

RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls

The RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls feature globally enables RFC 4040-based clear-channel codec negotiation [CLEARMODE/8000] for SIP calls on a Cisco IOS voice gateway or Cisco UBE. RFC 4040-based clear-channel codec negotiation allows Cisco IOS voice gateways and Cisco UBEs to successfully interoperate with third-party SIP gateways that do not support legacy Cisco IOS clear-channel codec encapsulation [X-CCD/8000].

Prerequisites

Cisco Unified Border Element

- Cisco IOS Release 15.0(1)XA or a later release must be installed and running on your Cisco Unified Border Element.

Cisco Unified Border Element (Enterprise)

- Cisco IOS XE Release 3.1S or a later release must be installed and running on your Cisco ASR 1000 Series Router.

Restrictions

- This feature is supported on Cisco IOS SIP time division multiplexing (TDM) gateways and Cisco Unified Border Elements (Cisco UBEs).

Information about RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls

When the **encap clear-channel standard** command is enabled on a Cisco IOS voice gateway or Cisco UBE, calls using the Cisco IOS clear channel codec are translated into calls that use CLEARMODE/8000 so that the calls do not get rejected when they reach third-party SIP gateways.

To enable RFC 4040-based clear-channel codec negotiation for SIP calls on an individual dial peer, overriding the global configuration for the Cisco IOS voice gateway or Cisco UBE, use the **voice-class sip encap clear-channel standard** command in dial peer voice configuration mode. To globally disable RFC 4040-based clear-channel codec negotiation on a Cisco IOS voice gateway or Cisco UBE, use the **no encap clear-channel standard** command in voice service SIP configuration mode.

How to Configure RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls

This feature can be enabled globally for all dial peers or on an individual dial peer (which overrides the global configuration, if one is in effect). Depending on your requirements, complete one of the following tasks:

- [Configuring RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls Globally for All Dial Peers, page 156](#)
- [Configuring RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls for a Single Dial Peer, page 157](#)

Configuring RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls Globally for All Dial Peers

To configure RFC 4040-based clear-channel code negotiation globally for all dial peers on a Cisco IOS voice gateway or Cisco UBE, complete this task:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice service voip**
4. **sip**
5. **encap clear-channel standard**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	voice service voip Example: Router(config)# voice service voip	Enters voice service configuration mode.
Step 4	sip Example: Router(conf-voi-serv)# sip	Enters voice service SIP configuration mode.
Step 5	encap clear-channel standard Example: Router(conf-serv-sip)# encap clear-channel standard	Globally enables RFC 4040-based clear-channel codec negotiation [CLEARMODE/8000] for SIP calls on a Cisco IOS voice gateway or Cisco UBE.

Configuring RFC 4040-Based Clear Channel Codec Negotiation for SIP Calls for a Single Dial Peer

To configure RFC 4040-based clear-channel code negotiation for one dial peer on a Cisco IOS voice gateway or Cisco UBE, complete this task:

SUMMARY STEPS

The following example shows how to configure dial peer 1 to override any global configurations and enable RFC 4040-based clear-channel codec negotiation for SIP calls:

1. **enable**
2. **configure terminal**
3. **dial-peer voice 1 voip**
4. **voice-class sip encap clear-channel standard**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	dial-peer voice 1 voip Example: Router(config)# dial-peer voice 1 voip	Enters dial peer voice configuration mode.
Step 4	voice-class sip encap clear-channel standard Example: Router(config-dial-peer)# voice-class sip encap clear-channel standard	Enables RFC 4040-based clear-channel codec negotiation for SIP calls on an individual dial peer, overriding the global setting on a Cisco IOS voice gateway or Cisco UBE. Note You can also configure a specific dial peer to use global configuration settings for clear-channel codec negotiation. To enable this capability, substitute the voice-class sip encap clear-channel system command in this step of the configuration.