



Chapter 2 gated

2.1 Name

`gated` - gateway routing daemon

2.2 Synopsis

```
gated [ -c ] [ -C ] [ -n ] [ -N ] [ -t trace_options ] [ -f config_file ]  
      [ trace_file ]  
gated -v
```

2.3 Description

`gated` is a routing daemon that handles multiple routing protocols and replaces `routed` and `eggpup`. `gated` currently implements many IPv4 and IPv6 routing protocols as well as some host protocols. See your NextHop customer web page or release notes for a complete listing.

2.4 The Command-line Options

The command-line options are:

-c

`-c` (lowercase) specifies that the configuration file will be parsed for syntax errors and then `gated` will exit. If there are no errors, `gated` will leave a dump file in `/var/tmp/gated_dump` or `/usr/tmp/gated_dump`. `gated` does not need to be run as the super user to use the `-c` option. If `gated` is not run as the super user, however, it may not be possible to read the kernel forwarding table and interface configuration. The `-c` option implies `-tgeneral`. All traceoption clauses in the configuration file will be ignored.

-C

`-C` (uppercase) specifies that the configuration file will be parsed only for syntax errors. `gated` will exit with a status `1` if there were errors, and `0` if there were not. `gated` does not need to be run as the super user to use the `-C` option. If `gated` is not run as the super user, however, it may not be possible to read the kernel forwarding table and interface configuration.

-n

`-n` specifies that `gated` will not modify the kernel forwarding table. `-n` is used for testing `gated` configurations with actual routing data.

-N

-N specifies that **gated** will not daemonize. Normally, if tracing to **stderr** is not specified and the parent process ID is not 1, **gated** will daemonize. This allows the use of an **/etc/inittab**-like method of invoking **gated** that does not have a Process ID of 1.

-t *trace_options*

-t *trace_options* specifies a comma-separated list of trace options to be enabled on startup. If no flags are specified, **general** is assumed. No space is allowed between this option and its arguments.

trace_options must be used to trace events that take place before the config file is parsed, such as determining the interface configuration and reading routes from the kernel.

See "Chapter 4 Trace Statements" on page 15 of the configuration guide for valid trace options and a more detailed explanation of tracing.

-f *config_file*

-f *config_file* specifies that **gated** will use an alternate config file. By default, **gated** uses **/etc/gated.conf**.

-v

-v specifies that **gated** will show its version information and quit.

If a trace file is specified on the command line, or no trace flags are specified on the command line, **gated** detaches from the terminal and runs in the background. If trace flags are specified without specifying a trace file, **gated** assumes that tracing is desired to **stderr** and remains in the foreground.

2.5 Signal Processing

The following signals may be used to control **gated**:

SIGHUP - reread the configuration file

A **SIGHUP** causes **gated** to reread the configuration file. **gated** first performs a clean-up of all allocated policy structures. Depending on the protocol, this may cause cycling of adjacencies and/or peering connections. GateD attempts to preserve neighbor and/or peering relationships if at all possible.

SIGINT - snapshot of current state

A **SIGINT** causes the current state of all **gated** tasks, timers, protocols, and tables to be written to the dump location. This may be one of two places: **/var/tmp/gated_dump** or **/usr/tmp/gated_dump**.

On systems supporting **fork()** this is done by forking a subprocess to dump the table information so as not to impact **gated**'s routing functions. On systems where memory management does not support copy-on-write, **fork()** will cause the **gated** address space to be duplicated; this can cause a noticeable impact on the system. On systems that do not support **fork()**, the main process immediately processes the dump, which can affect **gated**'s routing functions.

SIGTERM - graceful shutdown

On receipt of a **SIGTERM**, **gated** attempts a graceful shutdown. All tasks and protocols are asked to shutdown. Most will terminate immediately. The exception is EGP peers, which

wait for confirmation. It may be necessary to repeat the **SIGTERM** once or twice if this process takes too long.

All protocol routes are removed from the kernel forwarding table on receipt of a **SIGTERM**. Interface routes, routes with **RTF_STATIC** set (from the route command where supported), and static routes specifying **retain** will remain. Use **SIGKILL** to terminate **gated** with the exterior routes intact.

SIGUSR1 - toggle tracing

On receipt of a **SIGUSR1**, **gated** will close the trace file. A subsequent **SIGUSR1** will cause it to be reopened. This allows the file to be moved regularly. It is not possible to use **SIGUSR1** if a trace file has not been specified or if tracing is being performed to **stderr**.

SIGUSR2 - check for interface changes

On receipt of a **SIGUSR2**, **gated** will rescan the kernel interface list looking for changes.

2.6 Files

Many of the default filenames listed below contain the string **%s**, which is replaced by the name with which **gated** is invoked. Normally this is **gated**, but if invoked as **gated-test**, **gated** will by default look for **/etc/gated-test.conf**. These paths may all be changed at compilation time.

/usr/tmp/gated_dump

/usr/tmp/gated_dump is where **gated** writes status information. The default is **/usr/tmp/%s_dump**. Another common path is **/var/tmp/%s_dump**.

/etc/gated.conf

/etc/gated.conf is where **gated** looks for its configuration file. The default is **/etc/%s.conf**.

/etc/gated.pid

/etc/gated.pid is where **gated** writes its process id (PID). The default is **/etc/%s.pid**, but **/var/run/%s.pid** is common.

