



MEETINGS

Transitioning from TelePresence Server to Cisco Meeting Server

Deployment Guide

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Introduction

Target Audience

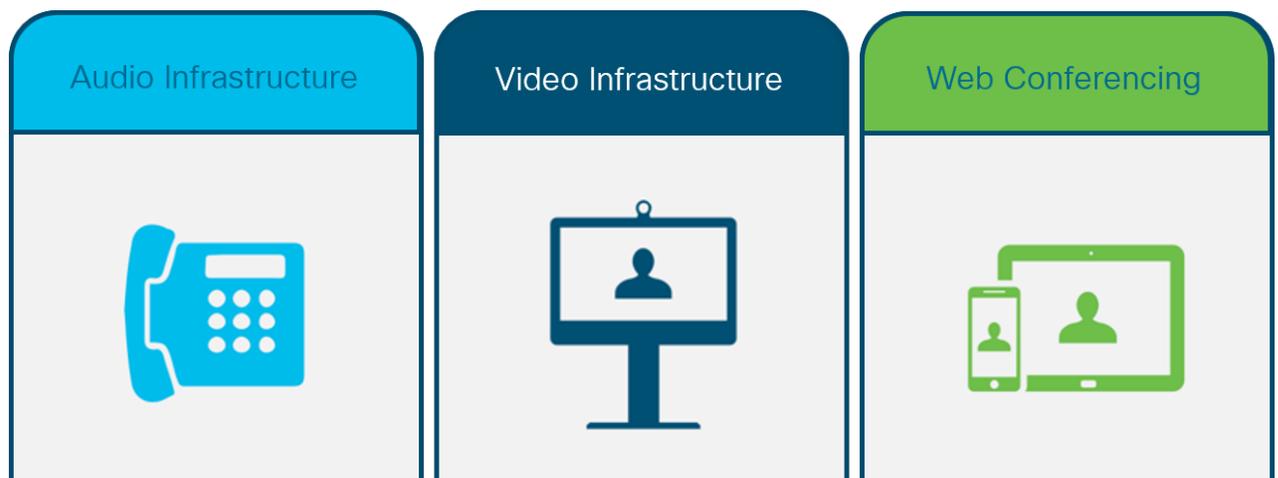
This transition deployment guide is intended to be used by teams or individuals with experience configuring and administering Cisco call control platforms (Unified CM, VCS/Expressway), Cisco TelePresence Conductor, Cisco TelePresence Server (TS), and Cisco TelePresence Management Suite (TMS). There are links to other documentation throughout this document to assist.

Overview

Historically, as shown in Figure 1 collaboration network evolution developed from voice-centric architectures, video-centric architectures, and web-centric collaboration architectures. While each component could be successful on its own, the components might not integrate well together to provide a cohesive collaboration solution.

This document focuses on customers with Cisco TelePresence Conductor and Cisco TelePresence Server solutions that want to keep their conferencing on-premises and learn about the requirements and considerations for transition to the Cisco Meeting Server platform as depicted in the next section.

Figure 1. *Collaboration Technology Components*

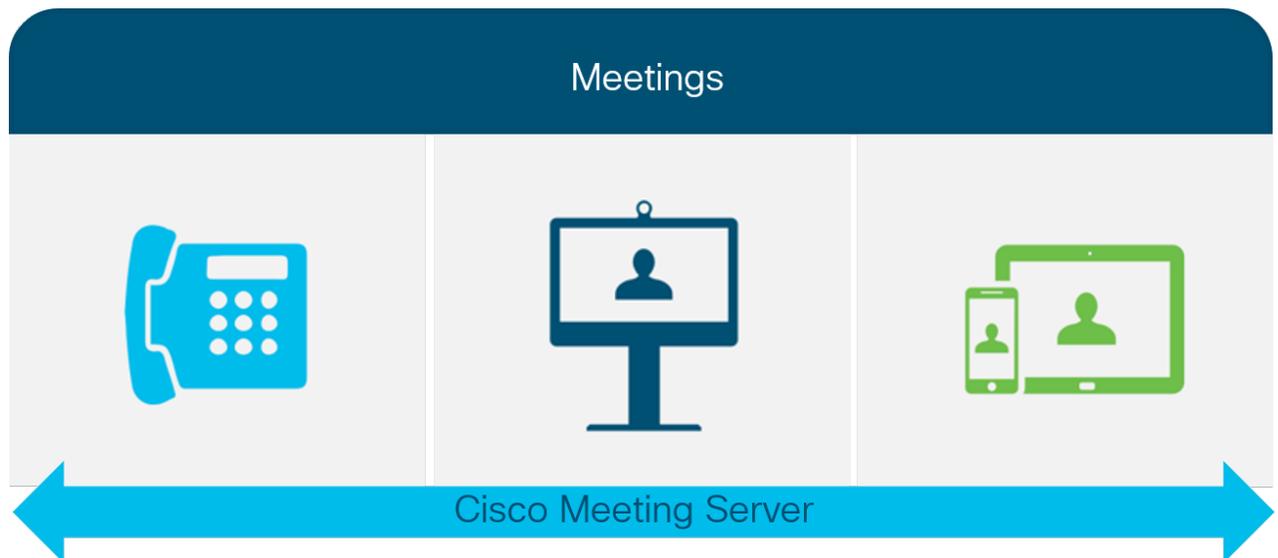


As technology advanced, the merging of these architectures was a natural progression from the different technology islands. Cisco began integrating more video-specific features into Cisco Unified Communications Manager (Unified CM) to allow registration of all endpoints both audio and video, to a centralized call control system. This

evolution of architectures enabled a single meeting infrastructure, creating a whole new set of collaboration options that expanded the way people communicated.

Cisco Meeting Server delivers scale and interoperability in one on-premises platform providing voice, video and web conferencing as shown in Figure 2. Cisco Meeting Server is a software conferencing solution with industry leading scale for voice and video conferences, robust interoperability with Microsoft Skype for Business and an exceptional user experience from mobile applications to room systems.

Figure 2. *Cisco Meeting Server: Voice, Video and Web Conferencing*



As shown in Figure 3, a typical customer normally has several different collaboration infrastructure components on the network, a bridging platform, a call control platform, and a management and scheduling platform. In the Cisco architecture this would include:

- Cisco Telepresence Server (TS) or Cisco MCU for bridging.
- Cisco Unified Communications Manager (Unified CM) or Cisco Video Communication Server (VCS) / Cisco Expressway for call control.
- Cisco Telepresence Management Suite (TMS) for management, scheduling and Microsoft Exchange integration.

Components may vary slightly in some environments, but this will be the basis for the rest of the document.

Figure 3. *On-Premises Collaboration Architecture: Bridging, Call Control, Management and Scheduling*

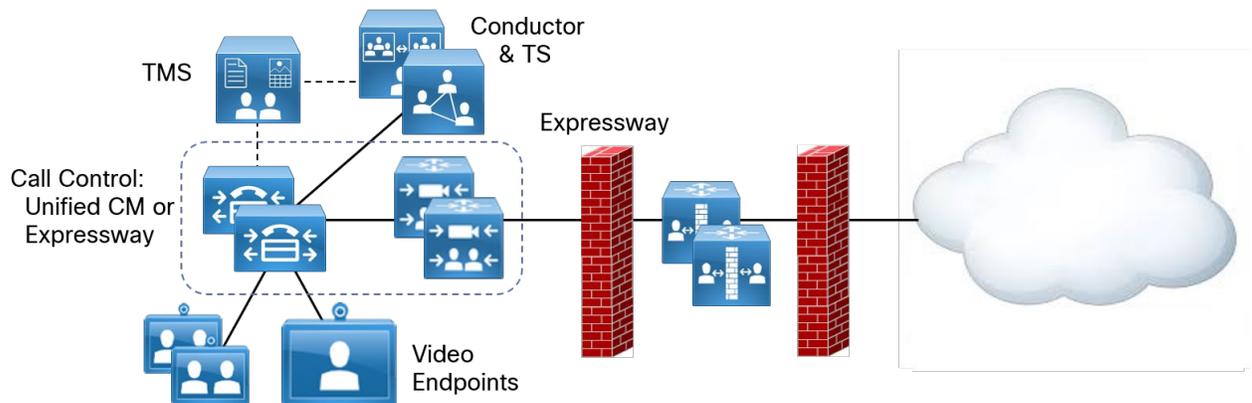


Table 1 lists the key elements of the on-premises architecture prior to transitioning to Cisco Meeting Server:

Table 1. *Before: On-Premises Conferencing Infrastructure Components*

Product	Description
Cisco TelePresence Conductor	Manages conferencing resources.
Cisco TelePresence Server (TS)	Provides audio and video conferencing resources.
Cisco TelePresence Management Suite (TMS)	Provides meeting management, scheduling, Exchange integration, conferencing integration, and other advanced video features.

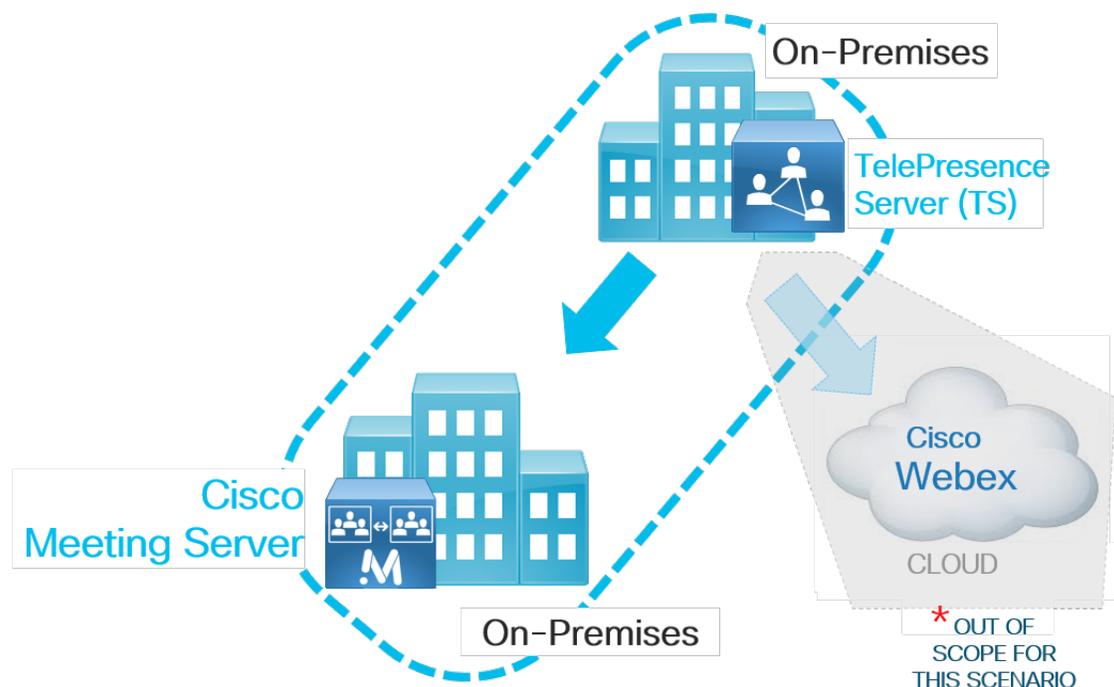
As illustrated in Figure 4, customers who have the Cisco MCU, Cisco TelePresence Conductor, and Cisco TelePresence Server have a choice of transitioning the architecture towards cloud-based Cisco Webex Meetings or staying on-premises by transitioning to Cisco Meeting Server (CMS).

The decision needs to be made based on customer's functionality requirements. Customers that require the following should transition the existing bridging infrastructure to Cisco Webex rather than Cisco Meeting Server (CMS):

- Meetings with most participants connecting via the Internet or using cloud registered video endpoints

- Meetings hosted in the cloud
- Meetings where participant interaction is required (for example, Training Center meetings)
- Meetings where a customer prefers not to host infrastructure hardware (OpEx v versus CapEx preference)
- Large scale PSTN meetings

Figure 4. *On-Premises Bridging Transition Decision Tree*



Note: For information on transitions from Cisco TelePresence Server to Cisco Webex, refer to the TS / CMR-H to Webex transition documents available at <https://www.cisco.com/go/ct>.

Customers that wish to learn more about Cisco Webex Meetings should visit the Cisco Webex Meetings web page at <https://www.cisco.com/c/en/us/products/conferencing/webex-meetings/index.html>.

Core Components

Roles of the Components Involved

The target architecture for this migration includes several new infrastructure components. This includes Cisco Meeting Server (CMS) for conferencing, Cisco Meeting Management (CMM) for conference management, and Cisco Hybrid Calendar Services for cloud calendar integration.

The target architecture for this migration is shown in Figure 5.

Figure 5. After: Cisco Meeting Server Architecture

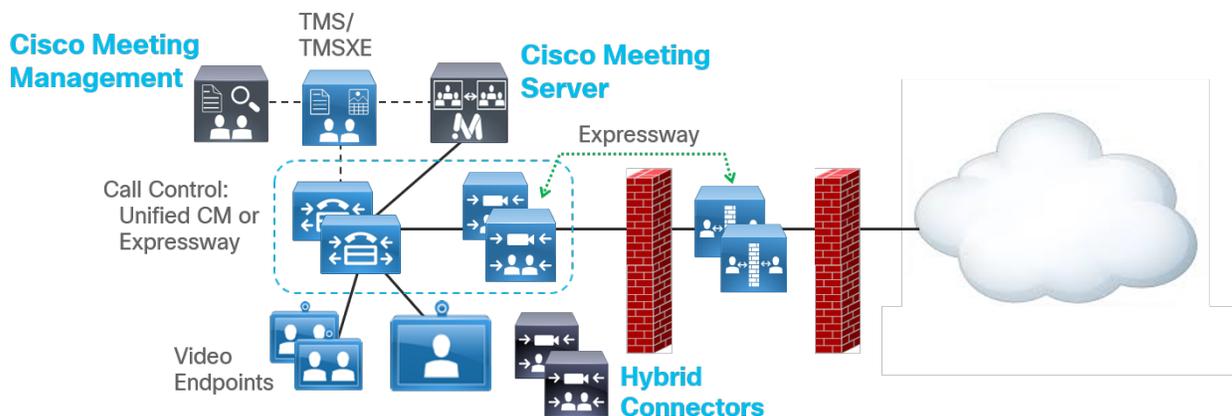


Table 2 lists the new elements of the architecture after transitioning to a Cisco Meeting Server architecture.

Table 2. After: Cisco Meeting Server Infrastructure Components

Product	Description
Cisco Meeting Server (CMS)	Provides voice, video, and web conferencing services delivered on-premises as one or more virtual machines or appliances.
Cisco Meeting Management (CMM)	Meeting management platform used in tandem with Cisco Meeting Server for management and operations of conferencing.
Cisco TelePresence Management Suite (TMS)	Provides meeting management, scheduling, Exchange integration, conferencing integration, and other advanced video features.



<p>Cisco Hybrid Calendar Services</p>	<p>Enables @meet scheduling with O365 or Google calendar services</p>
---------------------------------------	---

Transition

Transition Getting Started

Below is a summary of pre-transition items to consider when transitioning from Cisco TelePresence Server to Cisco Meeting Server. Some items listed are optional and may be performed after the initial deployment.

1. Decide to maintain conferencing workload on-premises

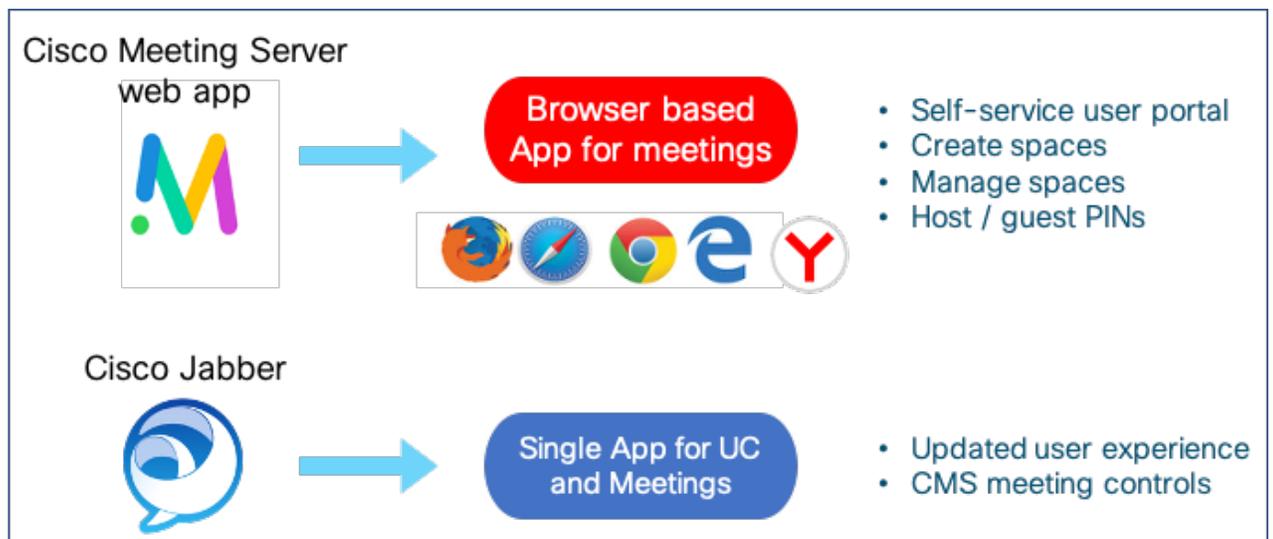
Decide based on the customer technical requirements to keep all bridging functionality on-premises. This document assumes the decision has been made to move from Cisco TelePresence Server (TS) to a Cisco Meeting Server (CMS) solution.

2. Understand meeting client application(s) for end-users after migration to CMS.

As shown in Figure 6, there are two meeting client applications available for use with CMS meetings:

- Cisco Meeting Server web app
- Cisco Jabber

Figure 6. Meeting Applications for Cisco Meeting Server



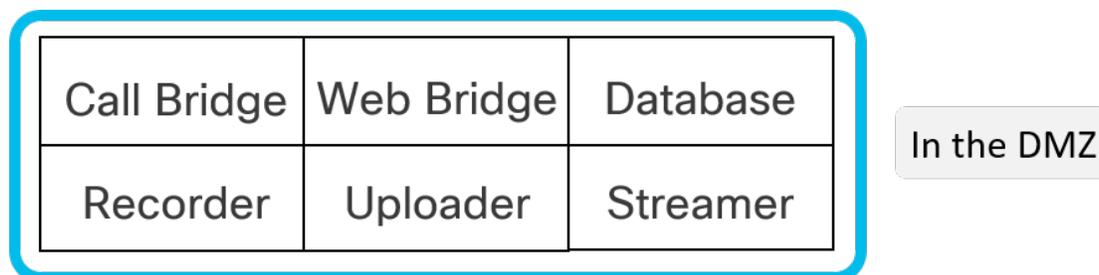
3. Determine appropriate CMS architecture.

As described in the product documentation available at <https://www.cisco.com/c/en/us/support/conferencing/meeting-server/products-installation-and-configuration-guides-list.html>, there are three CMS deployment models or architectures:

- Combined Server Deployment

CMS may be deployed as a single physical server hosting all CMS Services as shown in Figure 7 below.

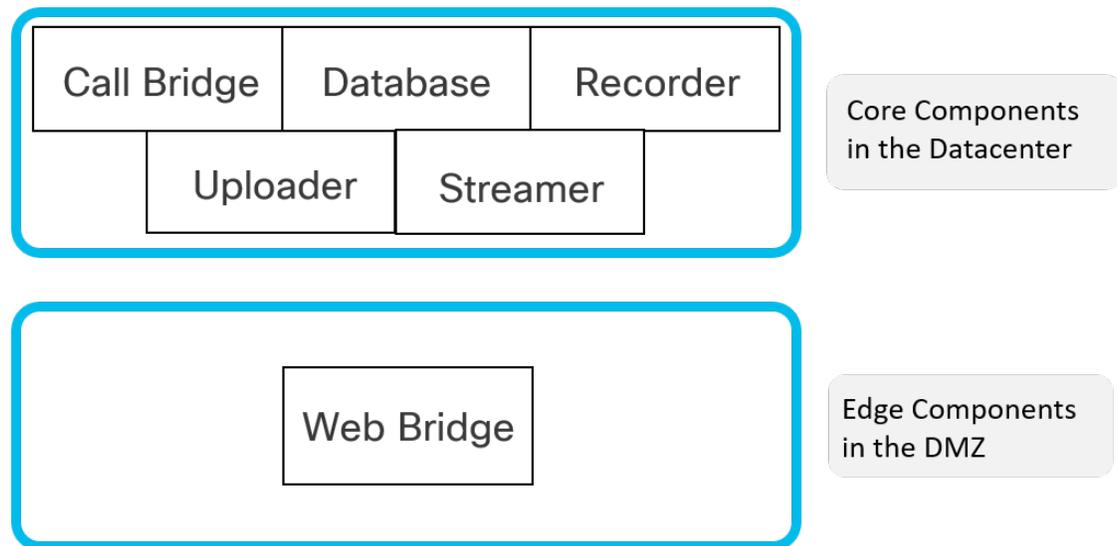
Figure 7. Cisco Meeting Server Combined Server Deployment Model



- Split Server Deployment

As shown in Figure 8, CMS may also be deployed as a single logical server with server components split across multiple physical servers for resiliency and/or geographic distribution.

Figure 8. CMS Split Server Deployment Model



- CMS Cluster for scalable and resilience

As shown in Figure 9 for scalable and resilient deployments consider the following:

- Servers can be deployed with multiple combined servers, multiple split servers, or a combination of each in one or more locations for a regional or global deployment.
- An odd number of database instances is required for a scalable and resilient deployment.
- The CMS servers can be virtualized, run on CMS hardware, or run on a combination of these platforms.

Figure 9. Cisco Meeting Server Scalable and Resilience Deployment Example

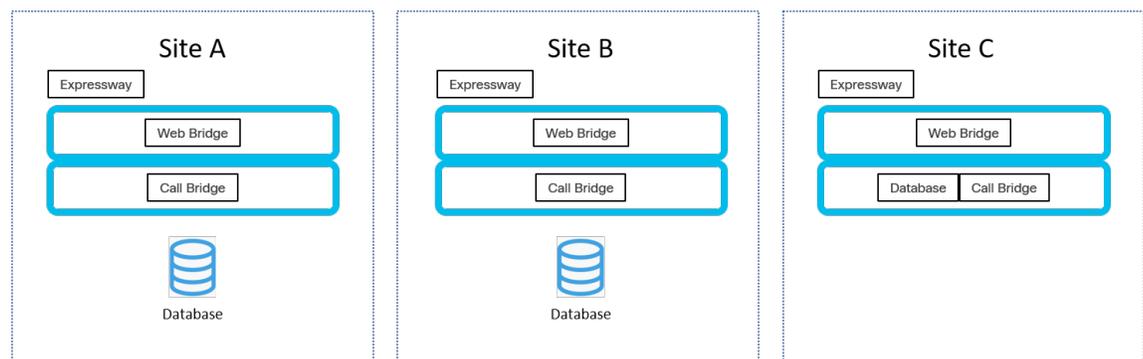


Table 3 identifies CMS components and their functions.

Table 3. *Cisco Meeting Server Components*

Component	Function
Call Bridge	Audio, video, and content conferencing
Web Bridge	Enables joining using CMS web app (WebRTC)
Database	Meeting space data
Uploader	Uploads recordings to the content manager. For example, Vbrick.
Recorder	Records conferences on CMS
Streamer	Streams conferences from CMS

Note: A CMS deployment does not require Cisco Conductor for conference orchestration.

4. Acquire CMS hardware or software as appropriate for the deployment.

Select a CMS platform to run all instances of CMS. Options include:

- CMS 1000 UCS C220 Hardware (VMWare hosted)

The CMS 1000 is shipped with the CMS and VMWare software pre-installed.

- CMS 2000 UCS 5108 with UCS B200 (bare metal, no VMWare)

The CMS 2000 ships with CMS software pre-installed.

Note: While both the CMS 1000 and 2000 ship with CMS software pre-installed, once operational, you should verify that the latest CMS software version from <https://software.cisco.com/> is installed and upgrade the system as necessary.

- Cisco Meeting Server software for specifications-based server deployments (VMWare hosted).



For specification-based deployments, you should download the latest CMS OVA from <https://software.cisco.com/> and install it on the VMWare host.

For more information on CMS 1000 & 2000 hardware, refer to the CMS ordering guide at <https://www.cisco.com/c/en/us/products/collateral/conferencing/webex-telepresence/guide-c07-730707.html>.

For more information on hardware for specifications-based deployments refer to the virtualization information available at https://www.cisco.com/c/dam/en/us/td/docs/voice_ip_comm/uc_system/virtualization/virtualization-cisco-meeting-server.html.

5. Determine and acquire required CMS licensing for your deployment.

CMS licensing options include:

- Personal Multiparty Plus (PMP Plus) provides a named host license assigned to a specific user. It is recommended for users who use video frequently.
- Shared Multiparty Plus (SMP Plus) provides a concurrent meetings license that is shared by users who use video less frequently (shared host).
- Optional licenses may also be purchased for:
 - Recording/streaming capabilities.
 - Create custom conference layouts.

For more information on CMS licensing, refer to the CMS ordering guide at <https://www.cisco.com/c/en/us/products/collateral/conferencing/webex-telepresence/guide-c07-730707.html>.

6. Acquire network address, user account access, and configuration information for LDAP.

In order to integrate with LDAP and import users to the CMS database, the following information is required:

- LDAP directory server IP address.
- LDAP user group schema for CMS users and spaces (Virtual Meeting Rooms).
- An LDAP read-only user account used for the CMS LDAP integration.

As shown in Figure 10, user configuration and space addressing are based on mapping of containers in the Active Directory as configured on the Active Directory Configuration page.

Figure 10. CMS Active Directory Configuration for Synchronization and Field Mapping

Active Directory Configuration

Active Directory Server Settings

Address: 192.8.20.110

Port: 636

Secure connection:

Username: tme\ldapuser

Password: [change]

Confirm password:

Corporate Directory Settings

Restrict search to searcher OU:

Import Settings

Base distinguished name: ou=DemoUsers,ou=Validate,dc=tme,dc=com

Filter: (&(objectClass=user)(memberOf=cn=SJCOffice,ou=Ozou))

Field Mapping Expressions

Display name: \$cn\$

Username: \$sAMAccountName@\$tme.com

Space name: \$cn\$ Space

Space URI user part: \$sAMAccountName\$.space

Space secondary URI user part: \$ipPhone\$

Space call ID: \$ipPhone\$

Submit

Space configuration

Name	URI user part
<input type="checkbox"/> 2.9 Preview	2.9.preview
<input type="checkbox"/> Abel Barry Space	abarry.space
<input type="checkbox"/> Abel Hall Space	ahall.space
<input type="checkbox"/> Adam Roman Space	aroman.space
<input type="checkbox"/> Adele Ross Space	aross.space
<input type="checkbox"/> Anjolie Cantrell Space	acantrel.space
<input type="checkbox"/> Colleen Romero Space	cromero.space
<input type="checkbox"/> Colt Potts Space	cpotts.space
<input type="checkbox"/> Craig Petty Space	cpetty.space
<input type="checkbox"/> Edward Avery Space	eavery.space
<input type="checkbox"/> Guy Farmer Space	gfarmer.space
<input type="checkbox"/> Imogene Adams Space	iadams.space
<input type="checkbox"/> Leo Long Space	llong.space
<input type="checkbox"/> Maxine Head Space	mhead.space
<input type="checkbox"/> Mikayla Padilla Space	mpadilla.space
<input type="checkbox"/> Ramona Blair Space	rblair.space

In order to integrate with Cisco TMS (if applicable), perform the following:

- Upgrade TMS to most current version supported by CMS.
- Determine the TMS IP address.
- Create or select a TMS user account for the CMS TMS integration.

7. Plan and prepare dial plan details for calling into CMS meetings and spaces.

The dial-in information for the CMS deployment is based on the CMS integration with LDAP for spaces and users. LDAP mapping for dial-in configuration determines the user join experience and must align with the dial plan configuration in Unified CM. Refer back to Figure 10 and ahead to Figure 16 for details.

You may wish to consider the addressing of the existing CWMS solution when planning and preparing CMS dial plan. Using the same or similar dial-in numbering will simplify integration with existing Unified CM dial plan.

8. Download Cisco Meeting Management (CMM) software.

As of CMS version 3.0 deployment of CMM is required for licensing a CMS solution.

CMM is a tool that provides a browser interface for administrators and operators to manage meetings on the CMS providing the ability for “White Glove” management of meetings. You should download the latest CMM OVA from <https://software.cisco.com/> and install it on the VMWare host.

For more information about CMM and specific hardware and software requirements, refer to the Cisco Meeting Management Installation and Configuration Guide available at <https://www.cisco.com/c/en/us/support/conferencing/meeting-management/products-installation-guides-list.html>.

Note: While CMM is optional with CMS 2.9 and earlier versions, as of CMS 3.0 CMM is a mandatory component for CMS deployments for licensing.

Transition Steps and Considerations

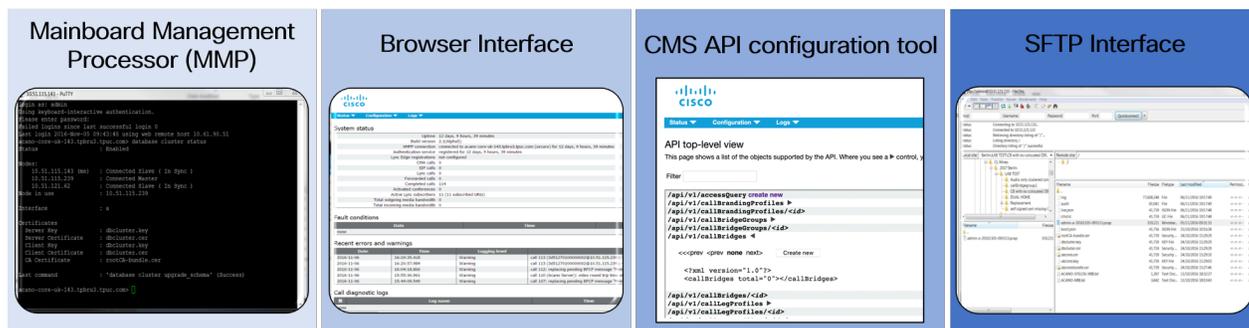
Follow these transition steps to move from Cisco Conductor / TelePresence Server solution to a Cisco Meeting Server solution:

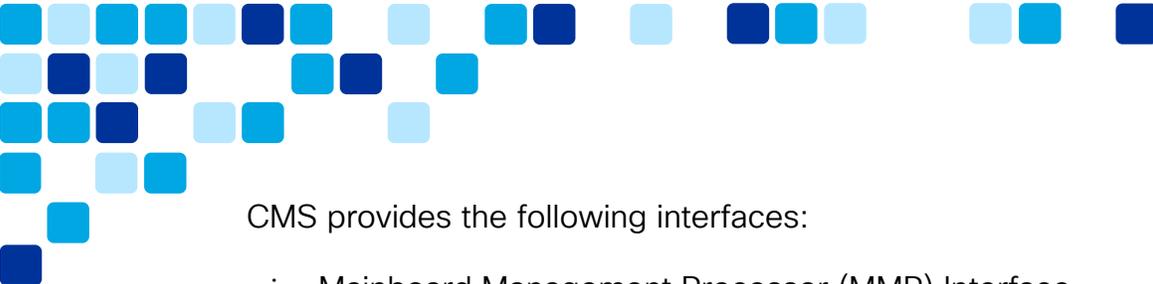
1. Deploy CMS based on the selected deployment architecture.

Deploy CMS hardware and software as required by the selected deployment model architecture: combined server, split server, or cluster for scale and resiliency.

As shown in Figure 11, multiple interfaces are required to deploy and maintain a CMS solution.

Figure 11. Cisco Meeting Server Platform Interfaces





CMS provides the following interfaces:

i. Mainboard Management Processor (MMP) Interface.

The command line interface is accessible via console or SSH and used for low-level system configuration.

ii. Browser Interface.

The Web Admin interface provides HTTPS access for Call Bridge configuration.

iii. Application Programming Interface (API)

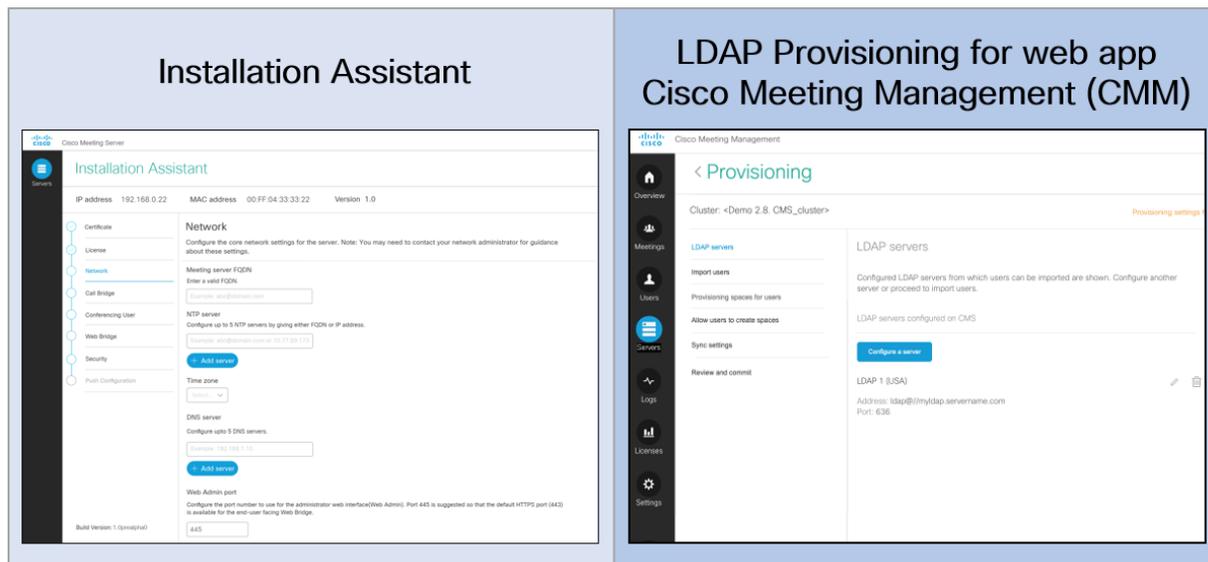
The API enables enhanced integration capabilities using REST API methods including: GET, POST, PUT, and DELETE. In CMS version 2.9 the CMS API tool was introduced. This tool is accessed in the CMS web admin interface, using a 3rd party API tool (such as Postman) is therefore no longer required.

iv. SFTP Interface.

The SFTP interface provide CMS system file access for upgrades, backup and restore operations, and security certificate file management.

As shown in Figure 12, CMS provides additional deployment tools to deploy and maintain the solution.

Figure 12. Additional Cisco Meeting Server Deployment Interfaces



Additional deployment tools include:

- CMS Installation Assistant (Install Assistant).

The Install Assistant is a stand-alone tool that simplifies the initial deployment of a CMS for lab environments, or basic installs. Using the Install Assistant to deploy a CMS results in a video bridge capable of hosting multipoint conferences with SIP room systems, voice participants and optionally, the Cisco Meeting servers web app.

Day 0 CMS tasks with CMS Install Assistant enables configuration of:

- Certificates.
- Licensing.
- Initial Web Bridge and Call Bridge configuration.

The CMS Installation Assistant tool can be downloaded from the following location <https://software.cisco.com/download/home/286309725/type>.

- LDAP Provisioning for CMS web app (via CMM).

CMS with CMM can perform configuration that together with steps completed via the API enable many common configuration tasks including:

- 
- Importing LDAP User
 - Creating Space Templates for web app.
 - Setting Access Methods.
 - Enabling User to Create their Own Spaces.

Note: It is strongly recommended to use one method throughout configuration and avoid using both the API and web interface to configure CMS. Configurations made via the API may not reflect accurately in the web admin UI and vice versa therefore the tool used for configuration must be consistent.

2. Prepare and deploy security certificates for appropriate CMS interfaces

Services and applications running on CMS nodes use TLS for secure communications. TLS allows communicating parties to exchange X.509 certificates to authenticate communications, and encrypt data transmitted between the parties. Detailed information on configuring CMS certificates can be found in the deployment guides available at

<https://www.cisco.com/c/en/us/support/conferencing/meeting-server/products-installation-and-configuration-guides-list.html>.

Applications on the Meeting Server that interface to external devices, need to be trusted by the external devices, and require certificates signed by a public CA. Applications that interface internally within the Meeting Server only require certificates signed by an internal CA. Internal CA signed certificates can be generated by a local or organizational Certificate Authority, such as an Active Directory server with the Active Directory Certificate Services Role installed.

Non-CA signed or self-signed certificates may be created via the MMP interface on CMS. However, self-signed certificates cannot be used for:

- Deployments with Microsoft Skype for Business interop requirements.
- Deployments with TLS SIP trunks.
- CMS clustered environments.

Note: It is strongly recommended that publicly signed certificates be used for production environments.

3. Deploy CMM and integrate to CMS and TMS.

Complete the following steps to deploy and integrate CMM with CMS:

- i. Install CMM OVA on the VMWare host and then connect and configure network settings.
- ii. Once installation and initial configuration is complete enable Smart Licensing by connecting CMM to the Cisco Smart Software Management (CSSM) portal.
- iii. In order to manage CMS meetings, you must add CMS Call Bridge(s) to CMM.
- iv. If applicable connect CMM to TMS. CMM is integrated with TMS to manage TMS scheduled conferences. Once integrated enable CMM access to TMS address books.

For information on installing and configuring CMM refer to the installation and configuration guides available at

<https://www.cisco.com/c/en/us/support/conferencing/meeting-management/products-installation-guides-list.html>.

4. Transition existing scheduled conferences.

Transitioning scheduled conferences will vary depending on your existing environment and should be considered carefully.

Determine the scheduled conference migration method that works best for your deployment. There are two options for scheduling migration:

- i. Modify existing scheduled conferences in TMS to use CMS as the MCU resource.

This method is best for deployments that have very few recurring conferences or conferences scheduled in the future.

- ii. Use CMS as the preferred MCU resource for new conferences scheduled in TMS and leave TS/Conductor in service until conferences previously scheduled with TS are completed.

This method is best for deployments that have large numbers of recurring conferences or many conferences scheduled in the future.

With this method both conferencing solutions are running in parallel. In this case direct users to schedule new meetings on the CMS solution while recurring and previously scheduled conferences continue to operate on the existing TS/Conductor solution. Once a majority of existing recurring and previously scheduled meetings have occurred (~75-80%) direct all users to schedule future recurring meetings on CMS solution in TMS.

Before completing the transition from Cisco Webex Meeting Server, it is a good idea to test TMS scheduling for the new CMS solution. This can be accomplished by:

- Configuring Cisco TMS coexistence via the EnableCMSTrial registry entry. This enables the ability to have a test user group in TMS that will schedule meetings with CMS as the MCU resource while other user groups continue to schedule with existing MCU's.
- Having users in the test user group schedule meetings with CMS as the MCU resource, thus allowing for acceptance testing in order to validate proper operation.
- Updating user training materials and documentation to reflect the scheduling behavior and operation with CMS as the conference resource.
- Transitioning additional groups of users once testing acceptance is completed. Alternatively, the TMS administrator may configure CMS as the “Preferred MCU Routing Type” globally in TMS as shown in Figure 13.

Figure 13. *TelePresence Management Suite Conference Settings: Preferred MCU Routing Type*

The screenshot shows the 'Conference Ending' settings page in the TelePresence Management Suite. The 'Advanced' section is expanded, and the 'Preferred MCU Type in Routing' dropdown menu is open. The menu options are: Cisco TelePresence Server, Cisco TelePresence MCU, Cisco TelePresence Conductor, Cisco TelePresence MPS, Unmanaged Bridge, and Cisco Meeting Server. The 'Cisco Meeting Server' option is selected, indicated by a checkmark and a yellow highlight. A red box highlights the dropdown menu and the 'Preferred MCU Type in Routing' label.

5. Determine clients end users will use to attend conferences.

In addition to using hardware endpoints to attend CMS conferences, end users may also use software-based endpoints to join meetings. There are two software client options available:

- i. [Cisco Meeting Server web app](#)
- ii. [Cisco Jabber](#)

You may deploy one or both options depending on your existing environment and requirements. In either case, educate your users as appropriate so they know how to use the client to attend CMS meetings. Details for each client option are below.

Cisco Meeting Server web app

A Cisco Meeting Server deployment includes the CMS web app which enables a participant to join a meeting using a web browser. The CMA web app extends the collaboration experience enabling participation beyond room systems in a CMS environment.

CMS web app enables users to fully participate in meetings with audio, video and content sharing from a browser without requiring plugins or downloads. The CMS web app also provides access to a self-service user portal for managing spaces and other meeting settings.

The following configuration on CMS is required in order to use CMS web app:

- Enable Web Bridge in CMS.
- Enable CMS integration to LDAP via the Active Directory configuration page to allow users to join CMS meetings with the web app.
- Deploy Cisco Expressway for external access for web app users. (optional)

The CMS web app supports the following web browsers and operating systems:

- Google Chrome (Windows, macOS, Android)
- Mozilla Firefox version
- Apple Safari (macOS, iOS)

- Microsoft Edge (Chromium Windows)
- Yandex (Windows)

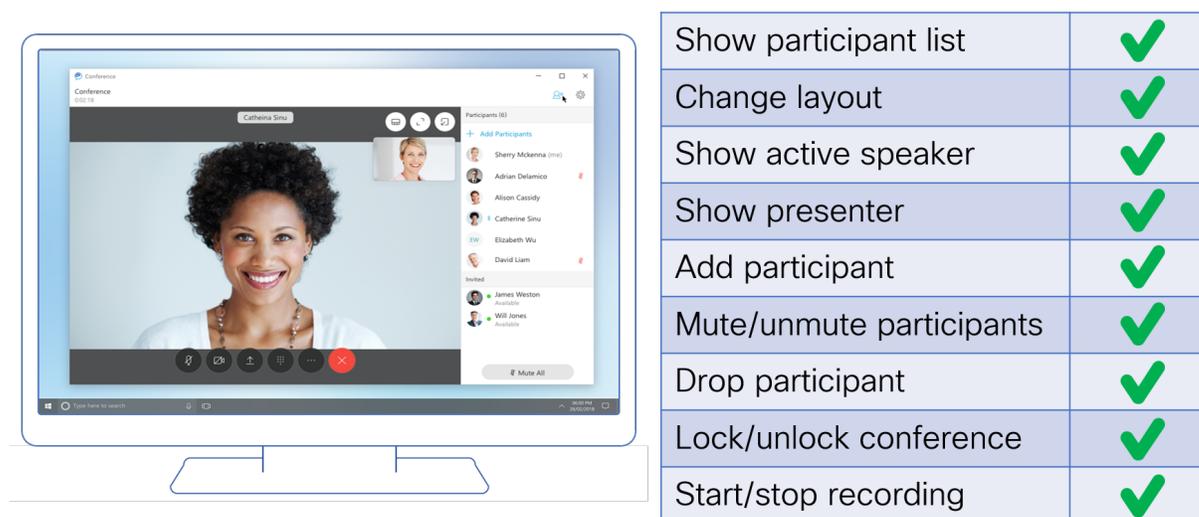
Note: It is strongly recommended that the most current version of browsers be used for CMS web app. Important information regarding the CMS web app can be found at: <https://www.cisco.com/c/en/us/support/conferencing/cisco-meeting-app/series.html>.

Cisco Jabber

An existing Jabber deployment can be integrated seamlessly with the CMS environment. Jabber is able to integrate with the CMS solution providing the functionality users expect from their Jabber meeting workflow.

Cisco Jabber features available with CMS meetings are shown in Figure 14.

Figure 14. Cisco Jabber Cisco Meeting Server Meeting Features



Cisco Jabber Active Control integration with Cisco Meeting Server requires the following minimum versions:

- CMS 2.5
- Cisco Unified CM 12.5
- Cisco Jabber 12.5

6. Understand the join experience for CMS deployments.

Collaboration with a CMS solution not only provides many of the collaboration tools available in a CWMS deployment, it also offers a robust collaboration platform. CMS is capable of providing audio and web conferencing features much like CWMS and adds robust conferencing features for video first meetings that includes room systems and Microsoft Skype for Business.

- Join by room system.
- Join by mobile.
- Join by phone.
- Join by web application or soft client.
- Interoperate with Microsoft Skype for Business.

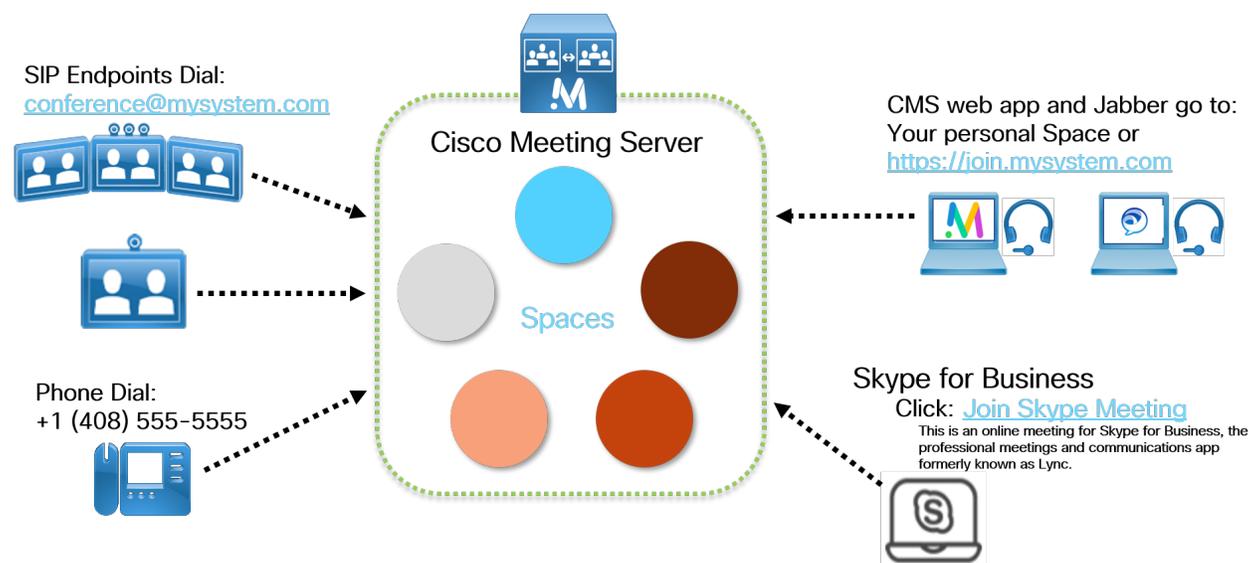
Conferences are scheduled in TMS for CMS deployments. An invitation is created with join information as shown in Figure 15. (TMSXE example shown).

Figure 15. Cisco Meeting Server Scheduled Meeting Invite

The screenshot displays the 'Cisco Meeting Server - Meeting' window. At the top, there are navigation tabs: FILE, HOME, SEND / RECEIVE, and FOLDER. Below these are buttons for 'New Appointment Meeting', 'New Meeting Items', 'New Skype Meeting', and 'Today'. A red arrow points to the 'New Skype Meeting' button with the label 'Scheduled by Skype native plugin'. The main window shows the 'Organizer Meeting' details, including the recipient 'Ron Lewis', subject 'Cisco Meeting Server', and location 'Video and Skype client'. The meeting starts on 7/18/2017 at 8:00 AM and ends at 8:30 AM. Below the meeting details, there is a section for joining the meeting. A red arrow points to the 'Join Skype Meeting' link with the label 'Skype Click-to link'. Another red arrow points to the phone number '+1(703) 574-6376 (NA) English (United States)' with the label 'Voice dial in information'. A third red arrow points to the dial-in information 'To join from SIP/H.323 VC endpoints, you can dial into the conference by dialing lync@customerdomain.com or 209.209.208.130 and entering the conference ID above.' with the label 'Standards dial information'. A fourth red arrow points to the WebRTC URL 'https://join.customerdomain.com' with the label 'WebRTC Web address'.

As shown in Figure 16, CMS spaces are conferences that are always available and are reached by dialing the address for that conference

Figure 16. Meeting Join Experience with Cisco Meeting Server



There are three types of spaces in CMS.

- Personal Meeting Room (PMR) spaces.

These are permanent personal user conferences. These conferences can be created administratively, by an LDAP mapping and synch, or by users using CMS web app.

- Ad-hoc spaces.

These are conferences that are created automatically for ad-hoc conferences initiated by a user.

- Scheduled spaces.

These are scheduled conferences that are created by TMS.

Post Transition Considerations

After the transition is finished, there are additional steps to finalize the deployment. Some of these steps are optional but enable functionality that was not available previously with the Cisco TS/Conductor deployment.

1. CMS meetings experience customization with branding (optional).

CMS may be customized to fit a customer's meeting experience requirements. CMS branding enables the following customization options:

- Customized CMS web app background image.
- Customized IVR prompts.
- Customized participant welcome screens visible when joining meetings.
- Customized meeting invitation text.

Note: Branding customization may not be optional for all deployments. In fact, it may be required as part of the transition steps for some customers while making this transition. Specifically, customized meeting invitation text may be required, for example, if organization policy dictates the need for special branding or legal statements in meeting invites.

2. CMS meetings experience customization with custom layouts (optional).

CMS may be customized to fit a customer's meeting experience requirements. CMS Custom Layouts is a licensed feature that enables administrators the ability to create and apply custom layouts that fit their specific needs.

For more information on customizing the CMS refer to the Cisco Meeting Server programming guides available at <https://www.cisco.com/c/en/us/support/conferencing/meeting-server/products-programming-reference-guides-list.html>.

3. Implement templates and provision the experience for web app users in CMM (recommended).

In order to customize user web app experience administrators may:

- Import user accounts from LDAP.
- Define space templates for CMS web app users.
- Set access methods for user spaces.

Introduced in CMS version 2.9, CMS provides a web portal from which a user can create new spaces and set parameters for that space based on templates defined by an administrator in CMM.

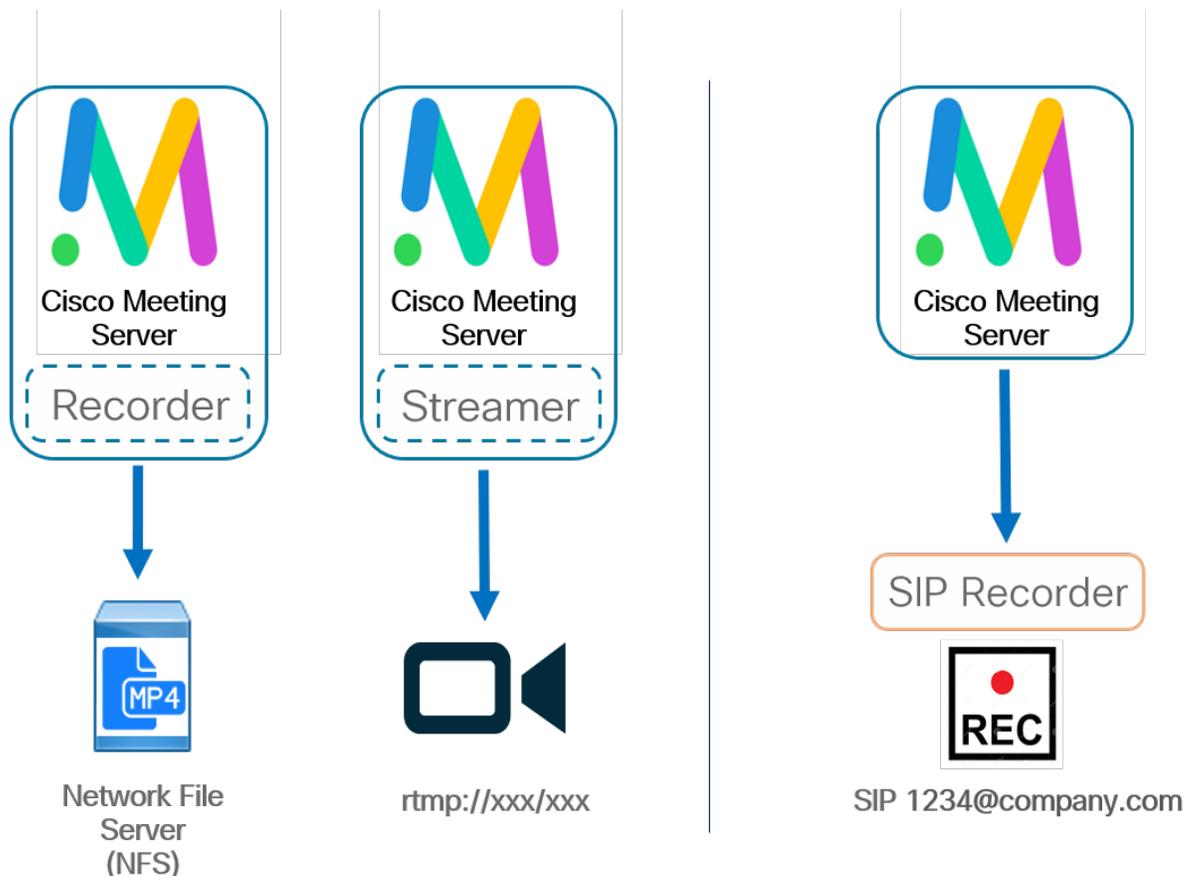
4. Implement recording and streaming functionality (optional).

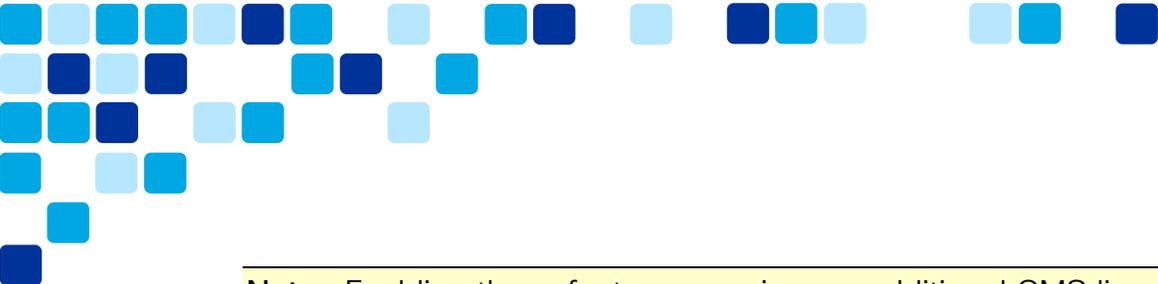
Recording and streaming capabilities are provided in CMS with the recorder and streamer components.

There are two options for deploying recording and streaming in CMS. CMS has native recording and streaming services that can be deployed to provide recording and streaming functions for users. From CMS version 2.9 the SIP Recorder feature allows for an administrator configured SIP URI to be called for recording instead of the CMS recording service.

The architecture for recording and streaming is shown in Figure 17.

Figure 17. *Recording and Streaming Architecture*





Note: Enabling these features requires an additional CMS license on a per recording/stream basis.

The native CMS recording and streaming functionality relies on standard file formats and streaming protocols. While other solutions can be expected to function, the CMS recording and streaming solution is tested and supported with Vbrick platforms (<https://vbrick.com/cisco-partnership/>).

Vbrick is a Cisco Solution Plus collaboration partner. Refer to the [Appendix](#) for more information about Solution Plus partner products for use with CMS. For more information about the Vbrick integration refer to CMS configuration examples available at <https://www.cisco.com/c/en/us/support/conferencing/meeting-server/products-configuration-examples-list.html>.

As shown in Figure 17, instead of using the native CMS recording component, the SIP recorder feature introduced in CMS 2.9 allows for configuration of a third-party SIP recorder for recording CMS calls using a SIP URI. For more information on configuring the SIP recorder refer to <https://meeting-infohub.cisco.com/faq/content/65/496/en/how-do-i-configure-the-meeting-server-to-use-a-third-party-sip-recorder.html>.

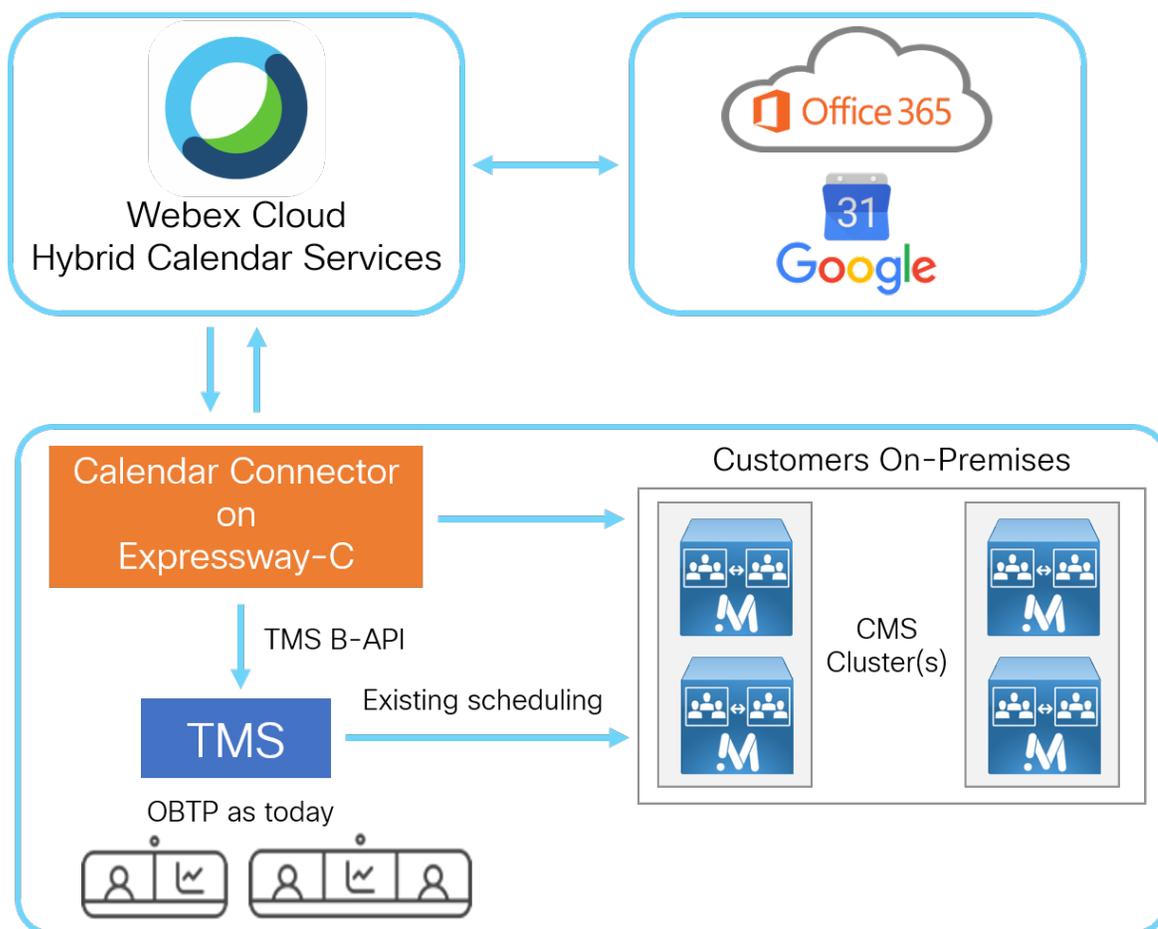
The following features and controls are supported when using the SIP recorder feature:

- Binary Floor Control Protocol (BFCP).
- SIP call resolutions in the recording.
- SIP call audio and video codecs.

5. Enable @meet scheduling with O365 or Google cloud calendar services (optional).

Referred to as next generation scheduling, CMS together with TMS provides a scheduling experience consistent with cloud meeting scheduling experience. As shown in Figure 18, this functionality enables a user to create a meeting invite and schedule a CMS meeting (with the @meet notation) using O365 or Google cloud-based calendar services.

Figure 18. Next Generation Scheduling with Cloud Calendar Services



This cloud scheduling capability leverages the Expressway-C Calendar Connector service and Webex cloud hybrid calendar services.

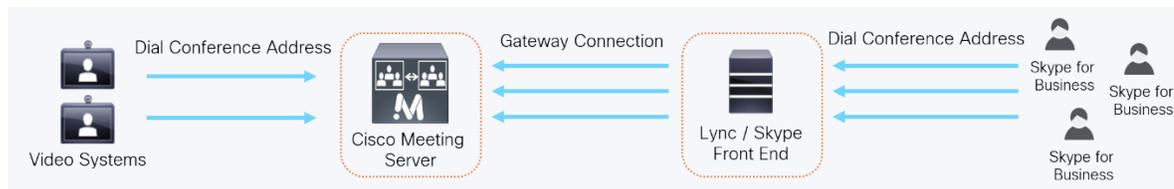
6. Enable Cisco Meeting Server interoperation with Microsoft Skype (optional).

If your deployment includes either of the following, you may integrate them with CMS:

- Microsoft Skype for Business (Lync) on premise
- Microsoft Skype for Business O365

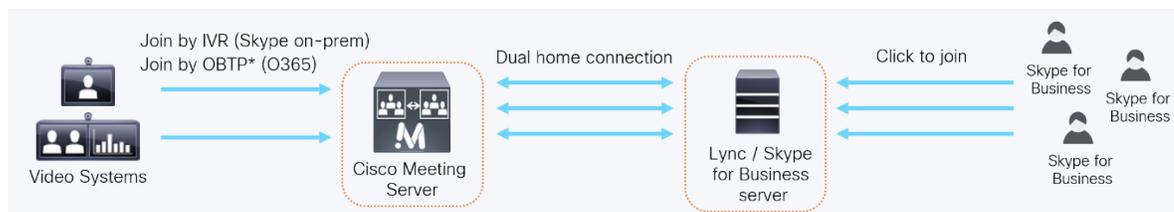
The integration of CMS with Microsoft Skype enables SIP to Microsoft gateway conferences with CMS serving as the gateway as shown in Figure 19.

Figure 19. Gateway Interop Call Flow



The integration of CMS with Microsoft Skype also supports dual home conferences where Skype participants are hosted on their native MCU (Skype AVMCU) and SIP participants are hosted on the CMS (see Figure 20).

Figure 20. Dual Home Interop Call Flow



Point-to-point meetings between Skype participants and SIP participants are also able to use the CMS as the gateway.

7. Remove Cisco TelePresence Conductor(s) and Server(s) from the deployment.

Once all users and all scheduled one-time and recurring meetings have been migrated to CMS, you can now remove any Cisco TelePresence Server (TS) and TelePresence Conductor nodes from your deployment.

After all the TS and Conductor nodes have been removed, you should purge the TS and Conductor instances from the TMS database.

8. Disable or remove dial plan and Conductor SIP trunk in Cisco Unified CM.

Once the TS and Conductor nodes have been removed, you should then update the Unified CM dial plan configuration (route groups, route lists, and route patterns). In addition, remove any SIP trunks that were pointing to the Conductor node(s). This simplifies the Unified CM configuration and reduces database size as well as load on the system.



References

Cisco Meeting Server

- Cisco Meeting Server Product Support
<https://www.cisco.com/c/en/us/support/conferencing/meeting-server/tsd-products-support-series-home.html>
- Cisco Meeting Application Support
<https://www.cisco.com/c/en/us/support/conferencing/cisco-meeting-app/tsd-products-support-series-home.html>
- Cisco Meeting Server Licensing Guidelines
<https://www.cisco.com/c/en/us/support/docs/conferencing/meeting-server/212326-step-by-step-guide-for-multiparty-licens.html>
- Cisco Meeting Server API Support
<https://developer.cisco.com/cisco-meeting-server/>
- Cisco Meeting Server and Skype for Business Interop
<https://www.cisco.com/c/en/us/support/docs/conferencing/meeting-server/212217-configure-cisco-meeting-server-and-skype.html>

Cisco Meeting Management

- Cisco Meeting Management Product Support
<https://www.cisco.com/c/en/us/support/conferencing/meeting-management/tsd-products-support-series-home.html>

Cisco TelePresence Management Suite

- Cisco TelePresence Management Suite Product Support



<https://www.cisco.com/c/en/us/support/conferencing/telepresence-management-suite-tms/tsd-products-support-series-home.html>

- Configuration Examples and Tech Notes

<https://www.cisco.com/c/en/us/support/conferencing/telepresence-management-suite-tms/products-configuration-examples-list.html>

Collaboration Transitions

- Collaboration Transitions Program Page

<https://www.cisco.com/go/ct>

- Transition Map for Transitioning from Cisco TelePresence Server to Cisco Meeting Server

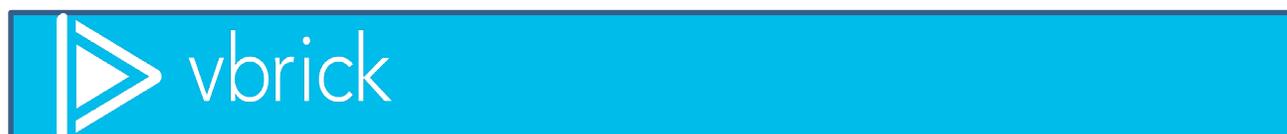
https://www.cisco.com/c/dam/en/us/td/docs/solutions/PA/mcp/TDM_MEETING_S_TS_to_Cisco_Meeting_Server.pdf



Appendix

Cisco Solution Plus Collaboration Partners

The Cisco Solution Partners below offer products that compliment and extend the Cisco Meeting Server (CMS) solution.



Vbrick extends the CMS recording and streaming capabilities by providing:

- Live Streaming to large audiences.
- Video transcription.
- User portal for user to consume recordings and live streams.

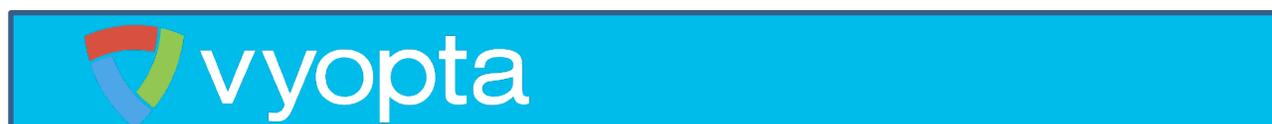
For more information refer to <https://www.vbrick.com/>.



VQ Communications extends the management of CMS by providing:

- Role based conference provisioning.
- Role based conference controls.
- Call and User templates.

For more information refer to <https://www.vqcomms.com/>.



Vyopta provides analytics for the collaboration solution by providing:

- Scheduling optimization resources.

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- Comprehensive analytics for the collaboration environment.
 - Single interface for premises and cloud collaboration platforms.

For more information refer to <https://www.vyopta.com/>.



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