



Enhanced Features for Local and Advanced Voice Busyout

Feature History

Release	Modification
12.2(13)T	This feature was introduced on the Cisco voice gateway 200 and on the Cisco 2600, Cisco 2600XM, Cisco 2691, Cisco 3640, Cisco 3660, and Cisco 3725 routers.

This document describes the Enhanced Features for Local and Advanced Voice Busyout feature in Cisco IOS Release 12.2(13)T and includes the following sections:

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Feature Overview

This feature introduces two new commands, **busyout monitor gatekeeper** and **busyout action graceful**. The **busyout monitor gatekeeper** command busies out the gatekeeper if the gateway loses connection to the primary gatekeeper and removes the busyout state when the gateway restores connection to the primary or backup gatekeeper. The **busyout action graceful** command controls the busyout behavior that is triggered by the **busyout monitor** command. This command busies out the voice port immediately if the busyout behavior is triggered, but if there is an active call on this voice port, it will wait until the call is over.

Benefits

- Support for both graceful and forced busyout.
- Support on the FastEthernet interface.

Related Documents

- [Cisco IOS Voice, Video, and Fax Configuration Guide](#), Release 12.2
- [Cisco IOS Voice, Video, and Fax Command Reference](#), Release 12.2

Supported Platforms

- Cisco 2600
- Cisco 2600XM
- Cisco 2691
- Cisco 3640
- Cisco 3660
- Cisco 3725
- Cisco VG200

Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that are supported on specific platforms. To get updated information regarding platform support for this feature, access Cisco Feature Navigator. Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Cisco Feature Navigator is a web-based tool that enables you to determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Cisco Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

<http://www.cisco.com/register>

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL:

<http://www.cisco.com/go/fn>

Availability of Cisco IOS Software Images

Platform support for particular Cisco IOS software releases is dependent on the availability of the software images for those platforms. Software images for some platforms may be deferred, delayed, or changed without prior notice. For updated information about platform support and availability of software images for each Cisco IOS software release, refer to the online release notes or, if supported, Cisco Feature Navigator.

Supported Standards, MIBs, and RFCs

Standards

None

MIBs

None

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:

<http://tools.cisco.com/ITDIT/MIBS/servlet/index>

If Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs and download MIBs from the Cisco MIBs page at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

<http://www.cisco.com/register>

RFCs

None

Prerequisites

- Cisco IOS Release 12.2(13)T or a later release

Configuration Tasks

See the following sections for configuration tasks for the Enhanced Features for Local and Advanced Voice Busyout feature. Each task in the list is identified as either required or optional.

- [Configuring Busyout Action Graceful](#) (Optional)
- [Configuring Busyout Monitor](#) (Optional)
- [Configuring Busyout Monitor Gatekeeper](#) (Optional)

Configuring Busyout Action Graceful

To configure a voice port to enter the graceful busyout state when triggered by the busyout monitor, use the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# voice-port <i>slot/subunit/port</i>	Identifies the voice port you want to configure and enters voice-port configuration mode.
Step 2	Router(config-voiceport)# busyout action graceful	Specifies the use of a graceful busyout. That is, the voice port will be busied out immediately when triggered, if there are no active calls. If there is an active call, the voice port will wait until the call is over.

Configuring Busyout Monitor

To configure a voice port to monitor an interface for events that would trigger a voice-port busyout, use the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	<code>Router(config)# voice-port slot/subunit/port</code>	Identifies the voice port you want to configure and enters voice-port configuration mode.
Step 2	<code>Router(config-voiceport)# busyout monitor {serial interface-number ethernet interface-number} fastethernet interface-number)</code>	Places a voice port into busyout monitor state. <ul style="list-style-type: none"> • serial—Specifies monitoring of a serial interface. More than one interface can be entered for a voice port. • ethernet—Specifies monitoring of an Ethernet interface. More than one interface can be entered for a voice port. • fastethernet—Specifies monitoring of a Fastethernet interface. More than one interface can be entered for a voice port. • <i>interface-number</i>—Identifies an interface to be monitored for the voice port busyout function.

Configuring Busyout Monitor Gatekeeper

To configure a voice port to busyout a voice port if the gateway loses connection to the primary gatekeeper, use the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	<code>Router(config)# voice-port slot/subunit/port</code>	Identifies the voice port you want to configure and enters voice-port configuration mode.
Step 2	<code>Router(config-voiceport)# busyout monitor gatekeeper</code>	Specifies busyout when connectivity to the gatekeeper is lost.


```
no ip route-cache
no ip mroute-cache
shutdown
no fair-queue
!
interface Serial0/1
no ip address
no ip route-cache
no ip mroute-cache
shutdown
!
ip local pool setup_pool 1.2.71.1 1.2.71.255
ip default-gateway 1.2.0.1
ip classless
no ip http server
ip pim bidir-enable
!
!
dialer-list 1 protocol ip permit
dialer-list 1 protocol ipx permit
!
!
snmp-server community public RO
!
voice-port 1/0/0
type 5
!
voice-port 1/0/1
type 5
!
voice-port 1/1/0
!
voice-port 1/1/1
busyout action graceful
busyout monitor gatekeeper
busyout monitor Ethernet0/0
!
mgcp
mgcp default-package dtmf-package
!
mgcp profile default
!
dial-peer cor custom
!
!
!
dial-peer voice 1 voip
incoming called-number 308
destination-pattern ...
session protocol sipv2
session target ipv4:1.4.170.77
codec g711ulaw
!
dial-peer voice 2 pots
destination-pattern 308
port 1/1/0
prefix 308
!
dial-peer voice 3 pots
destination-pattern 309
port 1/1/1
!
dial-peer voice 4 pots
application mgcpapp
```

```
!  
dial-peer voice 7 pots  
  application sdfjsadf  
!  
dial-peer voice 88 pots  
!  
dial-peer voice 33 voip  
  fax rate 12000  
!  
dial-peer voice 34 voatm  
!  
dial-peer voice 35 vofr  
!  
dial-peer voice 37 pots  
!  
dial-peer voice 90 voatm  
!  
dial-peer voice 91 voip  
  fax rate 4800 bytes 41  
!  
dial-peer voice 92 vofr  
!  
dial-peer voice 999 voip  
  destination-pattern 1234  
  session target ras  
!  
gateway  
!  
!  
line con 0  
  exec-timeout 0 0  
line aux 0  
line vty 0 4  
  password lab  
  login  
line vty 5 15  
  login  
!  
!  
end
```

Command Reference

This section documents new commands. All other commands used with this feature are documented in the Cisco IOS Release 12.2T command reference publications.

New Commands

- [busyout action graceful](#)
- [busyout monitor gatekeeper](#)

busyout action graceful

To place a voice port into the graceful busyout state when triggered by the busyout monitor, use the **busyout action graceful** command in voice-port configuration mode. To remove the voice port from the graceful busyout state, use the **no** form of this command.

busyout action graceful

no busyout action graceful

Syntax Description This command has no arguments or keywords.

Defaults The default is the forced busyout.

Command Modes Voice-port configuration

Command History	Release	Modification
	12.2(13)T	This feature was introduced on the Cisco voice gateway 200 and on the Cisco 2600, Cisco 2600XM, Cisco 2691, Cisco 3640, Cisco 3660, and Cisco 3725 routers.

Usage Guidelines Use this command to control the busyout behavior that is triggered by the **busyout monitor** command. This command busyies out the voice port immediately if the busyout behavior is triggered but if there is an active call on this voice port, it will wait until the call is over.

Examples The following example shows the analog voice port busyout state set to graceful:

```
voice-port 1/1/1
  busyout action graceful
```

Related Commands	Command	Description
	busyout forced	Forces a voice port into the busyout state.
	busyout monitor	Configures a voice port to monitor an interface for events that would trigger a voice-port busyout.
	busyout monitor gatekeeper	Configures a voice port to enter the busyout state if connectivity to the gatekeeper is lost.
	busyout monitor probe	Configures a voice port to enter the busyout state if a Security Assurance Agent (SAA) probe signal returned from a remote, IP-addressable interface crosses a specified delay or loss threshold.
	busyout seize	Changes the busyout seize procedure for a voice port.

Command	Description
show voice busyout	Displays information about the voice busyout state.
voice-port	Enters voice-port configuration mode and identifies the voice port to be configured.

busyout monitor gatekeeper

To configure a voice port to enter the busyout state if connectivity to the gatekeeper is lost, use the **busyout monitor gatekeeper** command in voice-port configuration mode. To disable, use the **no** form of this command.

busyout monitor gatekeeper

no busyout monitor gatekeeper

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values

Command Modes Voice-port configuration

Command History	Release	Modification
	12.2(13)T	This feature was introduced on the Cisco voice gateway 200 and on the Cisco 2600, Cisco 2600XM, Cisco 2691, Cisco 3640, Cisco 3660, and Cisco 3725 routers.

Usage Guidelines Use this command to monitor the connection between the gateway and gatekeeper.

Examples The following example shows the busyout monitor state set to gatekeeper:

```
voice-port 1/1/1
  busyout monitor gatekeeper
```

Related Commands	Command	Description
	busyout action graceful	Places a voice port into the graceful busyout state when triggered by the busyout monitor
	busyout graceful	Shuts down the voice port immediately but if there is an active call it will wait until the call is over.
	busyout forced	Forces a voice port into the busyout state.
	busyout monitor	Configures a voice port to monitor an interface for events that would trigger a voice-port busyout.
	busyout monitor probe	Configures a voice port to enter the busyout state if a Security Assurance Agent (SAA) probe signal returned from a remote, IP-addressable interface crosses a specified delay or loss threshold.
	busyout seize	Changes the busyout seize procedure for a voice port.

Command	Description
show voice busyout	Displays information about the voice busyout state.
voice-port	Enters voice-port configuration mode and identifies the voice port to be configured..

Glossary

AVBO—advanced voice busyout. The local voice busyout feature that provides a way to busy out a voice port or a DS0 group (time slot) if a state change is detected in a monitored network interface (or interfaces). When a monitored interface changes to a specified state, to out-of-service, or to in-service, the voice port presents a seized/busyout condition to the attached PBX or other customer premises equipment (CPE). The PBX or other CPE can then attempt to select an alternate route. AVBO adds the following functionality to the local voice busyout feature:

For Voice over IP (VoIP), monitoring of links to remote, IP-addressable interfaces by the use of a Security Assurance Agent (SAA).

Configuration by voice class to simplify and speed up the configuration of voice busyout on multiple voice ports.

Local voice busyout is supported on analog and digital voice ports using channel-associated signaling (CAS).

ICPIF—Calculated Planning Impairment Factor loss/delay busyout threshold. The ICPIF numbers represent predefined combinations of loss and delay. Packet loss and delay determine the threshold for initiating the busyout state.

LVBO—local voice busyout. Local voice busyout is designed to busy out trunks assigned to PVCs so that the PBX does not seize the circuit. Local voice busyout enables the PBX to route a call based on the actual availability of trunks. Local voice busyout enables the following:

A group of voice ports to be marked busy if a link is broken.

Specific voice ports in a PVC application to be marked busy under specified conditions.

When ports are marked busy, a call is forced back to the originating equipment (typically a PBX) that reroutes the call over an alternate path. This action ensures that a caller does not experience "dead air" resulting from a connection that never terminates.

The local voice busyout feature provides a way to busy out a voice port if a monitored network interface changes state. When a monitored interface changes to a specified state—to OOS or in-service—the voice port presents a seized/busyout condition to the attached PBX or other customer premises equipment (CPE). The PBX or other CPE can then attempt to select an alternate route.

Local voice busyout is different from busy-back. Busy-back refers to the signal sent from within the network to the calling party that indicates a busy (or congested) state anywhere along the route, up to and including the condition of the called party.

SAA—Service Assurance Agent. The Service Assurance (SA) Agent is both an enhancement to and a new name for the Response Time Reporter (RTR) feature. It allows you to monitor network performance by measuring key Service Level Agreement (SLA) metrics such as response time, network resources, availability, jitter, connect time, packet loss, and application performance.

