



IP SLA - Support for OnDemand UDP Probes

This module describes how to configure an IP Service Level Agreements (SLAs) User Datagram Protocol (UDP) probe to enable real-time network troubleshooting for users without configuration privileges. This feature supports on-demand UDP operations that can be run by issuing a single command in privileged EXEC mode.

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see [Bug Search Tool](#) and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Information About IP SLA - Support for OnDemand UDP Probes

OnDemand UDP Probes

A single command in privileged EXEC mode can be used to specify frame size, interval, frequency, and duration for an on-demand IP Service Level Agreements (SLAs) User Datagram Protocol (UDP) operation. Configuring the command creates two IP SLAs operations. The first operation is a generic IP SLA operation that acts as a shell to handle events, timers, and the parser action functions. The generic operation exists for

the single run of the exec command. A second temporary operation is created of the type requested by the user. The second operation performs the packet generation and statistic calculations. When the second operation is finished running, it sends an event to the generic operation. The generic operation then calls the print functions of the second operation. After the statistics are displayed, or after either a timeout occurs or the user issues a **clear** command, both operations are deleted.

How to Configure IP SLA - Support for OnDemand UDP Probes

Configuring an IP SLAs Responder on the Destination Device

Before You Begin

The networking device to be used as the responder must be a Cisco device and you must have connectivity to that device through the network.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip sla responder**
4. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	ip sla responder Example: Device(config)# ip sla responder	Temporarily enables IP SLAs responder functionality on a Cisco device in response to control messages from the source. • Control is enabled by default.
Step 4	exit Example: Device(config)# exit	(Optional) Exits global configuration mode and returns to privileged EXEC mode.

Configuring an OnDemand UDP Probe

Before You Begin

An IP SLAs responder must be configured on the destination device.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip sla udp-jitter** *{destination-ip-address | destination-hostname}* *destination-port* [**interval** *number*] [**num-packets** *packet-number*] [**optimize timestamp**] [**precision** {**microseconds** | **milliseconds**}] [**source-ip** *{ip-address | hostname}*] [**source-port** *source-port*] [**tos** *number* | **traffic-class** *number*] [**vrf** *vrf-name*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	ip sla udp-jitter <i>{destination-ip-address destination-hostname}</i> <i>destination-port</i> [interval <i>number</i>] [num-packets <i>packet-number</i>] [optimize timestamp] [precision { microseconds milliseconds }] [source-ip <i>{ip-address hostname}</i>] [source-port <i>source-port</i>] [tos <i>number</i> traffic-class <i>number</i>] [vrf <i>vrf-name</i>] Example: Device(config)# ip sla udp-jitter 2001:DB8:1::1 1000 num-packets 6000 Device(config)# ip sla udp-jitter 192.168.2.1 5001 num-packets 6000	Creates and starts an on-demand UDP jitter operation. Note This step includes sample commands using IPv4 and IPv6 destination IP addresses.

Configuring an OnDemand UDP Probe for VoIP

Before You Begin

An IP SLAs responder must be configured on the destination device.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip sla udp-jitter** {*destination-ip-address* | *destination-hostname*} *destination-port* **codec** *codec-type* [**advantage-factor** *value*] [**codec-interval** *milliseconds*] [**codec-numpackets** *packet-number*] [**codec-size** *number-of-bytes*] [**optimize timestamp**] [**precision** {*microseconds* | *milliseconds*}] [**source-ip** {*ip-address* | *hostname*}] [**source-port** *source-port*] [**tos** *number* | **traffic-class** *number*] [**vrf** *vrf-name*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	ip sla udp-jitter { <i>destination-ip-address</i> <i>destination-hostname</i> } <i>destination-port</i> codec <i>codec-type</i> [advantage-factor <i>value</i>] [codec-interval <i>milliseconds</i>] [codec-numpackets <i>packet-number</i>] [codec-size <i>number-of-bytes</i>] [optimize timestamp] [precision { <i>microseconds</i> <i>milliseconds</i> }] [source-ip { <i>ip-address</i> <i>hostname</i> }] [source-port <i>source-port</i>] [tos <i>number</i> traffic-class <i>number</i>] [vrf <i>vrf-name</i>] Example: Device(config)# ip sla udp-jitter 2001:DB8:1::1 1000 codec g711ulaw Device(config)# ip sla udp-jitter 192.168.2.1 1000 codec g711ulaw	Creates and starts an on-demand UDP-based VoIP operation. Note This step includes sample commands using IPv4 and IPv6 destination IP addresses.

Configuring an OnDemand UDP Echo Probe

Before You Begin

An IP SLAs responder is optional for an on-demand UDP echo operation. We recommend using a Cisco networking device as the destination device, although any networking device that supports RFC 862, *Echo Protocol*, can be used.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip sla udp-echo** {*destination-ip-address* | *destination-hostname*} *destination-port* [**flow-label number**] [**source-ip** {*ip-address* | *hostname*}] [**source-port** *source-port*] [**tos number** | **traffic-class number**] [**vrf** *vrf-name*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	ip sla udp-echo { <i>destination-ip-address</i> <i>destination-hostname</i> } <i>destination-port</i> [flow-label number] [source-ip { <i>ip-address</i> <i>hostname</i> }] [source-port <i>source-port</i>] [tos number traffic-class number] [vrf <i>vrf-name</i>] Example: Device(config)# ip sla udp-echo 2001:DB8:1::1 1000 Device(config)# ip sla udp-echo 192.168.2.1 1000	Creates and starts an on-demand UDP echo operation. Note This step includes sample commands using IPv4 and IPv6 destination IP addresses.

Configuration Examples for IP SLA - Support for OnDemand UDP Probes

Example: OnDemand UDP Jitter Probe

Issuing the **ip-sla udp jitter** command creates a temporary operation that performs packet generation and statistic calculations. After the statistics are displayed, the operation is deleted.

```
Device# ip sla udp-jitter 192.168.2.1 5001 num-packets 6000
```

```
Type of operation: udp-jitter
```

```
Latest RTT: 1 milliseconds
```

```
Latest operation start time: 11:21:55 PDT Thu May 10 2012 Latest operation return code: OK
```

```
RTT Values:
```

```
Number Of RTT: 6000
```

```
RTT Min/Avg/Max: 1/1/2 milliseconds
```

```
Latency one-way time:
```

```

Number of Latency one-way Samples: 6000
Source to Destination Latency one way Min/Avg/Max: 1/0/2 milliseconds
Destination to Source Latency one way Min/Avg/Max: 0/0/1 milliseconds Jitter Time:
Number of SD Jitter Samples: 5999
Number of DS Jitter Samples: 5999
Source to Destination Jitter Min/Avg/Max: 0/1/1 milliseconds
Destination to Source Jitter Min/Avg/Max: 0/1/1 milliseconds Packet Loss Values:
Loss Source to Destination: 0
Source to Destination Loss Periods Number: 0
Source to Destination Loss Period Length Min/Max: 0/0
Source to Destination Inter Loss Period Length Min/Max: 0/0
Loss Destination to Source: 0
Destination to Source Loss Periods Number: 0
Destination to Source Loss Period Length Min/Max: 0/0
Destination to Source Inter Loss Period Length Min/Max: 0/0
Out Of Sequence: 0      Tail Drop: 0
Packet Late Arrival: 0  Packet Skipped: 0 Voice Score Values:
Calculated Planning Impairment Factor (ICPIF): 0
Mean Opinion Score (MOS): 0
Number of successes: 1
Number of failures: 0

```

Additional References for IP SLA - Support for OnDemand UDP Probes

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Command List, All Releases
IP SLAs commands	Cisco IOS IP SLAs Command Reference

Standards and RFCs

Standard/RFC	Title
RFC 862	<i>Echo Protocol</i>

MIBs

MIB	MIBs Link
• CISCO-RTTMON-MIB • IPV6-FLOW-LABEL-MIB	To locate and download MIBs for selected platforms, Cisco software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for IP SLA - Support for OnDemand UDP Probes

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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Table 1: Feature Information for IP SLA - Support for OnDemand UDP Probes

Feature Name	Releases	Feature Information
IP SLA - Support for OnDemand UDP Probes	15.3(1)T	Enables users without configuration privileges to create and run an IP Service Level Agreements (SLAs) User Datagram Protocol (UDP) probe for real-time network troubleshooting. The following commands were introduced or modified: ip sla udp-echo, ip sla udp-jitter, ip sla udp-jitter codec.

