



Forked 18x Responses

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Overview

The Cisco Unified Border Element (CUBE) supports consumption of forked 18x responses with SDP, under certain conditions during an early dialog, to reduce the interoperability issues that arise due to signaling forking.

When CUBE receives forked 18x responses with SDP, the media negotiation by default is end-to-end. This means that CUBE has to send an UPDATE with SDP on the inbound leg to renegotiate the new media offer. Under certain conditions, the inbound leg may not be able to support sending UPDATE messages with SDP for media renegotiation. This results in CUBE consuming the forked 18x responses with SDP and may result in DSP resources being used for media interworking. Media parameters such as direction change, and call escalation or de-escalation is not propagated end-to-end. If required, these media changes can be renegotiated end-to-end, after the calls are connected, using a DO re-INVITE.

Forked 18x responses for INVITE requests with SDP during early dialog will be consumed by CUBE to reduce interoperability issues between user agents.

Feature Information for Consumption of Multiple Forked 18x Responses with SDP During Early Dialog

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 Consumption of Multiple Forked 18x Responses with SDP During Early Dialog

Feature Name	Releases	Feature Information
Support for Forked 18x Responses with SDP during Early Dialog	Cisco IOS XE Denali 16.3.1	This feature allows CUBE to consume multiple forked 18x responses with SDP received during an early dialog.

Characteristics of Forked 18x Responses with SDP during Early Dialog

- If PRACK or UPDATE is not supported on the inbound leg, by default, CUBE consumes the forked 18x responses
- If PRACK or UPDATE is not supported and CUBE has to initiate renegotiation after call connect, then the **early media update block re-negotiate** CLI must be enabled
- When PRACK and UPDATE are supported on the inbound leg and CUBE has to consume the forked 18x responses, the **early media update block** CLI must be enabled
- If PRACK and UPDATE are supported and CUBE has to consume the forked 18x responses and initiate renegotiation after call connect, then the **early media update block renegotiate** CLI must be enabled
- If mid-call signaling block or mid-call signaling passthrough media changes are configured, DO invite is not triggered



Note CUBE utilizes the EARLY UPDATE BLOCK functionality to configure the forked 18x responses with SDP during early dialog. The **early media update block** command is used to consume the forked 18x responses and the **early media update block renegotiate** command is used to renegotiate the forked 18x responses after the call connect.

Renegotiation (when enabled via configuration) is triggered for the forked 18x responses containing the following changes:

- DSP Transcoder insertion
- Video escalation or de-escalation
- Media directional changes



Note It is recommended to configure the **early media update block re-negotiate** command whenever there are transcoding, DTMF interworking, or video changes.

Prerequisites

- Re-negotiation is triggered only if the renegotiate **early media update block re-negotiate** CLI is enabled

Restrictions

The following features or call-flows are not supported:

- SIP Delayed-Offer to Delayed-Offer call flows
- Session Description Protocol (SDP) passthrough mode
- Secure Real-Time Transport Protocol (SRTP) passthrough calls
- Alternative Network Address Types (ANAT)
- Media flow-around
- Media anti-trombone
- Early-dialog UPDATE block

Configure Consumption of Forked 18x Responses with SDP During Early Dialog

Perform the following procedure to enable CUBE to block all early dialog forked 18x requests from passing through to the user agents.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. Enter one of the following commands to block the forked 18x responses with SDP during early dialog:
 - In the dial-peer configuration mode
voice-class sip early-media update block
 - In the global VoIP SIP configuration mode
early media update block
4. **end**

DETAILED STEPS

	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	Enter one of the following commands to block the forked 18x responses with SDP during early dialog:	

	Command or Action	Purpose
	<ul style="list-style-type: none"> In the dial-peer configuration mode voice-class sip early-media update block In the global VoIP SIP configuration mode early media update block <p>Example: In dial-peer configuration mode</p> <pre>!Applying Early Dialog UPDATE block to one dial peer only Device (config)# dial-peer voice 10 voip Device (config-dial-peer)# voice-class sip early-media update block Device (config-dial-peer)# end</pre> <p>Example: In global VoIP SIP configuration mode</p> <pre>! Applying Early Dialog UPDATE block globally Device(config)# voice service voip Device (config-voi-serv)# sip Device (config-voi-sip)# early media update block Device (config-voi-sip)# end</pre>	
Step 4	end	Exits VoIP SIP configuration mode and enters privileged EXEC mode.

Configure Consumption of Forked 18x Responses with SDP During Early Dialog Renegotiate

Perform the following procedure to enable CUBE to renegotiate forked 18x calls with SDP during early dialog after consumption of these forked 18x responses. CUBE renegotiates by sending a DO invite after the call is established.

SUMMARY STEPS

- enable**
- configure terminal**
- Enter one of the following commands:
 - In the dial-peer configuration mode
voice-class sip early-media update block re-negotiate
 - In the global VoIP configuration mode
early media update block re-negotiate
- end**

DETAILED STEPS

	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	<p>Enter one of the following commands:</p> <ul style="list-style-type: none"> • In the dial-peer configuration mode voice-class sip early-media update block re-negotiate • In the global VoIP configuration mode early media update block re-negotiate <p>Example: In dial-peer configuration mode</p> <pre>!Applying Early Dialog UPDATE block re-negotiate to one dial peer only Device (config)# dial-peer voice 10 voip Device (config-dial-peer)# voice-class sip early-media update block re-negotiate Device (config-dial-peer)# end</pre> <p>Example: In global VoIP SIP configuration mode</p> <pre>! Applying Early Dialog UPDATE block re-negotiate globally Device(config)# voice service voip Device (config-voi-serv)# sip Device (config-voi-sip)# early media update block re-negotiate Device (config-voi-sip)# end</pre>	Renegotiates the call if the forked 18x responses with SDP during early dialog contains changes in transcoder addition, or video escalation or de-escalation.
Step 4	end	Exits VoIP SIP configuration mode and enters privileged EXEC mode.

Tips to Troubleshoot

Use the following command for debugging information:

- debug ccsip verbose
- show voip rtp connections detail
- show call active voice brief
- show dspfarm dsp active

- show voice dsmp stream brief
- show platform hardware qfp active feature sbc global