



AMR-NB and iLBC Codec Support for MGCP

First Published: May 7, 2007

Last Updated: October 12, 2007

The Adaptive Multirate Narrow Band (AMR-NB) codec is a high-complexity multimode codec that adapts to speech and channel coding depending on channel conditions. The internet Low Bitrate Codec (iLBC) is a standard, high-complexity speech codec that is suitable for robust voice communication over IP. These codecs are now available for use with the Media Gateway Control Protocol (MGCP).

Finding Feature Information in This Module

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the [“Feature Information for AMR-NB and iLBC Codec Support for MGCP”](#) section on page 12.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

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Restrictions for AMR-NB and iLBC Codec Support for MGCP

AMR-NB codec transcoding is not supported on any ISR platforms. The AMR-NB codec is supported on Cisco AS5400 XM and Cisco AS5350 XM platforms through licensing.

Information About AMR-NB and iLBC Codec Support for MGCP

The AMR-NB and iLBC codecs are now supported for use with the MGCP protocol. For additional information about AMR-NB codecs, see the “[Configuring the GSMAMR-NB Codec for the High-Density Packet Voice Feature Card](#)” section of *High-Density Packet Voice Feature Card for Cisco AS5350XM and AS5400XM Universal Gateways*. For additional information about iLBC codecs, see *iLBC Codec Support*. For information about configuring MGCP on Cisco IOS products, see the *Cisco IOS MGCP and Related Protocols Configuration Guide*.

How to Configure an AMR-NB Codec for MGCP

To configure GSMAMR-NB codec for MGCP, perform the following steps.

SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `mgcp codec gsmamr-nb [packetization-period 20] [encap rfc3267] [frame-format {bandwidth-efficient | octet-aligned [crc | no-crc]}] [modes modes-value]`
4. `end`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<code>configure terminal</code> Example: Router# configure terminal	Enters global configuration mode.

	Command or Action	Purpose
Step 3	<pre>mgcp codec gsmamr-nb [packetization-period 20] [encap rfc3267] [frame-format {bandwidth-efficient octet-aligned [crc no-crc]}}] [modes modes-value]</pre> <p>Example: Router(config)# mgcp codec gsmamr-nb packetization-period 20 encap rfc3267 frame-format octet-aligned crc</p>	<p>Specifies the GSMAMR-NB codec for MGCP:</p> <ul style="list-style-type: none"> • packetization-period 20—Sets the packetization period to 20 ms. • encap rfc3267—Sets the encapsulation value to comply with RFC 3267. • frame-format—Specifies a frame format. Supported values are octet-aligned and bandwidth-efficient. The default is octet-aligned. • crc no-crc—CRC is applicable only for octet-aligned frame format. If you enter bandwidth-efficient frame format, the crc no-crc options are not available because they are inapplicable. • modes—Valid values are from 0 to 7. You can specify modes as a range (for example, 0-2), or individual modes separated by commas (for example, 2,4,6), or a combination of the two (for example, 0-2,4,6-7). Applicable only to GSMAMR-NB codec support.
Step 4	<pre>end</pre> <p>Example: Router(config)# end</p>	<p>Exits global configuration mode and returns to privileged EXEC mode.</p>

How to Configure an iLBC Codec for MGCP

To configure iLBC codec for MGCP, perform the following steps.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **mgcp codec ilbc mode *frame_size* [packetization-period *value*]**
4. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>enable</p> <p>Example: Router> enable</p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> Enter your password if prompted.
Step 2	<p>configure terminal</p> <p>Example: Router# configure terminal</p>	<p>Enters global configuration mode.</p>
Step 3	<p>mgcp codec ilbc mode <i>frame_size</i> [<i>packetization-period value</i>]</p> <p>Example: Router(config)# mgcp codec ilbc mode 30 packetization-period 60</p>	<p>Specifies the iLBC codec for MGCP:</p> <ul style="list-style-type: none"> mode <i>frame_size</i>—The iLBC operating frame mode that will be encapsulated in each packet. Valid entries are 20 (20ms frames for 15.2kbps bit rate) or 30 (30ms frames for 13.33 kbps bit rate). Default is 20. packetization-period <i>value</i>—This value is useful when the preferred compression algorithm and packetization period parameter is not provided by the media gateway controller. The range is 20 to 120 in increments of 20 for mode 20 or 30 to 120 in increments of 30 for mode 30.
Step 4	<p>end</p> <p>Example: Router(config)# end</p>	<p>Exits global configuration mode and returns to privileged EXEC mode.</p>

Additional References

The following sections provide references related to iLBC Codec Support.

Related Documents

Related Topic	Document Title
MGCP configuration	Cisco IOS MGCP and Related Protocols Configuration Guide

MIBs

MIB	MIBs Link
<ul style="list-style-type: none"> • ENTITY-MIB • OLD-CISCO-CHASSIS-MIB • CISCO-DSP-MGMT-MIB • CISCO-ENTITY-VENDORTYPE-OID-MIB • CISCO-PROXY-CONTROL-MIB • CISCO-VOICE-DIAL-CONTROL-MIB • CISCO-VOICE-COMMON-DIAL-CONTROL-MIB 	<p>To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:</p> <p>http://www.cisco.com/go/mibs</p>

RFCs

RFC	Title
<ul style="list-style-type: none"> • RFC 3267 	<p><i>Real-Time Transport Protocol (RTP) Payload Format and File Storage Format for the Adaptive Multi-Rate (AMR) and Adaptive Multi-Rate Wideband (AMR-WB) Audio Codecs</i></p> <p>This RFC will be used as a reference for implementation to provide GSMAMR-NB codec support in MGCP.</p>
<ul style="list-style-type: none"> • RFC 3951 	<i>Internet Low Bit Rate Codec (iLBC)</i>
<ul style="list-style-type: none"> • RFC 3952 	<i>Real-time Transport Protocol (RTP) Payload Format for internet Low Bit Rate Codec (iLBC) Speech</i>

Technical Assistance

Description	Link
The Cisco Technical Support website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport

Command Reference

This section documents new and modified commands only.

- [mgcp codec gsmamr-nb](#)
- [mgcp codec ilbc](#)

mgcp codec gsmamr-nb

To specify the Global System for Mobile Adaptive Multi-Rate Narrow Band (GSMAMR-NB) codec for an MGCP dial peer, use the **mgcp codec gsmamr-nb** command in dial peer voice configuration mode. To disable the GSMAMR-NB codec, use the **no** form of this command.

```
mgcp codec gsmamr-nb [packetization-period 20] [encap rfc3267] [frame-format
{bandwidth-efficient | octet-aligned [crc | no-crc]}] [modes modes-value]
```

```
no mgcp codec gsmamr-nb
```

Syntax Description	
packetization-period 20	(Optional) Sets the packetization period at 20 ms.
encap rfc3267	(Optional) Sets the encapsulation value to comply with RFC 3267.
frame-format	(Optional) Specifies a frame format. Supported values are octet-aligned and bandwidth-efficient . The default is octet-aligned .
crc no-crc	(Optional) CRC is applicable only for octet-aligned frame format. If you enter bandwidth-efficient frame format, the crc no-crc options are not available because they are inapplicable.
modes	(Optional) The eight speech-encoding modes (bit rates between 4.75 and 12.2 kbps) available in the GSMAMR-NB codec.
<i>modes-value</i>	(Optional) Valid values are from 0 to 7. You can specify modes as a range (for example, 0-2), or individual modes separated by commas (for example, 2,4,6), or a combination of the two (for example, 0-2,4,6-7).

Command Default

Packetization period is **20** ms.
 Encapsulation is **rfc3267**.
 Frame format is **octet-aligned**.
 CRC is **no-crc**.
 Modes value is **0-7**.

Command Modes Global configuration

Command History	Release	Modification
	12.4(11)XW	This command was introduced.

Usage Guidelines

Use the **mgcp codec gsmamr-nb** command to configure the GSMAMR-NB codec and its parameters on the Cisco AS5350XM and Cisco AS5400XM platforms.

Examples

The following example shows how to set the codec to **gsmamr-nb** and set the parameters:

```
Router(config-dial-peer)# mgcp codec gsmamr-nb packetization-period 20 encap rfc3267
frame-format octet-aligned crc
```

Related Commands

Command	Description
mgcp	Starts the MGCP daemon.

mgcp codec ilbc

To specify the internet Low Bandwidth Codec (iLBC) for an MGCP dial peer, use the **mgcp codec ilbc** command in dial peer voice configuration mode. To disable the iLBC, use the **no** form of this command.

```
mgcp codec ilbc mode frame_size [packetization-period value]
```

```
no mgcp codec ilbc
```

Syntax Description	mode <i>frame_size</i>	Specifies the iLBC operating frame mode that is encapsulated in each packet in milliseconds (ms). Valid entries are the following: <ul style="list-style-type: none"> 20—20, 40, 60, 80, 100 or 120 ms frames for 15.2 kbps bit rate. Default is 20. 30—30, 60, 90, or 120 ms frames for 13.33 kbps bit rate. Default is 30.
	packetization-period <i>value</i>	(Optional) Packetization period. This value is useful when the preferred compression algorithm and packetization period parameter are not provided by the media gateway controller. The range is 20 to 120 in increments of 10.

Command Default 20ms frames for a 15.2 kbps bit rate.

Command Modes Global configuration

Command History	Release	Modification
		12.4(11)XW

Usage Guidelines The iLBC is only supported on Cisco AS5350XM and Cisco AS5400XM Universal Gateways with Voice Feature Cards (VFCs) and IP-to-IP gateways with no transcoding and conferencing.

Examples

The following example shows how to set the MGCP codec to **ilbc** and set the parameters:

```
Router(config-dial-peer)# mgcp codec ilbc mode 20 packetization-period 60
```

Related Commands

Command	Description
mgcp	Starts the MGCP daemon.

Feature Information for AMR-NB and iLBC Codec Support for MGCP

Table 1 lists the release history for this feature.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Cisco IOS software images are specific to a Cisco IOS software release, a feature set, and a platform. Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.



Note

Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for AMR-NB and iLBC Codec Support for MGCP

Feature Name	Releases	Feature Information
AMR-NB Codec Support for MGCP	12.4(11)XW	This feature adds support for the AMR-NB codec on voice gateways for the MGCP protocol.
Voice Quality Enhancements	12.4(11)XW	This feature adds support for iLBC codec on voice gateways for the MGCP protocol.

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