

fping

Command

send ICMP ECHO_REQUEST packets to network hosts

SYNOPSIS ▼

SYNOPSIS**fping** [*options*] [*systems*]**DESCRIPTION**

fping is a **ping**-like utility that uses the Internet Control Message Protocol (ICMP) echo request to determine if a target host is responding. **fping** differs from **ping** in that you can specify any number of targets on the command line, or specify a file containing the list of targets to ping. Instead of sending to one target until it times out or replies, **fping** sends out a ping packet and moves on to the next target in a round-robin fashion.

In the default mode, if a target replies, **fping** notes it and removes it from the list of targets to check; if a target does not respond within a certain time limit and/or retry limit it is designated as unreachable. **fping** also supports sending a specified number of pings to a target, or looping indefinitely (as in **ping**).

Unlike **ping**, **fping** is meant to be used in scripts, so its output is designed to be easy to parse.

Options

- a**
displays systems that are alive.
- A**
displays targets by address rather than DNS name.
- bn**
specifies the number of bytes of ping data to send. The minimum size (normally 12) allows room for the data that **fping** needs to do its work (sequence number, timestamp). The reported received data size includes the IP header (normally 20 bytes) and ICMP header (8 bytes), so the minimum total size is 40 bytes. Default is 56, as in **ping**. Maximum is the theoretical maximum IP datagram size (64K), though most systems limit this to a smaller, system-dependent number.
- Bn**
in the default mode, **fping** sends several requests to a target before giving up, waiting longer for a reply on each successive request. This parameter is the value by which the wait time is multiplied on each successive request; it must be entered as a floating-point number (*x.y*). The default is 1.5.
- cn**
specifies the number of request packets to send to each target. In this mode, **fping** displays a line for each received response (this can be suppressed with **-q** or **-Q**). Also, statistics about responses for each target are displayed when all requests have been sent (or when interrupted).
- Cn**
is similar to **-c**, but **fping** displays the per-target statistics in a format designed for automated response-time statistics gathering. For example:


```
%fping -C 5 -q somehost
somehost : 91.7 37.0 29.2 - 36.8
```

shows the response time in milliseconds for each of the five requests, with the - indicating that no response was received to the fourth request.
- d**
uses DNS to lookup address of return ping packet. With this option, you can specify a list of IP addresses as the *systems* arguments and have **fping** display hostnames in the output.
- e**
shows elapsed (round-trip) time of packets.
- f file**
reads the list of targets from a file. This option can only be used by the root user. Regular users should pipe in the file via standard input:


```
% fping < targets_file
```
- g**
generates a target list from a supplied IP netmask, or a starting and ending IP. The netmask or starting/ending IPs are specified in the *systems* portion of the command line. For example, to ping the class C 192.168.1.x, the command line could look like either:


```
fping -g 192.168.1.0/24
```

or


```
fping -g 192.168.1.0 192.168.1.255
```
- h**
displays usage message.
- in**
specifies the minimum amount of time (in milliseconds) between sending a ping packet to any target (default is 25).
- l**
loops sending packets to each target indefinitely. The looping can be interrupted with CTRL-C; **fping** then displays statistics about responses for each target.
- m**
sends pings to each of a target host's multiple interfaces.
- n**
is the same as the **-d** option.
- pn**
in looping or counting modes (**-l**, **-c**, or **-C**, specifies the time in milliseconds that **fping** waits between successive packets to an individual target. The default is 1000.
- q**
enables quiet mode. **fping** does not show per-target results; it just sets the final exit status.
- Qn**
is similar to **-q**, but displays summary results every *n* seconds.
- rn**
specifies the retry limit (the default is 3). This is the number of times an attempt at pinging a target is made, not including the first try.
- s**
displays cumulative statistics upon exit.

- t** *n*
specifies the initial target timeout in milliseconds (the default is 500). In the default mode, this is the amount of time that **fping** waits for a response to its first request. Successive timeouts are multiplied by the backoff factor.
- u**
displays targets that are unreachable.
- v**
displays **fping** version information.

EXAMPLES

The following [perl](#) script checks a list of hosts and sends mail if any are unreachable. It uses the `open2()` function which lets a program be opened for reading and writing. **fping** does not start ping the list of systems until it reads EOF, which it gets after `INPUT` is closed. The `open2()` usage is not really needed in this example, but it serves as a good example of its use.

```
#!/usr/bin/perl
require 'open2.pl';

$MAILTO = "root";

$pid = &open2("OUTPUT", "INPUT", "fping.exe -u");

@check=("slapshot", "foo", "foobar");

foreach(@check) { print INPUT "$_\n"; }
close(INPUT);
@output=<OUTPUT>;

if ($#output != -1) {
    chop($date=`date`);
    open(MAIL, "|mail -s 'unreachable systems' $MAILTO");
    print MAIL "\nThe following systems are unreachable as of: $date\n\n";
    print MAIL @output;
    close MAIL;
}
```

Another good example is when you want to perform an action only on hosts that are currently reachable:

```
#!/usr/bin/perl

$hosts_to_backup = `cat /etc/hosts.backup | fping -a`;

foreach $host (split(/\n/, $hosts_to_backup)) {
    # do it
}
```

DIAGNOSTICS

Possible exit status values are:

- 0
Successful completion; all specified hosts were reachable.
- 1
At least one specified host was not reachable.
- 2
At least one IP address was not found.
- 3
There were invalid arguments on the command line.
- 4
A system call failure occurred.

AUTHORS

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fping website: <http://www.fping.com>

WARNING

When certain options are used (that is, a low value for **-i** and **-t**, and a high value for **-r**), it is possible to flood the network. This program must be installed as setuid root in order to open up a raw socket, or must be run by root. To stop non-root users from hosing the network (when **fping** is installed setuid root), normal users cannot specify the following:

- i** *n* where *n* < 10 msec
- r** *n* where *n* > 20
- t** *n* where *n* < 250 msec

AVAILABILITY

PTC MKS Toolkit for System Administrators
 PTC MKS Toolkit for Developers
 PTC MKS Toolkit for Interoperability
 PTC MKS Toolkit for Professional Developers
 PTC MKS Toolkit for Professional Developers 64-Bit Edition
 PTC MKS Toolkit for Enterprise Developers
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