SIP Out-of-Dialog OPTIONS Ping Group

This feature groups the monitoring of SIP dial-peers endpoints and servers by consolidating dial peers with the same SIP Out-of-Dialog (OOD) OPTIONS ping setup.

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 SIP Out-Of-dialog OPTIONS Ping Group

SIP Out-of-Dialog OPTIONS Ping Group Overview

The SIP Out-Of-Dialog OPTIONS (OODO) Ping Group feature is an existing mechanism used by CUBE to monitor the status of a single SIP dial-peer destination (keepalive). A generic heartbeat mechanism allows you to monitor the status of SIP servers or endpoints and provide the option of marking a dial peer as inactive (busyout) upon total heartbeat failure.

You can now consolidate the sending of SIP OODO ping packets by grouping dial peers with the same SIP OODO ping setup. A keepalive profile is created and referenced by different SIP dial peers. An OODO Options

ping heartbeat keepalive connection is set up for each dial-peer destination of a keepalive profile. If a heartbeat failure occurs for any of the dial peers of the profile, the status of the respective dial peer is changed to inactive (busyout) by CUBE.

You can use the **shutdown** command to suspend monitoring of all dial peers associated with a keepalive profile.

The new command **voice-class sip options-keepalive profile tag** is used to monitor a group of SIP servers or endpoints and the existing **voice-class sip options-keepalive** command is used to monitor a single SIP endpoint or server.

You can configure a server group to be a part of a SIP OODO ping group. A SIP dial peer is updated to BUSY state only if all targets of its server group does not response to the OODO ping

How to Configure SIP Out-Of-dialog OPTIONS Ping Group

Configuring SIP Out-of-Dialog OPTIONS Ping Group

Before You Begin

Configure SIP profiles and server groups.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice class sip-options-keepalive** *keepalive-group-profile-id*
4. **description** *text*
5. **transport {tcp [tls] | udp | system}**
6. **sip-profiles** *profile-number*
7. **down-interval** *down-interval*
8. **up-interval** *up-interval*
9. **retry** *retry-interval*
10. **exit**
11. **dial-peer voice** *dial-peer-id* **voip**
12. **session protocol sipv2**
13. **voice-class sip options-keepalive profile** *keepalive-group-profile-id*
14. **session server-group** *server-group-id*
15. **end**
16. **show voice class sip-options-keepalive** *keepalive-group-profile-id*

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	Enters privileged EXEC mode.

	Command or Action	**Purpose**
	Example: Device> **enable**	• Enter your password if prompted.
Step 2	**configure terminal** **Example:** Device# **configure terminal**	Enters global configuration mode.
Step 3	**voice class sip-options-keepalive** *keepalive-group-profile-id* **Example:** Device(config)# **voice class sip-options-keepalive 171**	Configures a keepalive profile and enters voice class configuration mode. • You can use the **shutdown** command to suspend keepalive activity for all dial peers associated with the keepalive profile.
Step 4	**description** *text* **Example:** Device(config-class)# **description Target Boston**	Configures a textual description for the keepalive heartbeat connection.
Step 5	**transport {tcp [tls]	udp	system}** **Example:** Device(config-class)# **transport tcp**	Defines the transport protocol used for the keepalive heartbeat connection. • The default value is system.
Step 6	**sip-profiles** *profile-number* **Example:** Device(config-class)# **sip-profiles 100**	Specifies the SIP profile that is to be used to send this message. • To configure a SIP profile, refer to "Configuring SIP Parameter Modification".
Step 7	**down-interval** *down-interval* **Example:** Device(config-class)# **down-interval 35**	Configures the time (in seconds) at which an SIP OODO ping is sent to the dial-peer endpoint when the heartbeat connection to the endpoint is in Down status. • The default value is 30.
Step 8	**up-interval** *up-interval* **Example:** Device(config-class)# **up-interval 65**	Configures the time (in seconds) at which an SIP OODO ping is sent to the dial-peer endpoint when the heartbeat connection to the endpoint is in Up status. • The default value is 60.

	Command or Action	**Purpose**
Step 9	**retry** *retry-interval* **Example:** Device(config-class)# **retry 30**	Configures the maximum number of OODO ping retrials permitted for a dial-peer destination. After receiving failed responses for the configured number of OODO ping, the heartbeat connection status should be switched from Up to Down. • The default value is 5. • If a successful response is received for an OODO ping, the retry counter is set to zero.
Step 10	**exit** **Example:** Device(config-class)# **exit**	Exits voice class configuration mode and enters global configuration mode.
Step 11	**dial-peer voice** *dial-peer-id* **voip** **Example:** Device(config)# **dial-peer voice 123 voip**	Defines a local dial peer and enters dial peer configuration mode.
Step 12	**session protocol sipv2** **Example:** Device(config-dial-peer)# **session protocol sipv2**	Specifies SIP version 2 as the session protocol for calls between local and remote routers using the packet network.
Step 13	**voice-class sip options-keepalive profile** *keepalive-group-profile-id* **Example:** Device(config-dial-peer)# **voice-class sip options-keepalive profile 171**	Associates the dial peer with the specified keepalive group profile. The dial peer is monitored by CUBE according to the parameters defined by this profile.
Step 14	**session server-group** *server-group-id* **Example:** Device(config-dial-peer)# **session server-group 151**	Associates the dial peer with the specified keepalive group profile. The dial peer is monitored by the device according to the parameters defined by this profile.
Step 15	**end** **Example:** Device(config-dial-peer)# **end**	Exits dial peer configuration mode and enters privileged EXEC mode.
Step 16	**show voice class sip-options-keepalive** *keepalive-group-profile-id*	Displays information about voice class server group.

Command or Action	Purpose
Example: Device# **show voice class** **sip-options-keepalive 171**	

Configuration Examples For SIP Out-of-Dialog OPTIONS Ping Group

Example: SIP Out-of-Dialog OPTIONS Ping for Group of SIP Endpoints

```
!Configuring the SIP profile
Device(config)# voice class sip-profiles 100
Device(config-class)# request INVITE sip-header SIP-Req-URI modify "; SIP/2.0" ";user=phone
 SIP/2.0"

!Configuring the SIP Keepalive Group
Device(config)# voice class sip-options-keepalive 171
Device(config-class)# transport tcp
Device(config-class)# sip-profile 100
Device(config-class)# down-interval 30
Device(config-class)# up-interval 60
Device(config-class)# retry 5
Device(config-class)# description Target New York
Device(config-class)# exit

!Configuring an outbound SIP Dial Peer
Device(config)# dial-peer voice 123 voip
Device(config-dial-peer)# session protocol sipv2
!Associating the Dial Peer with a keepalive profile group
Device(config-dial-peer)# voice-class sip options-keepalive profile 171
Device(config-dial-peer)# end

!Verifying the Keepalive group configurations
Device# show voice class sip-options-keepalive 171

Voice class sip-options-keepalive: 171            AdminStat: Up
 Description: Target New York
 Transport: system            Sip Profiles: 100
 Interval(seconds) Up: 60            Down: 30
 Retry: 5

  Peer Tag      Server Group    OOD SessID     OOD Stat       IfIndex
  --------      ------------    ----------     --------       -------
  123                                                         100
```

Example: SIP Out-of-dialog OPTIONS Ping for Group of SIP Servers

```
!Configuring the Server Group
Device(config)# voice class server-group 151
Device(config-class)# ipv4 10.1.1.1 preference 1
Device(config-class)# ipv4 10.1.1.2 preference 2
Device(config-class)# ipv4 10.1.1.3 preference 3
Device(config-class)# hunt-scheme round-robin
Device(config-class)# description It has 3 entries
```

```
Device(config-class)# exit

!Configuring an E164 pattern map class
Device(config)# voice class e164-pattern-map 3000
Device(config-class)# e164 300

!Configuring an outbound SIP dial peer.
Device(config)# dial-peer voice 181 voip
!Associate a destination pattern map
Device(config-dial-peer)# destination e164-pattern-map 3000
Device(config-dial-peer)# session protocol sipv2
!Associate a server group with the dial peer
Device(config-dial-peer)# session server-group 151
!Associate the dial peer with a keepalive profile group
Device(config-dial-peer)# voice-class sip options-keepalive profile 171
Device(config-dial-peer)# end

!Verifying the Keepalive group configurations
Device# show voice class sip-options-keepalive 171

Voice class sip-options-keepalive: 171          AdminStat: Up
 Description: Target New York
 Transport: system              Sip Profiles: 100
 Interval(seconds) Up: 60                Down: 30
 Retry: 5

  Peer Tag       Server Group    OOD SessID      OOD Stat       IfIndex
  --------       ------------    ----------      --------       -------
  123                                                           100
  181            151                             Busy           106

  Server Group: 151            OOD Stat: Busy
   OOD SessID   OOD Stat
   ----------   --------
   1            Busy
   2            Busy
   3            Busy

 OOD SessID: 1                 OOD Stat: Busy
  Target: ipv4:10.1.1.1
  Transport: system            Sip Profiles: 100

 OOD SessID: 2                 OOD Stat: Busy
  Target: ipv4:10.1.1.2
  Transport: system            Sip Profiles: 100

 OOD SessID: 3                 OOD Stat: Busy
  Target: ipv4:10.5.0.1
  Transport: system            Sip Profiles: 100

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```

Additional References

Related Documents

Related Topic	Document Title
Voice commands	Cisco IOS Voice Command Reference
Cisco IOS Commands	Cisco IOS Master Command List, All Releases
SIP Configuration Guide	SIP Configuration Guide
Configuring SIP profiles	SIP Parameter Modificaton.

Related Topic	Document Title
Configuring server groups	Configuring Server Groups.

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/support

Feature Information for SIP Out-of-dialog OPTIONS Ping Group

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 SIP Out-of-dialog OPTIONS Ping Group

Feature Name	Releases	Feature Information
SIP Out-of-dialog OPTIONS Ping Group	Cisco IOS XE Release 3.11S 15.4(1)T	This feature groups the monitoring of SIP dial peers endpoints and servers by consolidating SIP Out-Of-Dialog (OOD) Options of dial peers with the similar SIP OOD Options ping setup. The following commands were introduced or modified: **voice class sip-options-keepalive**, **description**, **transport**, **sip-profiles**, **down-interval**, **up-interval**, **voice-class sip options-keepalive profile**, **retry**, **show voice class sip-options-keepalive**.