

Configure Opus Support on Cisco Unified Communication Manager

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Introduction

This Document describes the Configuration to Enable Opus codec support that was added as part of Cisco Unified Communications Manager Release 11.0(1) and the list of Devices that support Opus.

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Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Unified Communication Manager.
- Voice over Internet Protocol (VoIP)

Components Used

The information in this document is based on these software versions:

- Cisco Unified Communications Manager (CUCM) version 11 and above.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

What is Opus?

Opus codec is an interactive speech and audio codec that is, designed to handle a wide range of interactive audio applications such as VoIP, video conferencing, in-game chat, and live distributed

music performance.

The Opus codec scales from 6 kbit/s narrowband mono speech to 510 kbit/s fullband stereo music. It can seamlessly switch between all of its various operating modes, giving it a great deal of flexibility to adapt to varying content and network conditions without renegotiating the current session.

Opus is supported for SIP devices. The Opus codec service parameter **Opus Codec Enabled** is set to Enabled for All Devices by default. The Other Possible values for this parameter can be enable Opus codec for all non-recording devices or Disabled for all the devices.

Cisco Devices that Support OPUS

Device	Protocol	Minimum Firmware Requirement
7811/78221/7841/7861	SIP	78xx.11-5-1-18
8865/8845	SIP	8845_65-sip.11-5-1-18
8841/8841/8851/8861	SIP	88xx-sip.11-5-1-18
Cisco Jabber	SIP	11.0

Configuration to enable Opus.

- Enable the Service Parameter for Opus Codec
- Enable the Enterprise parameter for Advertise G.722 Codec

Step 1. In order to enable OPUS Support Login to Cisco Unified CM Administration Page, Navigate to **System > Service parameters**.

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

Navigation Cisco Unified CM Administration
admin Search Documentation About Log

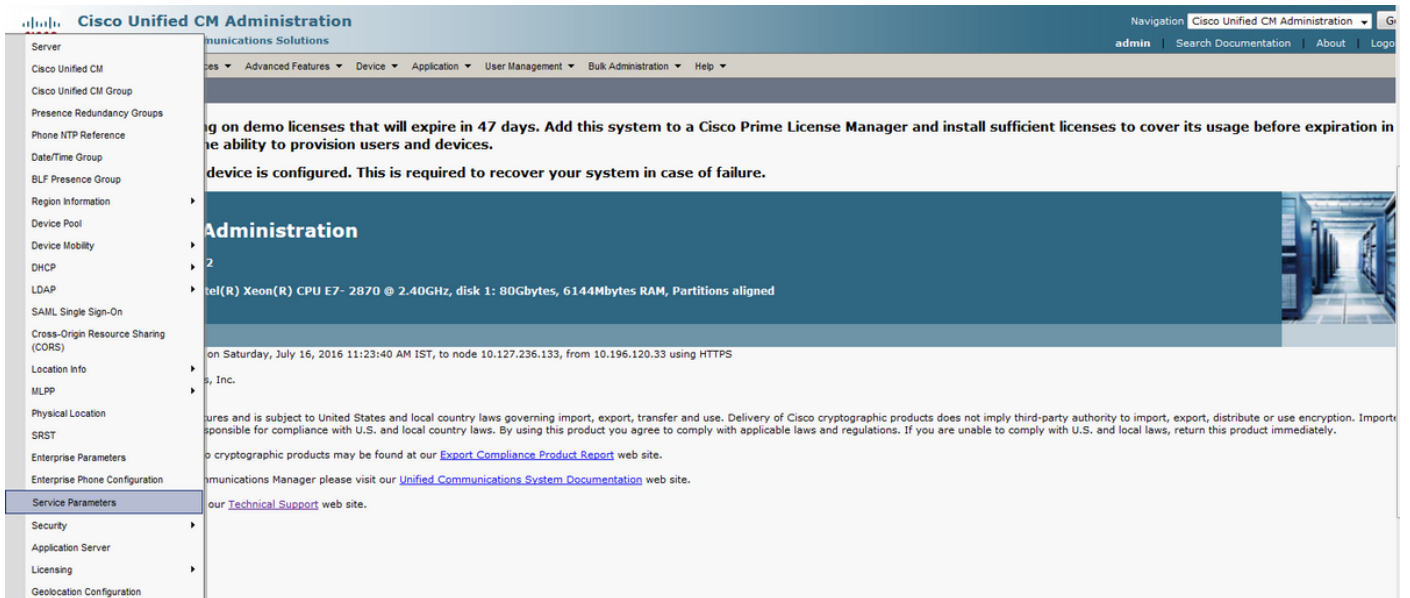
System Call Routing Media Resources Advanced Features Device Application User Management Bulk Administration Help

⚠ The system is operating on demo licenses that will expire in 47 days. Add this system to a Cisco Prime License Manager and install sufficient licenses to cover its usage before expiration in order to avoid losing the ability to provision users and devices.

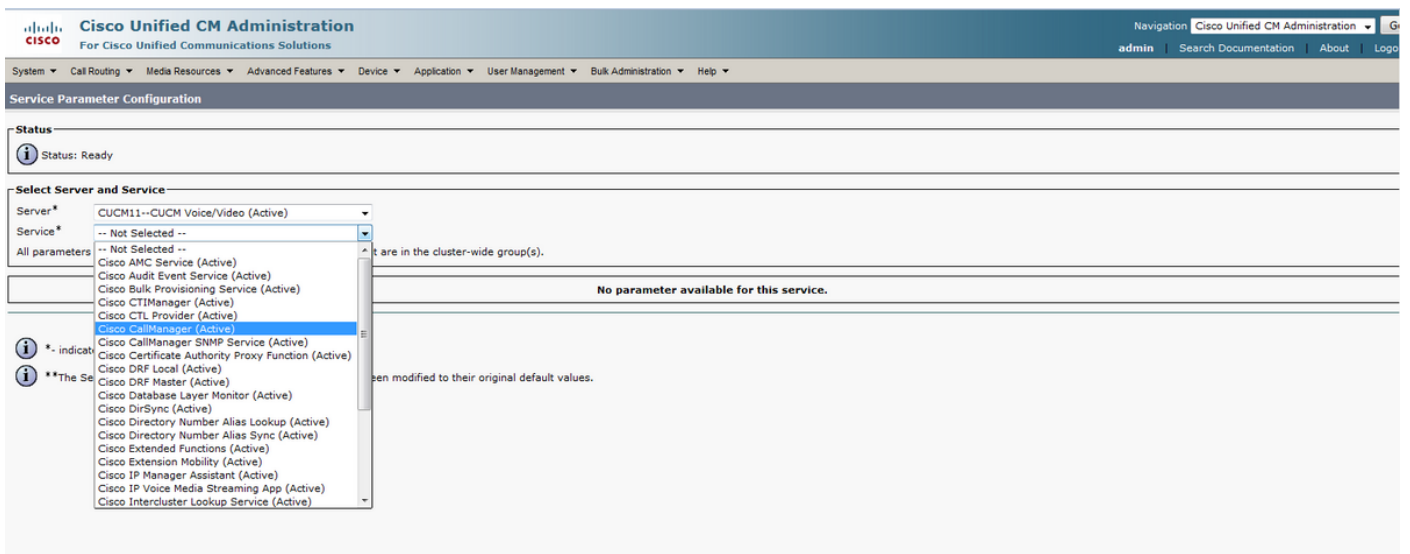
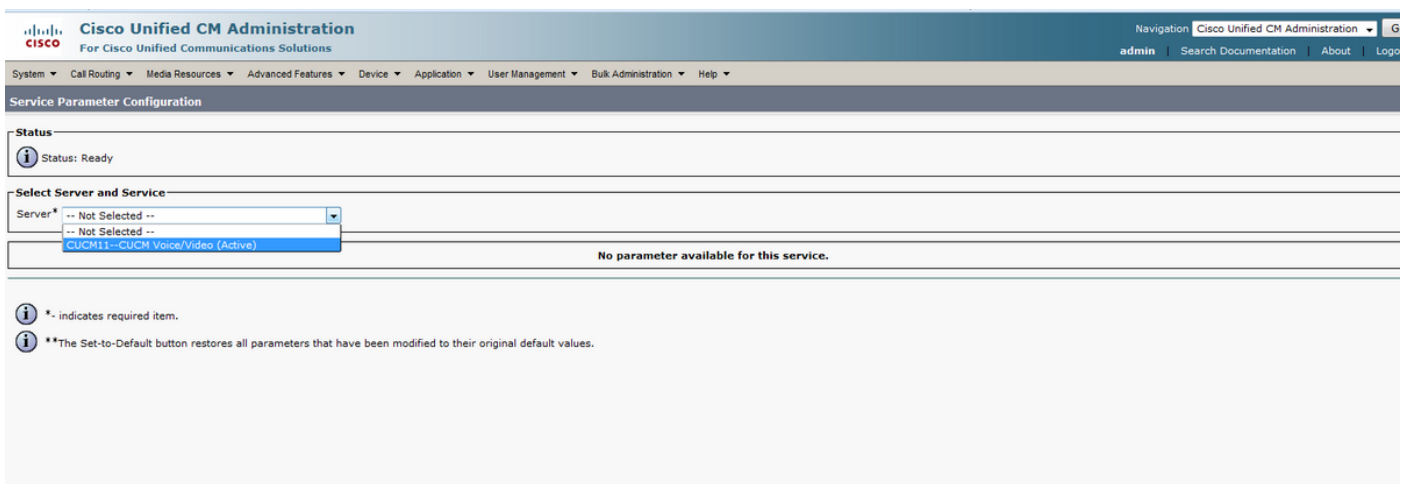
⚠ WARNING: No backup device is configured. This is required to recover your system in case of failure.

Cisco Unified CM Administration
System version: 11.0.1.20000-2
VMware Installation: 2 vCPU Intel(R) Xeon(R) CPU E7- 2870 @ 2.40GHz, disk 1: 80Gbytes, 6144Mbytes RAM, Partitions aligned

User admin last logged in to this cluster on Saturday, July 16, 2016 11:23:40 AM IST, to node 10.127.236.133, from 10.196.120.33 using HTTPS



Step 2. From the Drop-down Menu Choose the Server as your Call Manager and service as Call Manager Service.



Step 3. Search for Opus Codec Enabled Parameter and set it to Enabled for All Devices to enable the Opus for all devices. Save the Configuration.

Clusterwide Parameters (System - Location and Region)		
Enforce Millisecond Packet Size *	True	True
Locations Trace Details Enabled *	False	False
Preferred G.711 Millisecond Packet Size *	20	20
Preferred G.722 Millisecond Packet Size *	20	20
Preferred G.723.1 Millisecond Packet Size *	30	30
Preferred G.729 Millisecond Packet Size *	20	20
Always Use Preferred G.729 Packet Size For SIP Trunk Answers *	False	False
Preferred GSM FRB Bytes Packet Size *	31	31
G.711 A-law Codec Enabled *	Enabled for All Devices	Enabled for All Devices
G.711 mu-law Codec Enabled *	Enabled for All Devices	Enabled for All Devices
G.722 Codec Enabled *	Enabled for All Devices	Enabled for All Devices
iLBC Codec Enabled *	Enabled for All Devices	Enabled for All Devices
iSAC Codec Enabled *	Enabled for All Devices	Enabled for All Devices
Opus Codec Enabled *	Enabled for All Devices	Enabled for All Devices
Default Intra-region Max Audio Bit Rate *	Enabled for All Devices	64 kbps (G.722, G.711)
Default Inter-region Max Audio Bit Rate *	Enabled for All Devices Except Recording-Enabled Devices Disabled	8 kbps (G.729)
Default Intra-region Max Video Call Bit Rate (Includes Audio) *	384	384
Default Inter-region Max Video Call Bit Rate (Includes Audio) *	384	384
Default Intra-region Max Immersive Video Call Bit Rate (Includes Audio) *	2000000000	2000000000
Default Inter-region Max Immersive Video Call Bit Rate (Includes Audio) *	2000000000	2000000000

Note: All devices does not mean that the Codec would be enabled for all devices that are registered on CUCM. It would be enabled for All the Devices that Support Opus. Not All the Cisco Devices Support Opus. For list of Devices that Support OPUS please see “Cisco Devices that Support OPUS” Section.

Step 4. Navigate to **System > Enterprise Parameter** on Cisco Unified CM Administration Page.

The screenshot shows the Cisco Unified CM Administration interface. The left-hand navigation pane is expanded to show 'Enterprise Parameters'. The main content area displays a warning message about demo licenses expiring in 47 days and a section titled 'Administration' with system information including 'Intel(R) Xeon(R) CPU E7- 2870 @ 2.40GHZ, disk 1: 80Gbytes, 6144Mbytes RAM, Partitions aligned'. Below this, there is a legal disclaimer regarding the use of Cisco cryptographic products.

Step 5. Enable **Advertise G.722 Codec** Parameter.

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

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Enterprise Parameters Configuration

Save Set to Default Reset Apply Config

Status
Status: Ready

Enterprise Parameters Configuration

Parameter Name	Parameter Value	Suggested Value
Cluster ID *	StandAloneCluster	StandAloneCluster
Max Number of Device Level Trace *	12	12
DSCP for Phone-based Services *	default DSCP (000000)	default DSCP (000000)
DSCP for Phone Configuration *	CS3(precedence 3) DSCP (011000)	CS3(precedence 3) DSCP (011000)
DSCP for Cisco CallManager to Device Interface *	CS3(precedence 3) DSCP (011000)	CS3(precedence 3) DSCP (011000)
Connection Monitor Duration *	120	120
Auto Registration Phone Protocol *	SIP	SCCP
Auto Registration Legacy Mode *	True	False
BLF For Call Lists *	Disabled	Disabled
Advertise G.722 Codec *	Enabled	Enabled
Phone Personalization *	Disabled	Disabled
Services Provisioning *	Enabled	Internal
Feature Control Policy	< None >	
Wi-Fi Hotspot Profile	< None >	
IMS Inter Operator Id *	IMS Inter Operator Identification	IMS Inter Operator Identification
URI Lookup Policy *	Case Sensitive	Case Sensitive

Note: If the Advertise G.722 Codec Parameter is set to Disabled, Devices would not use OPUS even if the OPUS Codec enabled parameter under service parameter is set to Enabled.

After the Changes have been made you would need to Click on “Apply Config” and “Reset” buttons for Changes to take effect.

Note: A Reset Command for Enterprise parameter would reset all the Devices registered to the CUCM.

Defects associated

- [CSCva48193](#)