

Media Path

- Overview, on page 1
- Configure Media Flow-Through, on page 3
- Configure Media Flow-Around, on page 4
- Configure Media Anti-Tromboning, on page 5

Overview

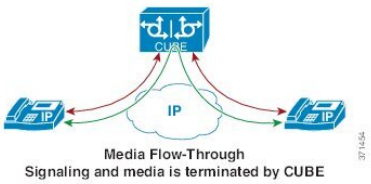
The Media Path settings determine the path taken by media after a call is established by CUBE.

Note H.323 protocol is no longer supported from Cisco IOS XE Bengaluru 17.6.1a onwards. Consider using SIP for multimedia applications.

You can configure the media path in the following modes:

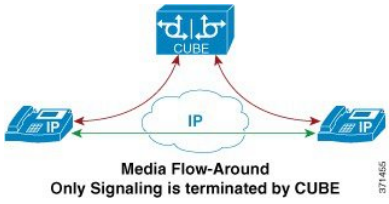
- Media flow-through: where media and signaling packets terminate and originate on CUBE. As CUBE is an active participant of the call, this mode is recommended when connected outside an enterprise (untrusted endpoints).

Figure 1: Media Flow-Through Mode



- Media flow-around: where signaling packets terminate and originate on CUBE, but media flows directly between endpoints. As media bypasses CUBE, this mode is recommended when connected within an enterprise (trusted endpoints).

Figure 2: Media Flow-Around

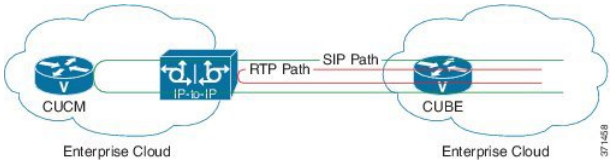


- Media antitrombone: where CUBE is allowed to detect and avoid loops that are created by call transfers or call forwards. Loops are restricted to the SIP signaling path and removed from the RTP media path.

  The user agent may initiate call forwards and call transfers that are sent towards CUBE as a new SIP INVITE dialog. CUBE considers the original call and the forwarded call as separate unrelated calls. Media antitromboning allows CUBE to detect the relation between the calls and resolve the media loop by sending SDP packets back to the sender.

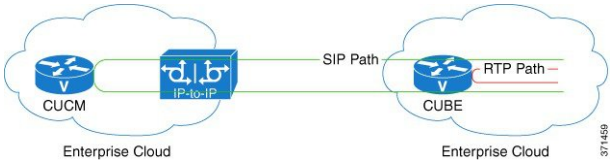
  The figure below illustrates how media is needlessly looped over the WAN when loops are not detected.

Figure 3: Tromboning - Needless Looping of Media Packets



  The figure below illustrates how CUBE detects and avoids the loop with the antitromboning feature.

Figure 4: Anti-Tromboning - Avoiding Media Loops



- SDP Pass–Through: CUBE is configured to pass SDP information transparently, so that both the remote ends can negotiate media independently. SDP pass-through is addressed in two modes:
  - Flow-through—CUBE plays no role in media negotiation, it terminates and reoriginates the RTP packets irrespective of the content type that is negotiated by both the ends. This supports address hiding and NAT traversal.
  - Flow-around—CUBE neither plays a part in media negotiation, nor does it terminate and reoriginate media. Media negotiation and media exchange is end-to-end.

  For more information, refer to the “Configurable Pass-through of SIP INVITE Parameters” section in the Cisco Unified Border Element SIP Support Configuration Guide .

Restrictions for Media Anti-Tromboning

- Anti-Tromboning is possible for secure (SRTP) calls only when SDP passthrough is enabled.

- Anti-Tromboning is not possible if one call leg is media flow-through and the other call leg is Media Flow-Around. Similarly, antitromboning is not possible if one call leg is configured for Session Description Protocol (SDP) passthrough.

Feature Information

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 www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Configuring Path of Media

Feature Name	Releases	Feature Information
Configuring Media Path	Baseline functionality	The following commands were introduced by this feature: **media-flow around, media flow-through, media anti-trombone**.

Configure Media Flow-Through

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. Use one of the following commands to configure media flow-through:
   - **media flow-through** in dial-peer configuration mode
   - **media flow-through** in global VoIP configuration mode
4. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	**configure terminal** **Example:**	Enters global configuration mode.

	Command or Action	Purpose
	`Device# configure terminal`	

Step 3	Use one of the following commands to configure media flow-through:
	• **media flow-through** in dial-peer configuration mode
	• **media flow-through** in global VoIP configuration mode
	Example:
	In dial-peer configuration mode
	`! Applying flow-through to one dial peer only`
	`Device (config) dial-peer voice 10 voip`
	`Device (config-dial-peer) media flow-through`
	`Device (config-dial-peer) end`
	Example:
	In global VoIP SIP mode
	`! Applying flow-through globally`
	`Device(config)# voice service voip`
	`Device(config-voi-serv)#media flow-through`
	`Device(config-voi-serv)#end`
		Ensures that all media traffic passes through CUBE.

Step 4	**end**	Exits to privileged EXEC mode.

Configure Media Flow-Around

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. Use one of the following commands to configure media flow-around:
   - **media flow-around** in dial-peer configuration mode
   - **media flow-around** in global VoIP configuration mode
4. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:**	Enables privileged EXEC mode. Enter your password if prompted.

	Command or Action	Purpose
	`Device> enable`	
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

Step 3	Use one of the following commands to configure media flow-around:
	• **media flow-around** in dial-peer configuration mode
	• **media flow-around** in global VoIP configuration mode
	Example:
	In dial-peer configuration mode
	`! Applying flow-around to one dial peer only`
	`Device (config)# dial-peer voice 10 voip`
	`Device (config-dial-peer)# media flow-around`
	`Device (config-dial-peer)# end`
	Example:
	In global VoIP SIP mode
	`! Applying flow-around globally`
	`Device(config)# voice service voip`
	`Device(config-voi-serv)#media flow-around`
	`Device(config-voi-serv)#end`
		Allows media packets to flow directly between endpoints.

Step 4	**end**	Exits to privileged EXEC mode.

Configure Media Anti-Tromboning

Before you begin

Configure **mode border-element** command under **voice service voip**, global VoIP configuration mode.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. Enter one of the following commands to configure media antitromboning:
   - **media anti-trombone** in dial-peer configuration mode
   - **media anti-trombone** in global VoIP configuration mode
4. **end**

DETAILED STEPS

Procedure

	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	Enter one of the following commands to configure media antitromboning:
	• **media anti-trombone** in dial-peer configuration mode
	• **media anti-trombone** in global VoIP configuration mode
	Example:
	In dial-peer configuration mode
	`! Applying anti-trombone to one dial peer only`
	`Device (config)# dial-peer voice 10 voip`
	`Device (config-dial-peer)# media anti-trombone`
	`Device (config-dial-peer)# end`
	Example:
	In global VoIP SIP mode
	`! Applying anti-trombone globally`
	`Device(config)#voice service voip`
	`Device(config-voi-serv)#media anti-trombone`
	`Device(config-voi-serv)#end`
		Enables media anti-trombone for all calls.

Step 4	**end**	Exits to privileged EXEC mode.