:* headers.)

-i

This option, which has the same effect as **-oi**, specifies that a dot on a line by itself should not terminate an incoming, non-SMTP message. I can find no documentation for

this option in Solaris 2.4 Sendmail, but the *mailx* command in Solaris 2.4 uses it. See also **-ti**.

-L *<tag>*

This option is equivalent to setting **syslog_processname** in the config file and setting **log_file_path** to `syslog`. Its use is restricted to administrators. The configuration file has to be read and parsed, to determine access rights, before this is set and takes effect, so early configuration file errors will not honour this flag.

The tag should not be longer than 32 characters.

-M *<message id> <message id> ...*

This option requests Exim to run a delivery attempt on each message in turn. If any of the messages are frozen, they are automatically thawed before the delivery attempt. The settings of **queue_domains**, **queue_smtp_domains**, and **hold_domains** are ignored.

Retry hints for any of the addresses are overridden – Exim tries to deliver even if the normal retry time has not yet been reached. This option requires the caller to be an admin user. However, there is an option called **prod_requires_admin** which can be set false to relax this restriction (and also the same requirement for the **-q**, **-R**, and **-S** options).

The deliveries happen synchronously, that is, the original Exim process does not terminate until all the delivery attempts have finished. No output is produced unless there is a serious error. If you want to see what is happening, use the **-v** option as well, or inspect Exim's main log.

-Mar *<message id> <address> <address> ...*

This option requests Exim to add the addresses to the list of recipients of the message ("ar" for "add recipients"). The first argument must be a message id, and the remaining ones must be email addresses. However, if the message is active (in the middle of a delivery attempt), it is not altered. This option can be used only by an admin user.

-MC *<transport> <hostname> <sequence number> <message id>*

This option is not intended for use by external callers. It is used internally by Exim to invoke another instance of itself to deliver a waiting message using an existing SMTP connection, which is passed as the standard input. Details are given in chapter 47. This must be the final option, and the caller must be root or the Exim user in order to use it.

-MCA

This option is not intended for use by external callers. It is used internally by Exim in conjunction with the **-MC** option. It signifies that the connection to the remote host has been authenticated.

-MCP

This option is not intended for use by external callers. It is used internally by Exim in conjunction with the **-MC** option. It signifies that the server to which Exim is connected supports pipelining.

-MCQ *<process id> <pipe fd>*

This option is not intended for use by external callers. It is used internally by Exim in conjunction with the **-MC** option when the original delivery was started by a queue runner. It passes on the process id of the queue runner, together with the file descriptor number of an open pipe. Closure of the pipe signals the final completion of the sequence of processes that are passing messages through the same SMTP connection.

-MCS

This option is not intended for use by external callers. It is used internally by Exim in conjunction with the **-MC** option, and passes on the fact that the SMTP SIZE option should be used on messages delivered down the existing connection.

-MCT

This option is not intended for use by external callers. It is used internally by Exim in conjunction with the **-MC** option, and passes on the fact that the host to which Exim is connected supports TLS encryption.

-Mc *<message id> <message id>* ...

This option requests Exim to run a delivery attempt on each message in turn, but unlike the **-M** option, it does check for retry hints, and respects any that are found. This option is not very useful to external callers. It is provided mainly for internal use by Exim when it needs to re-invoke itself in order to regain root privilege for a delivery (see chapter 54). However, **-Mc** can be useful when testing, in order to run a delivery that respects retry times and other options such as **hold_domains** that are overridden when **-M** is used. Such a delivery does not count as a queue run. If you want to run a specific delivery as if in a queue run, you should use **-q** with a message id argument. A distinction between queue run deliveries and other deliveries is made in one or two places.

-Mes *<message id> <address>*

This option requests Exim to change the sender address in the message to the given address, which must be a fully qualified address or "<>" ("es" for "edit sender"). There must be exactly two arguments. The first argument must be a message id, and the second one an email address. However, if the message is active (in the middle of a delivery attempt), its status is not altered. This option can be used only by an admin user.

-Mf *<message id> <message id>* ...

This option requests Exim to mark each listed message as "frozen". This prevents any delivery attempts taking place until the message is "thawed", either manually or as a result of the **auto_thaw** configuration option. However, if any of the messages are active (in the middle of a delivery attempt), their status is not altered. This option can be used only by an admin user.

-Mg *<message id> <message id>* ...

This option requests Exim to give up trying to deliver the listed messages, including any that are frozen. However, if any of the messages are active, their status is not altered. For non-bounce messages, a delivery error message is sent to the sender, containing the text "cancelled by administrator". Bounce messages are just discarded. This option can be used only by an admin user.

-Mmad *<message id> <message id>* ...

This option requests Exim to mark all the recipient addresses in the messages as already delivered ("mad" for "mark all delivered"). However, if any message is active (in the middle of a delivery attempt), its status is not altered. This option can be used only by an admin user.

-Mmd *<message id> <address> <address>* ...

This option requests Exim to mark the given addresses as already delivered ("md" for "mark delivered"). The first argument must be a message id, and the remaining ones must be email addresses. These are matched to recipient addresses in the message in a case-sensitive manner. If the message is active (in the middle of a delivery attempt), its status is not altered. This option can be used only by an admin user.

-Mrm *<message id> <message id>* ...

This option requests Exim to remove the given messages from the queue. No bounce messages are sent; each message is simply forgotten. However, if any of the messages are active, their status is not altered. This option can be used only by an admin user or by the user who originally caused the message to be placed on the queue.

-Mset *<message id>*

This option is useful only in conjunction with **-be** (that is, when testing string

expansions). Exim loads the given message from its spool before doing the test expansions, thus setting message-specific variables such as $message_size and the header variables. The $recipients variable is made available. This feature is provided to make it easier to test expansions that make use of these variables. However, this option can be used only by an admin user. See also **-bem**.

-Mt *<message id> <message id> ...*

This option requests Exim to "thaw" any of the listed messages that are "frozen", so that delivery attempts can resume. However, if any of the messages are active, their status is not altered. This option can be used only by an admin user.

-Mvb *<message id>*

This option causes the contents of the message body (-D) spool file to be written to the standard output. This option can be used only by an admin user.

-Mvc *<message id>*

This option causes a copy of the complete message (header lines plus body) to be written to the standard output in RFC 2822 format. This option can be used only by an admin user.

-Mvh *<message id>*

This option causes the contents of the message headers (-H) spool file to be written to the standard output. This option can be used only by an admin user.

-Mvl *<message id>*

This option causes the contents of the message log spool file to be written to the standard output. This option can be used only by an admin user.

-m

This is apparently a synonym for **-om** that is accepted by Sendmail, so Exim treats it that way too.

-N

This is a debugging option that inhibits delivery of a message at the transport level. It implies **-v**. Exim goes through many of the motions of delivery – it just doesn't actually transport the message, but instead behaves as if it had successfully done so. However, it does not make any updates to the retry database, and the log entries for deliveries are flagged with "*>" rather than "=>".

Because **-N** discards any message to which it applies, only root or the Exim user are allowed to use it with **-bd**, **-q**, **-R** or **-M**. In other words, an ordinary user can use it only when supplying an incoming message to which it will apply. Although transportation never fails when **-N** is set, an address may be deferred because of a configuration problem on a transport, or a routing problem. Once **-N** has been used for a delivery attempt, it sticks to the message, and applies to any subsequent delivery attempts that may happen for that message.

-n

This option is interpreted by Sendmail to mean "no aliasing". For normal modes of operation, it is ignored by Exim. When combined with **-bP** it suppresses the name of an option from being output.

-O *<data>*

This option is interpreted by Sendmail to mean `set option`. It is ignored by Exim.

-oA *<file name>*

This option is used by Sendmail in conjunction with **-bi** to specify an alternative alias file name. Exim handles **-bi** differently; see the description above.

-oB <*n*>

This is a debugging option which limits the maximum number of messages that can be delivered down one SMTP connection, overriding the value set in any **smtp** transport. If <*n*> is omitted, the limit is set to 1.

-odb

This option applies to all modes in which Exim accepts incoming messages, including the listening daemon. It requests "background" delivery of such messages, which means that the accepting process automatically starts a delivery process for each message received, but does not wait for the delivery processes to finish.

When all the messages have been received, the reception process exits, leaving the delivery processes to finish in their own time. The standard output and error streams are closed at the start of each delivery process. This is the default action if none of the **-od** options are present.

If one of the queueing options in the configuration file (**queue_only** or **queue_only_file**, for example) is in effect, **-odb** overrides it if **queue_only_override** is set true, which is the default setting. If **queue_only_override** is set false, **-odb** has no effect.

-odf

This option requests "foreground" (synchronous) delivery when Exim has accepted a locally-generated message. (For the daemon it is exactly the same as **-odb**.) A delivery process is automatically started to deliver the message, and Exim waits for it to complete before proceeding.

The original Exim reception process does not finish until the delivery process for the final message has ended. The standard error stream is left open during deliveries.

However, like **-odb**, this option has no effect if **queue_only_override** is false and one of the queueing options in the configuration file is in effect.

If there is a temporary delivery error during foreground delivery, the message is left on the queue for later delivery, and the original reception process exits. See chapter 50 for a way of setting up a restricted configuration that never queues messages.

-odi

This option is synonymous with **-odf**. It is provided for compatibility with Sendmail.

-odq

This option applies to all modes in which Exim accepts incoming messages, including the listening daemon. It specifies that the accepting process should not automatically start a delivery process for each message received. Messages are placed on the queue, and remain there until a subsequent queue runner process encounters them. There are several configuration options (such as **queue_only**) that can be used to queue incoming messages under certain conditions. This option overrides all of them and also **-odqs**. It always forces queueing.

-odqs

This option is a hybrid between **-odb**/**-odi** and **-odq**. However, like **-odb** and **-odi**, this option has no effect if **queue_only_override** is false and one of the queueing options in the configuration file is in effect.

When **-odqs** does operate, a delivery process is started for each incoming message, in the background by default, but in the foreground if **-odi** is also present. The recipient addresses are routed, and local deliveries are done in the normal way. However, if any SMTP deliveries are required, they are not done at this time, so the message remains on the queue until a subsequent queue runner process encounters it. Because routing was done, Exim knows which messages are waiting for which hosts, and so a number of

messages for the same host can be sent in a single SMTP connection. The **queue_smtp_domains** configuration option has the same effect for specific domains. See also the **-qq** option.

-oee

If an error is detected while a non-SMTP message is being received (for example, a malformed address), the error is reported to the sender in a mail message.

Provided this error message is successfully sent, the Exim receiving process exits with a return code of zero. If not, the return code is 2 if the problem is that the original message has no recipients, or 1 for any other error. This is the default **-oe***x* option if Exim is called as *rmail*.

-oem

This is the same as **-oee**, except that Exim always exits with a non-zero return code, whether or not the error message was successfully sent. This is the default **-oe***x* option, unless Exim is called as *rmail*.

-oep

If an error is detected while a non-SMTP message is being received, the error is reported by writing a message to the standard error file (stderr). The return code is 1 for all errors.

-oeq

This option is supported for compatibility with Sendmail, but has the same effect as **-oep**.

-oew

This option is supported for compatibility with Sendmail, but has the same effect as **-oem**.

-oi

This option, which has the same effect as **-i**, specifies that a dot on a line by itself should not terminate an incoming, non-SMTP message. Otherwise, a single dot does terminate, though Exim does no special processing for other lines that start with a dot. This option is set by default if Exim is called as *rmail*. See also **-ti**.

-oitrue

This option is treated as synonymous with **-oi**.

-oMa <*host address*>

A number of options starting with **-oM** can be used to set values associated with remote hosts on locally-submitted messages (that is, messages not received over TCP/IP). These options can be used by any caller in conjunction with the **-bh**, **-be**, **-bf**, **-bF**, **-bt**, or **-bv** testing options. In other circumstances, they are ignored unless the caller is trusted.

The **-oMa** option sets the sender host address. This may include a port number at the end, after a full stop (period). For example:

```
exim -bs -oMa 10.9.8.7.1234
```

An alternative syntax is to enclose the IP address in square brackets, followed by a colon and the port number:

```
exim -bs -oMa [10.9.8.7]:1234
```

The IP address is placed in the $sender_host_address variable, and the port, if present, in $sender_host_port. If both **-oMa** and **-bh** are present on the command line, the sender host IP address is taken from whichever one is last.

-oMaa <*name*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMaa** option sets the value of $sender_host_authenticated (the authenticator name). See chapter 33 for a discussion of SMTP authentication. This option can be used with **-bh** and **-bs** to set up an authenticated SMTP session without actually using the SMTP AUTH command.

-oMai <*string*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMai** option sets the value of $authenticated_id (the id that was authenticated). This overrides the default value (the caller's login id, except with **-bh**, where there is no default) for messages from local sources. See chapter 33 for a discussion of authenticated ids.

-oMas <*address*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMas** option sets the authenticated sender value in $authenticated_sender. It overrides the sender address that is created from the caller's login id for messages from local sources, except when **-bh** is used, when there is no default. For both **-bh** and **-bs**, an authenticated sender that is specified on a MAIL command overrides this value. See chapter 33 for a discussion of authenticated senders.

-oMi <*interface address*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMi** option sets the IP interface address value. A port number may be included, using the same syntax as for **-oMa**. The interface address is placed in $received_ip_address and the port number, if present, in $received_port.

-oMm <*message reference*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMm** option sets the message reference, e.g. message-id, and is logged during delivery. This is useful when some kind of audit trail is required to tie messages together. The format of the message reference is checked and will abort if the format is invalid. The option will only be accepted if exim is running in trusted mode, not as any regular user.

The best example of a message reference is when Exim sends a bounce message. The message reference is the message-id of the original message for which Exim is sending the bounce.

-oMr <*protocol name*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMr** option sets the received protocol value that is stored in $received_protocol. However, it does not apply (and is ignored) when **-bh** or **-bs** is used. For **-bh**, the protocol is forced to one of the standard SMTP protocol names (see the description of $received_protocol in section 11.9). For **-bs**, the protocol is always "local-" followed by one of those same names. For **-bS** (batched SMTP) however, the protocol can be set by **-oMr**.

-oMs <*host name*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMs** option sets the sender host name in $sender_host_name. When this option is present, Exim does not attempt to look up a host name from an IP address; it uses the name it is given.

-oMt <*ident string*>

See **-oMa** above for general remarks about the **-oM** options. The **-oMt** option sets the sender ident value in $sender_ident. The default setting for local callers is the login id of the calling process, except when **-bh** is used, when there is no default.

-om

In Sendmail, this option means "me too", indicating that the sender of a message should receive a copy of the message if the sender appears in an alias expansion. Exim always does this, so the option does nothing.

-oo

This option is ignored. In Sendmail it specifies "old style headers", whatever that means.

-oP *<path>*

This option is useful only in conjunction with **-bd** or **-q** with a time value. The option specifies the file to which the process id of the daemon is written. When **-oX** is used with **-bd**, or when **-q** with a time is used without **-bd**, this is the only way of causing Exim to write a pid file, because in those cases, the normal pid file is not used.

-or *<time>*

This option sets a timeout value for incoming non-SMTP messages. If it is not set, Exim will wait forever for the standard input. The value can also be set by the **receive_timeout** option. The format used for specifying times is described in section 6.15.

-os *<time>*

This option sets a timeout value for incoming SMTP messages. The timeout applies to each SMTP command and block of data. The value can also be set by the **smtp_receive_timeout** option; it defaults to 5 minutes. The format used for specifying times is described in section 6.15.

-ov

This option has exactly the same effect as **-v**.

-oX *<number or string>*

This option is relevant only when the **-bd** (start listening daemon) option is also given. It controls which ports and interfaces the daemon uses. Details of the syntax, and how it interacts with configuration file options, are given in chapter 13. When **-oX** is used to start a daemon, no pid file is written unless **-oP** is also present to specify a pid file name.

-pd

This option applies when an embedded Perl interpreter is linked with Exim (see chapter 12). It overrides the setting of the **perl_at_start** option, forcing the starting of the interpreter to be delayed until it is needed.

-ps

This option applies when an embedded Perl interpreter is linked with Exim (see chapter 12). It overrides the setting of the **perl_at_start** option, forcing the starting of the interpreter to occur as soon as Exim is started.

-p*<rval>*:*<sval>*

For compatibility with Sendmail, this option is equivalent to

```
-oMr <rval> -oMs <sval>
```

It sets the incoming protocol and host name (for trusted callers). The host name and its colon can be omitted when only the protocol is to be set. Note the Exim already has two private options, **-pd** and **-ps**, that refer to embedded Perl. It is therefore impossible to set a protocol value of `d` or `s` using this option (but that does not seem a real limitation).

-q

This option is normally restricted to admin users. However, there is a configuration option called **prod_requires_admin** which can be set false to relax this restriction (and also the same requirement for the **-M**, **-R**, and **-S** options).

The **-q** option starts one queue runner process. This scans the queue of waiting messages, and runs a delivery process for each one in turn. It waits for each delivery process to finish before starting the next one. A delivery process may not actually do any

deliveries if the retry times for the addresses have not been reached. Use **-qf** (see below) if you want to override this.

If the delivery process spawns other processes to deliver other messages down passed SMTP connections, the queue runner waits for these to finish before proceeding.

When all the queued messages have been considered, the original queue runner process terminates. In other words, a single pass is made over the waiting mail, one message at a time. Use **-q** with a time (see below) if you want this to be repeated periodically.

Exim processes the waiting messages in an unpredictable order. It isn't very random, but it is likely to be different each time, which is all that matters. If one particular message screws up a remote MTA, other messages to the same MTA have a chance of getting through if they get tried first.

It is possible to cause the messages to be processed in lexical message id order, which is essentially the order in which they arrived, by setting the **queue_run_in_order** option, but this is not recommended for normal use.

-q<*qflags*>

The **-q** option may be followed by one or more flag letters that change its behaviour. They are all optional, but if more than one is present, they must appear in the correct order. Each flag is described in a separate item below.

-qq...

An option starting with **-qq** requests a two-stage queue run. In the first stage, the queue is scanned as if the **queue_smtp_domains** option matched every domain. Addresses are routed, local deliveries happen, but no remote transports are run.

The hints database that remembers which messages are waiting for specific hosts is updated, as if delivery to those hosts had been deferred. After this is complete, a second, normal queue scan happens, with routing and delivery taking place as normal. Messages that are routed to the same host should mostly be delivered down a single SMTP connection because of the hints that were set up during the first queue scan. This option may be useful for hosts that are connected to the Internet intermittently.

-q[q]i...

If the *i* flag is present, the queue runner runs delivery processes only for those messages that haven't previously been tried. (*i* stands for "initial delivery".) This can be helpful if you are putting messages on the queue using **-odq** and want a queue runner just to process the new messages.

-q[q][i]f...

If one *f* flag is present, a delivery attempt is forced for each non-frozen message, whereas without *f* only those non-frozen addresses that have passed their retry times are tried.

-q[q][i]ff...

If *ff* is present, a delivery attempt is forced for every message, whether frozen or not.

-q[q][i][f[f]]l

The *l* (the letter "ell") flag specifies that only local deliveries are to be done. If a message requires any remote deliveries, it remains on the queue for later delivery.

-q<*qflags*> <*start id*> <*end id*>

When scanning the queue, Exim can be made to skip over messages whose ids are lexically less than a given value by following the **-q** option with a starting message id. For example:

```
exim -q 0t5C6f-0000c8-00
```

Messages that arrived earlier than `0t5C6f-0000c8-00` are not inspected. If a second message id is given, messages whose ids are lexically greater than it are also skipped. If the same id is given twice, for example,

```
exim -q 0t5C6f-0000c8-00 0t5C6f-0000c8-00
```

just one delivery process is started, for that message. This differs from **-M** in that retry data is respected, and it also differs from **-Mc** in that it counts as a delivery from a queue run. Note that the selection mechanism does not affect the order in which the messages are scanned. There are also other ways of selecting specific sets of messages for delivery in a queue run – see **-R** and **-S**.

-q<*qflags*><*time*>

When a time value is present, the **-q** option causes Exim to run as a daemon, starting a queue runner process at intervals specified by the given time value (whose format is described in section 6.15). This form of the **-q** option is commonly combined with the **-bd** option, in which case a single daemon process handles both functions. A common way of starting up a combined daemon at system boot time is to use a command such as

```
/usr/exim/bin/exim -bd -q30m
```

Such a daemon listens for incoming SMTP calls, and also starts a queue runner process every 30 minutes.

When a daemon is started by **-q** with a time value, but without **-bd**, no pid file is written unless one is explicitly requested by the **-oP** option.

-qR<*rsflags*> <*string*>

This option is synonymous with **-R**. It is provided for Sendmail compatibility.

-qS<*rsflags*> <*string*>

This option is synonymous with **-S**.

-R<*rsflags*> <*string*>

The <*rsflags*> may be empty, in which case the white space before the string is optional, unless the string is *f*, *ff*, *r*, *rf*, or *rff*, which are the possible values for <*rsflags*>. White space is required if <*rsflags*> is not empty.

This option is similar to **-q** with no time value, that is, it causes Exim to perform a single queue run, except that, when scanning the messages on the queue, Exim processes only those that have at least one undelivered recipient address containing the given string, which is checked in a case-independent way. If the <*rsflags*> start with *r*, <*string*> is interpreted as a regular expression; otherwise it is a literal string.

If you want to do periodic queue runs for messages with specific recipients, you can combine **-R** with **-q** and a time value. For example:

```
exim -q25m -R @special.domain.example
```

This example does a queue run for messages with recipients in the given domain every 25 minutes. Any additional flags that are specified with **-q** are applied to each queue run.

Once a message is selected for delivery by this mechanism, all its addresses are processed. For the first selected message, Exim overrides any retry information and forces a delivery attempt for each undelivered address. This means that if delivery of any address in the first message is successful, any existing retry information is deleted, and so delivery attempts for that address in subsequently selected messages (which are

processed without forcing) will run. However, if delivery of any address does not succeed, the retry information is updated, and in subsequently selected messages, the failing address will be skipped.

If the *<rsflags>* contain *f* or *ff*, the delivery forcing applies to all selected messages, not just the first; frozen messages are included when *ff* is present.

The **-R** option makes it straightforward to initiate delivery of all messages to a given domain after a host has been down for some time. When the SMTP command ETRN is accepted by its ACL (see chapter 42), its default effect is to run Exim with the **-R** option, but it can be configured to run an arbitrary command instead.

-r

This is a documented (for Sendmail) obsolete alternative name for **-f**.

-S*<rsflags>* *<string>*

This option acts like **-R** except that it checks the string against each message's sender instead of against the recipients. If **-R** is also set, both conditions must be met for a message to be selected. If either of the options has *f* or *ff* in its flags, the associated action is taken.

-Tqt *<times>*

This is an option that is exclusively for use by the Exim testing suite. It is not recognized when Exim is run normally. It allows for the setting up of explicit "queue times" so that various warning/retry features can be tested.

-t

When Exim is receiving a locally-generated, non-SMTP message on its standard input, the **-t** option causes the recipients of the message to be obtained from the *To:*, *Cc:*, and *Bcc:* header lines in the message instead of from the command arguments. The addresses are extracted before any rewriting takes place and the *Bcc:* header line, if present, is then removed.

If the command has any arguments, they specify addresses to which the message is *not* to be delivered. That is, the argument addresses are removed from the recipients list obtained from the headers. This is compatible with Smail 3 and in accordance with the documented behaviour of several versions of Sendmail, as described in man pages on a number of operating systems (e.g. Solaris 8, IRIX 6.5, HP-UX 11). However, some versions of Sendmail *add* argument addresses to those obtained from the headers, and the O'Reilly Sendmail book documents it that way. Exim can be made to add argument addresses instead of subtracting them by setting the option **extract_addresses_remove_arguments** false.

If there are any **Resent-** header lines in the message, Exim extracts recipients from all *Resent-To:*, *Resent-Cc:*, and *Resent-Bcc:* header lines instead of from *To:*, *Cc:*, and *Bcc:*. This is for compatibility with Sendmail and other MTAs. (Prior to release 4.20, Exim gave an error if **-t** was used in conjunction with **Resent-** header lines.)

RFC 2822 talks about different sets of **Resent-** header lines (for when a message is resent several times). The RFC also specifies that they should be added at the front of the message, and separated by *Received:* lines. It is not at all clear how **-t** should operate in the present of multiple sets, nor indeed exactly what constitutes a "set". In practice, it seems that MUAs do not follow the RFC. The **Resent-** lines are often added at the end of the header, and if a message is resent more than once, it is common for the original set of **Resent-** headers to be renamed as **X-Resent-** when a new set is added. This removes any possible ambiguity.

-ti

This option is exactly equivalent to **-t -i**. It is provided for compatibility with Sendmail.

-tls-on-connect

This option is available when Exim is compiled with TLS support. It forces all incoming SMTP connections to behave as if the incoming port is listed in the **tls_on_connect_ports** option. See section 13.4 and chapter 41 for further details.

-U

Sendmail uses this option for "initial message submission", and its documentation states that in future releases, it may complain about syntactically invalid messages rather than fixing them when this flag is not set. Exim ignores this option.

-v

This option causes Exim to write information to the standard error stream, describing what it is doing. In particular, it shows the log lines for receiving and delivering a message, and if an SMTP connection is made, the SMTP dialogue is shown. Some of the log lines shown may not actually be written to the log if the setting of **log_selector** discards them. Any relevant selectors are shown with each log line. If none are shown, the logging is unconditional.

-x

AIX uses **-x** for a private purpose ("mail from a local mail program has National Language Support extended characters in the body of the mail item"). It sets **-x** when calling the MTA from its **mail** command. Exim ignores this option.

-X *<logfile>*

This option is interpreted by Sendmail to cause debug information to be sent to the named file. It is ignored by Exim.

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