



Copying SIP Headers

This feature shows you how outgoing SIP headers can be manipulated using information from incoming and other outgoing SIP headers.

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Feature Information for Copying with SIP Profiles

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.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to <https://cfng.cisco.com/>. An account on Cisco.com is not required.

Table 1: Feature Information for Copying with SIP Profiles

Feature Name	Releases	Feature Information
Support for conditional header manipulation of SIP headers	15.1(3)T Cisco IOS XE Release 3.6S	This feature allows users to copy content from one header to the another. This is done by copying the content of messages into variables which can then be used to modify other SIP headers. This feature modifies the following commands: voice class sip-profiles , response , request , voice-class sip copy-list , sip-header

How to Copy SIP Header Fields to Another

Copying From an Incoming Header and Modifying an Outgoing Header

To copy content from an incoming header that a device receives to an outgoing header, configure a SIP copylist for that header and apply it to an incoming dial peer. Configure a SIP profile to copy the incoming header to a user-defined variable and apply it to an outgoing header.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice class sip-copylist** *tag*
4. Do one of the following:
 - **sip-header** *header-name*
 - **sip-header SIP-Req-URI**
5. **exit**
6. **dial-peer voice** *inbound-dial-peer-tag* **voip**
7. **voice-class sip-copylist** *tag*
8. **exit**
9. **voice class sip-profiles** *profile-id*
10. **{request | response} message peer-header sip** *header-to-copy* **copy** *header-value-to-match* *copy-variable*
11. **{request | response} message {sip-header | sdp-header}** *header-to-modify* **modify** *header-value-to-match* *header-value-to-replace*
12. **exit**
13. **dial-peer voice** *outbound-dial-peer-tag* **voip**
14. **voice-class sip-profiles** *profile-id*
15. **exit**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal	Enters global configuration mode.
Step 3	voice class sip-copylist <i>tag</i> Example:	Configures a list of entities to be sent to a peer call leg and enters voice class configuration mode.

	Command or Action	Purpose
	Device(config)# voice class sip-copylist 100	
Step 4	Do one of the following: <ul style="list-style-type: none"> • sip-header <i>header-name</i> • sip-header SIP-Req-URI Example: Device(config-class)# sip-header To	Specifies the SIP header to be copied to the peer call leg. <ul style="list-style-type: none"> • sip-req-uri—Configures Cisco Unified Border Element (UBE) to send a SIP request Uniform Resource Identifier (URI) to the peer call leg. • header-name—Configures Cisco Unified Border Element (UBE) to send the header name specified to the peer call leg.
Step 5	exit	Exits voice class configuration mode.
Step 6	dial-peer voice <i>inbound-dial-peer-tag</i> voip Example: Device(config)# dial-peer voice 2 voip	Enters the dial peer configuration mode for the specified inbound dial peer.
Step 7	voice-class sip-copylist <i>tag</i> Example: Device(config-dial-peer)# voice-class sip-copylist 100	Applies the copy list to the dial-peer.
Step 8	exit	Exits to global configuration mode.
Step 9	voice class sip-profiles <i>profile-id</i> Example: Device(config)# voice class sip-profiles 10	Create a SIP Profile and enters voice class configuration mode.
Step 10	{request response} message peer-header sip header-to-copy copy header-value-to-match copy-variable Example: Device(config-class)# request INVITE peer-header sip TO copy "sip:(.*)@" u01	Copies headers from the corresponding incoming dial peer into a copy variable.
Step 11	{request response} message {sip-header sdp-header} header-to-modify modify header-value-to-match header-value-to-replace Example: Device(config-class)# request INVITE sip-header SIP-Req-URI modify ".*@(.*)" "INVITE sip:\u01@\1"	Modifies an outgoing SIP or SDP header using the copy variable defined in the previous step.
Step 12	exit	Exits to global configuration mode.
Step 13	dial-peer voice <i>outbound-dial-peer-tag</i> voip Example:	Enters the dial peer configuration mode for the specified outbound dial peer.

	Command or Action	Purpose
	Device(config)# dial-peer voice 2 voip	
Step 14	voice-class sip-profiles <i>profile-id</i> Example: Device(config-dial-peer)# voice-class sip-profiles 10	SIP Profile is applied to the dial-peer.
Step 15	exit	Exits to global configuration mode.

Copying From One Outgoing Header to Another

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice class sip-profiles** *profile-id*
4. **{request | response} message {sip-header | sdp-header} header-to-copy copy header-value-to-match copy-variable**
5. **{request | response} message {sip-header | sdp-header} header-to-modify modify header-value-to-match header-value-to-replace**
6. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal	Enters global configuration mode.
Step 3	voice class sip-profiles <i>profile-id</i> Example: Device(config)# voice class sip-profiles 10	Creates a SIP profile and enters voice class configuration mode.
Step 4	{request response} message {sip-header sdp-header} header-to-copy copy header-value-to-match copy-variable Example: Device(config-class)# request INVITE sip-header TO copy "sip:(.*)@" u01	Copies the contents of the specified header from an outbound message into a copy variable.

	Command or Action	Purpose
Step 5	<p>{request response} message {sip-header sdp-header} header-to-modify modify header-value-to-match header-value-to-replace</p> <p>Example:</p> <pre>Device(config-class)# request INVITE sip-header SIP-Req-URI modify ".*@(.*)" "INVITE sip:\u01@1"</pre>	Modifies an outgoing SIP or SDP header using the copy variable defined in the previous step.
Step 6	<p>end</p> <p>Example:</p> <pre>Device(config-class)# end</pre>	Exits voice class configuration mode and enters privileged EXEC mode.

What to do next

Apply the SIP Profile to an outbound dial peer.

Example: Copying the To Header into the SIP-Req-URI

Copying Contents from One Header to Another

Given below is a scenario in an organization, where the provider has sent only a global reference number in the SIP-Req-URI header of the INVITE message, and has placed the actual phone destination number only in the To: SIP header. The CUCM typically routes on the SIP-Req-URI.



Given below is the original SIP message, where the INVITE has a non-routable value of 43565432A5. The actual phone destination number is 25555552 and is present in the To: SIP header.

Figure 1: Incoming SIP Message

```
INVITE sip:43565432A5@192.168.1.100:5060 SIP/2.0
From: <sip:027784200@A.eu;user=phone>;
To: <sip:25555552@A.eu>
...
```

Given below is the SIP message that is required. Note that 43565432A5 has changed to 25555552 in the SIP INVITE.

Figure 2: Modified SIP Message

```
INVITE sip:25555552@192.168.1.100:5060 SIP/2.0
From: <sip:027784200@A.eu;user=phone>;
To: <sip:25555552@A.eu>
...
```

Because CUBE is a back-to-back user agent, the incoming dial peer is matched to the outgoing dial peer. The SIP Profile configured below copies the value from the incoming dial peer

```
Device# voice class sip-profiles 1

!Copy the To header from the incoming dial peer into variable u01
Device(config-class)# request INVITE peer-header sip TO copy "sip:(.*)@" u01

!Modify the outgoing SIP Invite with this variable.
Device(config-class)# request INVITE sip-header SIP-Req-URI modify ".*@(.)" "INVITE
sip:\u01@1"
```

Apply the SIP profile to the incoming dial peer.

```
Device(config)# dial-peer voice 99 voip
Device(config-dial-peer)# outgoing to CUCM
Device(config-dial-peer)# destination-pattern 02555555.
Device(config-dial-peer)# session protocol sipv2
Device(config-dial-peer)# session target ipv4:10.1.2.3

!Applying SIP profile to the dial peer
Device(config-dial-peer)# voice-class sip profiles 1
Device(config-dial-peer)# voice-class code 1
Device(config-dial-peer)# dtmf-relay rtp-nte
Device(config-dial-peer)# no vad
```

Additionally, if you would like to copy the To: Header from the inbound dial peer to the outbound dial peer, use a copy list.

```
!Create a copy List
Device(config)# voice class sip-copylist 1
Device(config-class)# sip-header TO
Device(config-class)# exit

!Apply the copy list to incoming dial peer.
Device(config)# dial-peer voice 1 voip
Device(config-dial-peer)# description incoming SIP Trunk
Device(config-dial-peer)# session protocol sipv2
Device(config-dial-peer)# session target sip-server
Device(config-dial-peer)# incoming uri to TRUNK
Device(config-dial-peer)# voice-class code 1
Device(config-dial-peer)# voice-class sip copy-list 1

Device(config)# voice class uri TRUNK sip
Device(config-class)# user-id 2555555.
Device(config-class)# end
```


