

Cisco Universal Media Service

Product Overview

The Cisco® Universal Media Service (UMS) is a critical component of the Cisco Instant Connect system that enforces talkgroup memberships defined and controlled by Cisco Instant Connect Server. Cisco UMS mixes audio from multicast and Session Initiation Protocol (SIP) streams and broadcasts it back to other multicast and SIP streams, offering an extensible, upgradable platform for media services.

Cisco UMS bridges multicast and unicast users, performs proxy mixing for resource-constrained endpoints, and provides G.711, iLBC (Internet Low Bitrate Codec), and G.729 transcoding services so that local Cisco Instant Dispatch Consoles (IDCs), remote IDCs, and IP phones can participate in the same virtual talkgroup. Cisco UMS supports the creation of virtual talkgroups, scan virtual talk groups, broadcast virtual talkgroups and user priority with audio preemption.

Features and Benefits

Table 1 shows the new features in Cisco UMS.

Table 1. Cisco UMS Features and Descriptions

Feature	Description
High Capacity Push-to-Talk	The UMS provides up to 1,300 mobile users per talk group with user priority and pre-emption capability. Higher priority users preempt users of lower priority on the same channel.
Direct Network Connection	Allows audio integration through Session Initiated Protocol (SIP) directly with talk groups to external systems. Instant Connect can easily integrate with Unified Communications systems or to 3 rd party console products.
High availability	Provides audio high availability through the use of a cluster redundant high availability server. When a UMS server is lost, it only loses capacity (N+1) redundancy.
Audio mixing	Mixes audio from multicast and SIP streams and broadcasts the mixed audio to other multicast and SIP streams.
Talker ID	Supports Talker ID between multicast and SIP endpoints, including Project 25 (P25) and other signaling supported through serially controlled donor radios.
Dispatch from IP SIP endpoints	Provides radio control from SIP endpoints, eliminating the need for expensive proprietary handsets.
Improved multicast voice quality	Contains an improved voice quality algorithm that enables better multicast mixing.
Supports Apple iPhones, Android, and Cisco IP phones as dispatching endpoints	Enables remote users to join push-to-talk audio as part of a virtual talkgroup. This enables users from proprietary radio networks or systems to connect to Wi-Fi or public carrier networks using smartphones with the Instant Connect mobile client.
Virtualized proxy mixing	Mixes proxy users so that audio processing can occur either on a network appliance or in a virtualized environment, enabling the existing network infrastructure to be reused.
Audio transcoding	Provides G.711 and G.729 audio transcoding between local dispatchers, remote dispatchers, smartphone users, and IP phones. Transcoding is assigned in a round-robin fashion to make sure of distributed resources.
Scan Virtual Talk Group	Up to 5 channels can be put into a scan VTG. The UMS will combine the streams and send a single stream to the mobile client.
Broadcast Virtual Talk Group	A broadcast virtual talk group can be hosted on the UMS. When an authorized user makes a transmission on the broadcast group their audio will preempt all audio on those channels in the broadcast group. This is used for one-way communication to all users on the system.

* Check the Instant Connect compatibility matrix for a list of compatible smartphones:
https://www.cisco.com/en/US/products/ps7026/tsd_products_support_series_home.html.

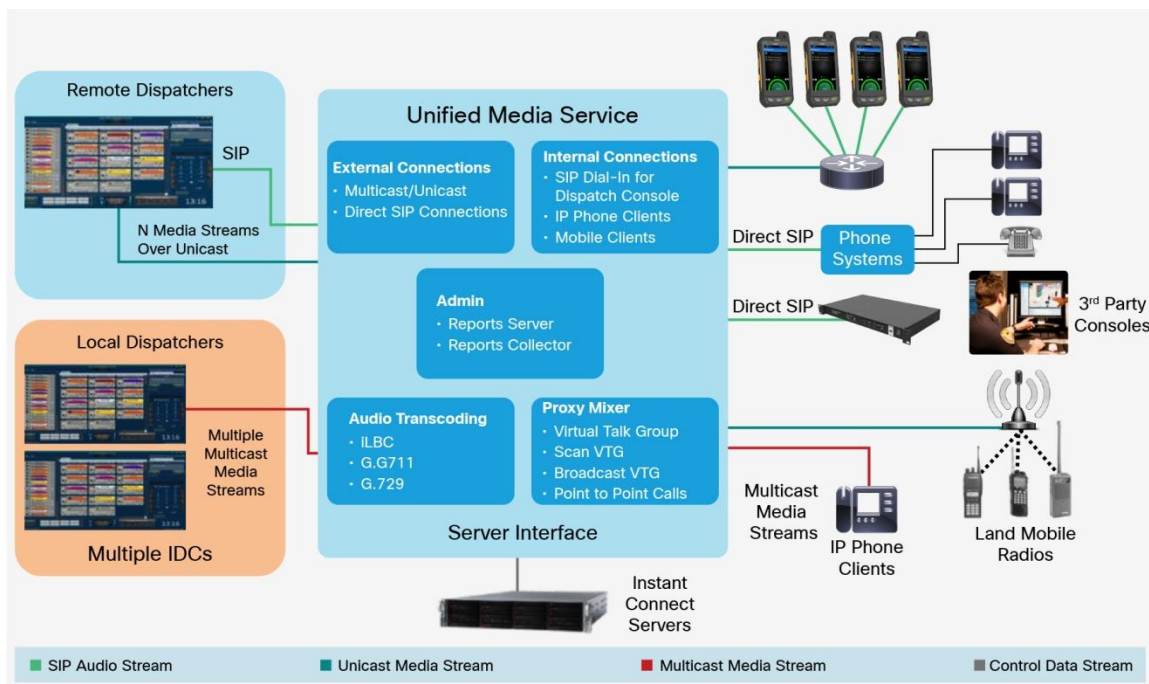
Architecture

As a Linux-based solution, Cisco UMS can run on a wide range of platforms including the Cisco UCS® B-Series, C-Series, and E-Series servers.

Cisco UMS includes the following functional building blocks (Figure 1):

- Instant Connect Server interface
- Virtual talkgroup support, Scan talkgroup support, Broadcast talkgroup support
- G.711 to G.729 to iLBC transcoding
- Proxy mixing
- SIP support
 - Private Call Support
 - User priority and preemption
 - Mapping locations and history
 - Reports Server functions

Figure 1. Cisco Unified Media Service Functional Diagram



UMS

Cisco UMS extends functionality in current Instant Connect deployments. Cisco UMS provides advanced signaling, which informs users of who's talking (talker ID), and the dispatcher's talker ID, which will be sent to all subscribers. (See Table 2.)

Table 2. Features

Feature	Capacity
Talker ID SIP, VTG, Scan VTG, Broadcast VTG	Yes
Talker ID P25	Yes
Direct Fixed Connection SIP/BSI	Yes
Simultaneous sessions	100
High availability	Yes- cluster redundancy (N+1)
IP compliance (IANA)	IPv6*

* Check Compatibility matrix for supported software and devices.

Table 3 provides ordering information.

Table 3. Ordering Information

Part Number	Description
CIC-UMS	UMS Appliance: Order as an option for the Virtualized Instant Connect Software (L-CIC-VM=) for e-delivery

Summary

Cisco UMS is an integral part of the Cisco Instant Connect system and is the key enabler for mobile communications with smart devices. Cisco Instant Connect provides secure, reliable, and scalable communications to organizations using the IP network as the core infrastructure.

Additional Information

Please contact your local or regional Cisco account representative for Cisco Instant Connect ordering information.

Services and Support

Cisco and our certified partners can help you accelerate success and improve the return on your investment in a Cisco Instant Connect solution. The Cisco lifecycle approach to services defines the requisite activities at each phase of the solution lifecycle:

- Reduce deployment costs by identifying the features that will best meet your business requirements.
- Accelerate migration by assessing the readiness of your network to support the system and by developing a sound design.
- Support smooth implementation through effective planning and expert installation, configuration, and integration.
- Increase operational efficiency and extend the value of your investment with award-winning technical support.

For more information about Cisco Services, visit <https://www.cisco.com/go/services>.

Cisco Capital

Financing to Help You Achieve Your Objectives

Cisco Capital® can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce CapEx. Accelerate your growth. Optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services, and complementary third-party equipment. And there's just one predictable payment. Cisco Capital is available in more than 100 countries. [Learn more.](#)

For More Information

For more information about Cisco Instant Connect, visit <https://www.cisco.com/go/instantconnect> or contact your local account representative.




Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at <https://www.cisco.com/go/offices>.

 Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: <https://www.cisco.com/go/trademarks>. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)