MEETINGS

Transitioning from TelePresence Server / CMR-H to Cisco Webex

Deployment Guide

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Introduction

Target Audience

This migration document is intended to be used by teams or individuals with experience configuring and administering Cisco TelePresence Conductor, Cisco TelePresence Server (TS), Cisco TelePresence Management Suite (TMS) and Cisco Webex Meetings. There are links to other documentation throughout this document to assist.

Overview

Historically, network evolution developed through a voice centric architecture, a video centric architecture and a web collaboration architecture. As shown in Figure 1, each of these were separate collaboration functions that did not integrate well but were successful individually.

Figure 1. Bringing Audio, Video and Web Collaboration into a Single Meeting Infrastructure

As technology advanced, the merging of these architectures was a natural progression from the different technology islands. Vendors such as 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. In addition, the on-premises meeting infrastructure began to integrate with the web collaboration architecture of Cisco Webex so that on-premises video endpoints or a video bridge could communicate and collaborate with web participants. This evolution of architectures enabled a single meeting infrastructure, creating a whole new set of simple collaboration options that expanded the way people communicated.

This phased approach of integrating all the architectures together as a single voice, video, and meetings architecture, led to some challenges for customers, who had to decide what to do with these products when the products reached a maturity stage and new products are introduced. For example, in November 2016 Cisco launched a new extension to the Cisco Webex (formerly Cisco Spark) service, that enabled many of the media services delivered in the cloud to be handled on the customer premises, known as the Cisco Webex Edge Video Mesh Service (formerly Cisco Hybrid Media Node).

When this product was released, it gave Cisco customers an option to consume Cisco Webex meetings directly from the cloud or to add the optional Cisco Webex Edge Video Mesh node (VMN) to handle meeting media locally with overflow and cascade to the Cisco Webex Meeting in the cloud.

As shown in Figure 2, 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 the Cisco Telepresence Server (TS) or Cisco MCU for bridging, the Cisco Unified Communications Manager (Unified CM), or the Cisco Video Communication Server (VCS) / Cisco Expressway for call control, and the 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.
**Table 1** lists the key elements of the on-premises architecture prior to transitioning to Cisco Webex:

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cisco TelePresence Conductor</strong></td>
<td>Manages conferencing resources.</td>
</tr>
<tr>
<td><strong>Cisco TelePresence Server (TS)</strong></td>
<td>Provides audio and video conferencing resources.</td>
</tr>
<tr>
<td><strong>Cisco Collaboration Meeting Room – Hybrid (CMR – H)</strong></td>
<td>Cisco Webex cloud service that cascades to the on-premises Cisco MCU or Cisco TelePresence Server to connect a single participant’s video across the cascade to the remote bridge.</td>
</tr>
<tr>
<td><strong>Cisco TelePresence Management Suite (TMS) / Telepresence Management Suite for Microsoft Exchange (TMSXE)</strong></td>
<td>Provides meeting management, scheduling, Exchange integration, conferencing integration, and other advanced video features.</td>
</tr>
</tbody>
</table>

As illustrated in Figure 3, customers who have the Cisco MCU, Cisco TelePresence Conductor, and Cisco TelePresence Server have a choice of transitioning the architecture toward a Cisco Webex meeting architecture or staying completely on-premises by transitioning the bridge services to the Cisco Meeting Server (CMS).
The decision needs to be made based on customer’s functionality requirements. Customers that require the following should instead transition the existing bridging infrastructure to on-premises Cisco Meeting Server (CMS) rather than Cisco Webex:

- On-premise media
- White glove meeting scheduling and management
- On-premises Microsoft interop

**Figure 3. On-Premises Bridging Transition Decision Tree**

*Note:* For information on transitions from Cisco TelePresence Server to Cisco Meeting Server, refer to the TS to Cisco Meeting Server transition documents available at [https://www.cisco.com/go/ct](https://www.cisco.com/go/ct).

Customers that wish to learn more about CMS should visit the [Cisco Meeting Server (CMS)](https://www.cisco.com/go/ct) web page.

For customers who want to start the process of adding Cisco cloud meeting services with both scheduled meetings using unique meeting IDs or ad hoc meetings with Personal Rooms (PR) should consider Cisco Webex Meetings. This meeting service allows the customer to leverage the Cisco Webex global architecture for scale and
connectivity. Participants on the corporate network and external participants can join the meeting from a video endpoint, desktop or mobile application along with a third-party Microsoft client, such as Skype for Business.

This document focuses on the customer with Cisco TelePresence Conductor, Cisco TelePresence Server and Cisco Collaboration Meetings Room - Hybrid (CMR-H) solutions that want to understand the general steps, considerations, and requirements for enabling a new Cisco Webex Meeting architecture as depicted in the next section.
Core Components

Roles of the devices involved

The target architecture for this migration includes several new infrastructure components. This includes Cisco Webex meetings service, the Cisco Webex Video Mesh node for on-premises media, Cisco Directory Connector for identity integration, Cisco Webex Device Connector for cloud endpoint analytics and hybrid connectors on the Cisco Expressway Connector host for calendar integration.

Figure 4. After: Cisco Webex Meetings Architecture

Table 2 lists the new elements of the architecture after transitioning to Cisco Webex

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>Cisco Webex Meetings</strong></td>
<td>Provides subscription-based conferencing service delivered through the Cisco Webex Meetings cloud.</td>
</tr>
<tr>
<td><strong>Cisco Webex Edge Video Mesh</strong></td>
<td>On-premises software with certain cloud microservices to connect local video participants to the Cisco Webex meeting and create a cascade to Cisco Webex Meeting with multiple video and audio streams going across. [Optional]</td>
</tr>
<tr>
<td><strong>Calendar Connector</strong></td>
<td>Hybrid connector running on the Expressway-C Connector Host. Enables “@” scheduling. The calendar connector could be deployed on-premises for Exchange (Hybrid Connector) or as a cloud-to-cloud integration for Exchange Online (O365) and Google Calendar.</td>
</tr>
</tbody>
</table>
### Core Components

<table>
<thead>
<tr>
<th><strong>Cisco Webex Device Connector</strong></th>
<th>On-premises software for hybrid registration of video endpoints enabling cloud analytics and features for on-premises devices.</th>
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<tr>
<td><strong>Directory Connector</strong></td>
<td>Hybrid connector running on a Windows domain server. Enables integration of enterprise directory and identity services with Cisco Webex.</td>
</tr>
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</table>
Transition

Transition Getting Started

Below is a summary of items to consider when performing the migration of meeting services to Cisco Webex. Some items are optional and can be performed at a later time.

Pre-Transition:

1. Make a decision based on requirements to transition meetings to another on-premises bridge (for example, Cisco Meeting Server (CMS)) or to Cisco Webex Meetings in the cloud. The assumption for the rest of the steps is Cisco Webex Meetings.

2. Acquire a Cisco Webex Meeting contract and user licenses. This can be achieved by having a Collaboration Flex Plan. These details are not covered in this document and should be discussed with the Cisco Account team.

3. Decide if Cisco Webex Edge Video Mesh is a requirement. Is it going to be installed now or in the future? Is there adequate compute power available to meet the requirements of Video Mesh or do one or more CMS 1000 hardware devices need to be procured?
   - The Cisco Webex Edge Video Mesh Node (VMN) is a good option for customers that want to keep the media on-premises as much as possible. While this is not a required component, VMN can provide benefits of locally hosted media, overflow to the cloud for capacity, and 1080p experience for main video of locally connected participants.
   - The VMN software is installed on the customer’s premises. It is recommended to be installed on the Cisco CMS 1000 hardware platform but is also supported on the MM410v if the customer wants to reuse existing hardware. More information on the hardware requirements can be found in the Deployment Guide for Cisco Webex Video Mesh. If reusing other compute resources, VMware ESXi 6.0 or higher is required before installing the VMN software.
   - If the customer needs to procure one or more of the hardware boxes for VMN installation, the number of boxes will depend on the amount of concurrent video meetings and meeting participants projected at the peak usage. Unlike the traditional TS and MCU on-premises bridges, this new solution allows for overflow to cloud resources when the VMN is at capacity.
With the overflow to cloud capabilities, the exact planning of port capacity is not as stringent as a traditional on-premises bridge.

- The customer can order the hardware via a partner with the CTI-CMS-1K-BUN-K9 SKU with an option for Video Mesh software, R-HMN-K9, for the conferencing server activation license. The software image can be downloaded from the Webex Control Hub. Contact the Cisco Account team or partner for customer specific pricing.

4. Decide if Cisco Webex Device Connector will be deployed to configure and setup hybrid registration for on-premises video devices.

- The Webex Device Connector software is installed on a Windows or Mac computer on the customer’s premises. Refer to the Cisco Webex Device Connector article for more information on the hardware requirements.

5. Get a new Cisco Webex site setup on the latest release of Webex software.

- Contact the Cisco Account team or partner for help in creating a new Webex site.

6. Decide how scheduling of meetings is going to happen in the organization. For example, @webex, @meet and/or Webex Meetings Desktop application along with identifying mail system used, Google or Microsoft. For Microsoft implementations identify where the mailboxes are located based on the type of Exchange deployment (on-premises, hybrid or O365).

Transition Steps and Considerations

Follow these transition steps to move the on-premises bridging service to Cisco Webex Meetings.

Transition:

1. **New** Webex customers

   - Activate a new Webex Site and Webex Teams organization

   - A Webex site is specific to the customer organization and must be created with “sitename”.webex.com where “sitename” is a unique name specific to the customer, for example cisco.webex.com. Once the Cisco Account team or partner creates a site, it can be used for meetings.

   - A **Cisco Webex organization** needs to be setup for managing the user accounts and services available to the organization.
[proceed to step 2]

**Existing** Webex customers - Customers with an existing Webex site with current user accounts and passwords that want to keep the same credentials perform the following steps

- Link the site, then the user accounts and credentials by following the [Link Cisco Webex Sites to Control Hub](#) document. Linked sites will get the analytics for the meetings on the Cisco Control Hub after the site linking process is completed.

2. Import users via the Directory Connector (optional)

- Creating users in a Cisco Webex Organization can be done via a connection to the active directory accounts using the Directory Connector which is a recommended step but not required. To enable Directory Connector follow the steps in the [Deployment Guide for Cisco Directory Connector](#).

3. Enable Single Sign On (optional)

- Single Sign On (SSO) is available for customers to enable Webex Teams users to login in securely by using an identity provider (IdP). The SSO process is not required for this document but is recommended. To find out more about the supported IdPs and the configuration requirements, go to the [Single Sign-On Integration in Cisco Webex Control Hub](#) document.

4. Setup scheduling environment

- For Google integration follow the [Google Calendar with Cloud-Based Hybrid Calendar Service](#) section of the [Deployment Guide for Cisco Webex Hybrid Calendar Service](#).

- For Microsoft integrations refer to the following sections of the [Deployment Guide for Cisco Webex Hybrid Calendar Service](#):
  
  i. On-Premises: [Microsoft Exchange or Office 365 with Expressway Calendar Connector](#).
  
  ii. Hybrid: [Hybrid Exchange and Office 365 Deployments](#).
  
  iii. O365: [Office 365 with Cloud-Based Hybrid Calendar Service](#).

- For Productivity Tools customers, this software needs to be upgraded to the Webex Meeting Desktop application. This requires the removal of the existing Productivity Tools application and installation of the new Webex Meetings Desktop application. To install the software follow the [Download and Set Up the Cisco Webex Meetings Desktop App](#) document.
For CMR-H customers with Productivity Tools, the new Webex Meetings Desktop application will be installed as part of an upgrade when the user logs into the new Webex Site.

5. Begin scheduling meetings

   For customers starting on a new Webex Site, begin scheduling meetings with a small subset of users.

   i. Use the scheduling method chosen in Pre-Migration Step 5, @webex, @meet, or the Webex Desktop Meeting application.

   ii. There is not a mechanism to programatically update meetings with the new Webex meeting information from the on-premises bridge in the calendar invite or to import existing TMS scheduled meetings into Webex, hence the reason for creating new meeting invitations.

   iii. The feature known as One Button to Push (OBTP) has been around in the on-premises architecture for a long time. It can still operate the same as before with Cisco Webex Meetings. The user behavior is the same for scheduling and joining the meetings. The on-premises registered video endpoints are managed by TMS and will still get the Join button but instead of the meeting being on hosted on the TS or MCU, it is now hosted on Cisco Webex or the Video Mesh Node. More information on the configuration of OBTP can be found in the Make it Easier for Video Devices to Join Meetings with OBTP document.

6. Install Video Mesh node or nodes (optional)

   i. This is an optional component that can be installed at this time, later, or not at all.

   ii. Download and install the software on the hardware. Register the Video Mesh node in Webex Control Hub.

   iii. Configure the call control integration to Video Mesh

   iv. Configure CMR resource type option to “Video Mesh” in Control Hub to allow cascades from the Video Mesh to the Webex Meetings.

   v. The steps to complete all the items above are documented in the Deployment Guide for Cisco Webex Video Mesh.

   vi. Schedule or connect to a personal room for a meeting with multiple participants. End the meeting and verify in the Control Hub Video Mesh.
Transition reports (Analytics -> Video Mesh) that the calls are not overflowing to the cloud. The reporting is not real time and will be delayed.

7. Install Webex Device Connector (optional)
   - This is an optional component that can be installed at this time, later, or not at all.
   - Download and install the software on a Windows or Mac computer. Then login to the tool using Webex Control Hub full administrator or device administrator credentials.
   - Configure the software to onboard and manage your devices.
   - The steps to install and configure the software are documented in the Cisco Webex Device Connector article.

8. Update the end-user’s documentation and training for the new scheduling architecture including OBTP, @webex, and the new Webex Meeting Desktop application. For assistance, refer to the Cisco Webex Meetings Video Tutorials for further information. A good general end-user reference for Webex Meetings screen layout and icons is the Get Started with Cisco Webex Meetings for Attendees document.

9. Make a phased transition of groups to the new Webex Meeting site for all scheduled, ad hoc, and personal room meetings until the full organization is using the new Webex Meetings experience.

Post Transition Steps and Considerations

After the transition is completed there are few additional steps that need to be completed.

Post Transition:

1. Remove Cisco TelePresence Conductor and Cisco TelePresence Server from production.

**Note:** If video ad hoc escalation is a requirement, meaning a point-to-point video call is established and one of the users in the call adds a third video participant, the call moves from a point-to-point call to a multiparty call on the Cisco TelePresence Server automatically. This happens because the bridge is defined as a media resource in Cisco Unified CM. This same behavior is not available in Cisco Webex meetings and will require the continued use of the Cisco TelePresence Conductor and Cisco TelePresence Server till a similar feature is
available in Webex or until the user behavior has changed to meet on a Personal Room.

2. Disable CMR-H session type in Webex Site Admin at site and user level

**Note:** This post-migration steps applies to CMR-H deployments. For more information on transitioning CMR-H to Cisco Webex, refer to the Appendix.

- **Site Level:**
  - Use Site Admin -> Common Site Settings -> OneTouch TelePresence Options
  - Uncheck “Allow Cisco Webex OneTouch meetings (meetings only)”

- **User Level**
  - Use Site admin -> Edit User-> Session types
  - Uncheck “Webex Meetings 1000 Pro: Webex Meetings TelePresence” for each user.

3. Monitor Webex Control Hub reports for analytics and troubleshooting of meetings.

- Inside the Webex Control Hub, the administrator can view live meeting diagnostics for troubleshooting and look at historical information for up to 365 days.

- Cisco has continuous development and targeted monthly updates to the analytics and troubleshooting capabilities. The feature list will be enhanced continuously and customers should refer to the What's New in Cisco Webex Control Hub to find the latest features and capabilities that are available.

- If Webex Device Connector is deployed, the administrator can also view device analytics for on-premises video endpoints.

4. Review the Collaboration Transitions documentation and begin planning for cloud registration of all the endpoints.
References

Webex Meetings

- Webex Meetings Suite
  https://help.webex.com/ld-nyw95a4-CiscoWebexMeetings/Webex-Meetings

- What are the System Requirements for Cisco Webex Video Platform?

Collaboration Transitions

- Collaboration Transitions Program Page
  https://www.cisco.com/go/ct

- Transition Map for Transitioning from On-Premises Bridging to Cisco Webex
Appendix

Collaboration Meeting Rooms (CMR) – Hybrid

With the announcement of the End of Sale (EOS) of Cisco TelePresence Server in August 2017, customers will need to begin evaluating the direction of their meeting platform and strategy. This announcement also affects the CMR – Hybrid customers as the Cisco TelePresence Server was part of that solution also.

As shown in Figure 5, if customers have CMR-Hybrid already deployed, then they have many of the key components of the on-premises bridging architecture described earlier like, Cisco TelePresence Management Suite (TMS), Cisco TelePresence Server (TS) and Cisco Video Communication Server (VCS) for firewall traversal.

Figure 5. Cisco Collaboration Meeting Room (CMR) – Hybrid Meetings Architecture

In addition, these deployments already have a Webex site that connects the on-premises meeting bridge to the Webex meeting via a cascade. The existing platform for the Webex site in this case is not compatible with the new Cisco Webex Meeting platform and will need to be upgraded along with the bridging platform. The rest of the components, TMS and its extensions along with the VCS-C and VCS-E, may still be used but should be upgraded to the latest software versions.
Site and user Linking and management of the Webex Meetings site

The current Webex offering covers three elements team messaging, meetings, and calling. Those services are managed from the administration point of view from the Cisco Webex Control Hub portal.

Webex Control Hub is the modern management interface that allows the administrator to manage in a single place all the aspects of the service such as users, devices, services, licensing, general settings, meetings, reporting analytics, troubleshooting, as well as on-premises and cloud integrations like Directory Connector.

Generally speaking, most Cisco Webex sites provisioned before the introduction of the Webex Control Hub¹, circa 2015, such as the ones used by CMR Hybrid are managed by the Webex Site Admin webpage.

Site Linking allows existing Webex Meeting sites to be integrated into the new Cisco Webex platform. This integration allows the administrator to use the Webex Control Hub for management, providing customers the benefit of the enhanced analytics features as well as new troubleshooting tools as described in the Troubleshoot Cisco Webex Meetings in Cisco Webex Control Hub document.

Furthermore, Site Linking associates one or more existing Webex Meetings sites to a Cisco Webex Teams organization. It’s important to note that Site Linking is a zero-cost upgrade and can be done in minutes without any interruption or impact on the end users and their meeting.

In addition to providing enhanced analytics, Site Linking allows the customer to link the existing user accounts to the new Cisco Webex Teams organization. Cisco Webex Linking is in fact a two-step process. The first step links the customer’s Webex site and is the only step that is required if the customer just wants to use Webex Control Hub for analytics and meeting troubleshooting.

The second step links the Webex Meetings user accounts to Cisco Webex Teams accounts. This step is only required if the customer wants an easy way to onboard Webex Meetings users to Webex Teams. The process can be done manually or automatically, and it results in the user accounts being created in the Webex Teams organization therefore appearing in the Webex Control Hub’s users list. This allows customers to easily introduce the new persistent Webex Team Messaging service to existing users through the Webex Teams application, while maintaining the same login credentials.

¹ The way a Webex site is managed (Webex Control Hub v. Webex Site Admin) is chosen at site provisioning time.
Important considerations to note on the Cisco Webex linking process:

- Cisco Webex linking is **permanent** and cannot be undone.

- Site linking supports linking more than one Webex Meetings site however, it’s **extremely** important to ensure that the very first site linked is the default site for a majority of the users.

The [Link Cisco Webex Sites to Control Hub](#) document describes how to enable Linking.