I Commands

iping

iping [**-dDFLnqrv**][**-V** *vrf*][**-c** *count*][**-i** *wait*][**-p** *pattern*][**-s** *packetsize*][**-t** *timeout*][**-S** *source*] *host*

Syntax Description

iping	Send ping packets.
-d	Debug mode.
-D	Dump info.
-F	Enables the do-not-fragment bit in the IPv4 header.
-L	Fill in loopback.
-n	Display only numeric info.
-q	Quiet output.
-r	Do not route packets.
-v	Display verbose output.
-V *vrf*	The Virtual Routing and Forwarding (VRF) instance from which to source the ping message.
-c *count*	Number of ping packets that are sent to the destination address. The default is 5.
-i *wait*	The time interval between sending of ping packets.
-p *pattern*	The data pattern of the ping payload. Different data patterns are used to troubleshoot framing errors and clocking problems on serial lines. The default is [0xABCD].
-s *packetsize*	Size of the ping packet (in bytes).
-t *timeout*	Timeout interval. The ping is declared successful only if the ECHO REPLY packet is received before this time interval.
-S *source*	The IP address or host name to show as source.
host	The IP address or host name of the destination EP.

Examples

```
pod1-leaf1# iping -V overlay-1 10.0.59.154

PING 10.0.59.154 (10.0.59.154): 56 data bytes
64 bytes from 10.0.59.154: icmp_seq=0 ttl=55 time=0.254 ms
64 bytes from 10.0.59.154: icmp_seq=1 ttl=55 time=0.256 ms
64 bytes from 10.0.59.154: icmp_seq=2 ttl=55 time=0.245 ms
64 bytes from 10.0.59.154: icmp_seq=3 ttl=55 time=0.241 ms
64 bytes from 10.0.59.154: icmp_seq=4 ttl=55 time=0.23 ms

--- 10.0.59.154 ping statistics ---
5 packets transmitted, 5 packets received, 0.00% packet loss
```

```
round-trip min/avg/max = 0.23/0.245/0.256 ms
```

iping6

iping6 [**-dDFLngRrv**][**-V** *vrf*][**-c** *count*][**-i** *wait*][**-p** *pattern*][**-s** *packetsize*][**-t** *timeout*][**-S** *source*] *host*

Syntax Description

iping6	
-V *vrf*	The Virtual Routing and Forwarding (VRF) instance from which to source the ping message.
-c *count*	Number of ping packets that are sent to the destination address. The default is 5.
-i *wait*	The time interval between sending of ping packets.
-p *pattern*	The data pattern of the ping payload. Different data patterns are used to troubleshoot framing errors and clocking problems on serial lines. The default is [0xABCD].
-s *packetsize*	Size of the ping packet (in bytes).
-t *timeout*	Timeout interval. The ping is declared successful only if the ECHO REPLY packet is received before this time interval.
-S *source*	The IPv6 address or host name to show as source.
host	The IPv6 address or host name of the destination EP.

Table 1: Command History

Release	Modification
11.2	This command was introduced.

Examples

```
pod1-leaf1# iping6 -V overlay-1 2001:0DB8::3/64
```

itraceroute

itraceroute *dst-ip* **[{ payload** *pld-size* **}]**

Syntax Description

itraceroute	itraceroute.
fabric	Inside fabric.
payload	payload size.
dst-ip	Enter destination node IP. The type is ipaddr.
pld-size	Enter payload size: 20-8904 (system will add other headers). The type is integer. The range is from 20 to 8904.

Usage Guidelines

Use this command to find multiple paths to a destination leaf from the current leaf. This command will execute a trace on the overlay VRF.

The **itraceroute** command provides the following improvements over traditional traceroute:

- Discovers and reports multiple paths
- Transits only a single probe packet per path
- Reports detailed node information
- Simulates tenant traffic, exploring paths under the applied policies

Examples

```
pod1-leaf1# itraceroute 10.0.71.61

Node traceroute to 10.0.71.61, infra VRF overlay-1, from [10.0.71.63], payload 56 bytes
Path 1
  1: TEP      10.0.71.62  intf  eth1/35  0.596 ms
  2: TEP      10.0.71.61  intf  eth1/98  0.392 ms

Path 2
  1: TEP      10.0.71.62  intf  eth1/33  0.672 ms
  2: TEP      10.0.71.61  intf  eth1/97  0.432 ms

Path 3
  1: TEP      10.0.71.62  intf  eth1/35  0.693 ms
  2: TEP      10.0.71.61  intf  eth1/97  0.484 ms

Path 4
  1: TEP      10.0.71.62  intf  eth1/33  0.954 ms
  2: TEP      10.0.71.61  intf  eth1/98  0.824 ms
```

itraceroute6 vrf

itraceroute6 *dst-ip* **vrf** *vrf-name* **[{ payload** *pld-size* **}]**

Syntax Description

itraceroute6	itraceroute6.
vrf	tenant vrf.
vrf-name	tenant vrf name. The type is string.
dst-ip	Enter destination IPv6. The type is ipv6.
payload	payload size.
pld-size	Enter payload size: 20-8904 (system will add other headers). The type is integer. The range is from 20 to 8904.

itraceroute6 vrf encap vlan

itraceroute6 *dst-ip* **vrf** *vrf-name* **encap vlan [***vlan-encap***] [{ payload** *pld-size* **}]**

Syntax Description

itraceroute6	itraceroute6.
vrf	tenant vrf.
vrf-name	tenant vrf name. The type is string.
dst-ip	Enter destination IPv6. The type is ipv6.
encap	source EP encap type.
vlan	vlan src EP.
payload	payload size.
vlan-encap	Enter Vlan Encap: 1-4095. The type is integer. The range is from 1 to 4095.
pld-size	Enter payload size: 20-8904 (system will add other headers). The type is integer. The range is from 20 to 8904.

itraceroute6 vrf encap vxlan dst-mac

itraceroute6 *dst-ip* **vrf** *vrf-name* **encap vxlan [***vxlan-encap***] dst-mac** *dst-mac* **[{ payload** *pld-size* **}]**

Syntax Description

itraceroute6	itraceroute6.
vrf	tenant vrf.
vrf-name	tenant vrf name. The type is string.
dst-ip	Enter destination EP IPv6. The type is ipv6.
dst-mac	Destination EP MAC address.
dst-mac	Enter destination EP MAC address. The type is ethernet.
encap	source EP encap type.
vxlan	vxlan src EP.
payload	payload size.
vxlan-encap	Enter VTEP VxLAN encap: 4096-16777215. The type is integer. The range is from 4096 to 16777215.
pld-size	Enter payload size: 20-8904 (system will add other headers). The type is integer. The range is from 20 to 8904.

itraceroute vrf

itraceroute [external] *dst-ip* **vrf** *vrf-name* **[{ payload** *pld-size* **}]**

Syntax Description

itraceroute	itraceroute.
vrf	tenant vrf.
vrf-name	tenant vrf name. The type is string.
dst-ip	Enter destination IP. The type is ipaddr.
payload	payload size.
pld-size	Enter payload size: 20-8904 (system will add other headers). The type is integer. The range is from 20 to 8904.
external	Run itraceroute with 5-Tuple.

itraceroute vrf encap vlan

itraceroute [external [max-ext-hops *max-ext-hops* **] [ext-timeout-sec** *ext-timeout-sec* **] [ext-timeout-usec** *ext-timeout-usec* **] [ext-interval-sec** *ext-interval-sec* **] [ext-interval-usec** *ext-interval-usec* **]] [src-ip** *sip***]** *dst-ip* **vrf** *vrf-name* **encap vlan [***vlan-encap***] [dst-mac** *dst-mac***] [{ payload** *pld-size* **}] [icmp | { {tcp | udp} [{sport-start** *sps* **sport-end** *spe***}] [{dport-start** *dps* **dport-end** *dpe***}] }] [num-queries** *np* **]**

Syntax Description

itraceroute	itraceroute.
vrf	tenant vrf.
vrf-name	tenant vrf name. The type is string.
dst-ip	Enter destination IP. The type is ipaddr.
encap	source EP encap type.
vlan	vlan src EP.
payload	payload size.
vlan-encap	Enter Vlan Encap: 1-4095. The type is integer. The range is from 1 to 4095.
pld-size	Enter payload size: 20-8904 (system will add other headers). The type is integer. The range is from 20 to 8904.
external	Run itraceroute with 5-Tuple.
src-ip	Source EP IP.
sip	Enter Source EP IP. The type is ipaddr.
dst-mac	Destination EP MAC address.
dst-mac	Enter destination EP MAC address. The type is ethernet.
sport-start	Source port start.
sps	Enter starting source port number: 1-65535. The type is integer. The range is from 0 to 65535.
sport-end	Source port end.
spe	Enter ending source port number: 1-65535. The type is integer. The range is from 0 to 65535.
dport-start	Destination port start.
dps	Enter starting Destination port number: 1-65535. The type is integer. The range is from 0 to 65535.
dport-end	Destination port end.

dpe	Enter ending Destination port number: 1-65535. The type is integer. The range is from 0 to 65535.
tcp	Start traceroute with TCP Protocol.
udp	Start traceroute with UDP Protocol.
icmp	Start traceroute with ICMP Protocol.
num-queries	Number of paths.
np	Enter number of paths. The type is integer. The range is from 1 to 65535.
max-ext-hops	Max Hops for External Traceroute.
max-ext-hops	Enter max Hops for External Traceroute. The type is integer. The range is from 1 to 255.
ext-timeout-sec	External timeout in sec.
ext-timeout-sec	Enter External timeout in sec. The type is integer.
ext-timeout-usec	External timeout in usec.
ext-timeout-usec	Enter External timeout in usec. The type is integer.
ext-interval-sec	External interval in sec.
ext-interval-sec	Enter External interval in sec. The type is integer.
ext-interval-usec	External interval in usec.
ext-interval-usec	Enter External interval in usec. The type is integer.

itraceroute vrf encap vxlan

itraceroute [external [max-ext-hops *max-ext-hops* **] [ext-timeout-sec** *ext-timeout-sec* **] [ext-timeout-usec** *ext-timeout-usec* **] [ext-interval-sec** *ext-interval-sec* **] [ext-interval-usec** *ext-interval-usec* **]] [src-ip** *sip***]** *dst-ip* **vrf** *vrf-name* **encap vxlan [***vxlan-encap***] [dst-mac** *dst-mac* **] [{ payload** *pld-size* **}] [icmp | { {tcp | udp} [{sport-start** *sps* **sport-end** *spe***}] [{dport-start** *dps* **dport-end** *dpe***}] }] [num-queries** *np* **]**

Syntax Description

itraceroute	itraceroute.
vrf	tenant vrf.
vrf-name	tenant vrf name. The type is string.
dst-ip	Enter destination EP IP. The type is ipaddr.
dst-mac	Destination EP MAC address.
dst-mac	Enter destination EP MAC address. The type is ethernet.
encap	source EP encap type.
vxlan	vxlan src EP.
payload	payload size.
vxlan-encap	Enter VTEP VxLAN encap: 4096-16777215. The type is integer. The range is from 4096 to 16777215.
pld-size	Enter payload size: 20-8904 (system will add other headers). The type is integer. The range is from 20 to 8904.
external	Run itraceroute with 5-Tuple.
src-ip	Source EP IP.
sip	Enter Source EP IP. The type is ipaddr.
sport-start	Starting source port to use.
sps	Enter starting source port number to use: 1-65535. The type is integer. The range is from 0 to 65535.
sport-end	Ending source port to use.
spe	Enter ending source port number to use: 1-65535. The type is integer. The range is from 0 to 65535.
dport-start	Starting destination port to use.
dps	Enter starting Destination port number to use: 1-65535. The type is integer. The range is from 0 to 65535.
dport-end	Ending Destination port to use.

dpe	Enter ending Destination port number to use: 1-65535. The type is integer. The range is from 0 to 65535.
tcp	Use TCP to send probes.
udp	Use UDP Protocol for traceroute.
icmp	Use ICMP ECHO to send probes.
num-queries	Number of probe packets per hop.
np	Enter number of probe packets per hop. The type is integer. The range is from 1 to 65535.
max-ext-hops	Max Hops for External Traceroute.
max-ext-hops	Enter max Hops for External Traceroute. The type is integer. The range is from 1 to 255.
ext-timeout-sec	External timeout in sec.
ext-timeout-sec	Enter External timeout in sec. The type is integer.
ext-timeout-usec	External timeout in usec.
ext-timeout-usec	Enter External timeout in usec. The type is integer.
ext-interval-sec	External interval in sec.
ext-interval-sec	Enter External interval in sec. The type is integer.
ext-interval-usec	External interval in usec.
ext-interval-usec	Enter External interval in usec. The type is integer.