



## Cisco IOS Voice Commands: G

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This chapter contains commands to configure and maintain Cisco IOS voice applications. The commands are presented in alphabetical order. Some commands required for configuring voice may be found in other Cisco IOS command references. Use the command reference master index or search online to find these commands.

For detailed information on how to configure these applications and features, refer to the *Cisco IOS Voice Configuration Guide*.

# g732 ber

To enable G.732 processing and reporting for the E1 controller, use the **g732 ber** command in controller configuration mode. To disable processing and reporting, use the **no** form of this command.

**g732 ber**

**no g732 ber**

**Syntax Description** This command has no arguments or keywords.

**Command Default** G.732 is disabled.

**Command Modes** Controller configuration

Command History	Release	Modification
	12.2(2)T	This command was introduced on the Cisco 2611.
	12.2(15)T	This command was implemented on the Cisco AS5350 and Cisco AS5400 network access server (NAS) platforms.

**Usage Guidelines** By default, G.732 reporting is disabled to prevent a change in E1 behavior for sites that do not want G.732 reporting.

Once ITU-T G.732 is enabled, the E1 controller is placed in the DOWN state if the bit error rate (BER) on the line is greater than 10e-3. The controller is restored to the UP state if the BER drops below 10e-4 for longer than two seconds. When the G.732 alarm is declared, the transmitter sends a remote alarm indication (RAI) yellow alarm.

You can restore ITU-T G.732 functionality by performing a power cycle or a software reload.

**Examples** The following example applies to a Cisco 2611 and shows enabled G.732 processing and reporting for E1 controller 0/0:

```
controller e1 0/0
g732 ber
```

The following example applies to a Cisco AS5400 with an 8-PRI E1 dial feature card (DFC) in slot 4:

```
controller e1 4/0
g732 ber
```

Related Commands	Command	Description
	<b>show controllers e1</b>	Displays information about E1 links.

# gatekeeper

To enter gatekeeper configuration mode, use the **gatekeeper** command in global configuration mode.

**gatekeeper**

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**Syntax Description** This command has no arguments or keywords.

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**Command Default** Disabled

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**Command Modes** Global configuration

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Command History	Release	Modification
	11.3(2)NA	This command was introduced on the Cisco 2500 series and Cisco 3600 series.
	12.0(3)T	This command was integrated into Cisco IOS Release 12.0(3)T and implemented on the Cisco MC3810.

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**Usage Guidelines** Press **Ctrl-Z** or use the **exit** command to exit gatekeeper configuration mode.

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**Examples** The following example brings the gatekeeper online:

```
gatekeeper
no shutdown
```

# gateway

To enable the H.323 VoIP gateway, use the **gateway** command in global configuration mode. To disable the gateway, use the **no** form of this command.

**gateway**

**no gateway**

---

**Syntax Description** This command has no arguments or keywords.

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**Command Default** The gateway is unregistered

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**Command Modes** Global configuration

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Command History	Release	Modification
	11.3(6)NA2	This command was introduced on the following platforms: Cisco 3600 series, Cisco AS5300, and Cisco AS5800.
	12.2(2)XB1	This command was implemented on the Cisco AS5850.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T.

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**Usage Guidelines** Use this command to enable H.323 VoIP gateway functionality. After you enable the gateway, it attempts to discover a gatekeeper by using the H.323 RAS GRQ message. If you enter **no gateway voip**, the VoIP gateway unregisters with the gatekeeper via the H.323 RAS URQ message.

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**Examples** The following example enables the gateway:

```
gateway
```

# gcid

To enable Global Call ID (Gcid) for every call on an outbound leg of a VoIP dial peer for a SIP endpoint, use the **gcid** command in voice-service configuration mode. To return to the default, use the **no** form of this command.

**gcid**

**no gcid**

**Syntax Description** This command has no arguments or keywords.

**Command Default** Gcid is disabled.

**Command Modes** Voice-service configuration (config-voi-serve)

Command History	Cisco IOS Release	Modification
	12.4(11)XW1	This command was introduced.

**Usage Guidelines** Use this command in voice-service configuration mode to enable Global Call ID (Gcid) in the SIP header for every call on an outbound leg of a VoIP dial peer for a SIP endpoint.

When a call moves around and between the SIP endpoint and the target on a VoIP network because of redirect, transfer, and conference, the SIP Call-ID continues to change. For call control purposes, a unique Gcid is issued for every outbound call leg. A single Gcid remains the same for the same call in the system, and is valid for redirect, transfer, and conference events, including 3-party conferencing when a call center phone acts as a conference host. A SIP header, Cisco\_GCID, is added into SIP Invite and REFER requests and to certain other responses to pass the Gcid to the target.

**Examples** The following partial output shows the configuration for the **gcid** command:

```
router# show running-configuration
!
!
!
voice service voip
  gcid
  callmonitor
  allow-connections h323 to h323
  allow-connections h323 to sip
  allow-connections sip to h323
  allow-connections sip to sip
  no supplementary-service sip moved-temporarily
  sip
  registrar server expires max 120 min 60
```

# global (application configuration)

To enter application configuration global mode, use the **global** command in application configuration mode.

**global**

**Syntax Description** No arguments or keywords

**Command Default** No default behavior or values

**Command Modes** Application configuration

Command History	Release	Modification
	12.3(14)T	This command was introduced.

**Usage Guidelines** Use this command to enter application configuration global mode. You can then configure applications for a dial peer to use for incoming calls when it does not have an explicit application configured.

If an application is defined on the dial peer, that application always takes precedence over the global application configured in application configuration global mode. The applications configured in this mode execute only when a dial peer has no application configured.

**Examples** The following example shows the `clid_authen_collect` application is configured as the default global application for all inbound dial peers that do not have a specific application configured:

```
application
  global
  service default clid_authen_collect
```

Related Commands	Command	Description
	<b>call application global</b>	Configures an application to use for incoming calls whose incoming dial peer does not have an explicit application configured.

# groundstart auto-tip

To configure a timing delay on an FXO groundstart voice port, use the **groundstart auto-tip** command in voice-port configuration mode. To disable the configured timeout, use the **no** form of this command.

**groundstart auto-tip** [*delay timer*]

**no groundstart auto-tip** [*delay timer*]

<b>Syntax Description</b>	<table border="1"> <tbody> <tr> <td data-bbox="383 552 662 579"><b>delay</b></td> <td data-bbox="669 552 1516 579">Indicates that a specific delay time will be configured.</td> </tr> <tr> <td data-bbox="383 590 662 617"><i>timer</i></td> <td data-bbox="669 590 1516 659">Specifies the wait time in milliseconds that the FXO groundstart voice port will wait for a tip ground acknowledgment.</td> </tr> </tbody> </table>	<b>delay</b>	Indicates that a specific delay time will be configured.	<i>timer</i>	Specifies the wait time in milliseconds that the FXO groundstart voice port will wait for a tip ground acknowledgment.
<b>delay</b>	Indicates that a specific delay time will be configured.				
<i>timer</i>	Specifies the wait time in milliseconds that the FXO groundstart voice port will wait for a tip ground acknowledgment.				
<b>Command Default</b>	This command is disabled by default. If the command is used without the optional keyword, the default time of 200 ms is activated.				
<b>Command Modes</b>	Voice-port configuration				
<b>Command History</b>	<table border="1"> <thead> <tr> <th data-bbox="383 995 662 1022">Release</th> <th data-bbox="669 995 1516 1022">Modification</th> </tr> </thead> <tbody> <tr> <td data-bbox="383 1033 662 1060">12.3(11)T2</td> <td data-bbox="669 1033 1516 1102">This command was introduced into Cisco IOS Release 12.3(11)T2. This command is not supported on the Cisco 1700 series platform.</td> </tr> </tbody> </table>	Release	Modification	12.3(11)T2	This command was introduced into Cisco IOS Release 12.3(11)T2. This command is not supported on the Cisco 1700 series platform.
Release	Modification				
12.3(11)T2	This command was introduced into Cisco IOS Release 12.3(11)T2. This command is not supported on the Cisco 1700 series platform.				
<b>Usage Guidelines</b>	<p>This command should only be used after you encounter call setup problems involving FXO groundstart analog voice ports. If these problems occur, first load the latest image for your Cisco IOS Release (for example, if you are running Release 12.3(11)T, you should replace this image with Release 12.3(11)T2. Upgrading the software image should eliminate the problem. If not, then use this command as a troubleshooting measure—it should be enabled in a configuration only if you encounter problems in connecting outgoing calls. After the <b>groundstart auto-tip</b> command is configured, the problem should not occur again.</p> <p>Use the <b>groundstart auto-tip</b> command only for voice ports configured for FXO groundstart signaling. The following example sets the delay wait time for tip ground acknowledgment to 250 ms:</p> <pre>Router# configure terminal Router(config)# voice-port 2/0/0 Router(config-voiceport)# shutdown Router(config-voiceport)# groundstart auto-tip delay 250 Router(config-voiceport)# no shutdown Router(config-voiceport)# exit</pre>				
<b>Related Commands</b>	<table border="1"> <thead> <tr> <th data-bbox="383 1749 662 1776">Command</th> <th data-bbox="669 1749 1516 1776">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="383 1787 662 1814"><b>voice-port</b></td> <td data-bbox="669 1787 1516 1814">Specifies that a voice port will be used in the connection.</td> </tr> </tbody> </table>	Command	Description	<b>voice-port</b>	Specifies that a voice port will be used in the connection.
Command	Description				
<b>voice-port</b>	Specifies that a voice port will be used in the connection.				

# group

To configure the maximum number of segments that are received in a session group or to associate the group with a specified session set, use the **group** command in backhaul-session-manager configuration mode. To restore the default number, use the **no** form of this command.

```
group {group-name cumulative ack count / out-of-sequence count / receive count / retransmit
count / set set-name}
```

```
no group {group-name cumulative ack / out-of-sequence / receive / retransmit / set}
```



## Caution

Do not change this command or the keywords unless instructed to do so by Cisco technical support. There are relationships between group parameters that can cause sessions to fail if not set correctly.

## Syntax Description

<i>group-name</i>	Session-group name.
<b>cumulative ack</b> <i>count</i>	Maximum number of segments received before acknowledgment. Range is from 0 to 255. Default is 3 segments.
<b>out-of-sequence</b> <i>count</i>	Maximum number of out-of-sequence segments that can be received in a session group before an ACK is sent. Range is from 0 to 255. Default is 3 segments.
<b>receive</b> <i>count</i>	Maximum number of segments in the receive window of the media gateway. This is the maximum number of segments the media gateway is allowed to receive before it sends an ACK. Range is from 1 to 64. Default is 32 segments.
<b>retransmit</b> <i>count</i>	Maximum number of retransmits allowed in a session group. Range is from 0 to 255. Default is 2 retransmits.
<b>set</b> <i>set-name</i>	Session-set name.

## Command Default

For the **cumulative ack** and **out-of-sequence** keywords, the default is 3 segments.  
 For the **receive** keyword, the default is 32 segments.  
 For the **retransmit** keyword, the default is 2 retransmits.  
 The **set** keyword has no default behavior or values.

## Command Modes

Backhaul-session-manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.
12.2(2)T	This command was implemented on the Cisco 7200.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810.
12.2(2)XB1	This command was implemented on the Cisco AS5850.

Release	Modification
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T. This command was implemented on the Cisco IAD2420 series. This command does not support the access servers in this release.
12.2(11)T	This command was implemented on the following platforms: Cisco AS5350, Cisco AS5400, and Cisco AS5850.

### Examples

The following example configures the session group named `group5` to send an acknowledgment after four segments have been received:

```
group group5 cumulative-ack 4
```

The following example configures the session group named `group5` to send an acknowledgment after four out-of-sequence segments have been received:

```
group group5 out-of-sequence 4
```

The following example configures the session group named `group5` to receive a maximum of 10 segments:

```
group group5 receive 10
```

The following example configures the session group named `group5` to allow as many as 3 retransmits:

```
group group5 retransmit 3
```

The following example associates the session group named `group5` with the session set named `set1`:

```
group group5 set set1
```

### Related Commands

Command	Description
<b>group auto-reset</b>	Specifies the maximum number of auto-resets for a session group.
<b>group cumulative-ack</b>	Specifies maximum cumulative acknowledgments.
<b>group out-of-sequence</b>	Specifies maximum out-of-sequence segments that are received before an EACK is sent.
<b>group receive</b>	Specifies maximum receive segments.
<b>group retransmit</b>	Specifies maximum retransmits.
<b>group timer</b>	Specifies timeouts.

# group auto-reset

To specify the maximum number of auto-resets for a session group, use the **group auto-reset** command in backhaul session manager configuration mode. To restore the default number, use the **no** form of this command.

**group** *group-name* **auto-reset** *count*

**no group** *group-name* **auto-reset**



## Caution

Do not change the auto-reset number unless instructed to do so by Cisco technical support. There are relationships between group parameters that can cause sessions to fail if not set correctly.

## Syntax Description

<i>group-name</i>	Name of session group.
<i>count</i>	Maximum number of auto-resets before the connection is considered failed. Range is from 0 to 255. The default is 5.

## Command Default

5 auto-resets

## Command Modes

Backhaul session manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.
12.2(2)T	This command was implemented on the Cisco 7200.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810 series.
12.2(2)XB1	This command was implemented on the Cisco AS5850.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T and was implemented on the Cisco IAD2420 series.
12.2(11)T	This command was implemented on the following platforms: Cisco AS5350, Cisco AS5400, and Cisco AS5850.

## Examples

The following example specifies a maximum of six auto-resets for the session group named “group5”:

```
Router(config-bsm)# group group5 auto-reset 6
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>group cumulative-ack</b>	Configures the maximum number of segments that are received in a session group before an acknowledgment is sent.
<b>group out-of-sequence</b>	Configures the maximum out-of-sequence segments that are received before an EACK is sent.
<b>group receive</b>	Configures the maximum number of segments in the receive window of a session group.
<b>group retransmit</b>	Configures the maximum number of retransmits.

# group cumulative-ack

To configure the maximum number of segments that are received before an acknowledgment is sent, use the **group cumulative-ack** command in backhaul session manager configuration mode. To set the value to the default, use the **no** form of this command.

**group** *group-name* **cumulative-ack** *count*

**no group** *group-name* **cumulative-ack** *count*



## Caution

Do not change this parameter unless instructed to do so by Cisco technical support. Incorrectly set parameters can cause sessions to fail.

## Syntax Description

<i>group-name</i>	Name of session group.
<i>count</i>	Maximum number of segments that are received before acknowledgment. Range is from 0 to 255. The default is 3.

## Command Default

3 segments

## Command Modes

Backhaul session manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.
12.2(2)T	This command was implemented on the Cisco 7200 series.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810 series.
12.2(8)T	This command was implemented on the Cisco IAD2420 series.
12.2(11)T	This command was implemented on the following platforms: Cisco AS5350, Cisco AS5400, and Cisco AS5850.

## Examples

The following example sets the cumulative acknowledgment maximum to 4 for the group named “group1”:

```
Router(config-bsp)# group group5 cumulative-ack 4
```

## Related Commands

Command	Description
<b>group auto-reset</b>	Configures the maximum auto-reset value.
<b>group out-of-sequence</b>	Configures the maximum number of out-of-sequence segments that are received before an EACK is sent.

---

<b>group receive</b>	Configures the maximum number of receive segments.
<b>group retransmit</b>	Configures the maximum number of retransmits.

---

# group out-of-sequence

To configure the maximum number of out-of-sequence segments that are received before an error acknowledgement (EACK) is sent, use the **group out-of-sequence** command in backhaul session manager configuration mode. To set the value to the default, use the **no** form of this command.

**group** *group-name* **out-of-sequence** *count*

**no group** *group-name* **out-of-sequence** *count*



## Caution

Do not change this parameter unless instructed to do so by Cisco technical support. Incorrectly set parameters can cause sessions to fail.

## Syntax Description

<i>group-name</i>	Name of the session group.
<i>count</i>	Maximum number of out-of-sequence segments. Range is from 0 to 255. The default is 3.

## Command Default

3 segments

## Command Modes

Backhaul session manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.
12.2(2)T	This command was implemented on the Cisco 7200 series.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810 series.
12.2(8)T	This command was implemented on the Cisco IAD2420 series.
12.2(11)T	This command was implemented on the following platforms: Cisco AS5350, Cisco AS5400, and Cisco AS5850.

## Examples

The following example sets the out-of-sequence maximum to 4 for the group named “group5”:

```
Router(config-bsp)# group group5 out-of-sequence 4
```

## Related Commands

Command	Description
<b>group auto-reset</b>	Configures the maximum auto-reset value.
<b>group cumulative-ack</b>	Configures the maximum number of cumulative acknowledgments.
<b>group receive</b>	Configures the maximum number of receive segments.
<b>group retransmit</b>	Configures the maximum number of retransmits.

# group receive

To configure the maximum number of receive segments, use the **group receive** command in backhaul session manager configuration mode. To set the value to the default, use the **no** form of this command.

**group** *group-name* **receive** *count*

**no** **group** *group-name* **receive** *count*



## Caution

Do not change this parameter unless instructed to do so by Cisco technical support. Incorrectly set parameters can cause sessions to fail.

## Syntax Description

<i>group-name</i>	Name of the session group.
<i>count</i>	Maximum number of segments in a receive window. The far end should send no more than this number of segments before receiving an acknowledgment for the oldest outstanding segment. Range is 1 to 64. The default is 32.

## Command Default

32 segments

## Command Modes

Backhaul session manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.
12.2(2)T	This command was implemented on the Cisco 7200 series.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810 series.
12.2(8)T	This command was implemented on the Cisco IAD2420 series.
12.2(11)T	This command was implemented on the following platforms: Cisco AS5350, Cisco AS5400, and Cisco AS5850.

## Examples

The following example sets the receive maximum to 10 for the group named “group5”:

```
Router(config-bsm)# group group5 receive 10
```

## Related Commands

Command	Description
<b>group auto-reset</b>	Configures the maximum auto-reset value.
<b>group cumulative-ack</b>	Configures the maximum number of cumulative acknowledgments.

---

<b>group out-of-sequence</b>	Configures the maximum number of out-of-sequence segments that are received before an EACK is sent.
<b>group retransmit</b>	Configures the maximum number of retransmits.

---

# group retransmit

To configure the maximum number of retransmits, use the **group retransmit** command in backhaul session manager configuration mode. To set the value to the default, use the **no** form of this command.

**group** *group-name* **retransmit** *count*

**no** **group** *group-name* **retransmit** *count*



## Caution

Do not change this parameter unless instructed to do so by Cisco technical support. Incorrectly set parameters can cause sessions to fail.

## Syntax Description

<i>group-name</i>	Name of the session group.
<i>count</i>	Maximum number of retransmits. Range is 0 to 255. The default is 2.

## Command Default

2 retransmits

## Command Modes

Backhaul session manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.
12.2(2)T	This command was implemented on the Cisco 7200 series.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810 series.
12.2(8)T	This command was implemented on the Cisco IAD2420 series.
12.2(11)T	This command was implemented on the following platforms: Cisco AS5350, Cisco AS5400, and Cisco AS5850.

## Examples

The following example sets the retransmit maximum to 3 for the group named “group5”:

```
Router(config-bsm)# group group5 retrans 3
```

## Related Commands

Command	Description
<b>group auto-reset</b>	Configures the maximum auto-reset value.
<b>group cumulative-ack</b>	Configures the maximum number of cumulative acknowledgments.
<b>group out-of-sequence</b>	Configures the maximum number of out-of-sequence segments that are received before an EACK is sent.
<b>group receive</b>	Configures the maximum number of receive segments.

# group set

To create a session group and associate it with a specified session set, use the **group** command in backhaul session manager configuration mode. To delete the group, use the **no** form of this command.

**group** *grp-name* **set** *set-name*

**no group** *grp-name*

## Syntax Description

<i>grp-name</i>	Name of the session group.
<i>set-name</i>	Name of the session set.

## Command Default

No default behavior or values

## Command Modes

Backhaul session manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced on the Cisco AS5300.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810 series.
12.2(2)XB1	This command was implemented on the Cisco AS5850.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T and was implemented on the Cisco IAD2420 series.

## Examples

The following example shows session group **group5** being associated with session set **set1**:

```
Router(config-bsm)# group group5 set set1
```

## Related Commands

Command	Description
<b>group auto-reset</b>	Specifies the maximum number of auto-resets for a session group.
<b>group cumulative-ack</b>	Configures the maximum number of segments that are received in a session group before an acknowledgment is sent.
<b>group out-of-sequence</b>	Configures the maximum out-of-sequence segments that are received before an EACK is sent.
<b>group receive</b>	Configures the maximum number of segments in the receive window of a session group.
<b>group retransmit</b>	Configures the maximum number of retransmits.
<b>group timer cumulative-ack</b>	Configures cumulative acknowledgment timeout.
<b>group timer keepalive</b>	Configures keepalive (or null segment) timeout.
<b>group timer retransmit</b>	Configures retransmission timeout.

Command	Description
<b>group timer transfer</b>	Configures state transfer timeout.
<b>group auto-reset</b>	Specifies the maximum number of auto-resets for a session group.

# group timer

To configure the maximum number of milliseconds for which the Reliable User Datagram Protocol (RUDP) delays before sending an acknowledgment for a received segment, sending a keepalive segment, retransmitting a segment, or transferring a segment, use the **group timer** command in backhaul-session-manager configuration mode. To restore the default values, use the **no** form of this command.

```
group group-name timer { cumulative ack time | keepalive time | retransmit time | transfer time }
```

```
no group group-name timer { cumulative ack }
```



## Caution

Do not change the group timer parameters unless instructed to do so by Cisco technical support. There are relationships between group parameters that can cause sessions to fail if not set correctly.

## Syntax Description

<i>group-name</i>	Name of session group.
<b>cumulative ack</b> <i>time</i>	Number of milliseconds for which RUDP delays before sending an acknowledgment for a received segment. Range is 100 to 65535. The default is 100.
<b>keepalive</b> <i>time</i>	Number of milliseconds before RUDP sends a keepalive segment when no RUDP packets are received or sent. Range is 100 to 65535. The default is 1000.
<b>retransmit</b> <i>time</i>	Number of milliseconds for which RUDP waits before retransmitting the segment. Range is 100 to 65535. The default is 300.
<b>transfer</b> <i>time</i>	Number of milliseconds for which RUDP waits to receive a selection of a new session from the application during a transfer state. Range is 0 to 65535. The default is 2000.

## Command Default

**cumulative ack:** 100 milliseconds  
**keepalive:** 1000 milliseconds  
**retransmit:** 300 milliseconds  
**transfer:** 2000 milliseconds

## Command Modes

Backhaul-session-manager configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.
12.2(2)T	This command was implemented on the Cisco 7200.
12.2(4)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco MC3810.
12.2(2)XB1	This command was implemented on the Cisco AS5850.

Release	Modification
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T and was implemented on the Cisco IAD2420 series.
12.2(11)T	This command was implemented on the following platforms: Cisco AS5350, Cisco AS5400, and Cisco AS5850.

### Usage Guidelines

The retransmit timer must be greater than the cumulative-ack timer.

Cumulative acknowledgment timeout is the maximum number of milliseconds for which RUDP delays before sending an acknowledgment for a received segment.

### Examples

The following example specifies 325 milliseconds as the maximum acknowledgment delay for the session group named “group5”:

```
group group5 timer cumulative-ack 325
```

The following example configures RUDP to send keepalive segments if no RUDP packets are received or sent for 2.5 seconds (2500 milliseconds) in the session group named “group5”.

```
group group5 timer keepalive 2500
```

The following example sets a retransmit time of 650 milliseconds for the session group named “group5”:

```
group group5 timer retransmit 650
```

### Related Commands

Command	Description
<b>group</b>	Specifies the maximum number of segments that are received in a session group.

# group-params

To define groups of parameters that can be used by applications, use the **group-params** command in application configuration mode.

**group-params** *groupname*

<b>Syntax Description</b>	<i>groupname</i>	Name of the parameter group you are creating.
---------------------------	------------------	---

<b>Command Modes</b>	Application configuration
----------------------	---------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	12.3(14)T	This command was introduced.

<b>Usage Guidelines</b>	This command allows you to define groups of parameters so that a group of parameters can be used by multiple services or packages (applications). Parameter groups are defined globally and once a group is defined, it is available for another service or package to use. Groups can contain parameters under multiple parameterspaces. In cases where a parameter is defined individually and in a parameter group, the individual parameter definition is given precedence.
-------------------------	---

<b>Examples</b>	The following example shows a parameter group named “fax,” that contains two parameters:
-----------------	--

```
application
group-params fax
  paramspace fax_detect2 pin-len 9
  paramspace fax_detect1 retry-count 9
```

# gw-accounting

To enable the accounting method for collecting call detail records, use the **gw-accounting** command in global configuration mode. To disable the accounting method, use the **no** form of this command.

## Cisco IOS Release 12.4(11)XW and Later Releases

```
gw-accounting {aaa | syslog [stats] }
```

```
no gw-accounting {aaa | syslog [stats] }
```

## Cisco IOS Release 12.2(11)T and Later Releases

```
gw-accounting {aaa | syslog }
```

```
no gw-accounting {aaa | syslog }
```

## Cisco IOS Release 12.2(8)T and Earlier Releases

```
gw-accounting {h323 [vsa] | syslog | voip }
```

```
no gw-accounting {h323 [vsa] | syslog | voip }
```

Syntax Description		
<b>aaa</b>		Enables accounting through the AAA system and sends call detail records to the RADIUS server in the form of vendor-specific attributes (VSAs).
<b>syslog</b>		Enables the system logging facility to output accounting information in the form of a system log message.
<b>stats</b>		Enables voice quality statistics to be sent to the system log.
<b>h323</b>		Enables standard H.323 accounting using Internet Engineering Task Force (IETF) RADIUS attributes.
<b>vsa</b>		(Optional) Enables H.323 accounting using RADIUS VSAs.
<b>voip</b>		Enables generic gateway-specific accounting.

**Command Default** No accounting method is enabled.

**Command Modes** Global configuration (config)

Command History	Release	Modification
	11.3(6)NA2	This command was introduced on the following platforms: Cisco 2600 series, Cisco 3600 series, and Cisco AS5300.
	12.0(7)T	This command was integrated into Cisco IOS Release 12.0(7)T. The <b>vsa</b> keyword was added.
	12.1(1)T	The <b>voip</b> keyword was added.
	12.2(2)XA	This command was implemented on the Cisco AS5350 and Cisco AS5400.

Release	Modification
12.2(2)XB1	This command was implemented on the Cisco AS5850.
12.2(8)T	This command was integrated into Cisco IOS Release 12.2(8)T and was implemented on the Cisco 7200 series.
12.2(11)T	The <b>h323</b> , <b>vsa</b> , and <b>voip</b> keywords were replaced by the <b>aaa</b> keyword.
12.4(11)XW	The <b>stats</b> keyword was added.

## Usage Guidelines

This command enables you to output accounting data in one of three ways:

### Using RADIUS Vendor-Specific Attributes

The IETF draft standard specifies a method for communicating vendor-specific information between the network access server and the RADIUS server by using the vendor-specific attribute (VSA) attribute 26. VSAs allow vendors to support their own extended attributes that are not suitable for general use. The Cisco RADIUS implementation supports one vendor-specific option using the format recommended in the specification. The Cisco vendor ID is 9, and the supported option has vendor-type 1, which is named “cisco-avpair.” The value is a string of the format:

```
protocol: attribute sep value *
```

“Protocol” is a value of the Cisco “protocol” attribute for a particular type of authorization. “Attribute” and “value” are an appropriate attribute-value (AV) pair defined in the Cisco TACACS+ specification, and “sep” is “=” for mandatory attributes and “\*” for optional attributes. This allows the full set of features available for TACACS+ authorization to also be used for RADIUS. For a list of VSA fields and their ASCII values, see the *Cisco IOS Security Configuration Guide* for your Cisco IOS release.

Use the **gw-accounting aaa** command to configure the VSA method of applying H.323 gateway-specific accounting.



**Note** Releases earlier than Cisco IOS Release 12.2(11)T use the **gw-accounting h323 vsa** command.

### Overloading the Acct-Session-ID field

Attributes that cannot be mapped to standard RADIUS are packed into the Acct-Session-ID field as ASCII strings separated by the character “/”. The Acct-Session-ID attribute is defined to contain the RADIUS account session ID, which is a unique identifier that links accounting records associated with the same login session for a user. To support additional fields, the following string format is defined for this field:

```
<session id>/<call leg setup time>/<gateway id>/<connection id>/<call origin>/  
<call type>/<connect time>/<disconnect time>/<disconnect cause>/<remote ip address>
```

[Table 24](#) shows the field attributes that are used with the overloaded session-ID method and a brief description of each.

**Table 24** *Field Attributes in Overloaded Acct-Session-ID*

Field Attribute	Description
Session-Id	Standard RADIUS account session ID.

**Table 24** Field Attributes in Overloaded Acct-Session-ID (continued)

Field Attribute	Description
Setup-Time	Q.931 setup time for this connection in Network Time Protocol (NTP) format: hour, minutes, seconds, milliseconds, time zone, day of week, month, day of month, and year.
Gateway-Id	Name of the underlying gateway in the form "gateway.domain_name."
Call-Origin	Origin of the call relative to the gateway. Possible values are <b>originate</b> and <b>answer</b> .
Call-Type	Call leg type. Possible values are <b>telephony</b> and <b>VoIP</b> .
Connection-Id	Unique global identifier used to correlate call legs that belong to the same end-to-end call. The field consists of 4 long words (128 bits). Each long word is displayed as a hexadecimal value and is separated by a space character.
Connect-Time	Q.931 connect time for this call leg in NTP format.
Disconnect-Time	Q.931 disconnect time for this call leg in NTP format.
Disconnect-Cause	Reason that a call was taken offline as defined in the Q.931 specification.
Remote-IP-Address	Address of the remote gateway port where the call is connected.

Because of the limited size of the Acct-Session-ID string, it is not possible to include many information elements in it. Therefore, this feature supports only a limited set of accounting information elements.

Use the **attribute acct-session-id overloaded** command to configure the overloaded session ID method of applying H.323 gateway-specific accounting.



**Note** Releases earlier than Cisco IOS Release 12.2(11)T use the **gw-accounting h323** command.

### Using syslog Records

The syslog accounting option exports the information elements associated with each call leg through a system log message, which can be captured by a syslog daemon on the network. The syslog output consists of the following:

```
<server timestamp> <gateway id> <message number> : <message label> : <list of AV pairs>
```

Table 25 lists the syslog message fields.

**Table 25** Syslog Message Output Fields

Field	Description
server timestamp	Time stamp created by the server when it receives the message to log.
gateway id	Name of the gateway that sends the message.
message number	Number assigned to the message by the gateway.
message label	String used to identify the message category.
list of AV pairs	String that consists of <attribute name> <attribute value> pairs separated by commas.

Use the **gw-accounting syslog** command to configure the syslog record method of gathering H.323 accounting data.

If you enable both **aaa** and **syslog** simultaneously, call detail records are generated in both methods.

---

### Examples

The following example shows accounting using RADIUS VSA attributes:

```
gw-accounting aaa
```

The following example shows basic accounting using the syslog method:

```
gw-accounting syslog
```

---

### Related Commands

Command	Description
<b>attribute acct-session-id overloaded</b>	Overloads the acct-session-id attribute with call detail records.
<b>dial-peer voice</b>	Enters dial-peer configuration mode and specifies the method of voice-related encapsulation.
<b>inband-alerting</b>	Enables in-band alerting so that the originating gateway can open an early media path.
<b>radius-server vsa send</b>	Enables the voice gateway to recognize and use VSAs.

# gw-type-prefix

To configure a technology prefix in the gatekeeper, use the **gw-type-prefix** command in gatekeeper configuration mode. To remove the technology prefix, use the **no** form of this command.

```
gw-type-prefix type-prefix [[hopoff gkid1] [hopoff gkid2] [hopoff gkidn] [seq | blast]]
[default-technology] [[gw ipaddr ipaddr [port]]]
```

```
no gw-type-prefix type-prefix [[hopoff gkid1] [hopoff gkid2] [hopoff gkidn] [seq | blast]]
[default-technology] [[gw ipaddr ipaddr [port]]]
```

Syntax Description		
	<i>type-prefix</i>	A technology prefix is recognized and is stripped before checking for the zone prefix. It is strongly recommended that you select technology prefixes that do not lead to ambiguity with zone prefixes. Do this by using the # character to terminate technology prefixes, for example, 3#.
	<b>hopoff</b> <i>gkid</i>	(Optional) Use this option to specify the gatekeeper where the call is to hop off, regardless of the zone prefix in the destination address. The <i>gkid</i> argument refers to a gatekeeper previously configured using the zone local or zone remote comment. You can enter this keyword and argument multiple times to configure redundant gatekeepers for a given technology prefix.
	<b>seq</b>   <b>blast</b>	(Optional) If you list multiple hopoffs, this indicates that the LRQs should be sent sequentially or simultaneously (blast) to the gatekeepers according to the order in which they were listed. The default is to send them sequentially.
	<b>default-technology</b>	(Optional) Gateways registering with this prefix option are used as the default for routing any addresses that are otherwise unresolved.
	<b>gw ipaddr</b> <i>ipaddr</i> [ <i>port</i> ]	(Optional) Use this option to indicate that the gateway is incapable of registering technology prefixes. When it registers, it adds the gateway to the group for this type prefix, just as if it had sent the technology prefix in its registration. This parameter can be repeated to associate more than one gateway with a technology prefix.

**Command Default** By default, no technology prefix is defined, and LRQs are sent sequentially to all the gatekeepers listed.

**Command Modes** Gatekeeper configuration

Command History	Release	Modification
	11.3(6)NA2	This command was introduced on the following platforms: Cisco 2500 series, Cisco 3600 series, and Cisco AS5300.
	12.1(1)T	This command was integrated into Cisco IOS Release 12.1(1)T. This command was modified to allow the user to specify multiple hopoffs.
	12.1(2)T	This command was modified to allow the user to specify whether LRQs should be sent simultaneously or sequentially to the gatekeepers.
	12.2(11)T	This command was implemented on the following platforms: Cisco 2600 series, Cisco MC3810, and Cisco 7200 series.

### Usage Guidelines

More than one gateway can register with the same technology prefix. In such cases, a random selection is made of one of them.

You do not have to define a technology prefix to a gatekeeper if there are gateways configured to register with that prefix and if there are no special flags (**hopoff *gkid*** or **default-technology**) that you want to associate with that prefix.

You need to configure the gateway type prefix of all remote technology prefixes that are routed through this gatekeeper.

### Examples

The following example defines two gatekeepers for technology zone 3:

```
gw-type-prefix 3#* hopoff c2600-1-gk hopoff c2514-1-gk
```

### Related Commands

Command	Description
<b>show gatekeeper</b> <b>gw-type-prefix</b>	Displays the list of currently defined technology zones and the gatekeepers responsible for each.
<b>zone prefix</b>	Configures the gatekeeper with knowledge of its own prefix and the prefix of any remote zone.