



Signaling Congestion Handling

Cisco Unified Border Element (SP Edition) supports signaling congestion handling to improve performance when external events can cause large bursts of user activity that exceed the capacity of the SBC. Previously, SBC discarded packets in these situations causing the sending endpoint to retransmit the packet, which increases the load on the system, increasing the latency or drop-rate further. Only a small proportion of calls succeed (much less than the rated capacity) and take a significant length of time to connect.

With congestion handling enhancements, SBC improves the successful call setup and registration rate under loads up to at least double its rated capacity. This is done by rejecting SIP calls or REGISTERs that cannot be processed to prevent retransmissions. The reject message contains a random RETRY-AFTER header that informs the sending endpoint when to send a retry.

The main advantages of rejecting incoming work are to:

- prevent retransmissions
- keep the latency of the system at an acceptable level



Note

This feature is supported in the unified model for Cisco IOS XE Release 2.5 and later.

Cisco Unified Border Element (SP Edition) was formerly known as Integrated Session Border Controller and may be commonly referred to in this document as the session border controller (SBC).

Feature History for Signaling Congestion Handling

Release	Modification
Cisco IOS XE Release 2.5	This feature was introduced on the Cisco IOS XR.

Contents

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Restrictions for Signaling Congestion Handling

The following restrictions apply when you configure the congestion handling enhancements on the Cisco Unified Border Element (SP Edition):

- SBC supports signaling congestion handling only at the global SBC congestion level. Congestion handling does not improve flow control from particular work-sources or sinks.
- Signaling congestion handling addresses SIP signaling workloads from out-of-dialog requests and only tests INVITE and REGISTER messages.

Configuring Signaling Congestion Handling

Signaling congestion handling is turned on by default; nevertheless it could be configured to change the reject message code.



Note

The reject message code is the code sent back to sender during congestion. Default reject message code is 503.

Cisco Unified Border Element (SP Edition) requires following configurations to enable signaling congestion handling enhancements:

SUMMARY STEPS

1. **configure terminal**
2. **sbc *sbc-name***
3. **sbe**
4. **congestion sip reject-code *valid-reject-code***
5. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	configure terminal Example: Router# config terminal	Enters global configuration mode.
Step 2	sbc <i>sbc-name</i> Example: Router(config)# sbc test	Enters session border controller (SBC) configuration submenu.
Step 3	sbe Example: Router(config-sbc)# sbe	Enters signaling border element (SBE) configuration submenu.

	Command or Action	Purpose
Step 4	congestion sip reject-code <i>valid-reject-code</i> Example: Router(config-sbc-sbe)# congestion sip rejeact-code 350	Changes the reject message code for congestion handling. The default reject message code is 503.
Step 5	exit Example: Router(config-sbc-sbe)# exit	

