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Up one level: Planning Your Deployment

Use this guide to plan the installation of your Cisco Unified MeetingPlace Release 8.0 system.

- Scalability for Cisco Unified MeetingPlace Release 8.0
- New Components in Cisco Unified MeetingPlace Release 8.0
- How to Plan Your Installation
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Scalability for Cisco Unified MeetingPlace Release 8.0

Cisco Unified MeetingPlace Release 8.0 is a SIP-based architecture that provides a rich-media voice, video, and web conferencing solution to large enterprises.

- Scalability for Voice and Video Systems
- Scalability for Web Conferencing

Scalability for Voice and Video Systems

Voice conferencing can scale to 2000 ports in a single system using modular Hardware Media Servers for redundancy and DSP mixing for voice and video.

Video conferencing scales up to 650 video ports in a single system using an Express Media Server and supports a wide variety of endpoints from Cisco Unified video telephony to H.323/H.320 and SIP endpoints from third-party providers.

Table: Audio and Video Scalability Numbers for Cisco Unified MeetingPlace lists the maximum number of calls that are supported. The table assumes that the G.711 audio codec is being used and video is 320 Kbps. See Planning the Capacity of your Cisco Unified MeetingPlace System for detailed information about System Resource Units (SRUs) that are used to calculate the capacity of the Express Media Server. The server listed is the server on which the Application Server resides.

Table: Audio and Video Scalability Numbers for Cisco Unified MeetingPlace

	Maximum Number of Calls that are Supported		
System Mode	**Application Server hosted on Cisco MCS 7835-H2/I2**	**Application Server hosted on Cisco MCS 7845-H2/I2**	**Application Server hosted on Cisco MCS 7845 Quad Core**
Hardware Media Server	Audio: 500 Video: 160 (80 at 2 MB or 160 at 384 Kbps)	Audio: 1500 Video: 300 (160 at 2 MB or 300 at 384 Kbps)	Audio: 2000 Video: 300 (160 at 2 MB or 300 at 384 Kbps)
Express Media Server in scheduled mode, ad-hoc mode, or a combination	Audio only: 500 **Note:** The number of supported audio-only calls drops to a maximum of 300 SRUs at a maximum call rate of 3cps when you are using the G.711 codec. Audio and Video: 250 for audio, 250 for video	Audio only: 1000 **Note:** The number of supported audio-only calls drops to a maximum of 600 SRUs at a maximum call rate of 6cps when you are using the G.711 codec. Audio and Video: 500 for audio, 500 for video	Audio only: 1500 Audio and Video: 750 for audio, 750 for video

Scalability for Web Conferencing

- Web conferencing using Cisco WebEx employs a Cisco WebEx Node for MCS that can accommodate up to 500 web sessions, depending on the type of hardware on which the Application Server resides:
    - Cisco MCS 7835-H2/I2: 250 web sessions per Cisco WebEx Node for MCS

- Cisco MCS 7845-H2/I2: 500 web sessions per Cisco WebEx Node for MCS
- Cisco MCS 7845 Quad Core: 500 web sessions per Cisco WebEx Node for MCS

You can add additional Cisco WebEx Nodes to increase the number of web meetings.
Note: The above numbers are for systems with SSL enabled.

- Web conferencing using the IBM Lotus Sametime Web Conference integration scales to 100 simultaneous voice and web users.

New Components in Cisco Unified MeetingPlace Release 8.0

- Express Media Server
- Cisco WebEx Node for MCS
- Directory Service

Express Media Server

All systems that will use audio or video need a media server and the media server can be either an Express Media Server or a Hardware Media Server.

The Express Media Server, new in this release of Cisco Unified MeetingPlace, is a set of software modules, including an audio mixer and a video switcher, that resides on the Application Server. The Express Media Server creates a single box, software-only solution for Cisco Unified MeetingPlace. The Express Media Server is based on the Cisco Unified MeetingPlace Express Video Telephony (VT) product.

All Cisco Unified MeetingPlace Release 8.0 systems automatically come with an Express Media Server.

Before you choose between a Hardware Media Server and the Express Media Server, review the differences between the two. See the Choosing Between the Hardware Media Server and the Express Media Server in Choosing an Audio and Video Deployment for Cisco Unified MeetingPlace Release 8.0.

Voice Quality Information for the Express Media Server

- Echo cancellation?No line or acoustic echo cancellation is applied to incoming voice streams. Therefore, you should enable echo cancellation in the gateways for the PSTN lines.
- Packet loss concealment (PLC)?PLC is not available for G.722, so occasional audio degradation may be heard on G.722 audio streams which undergo packet loss. If you cannot fix or tolerate the packet loss issues on those audio streams, then switch to a different codec, such as G.711.
- Jitter handling?The Express Media Server has a 160-millisecond jitter buffer. Our tests show that packet delay variation greater than 80 milliseconds results in dropped packets. We recommend that you minimize the jitter in your network, especially for the audio streams that come in to Cisco Unified MeetingPlace. For example, implement the appropriate quality of service (QoS) policies with Differentiated Services Code Point (DSCP) markings.
- Automatic gain control (AGC)?AGC is not available on the Express Media Server. In a meeting, users can use the telephone user interface (TUI) to raise and lower the volume of their own voices:

- Press **#82** to increase the volume at which other participants hear you.
- Press **#83** to decrease the volume at which other participants hear you.

Cisco WebEx Node for MCS

The Cisco WebEx Node for MCS hosts the Cisco WebEx meeting room on-premise and is responsible for connecting to the Cisco WebEx site via an SSL gateway, hosting the meeting room, accepting client connections, outdialing, and recording the meeting.

The Cisco WebEx Node for MCS does the following:

- Receives meeting data from meeting presenters and distributes the data to the other meeting participants.
- Aggregates internally generated traffic to minimize traffic on Internet link to Cisco WebEx site.
- Handles recording.
- Handles meeting control functions.
- Sends realtime status messages to the Webex Node Management system for realtime and historical reports on Webex Node activites.

Multiple Cisco WebEx Nodes may be provisioned to increase capacity and provide for redundancy:

- Provisioning is in Cisco WebEx site and nodes themselves, transparent to Cisco Unified MeetingPlace server.
- Multiple nodes in same meeting will automatically cascade.
- Single set of Cisco WebEx Nodes for MCS may be shared between internal and external meetings.
- Internal meetings hosted on the WebEx Node for MCS support only Meeting Center meetings. Event Center and Training Center meeting traffic can be aggregated on the WebEx Node for MCS, but it can be designated only as an external meeting.
- Only External Meetings can overflow to the WebEx Collaboration cloud. Meeting Center meetings can be scheduled as external by the schedulers.
- Internal Meeting Center Meetings are decided when scheduling a meeting and there is no data sharing or automatic overflow to the WebEx Collaboration cloud.
- Your system can have up to 3 Cisco WebEx Node for MCS servers deployed anywhere behind the enterprise firewalls for internal network users only when joining WebEx web meetings.

Applicable to Meetings scheduled as "Internal"

If users schedule a Meeting Center WebEx meeting as an "internal" meeting type, then all invitees must be on Enterprise network internal PCs (VPN or on network), in order to join this meeting type. No one outside that Enterprise is able to join. An internal meeting does not send any shared content to the WebEx Collaboration cloud but it does send status information to the WebEx Node Management system only. Because the Internal meeting type does not have a data sharing link to the WebEx Collaboration cloud, internal meetings cannot be recorded or WebEx HQ Video webcam mixing cannot be seen (all WebEx webcam video traffic is mixed in the WebEx Collaboration cloud only).

When an Enterprise network user (either directly on the network or on VPN into the network) clicks on a URL to join a meeting, the first browser window joins to the WebEx Site and receives a list of WebEx Nodes

only for an "internal" meeting. The WebEx client does a ping to all the WebEx Nodes deployed internally behind the company firewalls only. The WebEx client picks the meeting server based on the ping response Round Trip Time (RTT) between the client and the type of the server which is classified as ?node?, and joins the shortest ping response RTT. Internal meetings automatically overflow to other Webex Nodes deployed in the network, so redundant Webex Nodes are highly recommended for resiliency for internal web meetings. Internal meetings are not allowed to overflow to the Webex Collaboration cloud like "external" meetings.

Applicable to Meetings scheduled as ?External?

When an Enterprise network user (either directly on the network or on VPN into tbe network) clicks on a URL to join a meeting, the first browser window joins to the WebEx site and receives a list of WebEx Nodes and cloud servers. The WebEx client does a ping to all resources. The WebEx client picks the meeting server based on the ping response Round Trip Time (RTT) between the client and the type of the server which is classified as ?node? or ?DC?. DC is the WebEx Collaboration Cloud. If RTT to the node is less than 50 ms, then it will use the WebEx node with the fastest ping response. Otherwise, if RTT to the node and RTT to DC is the same, then the WebEx Node has higher priority than the ?DC? servers in the cloud, and the client browser is directed to the WebEx Node on premise. If multiple WebEx Nodes are deployed on premise, then the client to server RTT that is the fastest ping response will connect to that particular node. WebEx Global Distributed Meetings are utilized on the WebEx Node and in the WebEx Collaboration Cloud meetings, from anywhere in the world, to join all meeting attendees in the same meeting together.

The Cisco WebEx Node for MCS does not support proxy configuration. Therefore, you must place it in a network that has outbound access to the Cisco WebEx site, but that is also accessible by all internal clients that will be using it.

About Failover When Using the Cisco WebEx Node for MCS

If the Cisco WebEx Node for MCS that is hosting a meeting becomes unavailable, the next available Cisco WebEx Node for MCS automatically takes over. Any sharing and recordings will be stopped, and users will have to restart sharing and recording the meetings.

Automatic failover for the Cisco WebEx Node for MCS only applies to internal meetings in systems that have at least two Cisco WebEx Nodes installed. For external meetings, failover is handled by the Cisco WebEx collaboration cloud.

For more information about the Cisco WebEx Node for MCS and failover, see the online help in the administrator interface or the *Configuration Guide for Cisco Unified MeetingPlace Release 8.0* at http://www.cisco.com/en/US/products/sw/ps5664/ps5669/products_installation_and_configuration_guides_list.html.

Directory Service

Although not new in Cisco Unified MeetingPlace Release 8, here is information about three features that are commonly misunderstood:

- Directory Services
- Directory Service
- Directory Integration

Directory Services

In Cisco Unified MeetingPlace Release 5.x and 6.x, there was a component called MeetingPlace Directory Services (MPDS). This component was used to synchronize your directory server information with your Cisco Unified MeetingPlace Release 5.x or 6.x system profiles. With Cisco Unified MeetingPlace Directory Services, you could easily integrate the information that is stored on your corporate directory server with your Cisco Unified MeetingPlace Release 5.x or 6.x system. By using LDAP technology, Directory Services creates an all-inclusive meta-directory that combines and synchronizes Active Directory or Netscape/SunOne/iPlanet directory information with Cisco Unified MeetingPlace Release 5.x or 6.x system information.

Directory Service

In Cisco Unified MeetingPlace Release 7 and Release 8, there is a new feature called Directory Service (note that the word service has no s at the end). This feature is not the same as the MeetingPlace Directory Services (MPDS) component that was used in Cisco Unified MeetingPlace Release 5.x and Release 6.x.

Directory Service enables the system to populate and synchronize the Cisco Unified MeetingPlace user database with the Cisco Unified Communications Manager user database, which is typically integrated with an LDAP directory.

Specifically, Directory Service simplifies user profile administration in these ways:

- Imports user profiles from Cisco Unified Communications Manager to Cisco Unified MeetingPlace.
- Periodically updates the Cisco Unified MeetingPlace database with new or modified user entries in the Cisco Unified Communications Manager database.
- Periodically checks the Cisco Unified Communications Manager database for inactive user entries, and deletes those user profiles from the Cisco Unified MeetingPlace database.
- Enables the system to use AXL authentication to authenticate Cisco Unified MeetingPlace Directory Service users against the external directory.
- Supports fully encrypted LDAP integration when Secure LDAP (SLDAP) is enabled on Cisco Unified Communications Manager and the LDAP server.

Note: SSL for the Cisco Unified MeetingPlace Application Server is not required to support Secure LDAP integration. You must, however, make sure that the configured AXL URL begins with "https" instead of "http."

- Deleting Cisco Unified MeetingPlace user profiles does NOT delete or deactivate the corresponding user accounts on the Cisco WebEx site.

Related Information

- For more information about Directory Service, see the online help in the administrator interface or the *Configuration Guide for Cisco Unified MeetingPlace Release 8.0* at http://www.cisco.com/en/US/products/sw/ps5664/ps5669/products_installation_and_configuration_guides_list.htm

- For information about LDAP integration, see the Cisco Unified Communications Solution Reference Network Design (SRND) that applies to your version of Cisco Unified Communications Manager at http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_implementation_design_guides_list.html.

Directory Integration

In Cisco Unified MeetingPlace Release 7 and Release 8, there is also a feature called Cisco WebEx directory integration, which has the following attributes:

- Single Sign-On (SSO) is configured on the Cisco WebEx site.
- Cisco Unified MeetingPlace is where user profiles are created, stored, and modified when necessary.
- Users sign in through the Cisco Unified MeetingPlace Application Server.
- Cisco Unified MeetingPlace provides the authentication service.
- User profiles are automatically imported or updated from Cisco Unified MeetingPlace into Cisco WebEx whenever a user signs in or launches a meeting. There is no need to manually import user profiles.
- If a user tries to sign in to Cisco WebEx, the system redirects him to the Cisco Unified MeetingPlace Application Server.

How to Plan Your Installation

To plan your installation, start by reading this guide. This will help you answer the questions which will determine how you install the system.

- Questions to Answer
- Determining Which Deployments to Use for Your System
- Determining How Many Licenses Your System Needs
- Determining How Many Licenses Your System Needs
- Determining if Your System Needs to be Configured for Failover
- Educating your Organization

Questions to Answer

Before you can start installing your new system, you need to answer the following questions:

- How many users will your system serve?
- Will your system host audio meetings, video meetings, web meetings, or a combination?
- Will your system host internal or external meetings, or a combination?
- Which application do you want to use to schedule meetings, Cisco Unified MeetingPlace or Cisco WebEx?
- For video deployments, which type of video endpoints do you use?
- Which e-mail system will you use for meeting notifications (if any)?
- Which instant messaging system will you use (if any)?
- Are you re-using any components from a Cisco Unified MeetingPlace Release 7.0, Cisco Unified MeetingPlace Release 6.0, or Cisco Unified MeetingPlace Express system?

Answering those questions will determine the following:

- The type of hardware servers you need. For example, should you use a Cisco MCS 7845 or Cisco MCS 7835? Should you use a Hardware Media Server or an Express Media Server?
- How many of each hardware server you need.
- If you need to purchase additional licenses.
- Which software components to install.
- Which integrations to install.
- If you need to configure your system for redundancy.
- If you need to configure your system for RSNA.
- If you need to configure your system for users or if they will be imported.

Determining Which Deployments to Use for Your System

To determine	Read this section
Which audio deployment to use	Choosing an Audio Without Video Deployment for Cisco Unified MeetingPlace Release 8.0
Which video deployment to use	Choosing an Audio and Video Deployment for Cisco Unified MeetingPlace Release 8.0
Which web deployment to use	Choosing a Web Deployment for Cisco Unified MeetingPlace Release 8.0

Determining How Many Licenses Your System Needs

To determine	Read this section
If you have the correct licenses	Licenses for your Cisco Unified MeetingPlace System
The capacity of your system	Planning the Capacity of your Cisco Unified MeetingPlace System

Determining the Hardware to Use for Your System

To determine	Read this section
Which hardware components you need	How to Determine the Type of Hardware for Your System
Which integrations you want on your system	Recommendations for Selecting the Integrations and Associated Hardware for Your System
Whether to use a Hardware Media Server or an Express Media Server	Choosing an Audio and Video Deployment for Cisco Unified MeetingPlace Release 8.0

Determining if Your System Needs to be Configured for Failover

To determine	Read this section
If your deployment will need to use failover for the Application Server or for the Express Media Server	About Failover Options for the Application Server
If your deployment will need to use failover for the Hardware Media Server	About Failover Options for the Hardware Media Server

Educating your Organization

For information about the rapid adoption plan and how to communicate and educate your organization about the Cisco Unified MeetingPlace Release 8.0 system, see Introducing Cisco Unified MeetingPlace to Your Organization using the Rapid Adoption Plan.

For More Information

For more information about the Cisco Unified MeetingPlace Release 8.0 system, see the following:

- *System Requirements for Cisco Unified MeetingPlace Release 8.0*: http://docwiki.cisco.com/wiki/Cisco_Unified_MeetingPlace_Release_8.0_--_System_Requirements_for_Cisco_U
- *Compatibility Matrix for Cisco Unified MeetingPlace Release 8.0*: http://docwiki.cisco.com/wiki/Cisco_Unified_MeetingPlace_Release_8.0_--_Compatibility_Matrix_for_Cisco_Un
- *System Requirements Network Document (SRND) for Cisco Unified Communications*: http://www.cisco.com/en/US/partner/docs/voice_ip_comm/cucm/srnd/8x/uc8x.html
- *Installation and Upgrade Guide for Cisco Unified MeetingPlace Release 8.0*: http://www.cisco.com/en/US/products/sw/ps5664/ps5669/prod_installation_guides_list.html
- *Release Notes for Cisco Unified MeetingPlace Release 8.0*: http://www.cisco.com/en/US/products/sw/ps5664/ps5669/prod_release_notes_list.html
- Online help in the administrator interface or the *Configuration Guide for Cisco Unified MeetingPlace Release 8.0* at http://www.cisco.com/en/US/products/sw/ps5664/ps5669/products_installation_and_configuration_guides_list.htm