

Cisco TCP/IP Suite Online Help



[Ping Application Options](#)



[Ping Procedures](#)



[Ping Concepts](#)

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[Ping Application Options](#)

- [Ping Application Window](#)
- [File Menu](#)
- [Host Menu](#)
- [Options Menu](#)
- [Help Menu](#)
- [Hosts](#)
- [Host Statistics](#)
- [Ping Toolbar Buttons](#)



[Ping Procedures](#)



[Ping Concepts](#)



Ping Application

[Ping](#) sends [ICMP](#) echo request packets to the specified host(s) and measures the elapsed time between the transmission of the request and the receipt of the reply back at your host. If a host cannot be reached, a message appears indicating so. Short elapsed times indicate that the destination is relatively few hops away. Longer elapsed times can indicate a variety of conditions including: the network is congested, the destination is many hops away, or that the destination can only be reached by a satellite link or by transoceanic link.

HostName	Status	S/R/%Loss	RTT Min/Avg/Max
daisycat	Finished	10/10/0%	4/4/7
www.cisco.com	Finished	10/10/0%	8/10/19

56 bytes from 192.31.7.130 Seq = 8 Time = 9ms.
56 bytes from 192.31.7.130 Seq = 9 Time = 9ms.

Finished Ping of www.cisco.com.

For Help, press F1 1:03 PM 4/18/96

Click graphic fields for more information.



File Menu

The [File menu](#) lets you store Ping output in a file, print output, or exit the Ping application.

Host Menu

The [Host menu](#) starts and stops the Ping application, and verifies host names:

Options Menu

The [Options menu](#) lets you enable or disable the display of the toolbar, bubble help, or status line.

Help Menu

The [Help menu](#) lets you view useful information about the Ping application and how to use the Help facility.



File Menu

The File menu contains these commands:

Save As

Saves host statistics for the Ping selected in the Hosts window to a file. (Ping limits the Host Statistics window to 25 KB of data, so if your Ping produced more than 25 KB of output, only the last 25 KB can be saved or printed.) The shortcut button is:



Print

Prints host statistics for the Ping selected in the Hosts window. The shortcut button is:



Exit

Exits the Ping application. The shortcut button is:





Save As Dialog Box

The Save As dialog box lets you save host statistics to a file:

File Name

The name of the file in which to save the host statistics.

Save File As Type

The file format for the file.

Directories

The directory for the file.

Drives

The drive for storing the file.

Network

Connects to another network location so you can assign it a new drive letter.





Print Dialog Box

The Print dialog box lets you print Ping output:

Printer

Shows the active printer and printer connection. Click the Setup button to change the printer and printer connection.

Print Range group

Lets you specify the pages you want to print: All pages; just the data you selected in the Host Statistics window; or a specific page range.

Print Quality

Determines how clear the printout is, based on the capabilities of your printer.

Copies

The number of copies you want to print.

Collate Copies

Whether you want each copy printed in page number order (checked), or whether you want all copies of each page printed together, so that, for example, all page ones are printed first before printing page two (unchecked).

Setup button

Lets you select a printer and set other printer options using the [Print Setup dialog box](#).





Print Setup Dialog Box

The Print Setup dialog box lets you select a printer, page orientation and dimensions, paper source and other options:

Printer group

Lets you select either the default printer, or another printer that you have installed.

Orientation group

Determines whether the printout is in portrait or landscape orientation.

Paper group

Determines the size of the paper and the paper tray that is used.

Options button

Additional options that you can set for the selected printer.

Network button

Lets you connect to a printer on your network.



Save As Button



The Save As button, or Save As from the File menu, saves host statistics for the Ping selected in the Hosts window to a file. (Ping limits the Host Statistics window to 25 KB of data, so if your Ping produced more than 25 KB of output, only the last 25 KB can be saved or printed.)

Print Button



The Print button, or Print from the file menu, prints host statistics for the Ping selected in the Hosts window. (Ping limits the Host Statistics window to 25 KB of data, so if your Ping produced more than 25 KB of output, only the last 25 KB can be saved or printed.)

Exit Button



The Exit button, or Exit from the File menu, exits the Ping application.



Host Menu

The Host menu contains these commands:

Ping

Starts a Ping session using the [Ping dialog box](#). The shortcut button is:



Stop

Stops the Ping selected in the Hosts window. The shortcut button is:



Clear

Stops and clears the output for the Ping selected in the Hosts window. The shortcut button is:



Clear All

Stops and clears the output for all Pings from the Hosts and Host Statistics windows.

Host Lookup

Looks up information about a host given the hosts name or IP address. The shortcut button is:





Ping Button



The Ping Host button, or Ping from the Host menu, starts a Ping session.



Ping Dialog Box

The Ping dialog box lets you start a Ping session, store host names in the Host List, and specify packet characteristics:

Host List

Displays a list of host profiles you saved. Add hosts to the list automatically by checking Save on OK. Or, click the Save button after entering information for a host. You can Ping multiple hosts at once by selecting them from this list: use drag or Shift-drag to select several hosts that appear consecutively in the list, and Ctrl-click to choose individual hosts. Hosts are stored with all specified options such as the number of packets, data length, and packet information options.

Host Name

The name or IP address of a host. For hosts on the local network, a single word can be used for the host name, such as PINE. If the host is at another site, enter the fully-qualified domain name, such as OAK.YOYODYNE.COM.

Save on OK

Determines whether this host is saved to the host list automatically when you click the OK button. If you uncheck this, you must click the Save button to save the host to the host list.

Number of Packets

The number of ICMP echo request packets to send to the other host. Specify a numeric value; to Ping a host indefinitely, use 0 (zero). If Ping runs indefinitely, use the Stop button to terminate the session.

Data Length

The number of bytes of data to attach to the ICMP Echo Request packets. Increase the data length to check for gateways that do not fragment IP packets correctly. The data length ranges from 0 to 16384 bytes. If the data length is set to a value less than 8, Ping does not measure the elapsed time during the Ping session.

Save button

Saves the host name to the Host List. All specified options are stored with the host name.

Delete button

Deletes the selected hosts from the Host List.

Advanced button

Displays the Packet Information group, which lets you specify the contents of the data portion of ICMP echo request packets sent by Ping to the target host.

Packet Information group

Determines the contents of the data portion of the ICMP echo request packet. These options are helpful if you are using a local area network protocol analyzer like the Network General Sniffer or the TCPDump software tool. Protocol analyzers allow you to display the contents of packets as they traverse the network.

Default

The packet data is sequential ASCII numbers starting with 1 and extending the length of the packet data area. Packet data begins after the time stamp and sequencing information in the first 12 bytes of a packet. A default packet starts with "1,2,3,4,5,6,7" and so on.

All Zeros

The packet data is all zeros, such as 000000000000.

All Ones

The packet data is all ones, such as 111111111111.

Alternating Ones and Zeros

The packet data is alternating ones and zeros, such as 010101010101.

User Defined

The packet data is what you enter in the associated edit box. The string is repeated as many times as necessary to fill the packet. Put a space at the end of your alphanumeric string so that you can easily see the end of one string and the beginning of the next.



Number of Packets Edit Box

The Number of Packets edit box lets you enter the number of ICMP echo request packets to send to the other host. Specify a numeric value; to Ping a host indefinitely, use 0 (zero). If Ping runs indefinitely, use the Stop button to terminate the session.

Note:

Ping displays a total of 25 kilobytes of information in the Host Statistics window. If Ping runs indefinitely, previous information is truncated to maintain the 25 kilobyte limit. Also, excessive numbers of packets can degrade network performance.

Data Length Edit Box

The Data Length edit box lets you enter the number of bytes of data to attach to the ICMP Echo Request packets. Increase the data length to check for gateways that do not fragment IP packets correctly. The data length ranges from 0 to 16384 bytes. If the data length is set to a value less than 8, Ping does not measure the elapsed time during the Ping session.

Stop Button



The Stop button, or Stop from the Host menu, stops the Ping selected in the Hosts window if it is still running.

Clear or Remove Button



The Clear or Remove button, or Clear from the Host menu, stops the Ping selected in the Hosts window and clears the output from that Ping from the Host Statistics window.

Host Lookup Button



The Host Lookup button, or Host Lookup from the Host menu, lets you determine if a host exists, or lets you determine the host name assigned to an IP address, or IP address assigned to a host name.



Host Lookup Dialog Box

The Host Lookup dialog box displays information about a host, including host name, IP address, and CPU and operating system type (if configured in your local host table or in DNS).

Host Name/IP Address

The name or IP address of the host about which you are looking for information.

Return Information

Information that Host Lookup could find out about the host.

Lookup button

Starts looking for information about the host. Click this button once you fill in the host name or IP address.





Options Menu

The Options menu contains these commands:

Toolbar

Displays or hides the toolbar, which is the bar of shortcut buttons beneath the menu.

Bubble Help

Enables or disables bubble help, which is the quick popup help you get when moving the cursor over the toolbar buttons.

Status Bar

Displays or hides the status bar at the bottom of the main window.



Status Bar

The status bar displays a help reminder and the current date and time.



Help Menu

The Help menu contains these commands:

Contents

Displays the [contents page](#) of this help file.

Search for Help on

Searches this help files index.

How to Use Help

Displays help information for using the Windows help system.

About Ping

Displays version information for the application.





Ping Toolbar

The Ping toolbar provides shortcut buttons to start and stop Ping sessions, connect quickly to a host, display a host name, save Ping statistics in a file, print Ping statistics, and quit Ping.

The toolbar is:



Quick Connect Button



The Quick Connect button lets you quickly Ping to a host you have already saved to the host list. Click the host you want to Ping from the displayed list.



Quick Connect List

The Quick Connect list shows the hosts saved in the Hosts List window. Hosts are saved in the Hosts List window using the [Ping dialog box](#). All specified options are stored with the host names.

Click the desired host name or IP address. A Ping session immediately starts using the options specified in the Ping dialog box.





Hosts Window

The Hosts window displays information from the current and recent Ping sessions. Use the [Ping button](#) or the Ping from the Host menu to start a Ping session.

The display columns are:

Host Name

Displays the host names from Ping sessions.

Status

The status of a Ping session. Possible values are "Ping", when Ping sends requests to the host, "Finished", when a session completes, or "Error", when an error occurs during the Ping session. If "Error" appears, [additional information](#) appears in the Host Statistics window.

S/R/%Loss

Displays the number of sent and received packets, and the percentage of packets lost during transmission.

RTT Min/Avg/Max

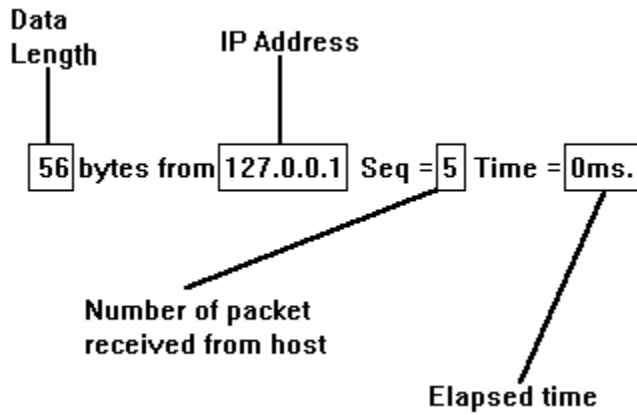
Displays the minimum, average, and maximum round-trip times (RTT) calculated from ICMP packets sent between your host and the other host.





Host Statistics

The Host Statistics table displays host statistics generated during a Ping session. The following example illustrates how information appears in the table:



Cisco TCP/IP Suite Online Help



[Ping Application Options](#)



[Ping Procedures](#)

- [Understanding Ping](#)
- [Pinging a Host](#)
- [Performing a Host Lookup](#)
- [Changing Ping Parameters](#)
- [Storing Information in a File](#)
- [Printing Information](#)
- [Storing Host Names in the Host List](#)



[Ping Concepts](#)



Understanding Ping

Use the Ping (Packet Internet Groper) application to verify that a host can be reached across the network.

Why Ping is Used

Use Ping to determine if an application is working correctly. If a Ping session succeeds, but an application fails, the host may be having problems with its server or a problem may exist in the application itself. If Ping fails, ensure that the Cisco TCP/IP Suite Master Server is running and that all hardware connections are correct. The messages that appear when a Ping session fails provide additional insight.

When Ping Fails

When Ping fails, it provides informational messages that start with:

```
Unable to ping host.  
Error return of [message].
```

Common *message* values are:

Connection timed out	Low-level packet transmission cannot be accomplished between your host and the other host.
Host not found	The host name is misspelled, not found in the DNS or host tables, or the Master Server is not running.
No buffer space available	Restart Ping or close other network applications. Use the Cisco TCP/IP Suite Monitor application's Buffer Statistics information to determine how many memory buffers are in use.
Network is down	Results when two hosts on the same network are assigned IP addresses with different network numbers, or the default route in the Cisco TCP/IP Suite Configuration Utility is incorrectly set.





Pinging a Host

To start a Ping session:

1. Click the [Ping button](#), or choose Ping from the Host menu. The [Ping dialog box](#) appears.
2. Enter a host name in the Host Name edit box. To Ping your own host, use 127.0.0.1. Unless you need to [perform special tests](#) with alternate packet counts, sizes, or data contents, use the initial Ping setup.
3. To start the Ping session, click OK.
4. Once a Ping session starts, it will self-terminate. Alternately, click the [Stop button](#), or choose the Stop from the Host menu.

Alternately, use the [Quick Connect](#) button to start a Ping session.





Performing a Host Lookup

To look up a host by host name or by IP address:

1. Click the [Host Lookup button](#), or choose Host Lookup... from the Host menu. The [Host Lookup dialog box](#) appears.
2. Enter a host name or IP address for the host lookup.
3. Click the Lookup button to display the results of the inquiry.
4. Click the Cancel button to return to the Ping application window.





Changing Ping Parameters

To change Ping parameters for the number of packets to send, the data length, or the format of packet data:

1. Click the [Ping button](#), or choose Ping from the Host menu. The [Ping dialog box](#) appears.
2. Change the [Number of Packets](#) or [Data Length](#) to the desired settings, and click the Advanced button if you want to change the contents of the data packets.





Storing Ping Output in a File

To store Ping statistics in a file:

1. Select the Ping whose output you want to save in the Hosts window.
2. Click the [Save button](#), or choose Save As from the File menu.
3. Specify the name of the file you want to use and click OK.





Printing Ping Information

To print Ping statistics:

1. Select the Ping whose output you want to save in the Hosts window.
2. Click the [Print button](#), or choose Print from the File menu.
3. Choose your printer and click OK.





Adding Host Names to the Host List

To add a host name to the Host List window:

1. Click the [Ping button](#), or choose Ping from the Host menu. The [Ping dialog box](#) appears.
2. Enter the name of the host in the Host Name box.
3. If Save on OK is checked, then any new host name is saved in the Host List when you click OK. Alternately, you can save the host name by clicking the Save button. To delete an entry from the Host List window, select the entry and click the Delete button.



Cisco TCP/IP Suite Online Help



[Ping Application Options](#)



[Ping Procedures](#)



[Ping Concepts](#)

- [Ping Concepts](#)
- [For More Information](#)



Ping Concepts

The Cisco TCP/IP Suite [Ping](#) application lets you determine if a host can be accessed. Ping sends [ICMP](#) echo request packets to the specified host and measures the time that elapses from the time the packet is sent to the host until it is received back at your host. The greater the time that elapses, the greater the possibility of a network problem. If a host cannot be reached, a message appears indicating so.





For More Information

Recommended Reading

For an excellent conceptual overview of Ping (and a complete discussion of TCP/IP networking concepts), we recommend the following books:

Comer, Douglas E., ***Internetworking with TCP/IP***, Volumes I and II, Prentice Hall
Black, Uyles D., ***TCP/IP and Related Protocols***, McGraw-Hill
Stevens, W. Richard, ***TCP/IP Illustrated***, Volume 1

[Recommended books for users of all levels.](#)



