1 Network Connectivity Test Commands

Command	Function
clear rping table	Clear the remote Ping (Rping) table entries.
ping ip	Check whether the specified IPv4 address is reachable and output the related information.
ping ipv6	Check whether the specified IPv6 address is reachable and output the related information.
show rping detail	Display the details about Rping table entries.
traceroute ip	Display the routing devices through which IPv4 packets are sent from the source address to the destination address.
traceroute ipv6	Display the gateways through which IPv6 packets are sent from the source address to the destination address.

1.1 clear rping table

Function

Run the **clear rping table** command to clear the remote Ping (Rping) table entries.

Syntax

clear rping table { **all** | **ping-object** *owner-index test-index* | **trace-object** *owner-index test-index* }

Parameter Description

all: Deletes all entries of the Rping table.

owner-index: Index of a user.

test-index: Index of a test.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

After this command is executed, Rping table entries are deleted based on the specified parameters.

The Rping table stores the results of Ping tests executed by users through Simple Network Management Protocol (SNMP).

Examples

The following example clears all entries of the Rping table.

```
Hostname> enable
Hostname# clear rping table all
```

The following example clears the Rping table entry where the user index is **user** and the test index is **Hostname**.

```
Hostname> enable
Hostname# clear rping table user Hostname
```

Notifications

When no specified entry exists on the device, the following notification will be displayed:

Platform Description

N/A

Related Commands

N/A

1.2 ping ip

Function

Run the **ping ip** command to check whether the specified IPv4 address is reachable and output the related information.

By default, five 100-byte packets are sent to the specified IP address within two seconds.

Syntax

ping [**ip** | **vrf** *vrf-name*] { *hostname* | *ipv4-address* } [**data** *data* | **detail** | **df-bit** | **interval** *interval* | **length** *length* | **ntimes** *times* | **out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | [**source** *interface-type interface-number* | **source** *source-ipv4-address*] | **timeout** *time* | **validate**] *

ping oob { *hostname* | *ipv4-address* } [**data** *data* | **detail** | **df-bit** | **interval** *interval* | **length** *length* | **ntimes** *times* | **out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | [**source** *interface-type interface-number* | **source** *source-ipv4-address*] | **timeout** *time* | **validate** | **via** *mgmt-name*] *

Parameter Description

vrf *vrf-name*: Specifies a VRF. If this parameter is not specified, the public network instance is used.

hostname: Destination host name.

ipv4-address: Destination IPv4 address.

data *data*: Specifies the padding data of the packet. The format is a string of 1 to 255 characters. By default, **abcd** is padded.

detail: Configures whether to display the detailed information. By default, only the exclamation mark (!) and period (.) are displayed.

df-bit: Configures the DF bit of the IP address. If the DF bit is set to 1, the packet is not segmented. The default value is 0.

interval *interval*: Specifies the interval between the Ping packets, in milliseconds. The value range is from 50 to 300000, and the default value is **100**.

length *length*: Specifies the length of the padding section in the sent packet, in bytes. The value range is from 36 to 18024, and the default value is **100**.

ntimes *times*: Specifies the number of sent packets. The value range is from 1 to 4294967295. The default value is **5**.

out-interface *interface-type interface-number*: Specifies the type and number of the outbound interface used to send the packets.

next-hop *next-hop*: Specifies the IPv4 address of the next hop of the outbound interface used to send the packets.

source *interface-type interface-number*: Specifies the type and number of the source interface of the packets.

source *source-ipv4-address*: Specifies the source IPv4 address or source interface of the packets. A loopback interface, for example, 127.0.0.1, cannot be configured as the source address.

timeout *time*: Specifies the timeout, in seconds. The value range is from 1 to 10, and the default value is **2**.

validate: Configures whether to verify the response packet.

oob: Indicates that an out-of-band channel is used. This parameter is mandatory if the MGMT interface is configured as the source interface.

via *mgmt-name*: Specifies the outbound MGMT interface of packets where the Ping operation is performed.

Command Modes

Privileged EXEC mode

Default Level

0

Usage Guidelines

After this command is executed, the related response information is printed and then the statistical information is output.

To use the domain name function, you must first configure the domain name server (DNS). For details, see "Configuring DNS" in "IP Service Configuration Guide."

Examples

The following example checks whether the IPv4 address 192.168.21.26 is reachable.

```
Hostname> enable
Hostname# ping 192.168.21.26
Sending 5, 100-byte ICMP Echoes to 192.168.21.26, timeout is 2 seconds:
< press Ctrl+C to break >
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/10 ms
```

The following example checks whether the IPv4 address 192.168.21.26 is reachable. The sent packet length is 1500 bytes, the number of sent packets is 10, the timeout is 3 seconds, the packet padding data is ffff, and the source IP address is 192.168.21.99.

```
Hostname> enable
Hostname# ping 192.168.21.26 length 1500 ntimes 10 data ffff source 192.168.21.99
timeout 3 detail
Sending 20, 1500-byte ICMP Echoes to 192.168.21.26, timeout is 3 seconds:
  < press Ctrl+C to break >
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=2ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Reply from 192.168.21.26: bytes=1500 time=1ms TTL=64
Success rate is 100 percent (10/10), round-trip min/avg/max = 1/1/3 ms.
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.3 ping ipv6

Function

Run the **ping ipv6** command to check whether the specified IPv6 address is reachable and output the related information.

By default, five 100-byte packets are sent to the specified IPv6 address within two seconds.

Syntax

ping [**ipv6** | **vrf** *vrf-name*] { *hostname* | *ipv6-address* } [**data** *data* | **detail** | **interval** *interval* | **length** *length* | **ntimes** *times* | **out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | [**source** *interface-type interface-number* | **source** *source-ipv6-address*] | **timeout** *time*] *

ping oob { *hostname* | *ipv6-address* } [**data** *data* | **detail** | **interval** *interval* | **length** *length* | **ntimes** *times* | **out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | [**source** *interface-type interface-number* | **source** *source-ipv6-address*] | **timeout** *time* | **validate** | **via** *mgmt-name*] *

Parameter Description

vrf *vrf-name*: Specifies a VRF. If this parameter is not specified, the public network instance is used.

hostname: Destination host name.

ipv6-address: Destination IPv6 address.

data *data*: Specifies the padding data of the packet. The format is a string of 1 to 255 characters. By default, **abcd** is padded.

detail: Configures whether to display the detailed information. By default, only the exclamation mark (!) and period (.) are displayed.

interval *interval*: Specifies the interval between the Ping packets, in milliseconds. The value range is from 50 to 300000, and the default value is **100**.

length *length*: Specifies the length of the sent packet, in bytes. The value range is from 16 to 18024, and the default value is **100**.

ntimes *times*: Specifies the number of sent packets. The value range is from 1 to 4294967295. The default value is **5**.

out-interface *interface-type interface-number*: Specifies the type and number of the outbound interface used to send the packets.

next-hop *next-hop*: Specifies the IPv6 address of the next hop of the outbound interface used to send the packets.

source *interface-type interface-number*: Specifies the type and number of the source interface of the packets.

source *source-ipv6-address*: Specifies the source IPv6 address or source interface of the packets. A loopback interface, for example, ::1, cannot be configured as the source address.

timeout *time*: Specifies the timeout, in seconds. The value range is from 1 to 10, and the default value is **2**.

oob: Indicates that an out-of-band channel is used. This parameter is mandatory if the MGMT interface is configured as the source interface.

via *mgmt-name*: Specifies the outbound MGMT interface of packets where the Ping operation is performed.

Command Modes

Privileged EXEC mode

Default Level

0

Usage Guidelines

After this command is executed, the related response information is printed. If the data in the response is inconsistent with the data in the request, "Request receive error" is displayed, and then the statistical information is output.

To use the domain name function, you must first configure the domain name server (DNS). For details, see "Configuring DNS" in "IP Service Configuration Guide."

Examples

The following example checks whether the IPv6 address 2001::5 is reachable.

```
Hostname> enable
Hostname# ping ipv6 2001::5
Sending 5, 100-byte ICMP Echoes to 2001::5, timeout is 2 seconds:
< press Ctrl+C to break >
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/10 ms
```

The following example checks whether the IPv6 address 2001::5 is reachable. The sent packet length is 1500 bytes, the number of sent packets is 10, the timeout is 3 seconds, the packet padding data is ffff, and the source IP address is 2001::9.

```
Hostname> enable
Hostname#ping 2001::5 length 1500 ntimes 10 data ffff source 2001::9 timeout 3
Sending 10, 1500-byte ICMP Echoes to 2001::5, timeout is 3 seconds:
  < press Ctrl+C to break >
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
```

```
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
Reply from 2001::5: bytes=1500 time=1ms
Success rate is 100 percent (10/10), round-trip min/avg/max = 1/1/1 ms
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.4 show rping detail

Function

Run the **show rping detail** command to display the details about Rping table entries.

Syntax

show rping detail

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can use this command to view the number of users and the number of tests in the Rping table on a device.

Examples

The following example displays detailed information of Rping table entries.

```
Hostname> enable
Hostname# show rping detail
Total owner number: 2
Total test number: 4
owner: user1
```

```
   test name: taget_1         storage type: volatile
test name: taget_2         storage type: nonVolatile
owner: user2
   test name: taget_1         storage type: permanent
test name: taget_2         storage type: readOnly
```

Table 1-1Output Fields of the show rping detail Command

Field	Description
Total owner number	Total number of users
Total test number	Total number of tests
owner	Username
test name	Name of a test
storage type	Storage type of a table entry

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.5 traceroute ip

Function

Run the **traceroute ip** command to display the routing devices through which IPv4 packets are sent from the source address to the destination address.

By default, the timeout is **3** seconds, the number of sent probe packets is **3**, the minimum TTL is **1**, and the maximum TTL is **255**.

Syntax

traceroute [**ip** | **vrf** *vrf-name*] { *hostname* | *ipv4-address* } [**out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | **probe** *probe* | [**source** *interface-type interface-number* | **source** *source-ipv4-address*] | **timeout** *time* | **ttl** *minimum maximum*] *

traceroute oob { *hostname* | *ipv4-address* } [**out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | **probe** *probe* | [**source** *interface-type interface-number* | **source** *source-ipv4-address*] | **timeout** *time* | **ttl** *minimum maximum* | **via** *mgmt-name*] *

Parameter Description

vrf *vrf-name*: Specifies a VRF. If this parameter is not specified, the public network instance is used.

hostname: Destination host name.

ipv4-address: Destination IPv4 address.

out-interface *interface-type interface-number*: Specifies the type and number of the outbound interface used to send the packets.

next-hop *next-hop*: Specifies the IPv4 address of the next hop of the outbound interface used to send the packets.

probe *probe*: Specifies the number of sent probe packets. The value range is from 1 to 255, and the default value is **3**.

source *interface-type interface-number*: Specifies the type and number of the source interface of the packets.

source *source-ip-address*: Specifies the source IPv4 address or source interface of the packets. A loopback interface, for example, 127.0.0.1, cannot be configured as the source address.

timeout *time*: Specifies the timeout, in seconds. The value range is from 1 to 10, and the default value is **3**.

ttl *minimum maximum*: Specifies the minimum and maximum TTL values. The value range is from 1 to 255. By default, the minimum TTL is **1**, and the maximum TTL is **255**.

oob: Indicates that an out-of-band channel is used. This parameter is mandatory if the MGMT interface is configured as the source interface.

via *mgmt-name*: Specifies the outbound MGMT interface of packets where the Traceroute operation is performed.

Command Modes

Privileged EXEC mode

Default Level

0

Usage Guidelines

You can run this command to check the network connectivity, and accurately determine the location of a network fault when the fault occurs.

To use the domain name function, you must first configure the domain name server (DNS). For details, see "Configuring DNS" in "IP Service Configuration Guide."

Examples

The following example displays the gateways through which IPv4 packets are sent from the source address to the destination address 61.154.22.36.

```
Hostname> enable
Hostname# traceroute 61.154.22.36
< press Ctrl+C to break >
Tracing the route to 61.154.22.36
1      192.168.12.1     0 msec  0 msec  0 msec
2      192.168.9.2      4 msec  4 msec 4 msec
3      192.168.9.1      8 msec  8 msec  4 msec
4      192.168.0.10     4 msec  28 msec  12 msec
5      202.101.143.130     4 msec  16 msec  8 msec
```

```
6      202.101.143.154    12 msec  8 msec  24 msec
7      61.154.22.36     12 msec  8 msec  22 msec
```

The following example displays the gateways through which IPv4 packets are sent from the source address to the destination domain name www.ietf.org.

```
Hostname> enable
Hostname# traceroute www.ietf.org
Translating " www.ietf.org "...[OK]
< press Ctrl+C to break >
Tracing the route to 64.170.98.32
1      192.168.217.1   0 msec  0 msec  0 msec
2      10.10.25.1         0 msec  0 msec  0 msec
3      10.10.24.1         0 msec  0 msec  0 msec
4      10.10.30.1         10 msec 0 msec  0 msec
5      218.5.3.254        0 msec  0 msec  0 msec
6      61.154.8.49        10 msec 0 msec  0 msec
7      202.109.204.210    0 msec  0 msec  0 msec
8      202.97.41.69       20 msec 10 msec 20 msec
9      202.97.34.65       40 msec 40 msec 50 msec
10     202.97.57.222      50 msec 40 msec 40 msec
11     219.141.130.122    40 msec 50 msec 40 msec
12     219.142.11.10      40 msec 50 msec 30 msec
13     211.157.37.14      50 msec 40 msec 50 msec
14     222.35.65.1        40 msec 50 msec 40 msec
15     222.35.65.18       40 msec 40 msec 40 msec
16     222.35.15.109      50 msec 50 msec 50 msec
17     *       *       *
18    64.170.98.32      40 msec 40 msec 40 msec
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.6 traceroute ipv6

Function

Run the **traceroute ipv6** command to display the gateways through which IPv6 packets are sent from the source address to the destination address.

By default, the timeout is **3** seconds, the number of sent probe packets is **3**, the minimum TTL is **1**, and the maximum TTL is **255**.

Syntax

traceroute [**ipv6** | **vrf** *vrf-name*] { *hostname* | *ipv6-address* } [**out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | **probe** *probe* | [**source** *interface-type interface-number* | **source** *source-ipv6-address*] | **timeout** *time* | **ttl** *minimum maximum*] *

traceroute oob { *hostname* | *ipv6-address* } [**out-interface** *interface-type interface-number* [**next-hop** *next-hop*] | **probe** *probe* | [**source** *interface-type interface-number* | **source** *source-ipv6-address*] | **timeout** *time* | **ttl** *minimum maximum* | **via** *mgmt-name*] *

Parameter Description

vrf *vrf-name*: Specifies a VRF. If this parameter is not specified, the public network instance is used.

hostname: Destination host name.

ipv6-address: Destination IPv6 address.

out-interface *interface-type interface-number*: Specifies the type and number of the outbound interface used to send the packets.

next-hop *next-hop*: Specifies the IPv6 address of the next hop of the outbound interface used to send the packets.

probe *probe*: Specifies the number of sent probe packets. The value range is from 1 to 255, and the default value is **3**.

source *interface-type interface-number*: Specifies the type and number of the source interface of the packets.

source *source-ipv6-address*: Specifies the source IPv6 address or source interface of the packets. A loopback interface, for example, ::1, cannot be configured as the source address.

timeout *time*: Specifies the timeout, in seconds. The value range is from 1 to 10, and the default value is **3**.

ttl *minimum maximum*: Specifies the minimum and maximum TTL values. The value range is from 1 to 255. By default, the minimum TTL is **1**, and the maximum TTL is **255**.

oob: Indicates that an out-of-band channel is used. This parameter is mandatory if the MGMT interface is configured as the source interface.

via *mgmt-name*: Specifies the outbound MGMT interface of packets where the Traceroute operation is performed.

Command Modes

Privileged EXEC mode

Default Level

0

Usage Guidelines

You can run this command to check the network connectivity, and accurately determine the location of a network fault when the fault occurs.

To use the domain name function, you must first configure the domain name server (DNS). For details, see "Configuring DNS" in "IP Service Configuration Guide."

Examples

The following example displays the gateways through which IPv6 packets are sent from the source address to the destination address 3004::1.

```
Hostname> enable
Hostname# traceroute ipv6 3004::1
  < press Ctrl+C to break >
Tracing the route to 3004::1
1      3000::1         0 msec  0 msec  0 msec
2      3001::1         4 msec  4 msec 4 msec
3      3002::1         8 msec  8 msec  4 msec
4      3004::1         4 msec  28 msec  12 msec
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A