Replacing Cisco TelePresence Manager with Cisco TMS and Cisco TMSXE

Deployment Guide

Cisco TelePresence Manager 1.9.x or 1.8.5
Cisco TMS 14.5
Cisco TMSXE 4.1
TelePresence Server 4.0

October 2014

Contents

Introduction

Use this document if planning to replace a deployment based on Cisco TelePresence Manager and Cisco TelePresence Multipoint Switch (Multipoint Switch) with a new deployment model based on Cisco TelePresence Management Suite (Cisco TMS) and Cisco TelePresence Server.

Note that you cannot directly upgrade or migrate from Cisco TelePresence Manager to Cisco TMS, or Multipoint Switch to TelePresence Server. You must decommission your existing services and create new installations of Cisco TMS, Cisco TMSXE, and TelePresence Server.

This guide will help you:

- Identify key functionality differences between their existing deployment model and a Cisco TMS-based deployment.
- Plan and prepare for replacing your deployment.
- Perform the change of deployment.
- Identify and address issues that may arise.

Related documents

Document title	Link
Cisco TelePresence Management Suite Installation and Upgrade Guide	http://cisco.com
Cisco TelePresence Management Suite Extension for Microsoft Exchange Deployment Guide	http://cisco.com
Cisco TelePresence Management Suite Provisioning Extension with Unified CM Deployment Guide	http://cisco.com
Cisco TelePresence Management Suite Provisioning Extension with Cisco VCS Deployment Guide	http://cisco.com

Prerequisites

The procedures described in this guide have been tested with the product versions listed below. This is the recommended deployment path.

You cannot perform the tasks described in this document with earlier versions of Cisco TMS and Cisco TMSXE, as the required tools are not available for those versions. For Cisco TelePresence Manager meeting export, the data export script only works with particular versions.

Dependencies

The system requirements and dependencies for Cisco TMS and Cisco TMSXE differ from those of Cisco TelePresence Manager. For example, the Exchange version requirements are different.

For specifics on these requirements, see the installation and deployment guides for each product.

Cisco TelePresence Manager

This guide refers to Cisco TelePresence Manager versions 1.9.x and 1.8.5.

Cisco TMS and extensions

This guide refers to the versions listed in the table below.

Application	Version
Cisco TMS	14.5
Cisco TMSXE	4.1
Cisco TMSPE (optional)	1.3

Hardware requirements for Cisco TMS and extensions are determined by deployment size. You will find information about this in the Cisco TMS Installation and Upgrade Guide and the deployment guides for Cisco TMSXE and Cisco TMSPE.

TelePresence Server

This deployment guide refers to TelePresence Server 4.0.

You can deploy TelePresence Server as:

- an appliance or blade for the MSE 8000 chassis.
- a virtualized appliance, but currently not with the same capacity and features as the hardware editions.

Cisco Unified Communications Manager

Unified CM must be version 9.x or 10.x to work with current versions of Cisco TMS.

Licenses

- Ensure that enough system licenses are available in Cisco TMS for the endpoints and infrastructure systems you will be adding.
- See the Cisco TMSXE deployment guide or talk to your Cisco account team for more information about extension licensing.

Comparing deployment models

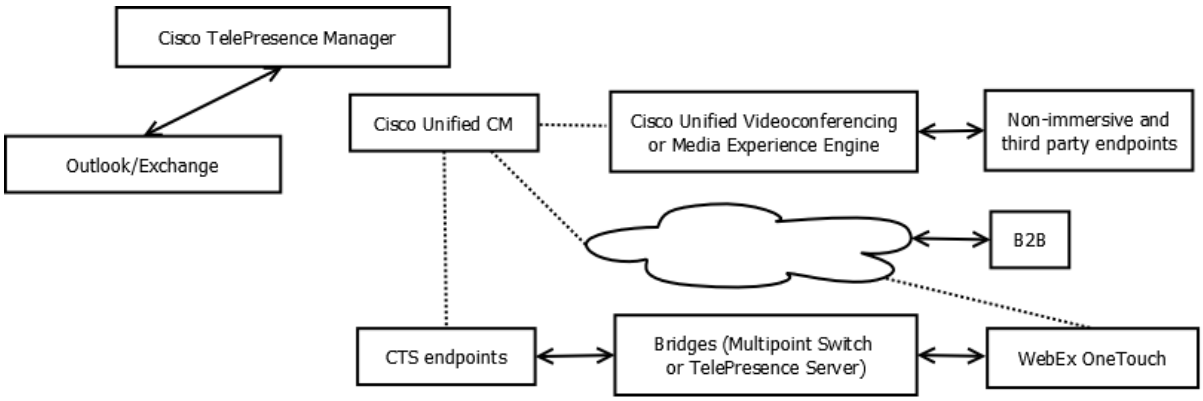
Before you start your deployment project, use this chapter to plan your new deployment and assess the impact the change of deployment models will have on existing conferences and future scheduling practices.

Future software releases will address some of these differences, while others are architectural solution differences. Contact your local Cisco sales representative for up-to-date roadmap information.

The following sections and diagrams illustrate the differences between a Cisco TelePresence Manager-based deployment and a Cisco TMS-based deployment.

Cisco TelePresence Manager-based model

Figure 1: Cisco TelePresence Manager-based deployment

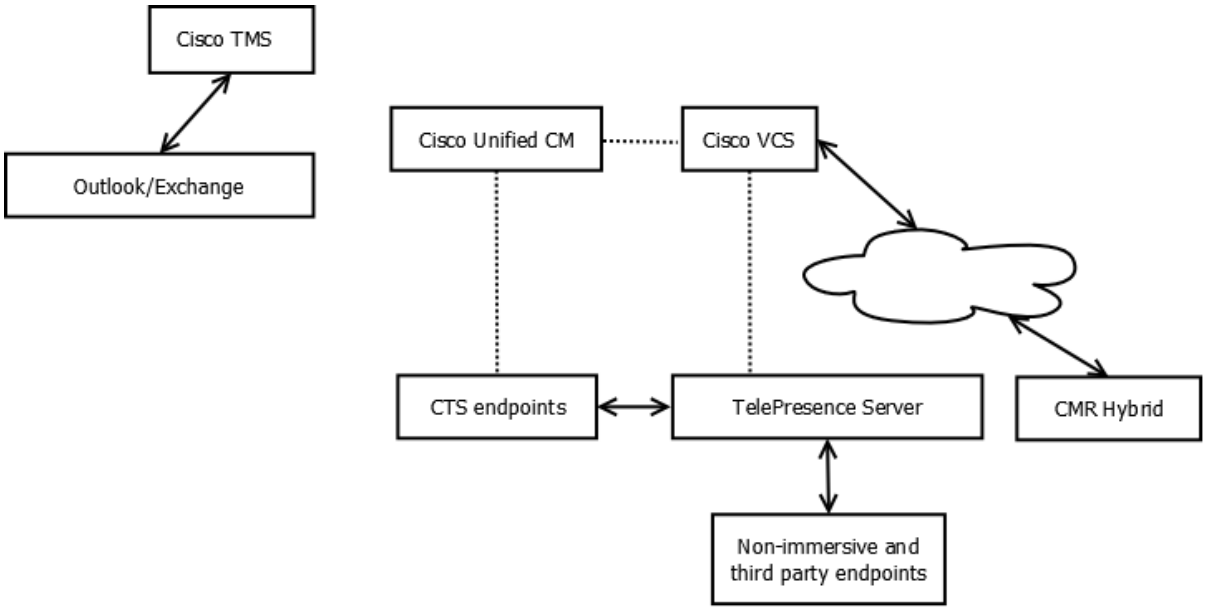


Users request scheduled meetings through their Outlook clients, and Exchange is considered the master for all bookings.

Cisco TelePresence Manager processes these requests, while Multipoint Switch facilitates the meetings. The Cisco Unified Videoconferencing (CUVC) solution provides interoperability with legacy and other non-CTS systems.

Cisco TMS-based model

Figure 2: Deployment after transition to Cisco TMS, Cisco TMSXE, and TelePresence Server.



Users schedule meetings through Outlook, Smart Scheduler, or the Cisco TMS New Conference page.

Cisco TMSXE processes Outlook bookings and connects with Cisco TMS to book the telepresence portion of the meeting. Regardless of booking interface, Cisco TMS is considered the master for all bookings.

TelePresence Server provides conferencing directly for all endpoint types—immersive, personal, and third-party systems.

Use the Cisco VCS Expressway firewall traversal solution to get connectivity to cloud services such as WebEx .

Functionality and behavior differences

The tables below highlight the most significant differences between the old and the new deployment model, assuming a deployment that uses the product versions specified in Prerequisites [p.6], including TelePresence Server.

You can get limited support for Multipoint Switch in Cisco TMS by adding it as an unmanaged bridge, see Appendix 1: Using Multipoint Switch with Cisco TMS [p.47].

Bridge behavior

Table 1: Bridge behavior and functionality

Area of interest	Description
Image quality	Multipoint Switch does not transcode (encode/decode). This leaves the video stream untouched with low latency. TelePresence Server always transcodes video, which: ■ is a requirement for offering broad interoperability ■ offers added benefits such as active presence ■ creates slight quality degradation and delay compared to switched video
Meeting entry protection	Cisco TMS scheduling assigns the dial-in number for a conference from a pool of available URIs and E.164 aliases assigned to the scheduled bridge. Attendees who manually dial into the conference only use the provided alias. Users calling in do not need a meeting number, unlike when using the call-in feature of the Multipoint Switch. This means there is a greater risk of a user joining the wrong meeting inadvertently. To prevent this: ■ Administrators must make sure to configure bridges with a sufficient number of aliases in Cisco TMS to minimize reuse of aliases in adjacent conferences. We recommend a minimum of 1-2 aliases per available bridge port for each bridge. ■ Organizers can require a PIN for the conference or lock the conference when all intended participants are present.
Director controls	Multipoint Switch director controls allow explicit control of the layouts that participants see. With TelePresence Server, this is not available, but you can mark a participant as *Important*, which makes them visible in the conference at all times. Conference Control Center in Cisco TMS provides additional conference controls.
Role-based privileges	With Multipoint Switch, users have access to the bridge for conference controls. The TelePresence Server interface is only for administrator use. If you set up users with the appropriate roles and permissions, they can access their scheduled and ongoing conferences in Cisco TMS.
Maximum conference size	Cisco TelePresence Manager 1.9.x supported cascading for up to 11 Multipoint Switches and 440 segments in scheduled meetings through Network Multipoint. Cisco TelePresence Server on Cisco MSE 8710 supports up to 48 FullHD (1080p30) or 96 HD (720p30) screens per conference when four blades are clustered. Up to 200 calls are supported in one cluster of blades with up to 104 in each conference.
Scheduled versus ad-hoc resources	With Multipoint Switch, you can assign a certain number of ports for ad hoc use and a certain number of ports for scheduled conferences. This ensures that scheduled meeting ports are never consumed by an ad hoc user. TelePresence Server does not support splitting its capacity in this fashion and does not stop ad hoc call-in users from using up scheduled ports. This can lead to contention and failure for scheduled calls if scheduling uses the same TelePresence Server as ad hoc calls.
Call-in meeting behavior (Auto Attendant)	When using dial-in with Multipoint Switch, participants must enter the meeting ID. Calls into a TelePresence Server are routed directly to the conference, and no auto attendant is required.

Table 1: Bridge behavior and functionality (continued)

Area of interest	Description
Screen placement (as viewed on a three-screen endpoint)	With Multipoint Switch, when an endpoint joins a meeting, the endpoint is placed into left, center, or right screen. Thereafter, the endpoint will always switch in to the same screen. With TelePresence Server, endpoints can show up on center screen, then move to active presence film strip on left screen, then switch into a different screen when it becomes active speaker.

Scheduling behavior

Table 2: Scheduling behavior and functionality

Area of interest	Description
Intercompany B2B	The Cisco TelePresence Manager Intercompany B2B feature allows scheduling meetings using a bridge that is not controlled by Cisco TelePresence Manager itself. Cisco TelePresence Manager users make use of this feature for scheduling conferences with a TelePresence Exchange provider who hosts bridging and network connectivity so different organizations can meet in a controlled environment. Cisco TMS does not have an explicit Intercompany or B2B feature, but similar results can be achieved for some scenarios: ■ The *Our Company Hosts* Intercompany mode can be achieved by adding external dial-in participants to a scheduled meeting in Cisco TMS. ■ There is no direct equivalent to the *Another Company Hosts* Intercompany mode, as Cisco TMS does not currently support scheduling with a bridge that is external to Cisco TMS. Similar meeting experiences can be achieved with the following workarounds: • If you only need to book one endpoint from your organization, schedule it and then use Smart Scheduler or Cisco TMS to add the externally provided dial-in number as a dial-out participant. For users booking through Outlook, this requires access to Smart Scheduler or assistance from a person able to modify bookings in Cisco TMS. • If you need to book more than one endpoint, they must all be scheduled as individual meetings with the same dial-in number added as a dial-out participant. As an administrator, you can re-book single meetings booked in Outlook by an end user as multiple meetings in Cisco TMS when adding the required dial-out.. Note that you cannot cascade bridges to an external provider, so you cannot use this workaround if your endpoints are not able to dial out, or if the Cisco TMS Conference Setting **Always Include MCU** is set to *Always*.
Studio room recording	Cisco TelePresence Recording Server is not supported in Cisco TMS. We recommend transitioning to Cisco Telepresence Content Server, which is fully supported. Cisco TMS does not have a feature that corresponds to personal recordings controlled by the phone of a CTS endpoint. Users can record individual meetings by scheduling a conference with Cisco TelePresence Content Server through Cisco TMS.
Private meetings	Cisco TMS does not support the Cisco TelePresence Manager flag to withhold meeting titles from endpoints.

Table 2: Scheduling behavior and functionality (continued)

Area of interest	Description
WebEx integration	Cisco Collaboration Meeting Rooms Hybrid have superseded WebEx OneTouch. The new solution enables two-way video, audio, presentation sharing and more between TelePresence and WebEx conferences. This guide does not address CMR Hybrid deployment. If currently using WebEx OneTouch, contact your Cisco account team for guidance on transitioning to CMR Hybrid. For more information on Cisco Collaboration Meeting Rooms Hybrid, see http://cisco.com/go/seamlessconferencing
Metrics Dashboard	The user survey and specific reports offered by the Metrics Dashboard are not available in Cisco TMS. Cisco TMS offers reporting on scheduling activity and VCS-registered endpoints and call detail records from TelePresence Server. Reporting for Cisco Unified CM registered devices is available through Cisco Prime and Unified Communications Manager CAR Tool.
Live Desk for CTS and TX endpoints	The Live Desk button to reach help desk personnel is now a Unified CM provisioning setting and is no longer set by the scheduling system. For details, see *Release Notes for Cisco TelePresence System Software Release 1.9*. Cisco TelePresence endpoints running TC software offer the same feature, which is configurable on each endpoint.
Port restrictions on conferences	Conferences scheduled by Cisco TMS with TelePresence Server reserve a specific number of ports in the conference, but those ports do not block who may join the conference using that port. Multipoint Switch restricted dial-in to specific participants unless the call-in feature was used.
Bridge selection	While Cisco TelePresence Manager uses time zone settings in bridge selection, Cisco TMS relies on locality as defined in IP Zones. For scheduling, Cisco TMS will prefer the bridge that shares an IP Zone with the majority of the scheduled participants.
Proxy approval/room mailbox delegates	Cisco TMSXE supports scheduling resources that are configured with delegates that need to approve or decline meeting requests. Specific settings and scenarios are laid out in the Cisco TMSXE Deployment Guide. Note that delegate approval is not supported when using Productivity Tools to book with Outlook.
Virtual VC endpoints	Cisco TelePresence Manager allows the creation of "Endpoints" representing systems that it does not manage, so that they can be scheduled through Outlook. The corresponding concept in Cisco TMS is Unmanaged Endpoints. Note that these rooms can only represent one screen or segment; you cannot define a number of ports or segments for a room to represent. Additional unmanaged participants can be added per conference using the External Dial-In and Dial-Out participant types.
CUVC or MXE5600 interop scheduling	TelePresence Server's native interoperability makes external interoperability solutions redundant. Cisco TMS does not schedule the Cisco Unified Video Conferencing (CUVC) or MXE5600 interop solutions.

Table 2: Scheduling behavior and functionality (continued)

Area of interest	Description
Meeting Extension	Multipoint Switch offers meeting extension with an *If resources are available* option that uses ad hoc resources if available when extending a meeting. With TelePresence Server, all meeting extensions will use resources from the scheduled port availability of the bridge. Cisco TMS can be configured to respect or ignore available bridge capacity when determining whether a conference can be extended.
Differences when a resource cannot be scheduled	When a user schedules a conference with Cisco TelePresence Manager, the user will get an email notification with details if scheduling telepresence fails. With Cisco TMSXE, behavior depends on the failure: ■ Cisco TMS will decline the booking when a conference that was successfully booked in Outlook is not bookable in Cisco TMS due to an unsupported recurrence pattern or being outside of the booking horizon. The resource account will subsequently also decline the invitation. Resources sending declines after originally accepting may be confusing to users accustomed to the previous behavior. For details on bookings that will be declined, see Task 5: Assessing meeting compatibility and preparing for mitigation [p.19]. ■ When a booking that was successful in Outlook encounters a routing issue or other conflict in Cisco TMS, the conference will be saved as *Defective*. This means that the meeting is intact, but in an error state that must be corrected before the meeting can be started. The user will receive notification from Cisco TMS on actions to take to correct the issue or issues.

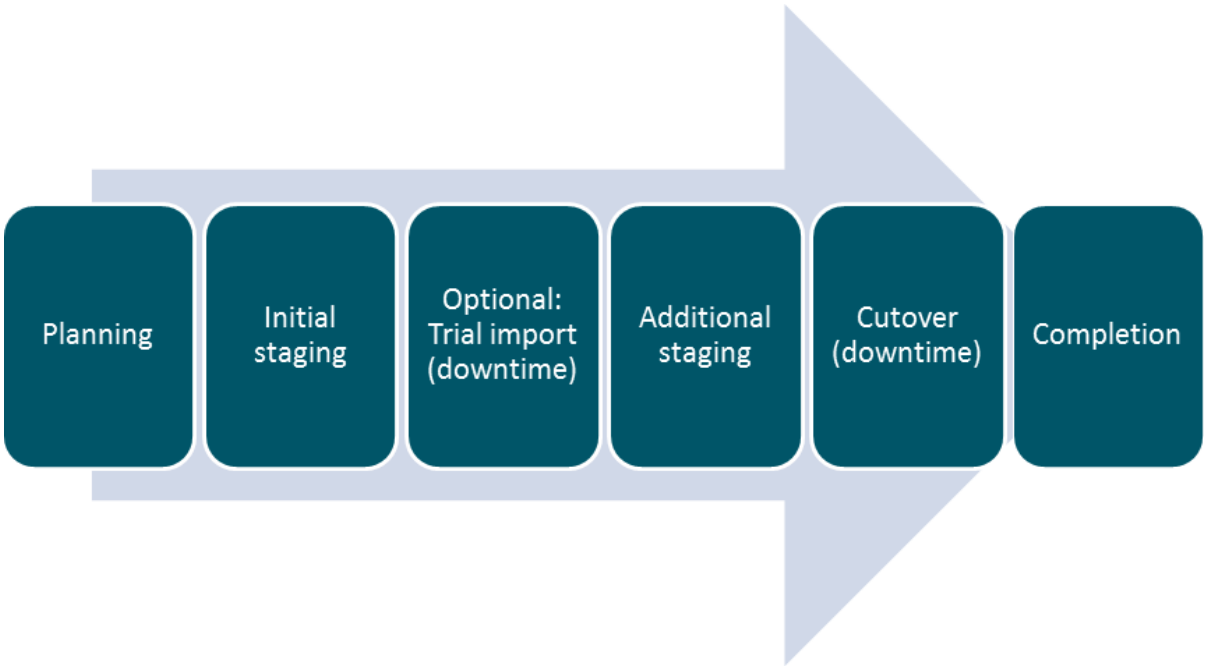
High-level deployment workflow

The next chapters of this document are dedicated to the phases summarized below. Each phase consists of a set of tasks to perform.

Note that:

- Each task is numbered.
- One phase and some tasks are optional, or depend on your deployment.
- All phases and tasks must be performed in the order that they are listed.

Figure 3: High-level workflow of a succesful deployment:



Planning

Set aside time for gathering data, evaluating the deployment changes, getting an overview of the replacement process described in this document, and estimating the timing and scheduling of deployment downtime.

Initial staging

Before you can import data from the old deployment, you need to set up as much as possible of the new deployment. During this stage, you will prepare all the elements that can be set up without interrupting the current production environment.

Optional: Trial import (downtime)

We strongly recommend that you plan for two maintenance windows; one for a trial import and one for the actual cutover. The trial import lets you see how importing meetings to Cisco TMS will work *without*

impacting Exchange. By enabling trial import mode in Cisco TMSXE, the application will import all meetings to Cisco TMS, then stop operation. No changes are replicated back to Exchange.

You can then analyze the results of the trial import to see how many meetings have compatibility issues, verify that configurations are correct and bridge resources are sufficient, and so on. After the trial import, you reset your environment until ready to do the final import.

If you are unhappy with the initial result of your trial import, you can reset your environment, make changes to booking data, dial plan, or bridge capacity, and repeat the trial import.

Additional staging

Whether or not you performed a trial import, some preparations must be done just before the final cutover.

Cutover (downtime)

This is the phase where you permanently disable Cisco TelePresence Manager, import all bookings to Cisco TMS, and see them get replicated back to Exchange.

Tasks include stopping services and reconfiguring equipment from the old deployment model to the new, testing new deployment end-to-end, importing calendars, and mitigating any urgent issues.

Completion

When the deployment process is complete, you will need to make sure your users know how the changes affect them.

Planning the change of deployment

Successfully replacing your deployment requires careful planning.

This chapter takes you through the necessary planning tasks to achieve a successful deployment.

Task 1: Estimating project time

We strongly recommend that you make a detailed project plan for the change of deployments. You must schedule maintenance windows during a time where extended service downtime is acceptable, such as over a weekend. Downtime will be required:

- for the recommended trial import, if performing it.
- the final cutover.

The time required for each task will depend on the size and complexity of your deployment.

The import itself will normally be the most time-consuming part of the cutover phase.

During import of existing calendars at cutover, the launching and scheduling of conferences will be disrupted. The import process is highly resource intensive on Cisco TMS, Cisco TMSXE, and Exchange in a deployment with a large number of meetings.

Performing the trial import will provide a good estimate of how long the actual import will take.

Task 2: Planning for a new dial plan

As part of the replacement process, Cisco TMS will import all future meetings that have been previously scheduled through Cisco TelePresence Manager, recreating each booking using bridge and device aliases as defined in Cisco TMS. This re-booking, as well as changes to where bridges and endpoints are registered, will invalidate dialing information previously distributed to organizers.

With OBTP correctly configured, this change will have a minimal impact on users, but to avoid invalidating numbers for the same meetings several times, you must have your new dial plan mapped out prior to starting the actual import.

- Ensure that conference bridges have a sufficient number of aliases available to them; we recommend a minimum of 1-2 aliases per available bridge port for each bridge.
- Consider the impact of any planned change of registrars, such as moving endpoints from Cisco VCS to Unified CM.
- Consider that Cisco TMS only supports adding a single Unified CM cluster.

This is the planning phase. All changes must be finalized before performing the final import to Cisco TMS.

Bridge availability considerations before import

Hosting an immersive conference requires that there is TelePresence Server capacity on a single bridge or cluster. If sufficient resources are not available, Cisco TMS will save the meeting as *Defective* until resources are added or freed up and the booking is saved again or autocorrected using Conference Diagnostics. For more information about defective conferences, see Task 41: Identifying and correcting declined, downgraded, or defective meetings [p.41].

Examples

If you previously had a bridge with 48 ports and replaced it with two TelePresence Servers with 24 ports:

- You will not be able to schedule an immersive conference requiring 30 ports, as neither TelePresence Server is sufficiently large to handle the conference on their own.
- If existing bookings are using up 14 ports of both new bridges, you will not be able to create a new conference with more than 10 participants, although there are 20 free ports across the network combined.

To avoid the above scenarios, deploy larger TelePresence Server bridges with clustering.

Task 3: Compiling system information

As part of your planning, create lists of all systems that are currently being scheduled through Cisco TelePresence Manager. You must also collect the details for any new systems you are planning to add. These lists will ensure that you capture all systems when setting up your Cisco TMS deployment.

Bridges

Collect the following for each of your existing TelePresence Servers, including new servers that will replace Multipoint Switches:

- IP address/Hostname
- Username
- Password

See also considerations for TelePresence Server in Task 2: Planning for a new dial plan [p.16].

If you are planning to add one or more Multipoint Switches as unmanaged bridges, collect their network addresses.

Unified CM-registered endpoints

In Unified CM:

1. On the publisher node, go to **Bulk Administration > Phones > Export Phones > All Details**.
2. Export details of your endpoints to a file:
   a. Select *All Phones*.
   b. Enter an output file name.
   c. Go to **Bulk Administration > Job Scheduler** to see an updated status of the export job.
   d. When the export is done, click on the job and download the exported file from the page that opens. Wait a few minutes after executing the export before downloading the file. If you immediately download the file, endpoints may be missing from the list.
   e. Open the file in Excel and sort by the Device Type column to identify your telepresence endpoints. For each telepresence endpoint registered to Cisco Unified CM, keep the following information:
      - Description
      - MAC Address. Keep this as a unique identifier to verify that all systems are present when adding to Cisco TMS)
      - Email address. You will find this in the XML column inside the RoomName tag. This column maps to the **Product Specific Configuration Layout** section in the Cisco TelePresence Manager

Phone Configuration page. The addresses are needed when adding the systems to Cisco TMSXE.

Cisco VCS-registered endpoints

In Cisco TelePresence Manager:

1. Go to **Configure > Endpoints**.
2. For each system, collect the following:
   - Name
   - IP Address/Hostname
   - Email ID
   - Username
3. Obtain the password for each endpoint.

Do not use the **Support > Endpoints** page's **Export** feature to perform this task, as the email and username fields will not be included.

Task 4: Exporting a list of existing meetings

We recommend performing this task early during planning stages to get an overview of the types and number of meetings you will import to Cisco TMS through Cisco TMSXE.

You will need to perform it again:

- immediately before trial import to make the trial as up to date and realistic as possible.
- at cutover time to get a completely up-to-date list of meeting data that can be used by Meeting Updater after the final import.

The export feature in the Cisco TelePresence Manager web interface does not include some fields that may be useful for planning and that are required for import.

To obtain an export that includes these fields, you need to contact Cisco TAC.

Contacting Cisco TAC

Contact Cisco TAC and refer to bug search identifier CSCum96237. Perform the next procedure while in contact with TAC.

Generating a temporary password

You need to create a temporary password that the TAC engineer will use to generate a remote access password and use it to run the enhanced export script and provide you with the .tsv file containing exported meeting data.

Using the web interface:

1. Log into Cisco TelePresence Manager as a user that has administrative privileges.
2. Go to **Configure > System Settings**.
3. On the Remote Account tab, enter an account name, such as "ciscotac", and expiration.
   We recommend setting a generous enough expiration that you will not have to generate a new password for doing the second meeting export at cutover time.

4. Click **Add**.
5. Provide the TAC engineer with the generated account name and passphrase.

Using the command line:

1. SSH to Cisco TelePresence Manager.
2. Log in as a user with administrative privileges.
3. Type `utils remote_account enable`
4. Type `utils remote_account create ciscotac 1` (the number is the number of days until password expiry).
5. Provide the TAC engineer with the generated account name and passphrase.

Task 5: Assessing meeting compatibility and preparing for mitigation

High-level, there are six main categories of issues that will or may arise when meetings are imported from Cisco TelePresence Manager to Cisco TMS, as described in the following table.

Table 3: Categories of compatibility issues when importing meetings from Cisco TelePresence Manager to Cisco TMS

Type of issue	Result on import	Recommended mitigation
All meetings are affected by the changes to dial plan, but Microsoft security policies prevent Cisco TMSXE from updating organizer or invitee calendars.	All imported meetings will have new routes that will not be reflected in organizer calendars. Resource calendars will correctly reflect all updates.	As an administrator: ■ Pre-import, set *One Button To Push* as the default conference type in Cisco TMS to make endpoints handle the new routing information automatically. See Task 7: Installing and preparing Cisco TMS [p.24]. ■ Post-import, use Meeting Updater to re-apply dial-in information and send updates to organizers of meetings with dial-in participants, so they can update their calendars and forward the information to invitees. See Task 42: Mitigating meeting feature discrepancies [p.43].
Some meetings may be outside of the booking horizon or have recurrence patterns not bookable in Cisco TMS.	Meeting is declined by Cisco TMS and will also be removed from Exchange resource calendars. For detail on booking horizon, see Appendix 2: Scheduling limitations with Cisco TMSXE [p.49].	As an administrator, do both of the following before import: ■ Pre-import, ensure that Cisco TMS and Exchange mailbox resource booking windows are identical. See Task 7: Installing and preparing Cisco TMS [p.24]. ■ Pre-import, get affected organizers to update their meetings that have unsupported recurrence, which includes: • More than 100 occurrences. • No specified end date. • A yearly recurrence pattern.

Table 3: Categories of compatibility issues when importing meetings from Cisco TelePresence Manager to Cisco TMS (continued)

Type of issue	Result on import	Recommended mitigation
Some meetings may have routing issues or resource conflicts due to existing Cisco TMS bookings, lack of routing resources, or configuration errors in the backend.	Meeting is saved as defective in Cisco TMS. Rooms are booked as *Busy*, but no routing resources will be reserved until issues are resolved.	As an administrator, resolve all defective meetings after import before running Meeting Updater. For instructions, see Task 41: Identifying and correcting declined, downgraded, or defective meetings [p.41].
Some meetings have properties in Cisco TelePresence Manager that cannot be imported from Exchange and/or are not directly supported by Cisco TMS.	Meeting is imported without these properties.	See Reading the exported meeting data [p.20] for details. Depending on the setting the following post-import mitigation is possible: ■ As an administrator, you can re-apply some settings by running Meeting Updater. ■ Unsupported settings can be addressed manually by administrator or organizer in Cisco TMS. See Task 42: Mitigating meeting feature discrepancies [p.43]
Meetings are double-booked in Cisco TelePresence Manager	One meeting is imported, the overlapping booking(s) are declined.	Post-import: Re-book or have organizers re-book the declined meetings at an available time. See Task 41: Identifying and correcting declined, downgraded, or defective meetings [p.41]
Endpoints are incorrectly configured or lack licenses in Cisco TMS at the time of import.	Meetings that include the endpoint(s) are downgraded or declined.	Pre-import: Verify endpoint configurations and licensing. Post-import: Resolve downgrades and re-created declined meetings. See Task 41: Identifying and correcting declined, downgraded, or defective meetings [p.41]

Reading the exported meeting data

You can open the **.tsv** file with exported data from Cisco TelePresence Manager in Microsoft Excel. Make sure to change file type selection to *All Files* so that the **.tsv** file will show up.

The table describes the data fields exported from Cisco TelePresence Manager, how they are used during import, and the appropriate mitigation strategies to plan for.

For instructions on post-import mitigation, see Task 42: Mitigating meeting feature discrepancies [p.43].

Table 4: Cisco TelePresence Manager meeting setting compatibility with Cisco TMS and Cisco TMSXE

Exported data field	Description	Mitigation if relevant
Start Time	Only meetings with a start time in the future will be imported.	
End Time		
Start Time UTC		
End Time UTC		
Recurrence ID	This recurrence ID from Cisco TelePresence Manager is not used during or after import. Recurrent series and patterns are identified using the System ID, see below.	
Instance Type	Both single and recurring meetings are supported for import. Recurrent meetings with no end date or more than 100 occurrences will be declined by Cisco TMS. Use the System ID field to identify the number of occurrences.	Pre-import: Change unsupported recurrence to supported once you have identified the problematic series. Trial import will identify unsupported series by declining them and logging the issue.
Status	This data field is not used for import or significant for compatibility.	
EndPoint	The list of resource accounts scheduled for the meeting to calculate the number of participants in a conference and evaluate the required bridge resources.	Pre-import: Add more bridge capacity if required. Trial import will indicate whether your initial capacity is sufficient.
Organizer	The organizer will be added as a Cisco TMS user on import. We recommend setting up Cisco TMS to use Active Directory lookup, although this does not directly affect the import or quality of meeting data.	
Subject	The subject line will be imported as-is. Any further transformations to the subject line are determined by resource mailbox settings in Exchange, see description for the setting Task 5: Assessing meeting compatibility and preparing for mitigation [p.19].	Pre-import: Ensure that all room mailboxes have identical subject settings.
MCU	This field contains the address for the previously used bridge. The field will be ignored during import.	
Video Conferencing	If this is set to *Yes*, Interoperability or VC Endpoints were added to the original booking.	Post-import: Meeting Updater

Table 4: Cisco TelePresence Manager meeting setting compatibility with Cisco TMS and Cisco TMSXE (continued)

Exported data field	Description	Mitigation if relevant
Intercompany	If set to *Yes*, intercompany calling is enabled. The additional **Intercompany** columns contain the details necessary to reconstruct the meeting post-import if desired. ■ Intercompany Hosted By--used by Meeting Updater if the meeting is "hosted by Our Company". ■ Intercompany Multipoint Call-in Number--not used ■ Interompany Meeting Number--not used ■ Intercompany No of Resource--used by Meeting Updater	Post-import: ■ Meeting Updater if the meeting is "hosted by Our Company". ■ If "hosted by Another Company", call-in details must be manually added to the booking after import.
Recording	Cisco TMS is not compatible with Cisco TelePresence Recording Server Studio Recordings.	Post-import, manual: Add a Cisco TelePresence Content Server to the booking.
Webex	Meetings with WebEx are fully compatible if CMR Hybrid is deployed with Cisco TMS before import. WebEx OneTouch 1.0 is no longer supported.	Post-import: Meeting Updater
Number To Dial	If not empty, a user has manually added an OBTP number to this single-participant meeting. All numbers will change on import. See the description and mitigations for the field MCU Call-in Number [p.23].	Post-import, manual: Add an external dial-out participant using the number provided and ensure the call is set up as OBTP.
Meeting Subject on Endpoint Control Device	This setting indicates whether the meeting was manually marked as private in Cisco TelePresence Manager. With Cisco TMSXE and Cisco TMS: ■ the Cisco TelePresence Manager setting will not be used. ■ the 'Private' flag in Exchange will not be used. ■ consistent configuration of resource mailbox settings for subject line handling is required. If using mailbox settings to remove the subject line or add the organizer's name to the subject, these must be identical for all mailboxes. This is described in detail in *Cisco TMSXE Deployment Guide*.	Pre-import: Configure all resource mailboxes to hide subject if required.

Table 4: Cisco TelePresence Manager meeting setting compatibility with Cisco TMS and Cisco TMSXE (continued)

Exported data field	Description	Mitigation if relevant
MCU Call-in Number **MCU Meeting Number**	The dialing details for the bridge if the conference included a bridge. All dialing details will change on import.	■ Pre-import, set *One Button To Push* as the default conference type in Cisco TMS to make endpoints handle the new routing information automatically. See Task 7: Installing and preparing Cisco TMS [p.24]. ■ Post-import, use Meeting Updater to re-apply dial-in information and send updates to organizers of meetings with dial-in participants, so they can update their calendars and forward the information to invitees. See Task 42: Mitigating meeting feature discrepancies [p.43].
System ID	This ID, also referred to as the Exchange ID, is used to identify occurrences that are part of the same series. All occurrences in a series have the same System ID. This ID is also seen in the Cisco TMSXE logs and is used as a cross-reference when trying to find the original meeting details from Cisco TelePresence Manager.	Pre-import: Get affected organizers to update their meetings that have unsupported recurrence, which includes: ■ More than 100 occurrences. ■ No specified end date. ■ A yearly recurrence pattern.

Staging the new environment

The tasks in this section will bring your new environment as close to completion as possible without interrupting the operation of your current environment.

You can complete these tasks at any time prior to the planned cutover.

Task 6: Checking Endpoint Configurations

Before starting on the transition, ensure all of the following:

- All endpoints running Cisco TelePresence TC software must be set to the correct **Provisioning Mode**. You must verify this directly on the systems, as the setting is not checked by Cisco TelePresence Manager. Inaccuracies will lead to errors when adding the systems to Cisco TMS.
  - Unified CM-registered endpoints must be set to *CUCM*.
  - Cisco VCS-registered endpoints must be set to *TMS*.
- Unified CM-registered endpoints running TC software must have identical username and password information configured in Unified CM and on the endpoint, as Unified CM does not enforce these settings.
- All Unified CM-registered endpoints must be active and registered in order to be added to Cisco TMS. To verify, go to **Device > Phone** in Unified CM, list your telepresence endpoints and check their status.

Task 7: Installing and preparing Cisco TMS

1. Install Cisco TMS if it does not already exist in your environment, following the requirements, best practices, and instructions in *Cisco TMS Installation and Upgrade Guide*.
2. Add your Cisco TMS license information to Cisco TMS including the Cisco TMS release key, system licenses, integration licenses, and options you have purchased. Make sure you have enough licenses for the number of endpoints and bridges you are moving into Cisco TMS.
3. Configure your basic Cisco TMS settings and preferences:
   a. Create a suitable folder hierarchy for your endpoints and infrastructure systems.
   b. Complete configuration such as defining zones and user groups/permissions at this time to reduce the workload during the actual cutover.
   c. In **Administrative Tools > Configuration > Conference Settings**, set:
      - **Default Reservation Type for Scheduled Calls** to *One Button To Push*.
      - **Booking Window (in days)** to the exact same as the booking window for your resource mailboxes in Exchange. Use the following command to list the setting for all mailboxes:
        ```
        Get-Mailbox | Where {$_.RecipientTypeDetails -eq "RoomMailbox"} | Get-CalendarProcessing | FL Identity,BookingWindowInDays
        ```
        Also ensure that all resource mailboxes that will be used with Cisco TMS and Cisco TMSXE have identical booking windows.

Optional: Customizing email templates

If you want to customize the email templates used by Cisco TMS for your organization, for branding reasons or to tailor messages to users, we recommend doing so during the staging phase.

Go to **Administrative Tools > Configuration > Edit E-mail Templates**, and use the contextual web help for guidance (click the question mark symbol in the top right corner of the page).

Task 8: Installing Cisco TMSPE (optional)

If you wish to use Smart Scheduler and/or Collaboration Meeting Rooms:

1. Install Cisco TelePresence Management Suite Provisioning Extension on the Cisco TMS server following the instructions in the *Cisco TMSPE Deployment Guide* for your environment (Unified CM-based or Cisco VCS-based).
2. Deploy the desired features as described in the deployment guide, but do not send out account information to users until the transition and import is completed.

Task 9: Adding Unified CM to Cisco TMS

When adding Unified CM to Cisco TMS:

- Follow the instructions in the context-sensitive webhelp or Cisco TMS Administrator Guide (search for "Adding Unified CM" to locate the instructions).
- Use the Unified CM network address (FQDN recommended) and the application user previously used for Cisco TelePresence Manager.
- Do not add any endpoints into Cisco TMS yet.

Task 10: Verifying that Unified CM-registered endpoints can be added to Cisco TMS

Give Cisco TMS sufficient time to discover the endpoints before proceeding. Cisco TMS will discover up to 100 endpoints from a Unified CM cluster per minute.

To verify that systems have been discovered:

1. In Cisco TMS, go to **Systems > Navigator**.
2. Click **Add System**.
3. Select the **Add from** Unified CM **or TMS** tab.
4. Compare the list of endpoints to the list created during planning and make sure that all are present. Do not add any endpoints yet, as this will conflict with the existing Cisco TelePresence Manager deployment.
   - Endpoints must be online and registered in Unified CM to be discovered by Cisco TMS.
   - Investigate any missing endpoints from the planning list, verifying that they are not offline with status *Unknown*.

Task 11: Optional: Notifying users of downtime for trial import

If planning to do a trial import, this will require a maintenance window with downtime. Make sure users are properly notified before making systems unavailable.

Optional: Trial import (downtime)

At this stage, you may opt to perform a trial import of bookings from Exchange to Cisco TMS, using Cisco TMSXE in trial import mode.

This optional phase of the replacement process allows you to validate your findings on compatibility during planning, see how the import will work, and test your hardware configurations.

If you are already using Cisco TMS, this trial import will be disruptive to your telepresence environment and requires a maintenance window.

Performing this trial import is strongly recommended if your current deployment:

- Commonly uses features that have compatibility issues or have been identified as requiring mitigation.
- Has a high bridge and/or endpoint utilization.
- Has a large number of meetings to be imported (more than 5,000).

All changes that you will make during the trial import are easily reverted, and the trial import has no impact on bookings in Exchange.

To perform the trial import, you must add all the required components to Cisco TMS:

- If you are setting up a new Cisco TMS installation that does not need to be available until after cutover, you can leave bridges and endpoints in place after the trial import, avoiding to repeat these steps during the final cutover.
- If Cisco TMS is already in use in your organization, bridges and endpoints must be made temporarily available in Cisco TMS, and removed at the close of the maintenance window.

Beware that performing a trial import in a deployment where Cisco TMSXE is already in use is not supported, as you must remove Cisco TMSXE program data after the trial import.

If you do not want to perform the trial import, proceed to Additional staging [p.35].

Task 12: Backing up the database (existing Cisco TMS)

If Cisco TMS is new to your environment, skip this step now and perform the backup after adding systems.

If you are performing the trial import to an existing Cisco TMS installation, this is a required step, as you need to restore this backup after the trial import, before the close of the maintenance window.

Create a backup of the tmsng database using standard SQL utilities.

Task 13: Purging any auto-discovered Unified CM-registered endpoints

You can only add Unified CM-registered endpoints to Cisco TMS if they have not already been auto-discovered by Cisco TMS.

To purge any systems that have been auto-discovered:

1. In Cisco TMS, go to **Systems > Purge Systems**.
2. Click the **In Folder** column to sort the system list with any systems not in a folder on top.

3. Select all systems not in a folder and click **Purge Systems**.
4. Repeat the above steps until all systems not in a folder have been purged from Cisco TMS.

Proceed immediately to Task 14: Disabling Cisco TMS services [p.27] to avoid systems being re-added as auto-discovered.

Task 14: Disabling Cisco TMS services

To minimize disruption to the existing environment:

1. Disable all Windows services on the Cisco TMS server that start with "TMS":
   - TMSDatabaseScannerService
   - TMSLiveService
   - TMSPLCMDirectoryService
   - TMSSchedulerService
   - TMSServerDiagnosticsService
   - TMSSnmpService
   - TMS Provisioning Extension (if present)

   In a redundant Cisco TMS environment, do this on both servers.
2. In Cisco TMS, set **Administrative tools > Configuration > Network settings > TMS Services >Enforce Management Settings on Systems** to *No*.

Task 15: Exporting an updated list of meetings

Run the export script again to ensure that all scheduled meetings will be included when running Meeting Updater.

Contacting Cisco TAC

Contact Cisco TAC and refer to bug search identifier CSCum96237. Perform the next procedure while in contact with TAC.

Generating a temporary password

You need to create a temporary password that the TAC engineer will use to generate a remote access password and use it to run the enhanced export script and provide you with the .tsv file containing exported meeting data.

Using the web interface:

1. Log into Cisco TelePresence Manager as a user that has administrative privileges.
2. Go to **Configure > System Settings**.
3. On the Remote Account tab, enter an account name, such as "ciscotac", and expiration.
   We recommend setting a generous enough expiration that you will not have to generate a new password for doing the second meeting export at cutover time.
4. Click **Add**.
5. Provide the TAC engineer with the generated account name and passphrase.

Using the command line:

1. SSH to Cisco TelePresence Manager.
2. Log in as a user with administrative privileges.
3. Type **`utils remote_account enable`**
4. Type **`utils remote_account create ciscotac 1`** (the number is the number of days until password expiry).
5. Provide the TAC engineer with the generated account name and passphrase.

Task 16: Temporarily shutting down Cisco TelePresence Manager

To prevent Cisco TMS and Cisco TelePresence Manager from managing endpoints simultaneously, you must completely disable the latter once you have obtained the latest meeting data:

1. Shut down Cisco Telepresence Manager completely.

Task 17: Adding endpoints to Cisco TMS

If you have Cisco VCS-registered endpoints in Cisco TelePresence Manager and wish to consolidate all endpoints in Unified CM as part of your deployment changes, you must register them with Unified CM before adding the systems to Cisco TMS.

Add all endpoints to Cisco TMS:

1. Go to **Systems > Navigator** and navigate to the desired folder.
2. Click **Add Systems** and add:
   - Unified CM-registered systems on the **Add from Unified CM or TMS** tab. We recommend bulk-adding systems by intended IP zone, as you can then specify the IP zone as you add the systems rather than add it per system later.
     To add systems, they must be active and registered, and show as registered in Unified CM.
   - Any remaining Cisco VCS-registered systems on the **Add by Address** tab.
3. Ensure that the alias, registration status, zones, and booking settings are correct before continuing.
   Tickets saying "The feedback address on the system is incorrectly configured" can be ignored for Cisco TC systems added from Unified CM. Address any other tickets.
   Failure to perform this step may result in conferences being declined or stored as defective on import.

Note that using the mailbox name as the endpoint's configured display name in Unified CM simplifies mapping mailboxes to systems in Cisco TMSXE.

Task 18: Adding bridges to Cisco TMS

If you are deploying new TelePresence Servers or need to do any reconfiguration of existing servers such as clustering or cluster expansion, complete this before adding the bridges to Cisco TMS.

Follow the instructions in TelePresence Server documentation on installation and configuration:

- Installation and upgrade guides
- Configuration guides

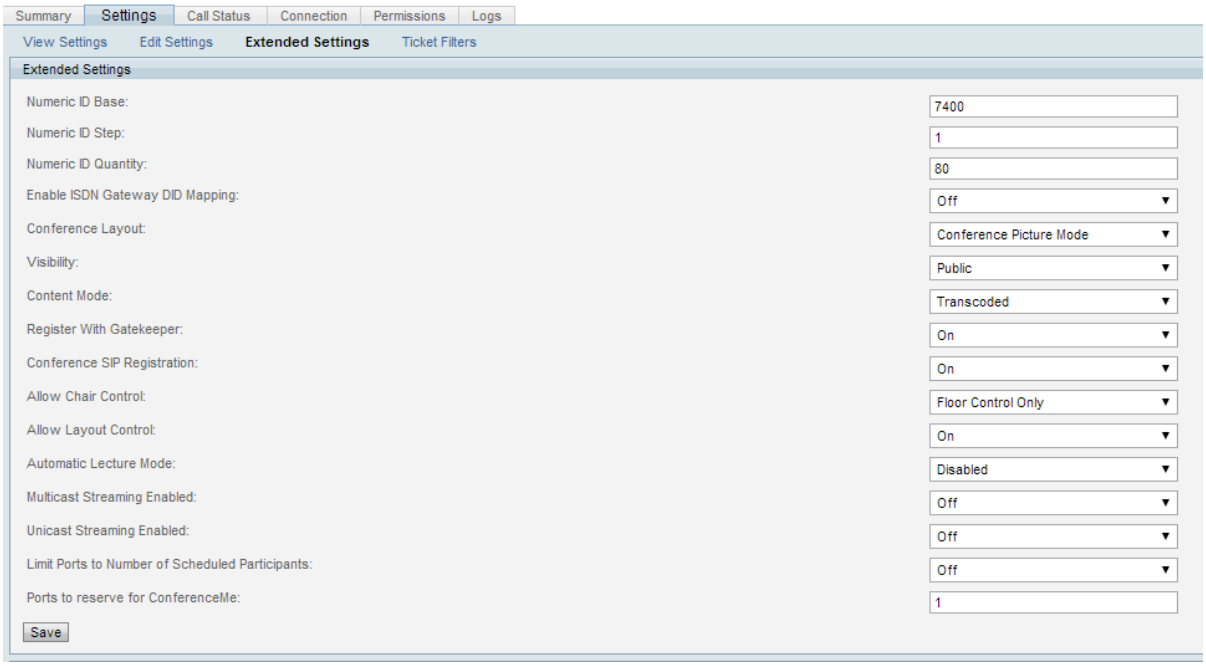
Next, add all of your TelePresence Servers into Cisco TMS using the information collected during planning, following the instructions in the Cisco TMS webhelp or administrator guide. For SIP-trunked bridges, make sure to disable:

- H.323 dialing (incoming and outgoing)
- IP address dialing (incoming and outgoing)

When you have added the bridge, configure the numeric ID settings for each TelePresence Server:

1. In Cisco TMS **Systems > Navigator**, select the TelePresence Server and go to **Settings > Extended Settings**, then configure **Numeric ID Base**, **Numeric ID Step**, and **Numeric ID Quantity** to match your dial plan. These settings control the numeric addresses that Cisco TMS will use when scheduling calls on that bridge.
   Ensure that there is a minimum of 1-2 numeric IDs available per bookable port.

   Figure 4: Extended Settings



2. Go to **Settings > View Settings** to confirm the numeric addresses for the bridge.

If adding one or more Multipoint Switches to Cisco TMS as unmanaged bridges, do so at this stage. For instructions, see Appendix 1: Using Multipoint Switch with Cisco TMS [p.47].

Task 19: Scheduling test meetings

Now all endpoints and bridges are present in Cisco TMS, configured as you want them to work in your final deployment.

1. Using the Cisco TMS web interface, schedule several test calls to verify that you can book conferences with and without bridges.
2. Once you have confirmed that scheduling is performing as intended, delete all test bookings before proceeding to avoid any conflicts with imported meetings.

Task 20: Backing up the database (new Cisco TMS)

If you are working with an existing Cisco TMS installation, you have already performed a backup and may skip this step.

If Cisco TMS is new to your environment, create a backup of the **tmsng** database now using standard SQL utilities.

After the trial import, you will restore this backup and revert to a database with all systems in place, but no bookings.

Task 21: Creating a list of endpoints and email addresses

To ease the import of a large amount of endpoints to Cisco TMS into Cisco TMSXE, we recommend creating a comma-separated list of system information.

1. In the tool of your choice, create a comma-separated list of systems formatted as follows:

   ```
   TMS ID,System name,Email
   42,Meeting Room 1,meetingroom1@example.com
   ```

   We recommend omitting the header line and System name column for simplicity as they are optional.
2. Get the system IDs from Cisco TMS by going to **Systems > System Overview** and selecting the desired folders.
3. Get the email addresses from the list of endpoints exported from Unified CM.

If you are importing to an existing Cisco TMS installation, you can re-use this list for the final import, but will need to update the system IDs, which will change when systems are re-added to Cisco TMS.

Task 22: Installing Cisco TMSXE and performing the trial import

Complete requirements, best practices, and instructions for installation are provided in *Cisco TMSXE Deployment Guide*.

Note in particular that Cisco TMSXE requires resource mailbox settings for handling of privacy, subject line, and so on to be consistent. These settings and requirements are described in detail in the deployment guide.

When installing for a trial import:

1. Place the installation files on the server.
2. Open a command prompt and run the installer with the command **`TMSXESetup.msi TRIALIMPORT=1`**.
   - If you are planning a clustered setup, only install and configure the first node at this time.
   - Install with Cisco TMS Booking Service if planning to use Productivity Tools.
   - Use the endpoint list created in the previous task for bulk import on the **Systems** tab.
     The configuration tool will warn you if resource mailboxes are not configured consistently. This will have no effect on the trial import, but we strongly recommend addressing any discrepancies before the final import.
   - When prompted to start the Cisco TMSXE service, accept.
     The service will stop automatically when the import is complete.

3. Once started, the Cisco TMSXE service will continue importing meetings in the background until all future meetings have been processed.
   Approximately 4 conferences can be saved per second in Cisco TMS. Actual numbers will depend on the size of deployment, number of bridges, and bridge configuration in Cisco TMS.
4. Monitor the Cisco TMSXE log in the tool of your choice,
   The test import has completed when the log indicates that the service has stopped.

Unless you make significant changes to the deployment after the trial import, the time used by the trial import is a good indication of how long the final import will take. However, the replication to Exchange during the final import will impact Cisco TMS for some time after the import has completed.

Should you wish to perform the trial import multiple times, you must complete the trial import phase including the procedures to revert both Cisco TMS and Cisco TMSXE first.

Task 23: Using Meeting Updater on trial import data

The Meeting Updater tool is delivered with Cisco TMSXE. It parses export files from Cisco TelePresence Manager and tries to add features that were not imported from Exchange to the bookings that are already saved in Cisco TMS:

- Meeting Updater can add a fixed number of dial-in participants to guarantee capacity for unscheduled and/or external participants. The number of dial-ins to add is set once in Meeting Updater for all affected meetings. This applies to meetings that were:
  - Marked as using *Interoperability* in Cisco TelePresence Manager, either by enabling Interoperability or scheduling Video Conference Endpoints
  - Booked as *Intercompany hosted by Our Company*.
- For single-participant meetings in Cisco TelePresence Manager that used *Number to Dial*, Meeting Updater can add that number as a dial-out participant, so that the number will appear in the OBTP menu of the scheduled endpoint.
- For meetings booked with WebEx OneTouch in Cisco TelePresence Manager, Meeting Updater can re-add WebEx if CMR Hybrid is already set up with Cisco TMS.

At this stage, you can do a trial run of Meeting Updater to see how many meetings can be automatically updated.

If adding WebEx to your meetings during this trial run, dummy WebEx bookings will be added to the meetings to verify that they can be set up and routed, but no actual meetings will be created on the WebEx side.

No setup is required for the tool. Meeting Updater will read the configurations from the Cisco TMSXE configuration tool, including the setting that enables and disables trial import mode.

To run the tool:

1. On the Cisco TMSXE server, go to the directory **Program Files/Cisco/TMSXE/** and run **TMSMeetingUpdater.exe**.
   The updater opens to a welcome screen.
2. Click **Start** to open the main Meeting Updater screen.
3. Click **Browse**, locate the **.tsv** file containing all the meeting data from Cisco TelePresence Manager, and click **Open**.
   Meeting Updater will read the file and display the total number of meetings, as well as the number of meetings with properties that you may want to add to the bookings in Cisco TMS.

4. Select which updates to include. The count of eligible meetings will update based on your choices. Note that:
   - If adding WebEx to meetings, you must also add the URL of your WebEx site.
     Note that this will only work if CMR Hybrid is already deployed and conference organizers are set up with WebEx credentials, but does not actually book anything in WebEx.
   - You will not be able to send updated email invitations to organizers as part of the trial run.
5. Click **Start**.
   Meeting Updater will try to add the desired properties to bookings in Cisco TMS.
   Bookings that did not include any affected properties will be left untouched by Meeting Updater.
   Once the update has completed, Meeting Updater displays a link to a log file containing detail on any failed attempts. The log is also in **.tsv** format and can be opened in Excel for ease of sorting and filtering.

Task 24: Gathering and analyzing the results

Before proceeding to revert the environment and ending downtime, collect the following:

- all Cisco TMSXE logs from **C:\ProgramData\Cisco\TMSXE\Logs** (or alternate log location), in particular **tmsxe-decline-downgrade-log-file.txt**.
- the log from Meeting Updater.
- the exported details log from Cisco TMS **Booking > List Conferences**. Make sure to set up your search to include all future conferences from all users.

At any time prior to cutover, you can use the above to analyze the results of the trial import as indicated below.

Declined meetings

Use **tmsxe-decline-and-downgrade-log.txt** to identify meetings from Cisco TelePresence Manager that were declined during the trial import.

Likely causes for declined meetings are described below, with mitigation strategies.

Cause	Mitigation
Endpoints and/or bridges are incorrectly configured in Cisco TMS	Verify booking settings for your systems.
Meetings use an unsupported recurrence pattern	Have the organizer update the booking with a supported recurrence pattern so that it will be valid during the final import, see Task 29: Optional: Pre-import mitigation [p.35]. Alternatively, re-book the series in Cisco TMS after the final import and make the original organizer the owner, or ask the organizer to re-book it.
Booking windows are not identical in room mailboxes and Cisco TMS.	Align the settings. Note that this is a per-mailbox setting in Exchange and a system-wide setting in Cisco TMS (**Administrative Tools > Configuration > Conference Settings > Booking Window (in days)**)

Defective meetings

Using the exported log from **Booking > List Conferences** in Cisco TMS, identify bookings stored as *Defective*.

You will generally be able to resolve defective bookings after a final import, but before cutover, if you have a large number of defective meetings, ensure that bridge configuration and total bridge resources are satisfactory.

Before attempting to resolve defective meetings, you may need to:

- increase the number of bookable ports for each bridge, for example by increasing the **Numeric ID Quantity** value.
- add more bridges to your deployment.
- if CMR Hybrid is deployed, check whether Cisco TMS is set to add WebEx to every meeting. This will consume routing resources.
- verify that no resource mailboxes in Exchange are configured to support double-booking (booking conflict). If overlapping meetings are booked for the same endpoint(s), Cisco TMS will save one of them as defective.

Updated meetings

Using the log from Meeting Updater, identify meetings that were successfully updated with additional settings or that failed to update.

Task 25: Restoring Cisco TMS and bridges

Once you are done analyzing the data imported into Cisco TMS:

1. If you made any changes to the configuration of your bridges or endpoints, revert those settings back to their previous values.
2. On the Cisco TMS server, in the Windows Services panel, disable the World Wide Web Publishing Windows service (IIS).
   At this stage, all the other Cisco TMS Windows services must also be left as disabled,.
3. Restore the database from the backup made before the trial import:
   - If Cisco TMS is new to your environment, your restore point will include all the new bridges and endpoints added before the trial import.
     You *must* leave all the Cisco TMS Windows services and **Enforce Management Settings** disabled until performing the final import to avoid interfering with Cisco TelePresence Manager.
     You can however safely re-enable the World Wide Web Publishing Windows service at this stage.
   - If Cisco TMS was already in use, your restore point should be just before any new systems were added for the trial import. Before the close of the maintenance window you must also:
     i. Re-enable and restart all Cisco TMS Windows services, including IIS.
     ii. Verify that **Administrative tools > Configuration > Network settings > TMS Services >Enforce Management Settings on Systems** is set to *Yes*.

Task 26: Resetting Cisco TMSXE

After the trial import is complete:

1. From the Cisco TMSXE program folder, run the command **`ConfigurationApp.exe -EndTrialImportMode`** to disable trial import mode without opening the configuration tool itself.
2. In the Services panel, disable the Cisco TMSXE Windows service.
   The service must remain disabled until you are ready to perform the final import.

3. The systems you added during trial import are stored in **MonitoredSystems.xml**.
   - If you imported to a new Cisco TMS installation, leave the file intact.
   - If you imported to an existing Cisco TMS installation that needs to be operational until cutover, remove **MonitoredSystems.xml** at this point.
     You will need to re-add the systems to both Cisco TMS and Cisco TMSXE during cutover.

Task 27: Starting Cisco TelePresence Manager

With the trial import reverted, you can now restart Cisco TelePresence Manager and close the maintenance window.

Additional staging

The tasks in this phase of the replacement process need to be performed after the optional trial import and/or shortly before the cutover.

Task 28: Completing installation of Cisco TMSXE

If you performed the trial import, you will have one Cisco TMSXE server already installed and configured.

If you did not perform the trial import, or want a clustered setup, prepare for cutover by completing any remaining Cisco TMSXE installations and configurations as described in *Cisco TMSXE Deployment Guide*.

Note the following:

- Do not add any systems yet.
- Disable the Cisco TMSXE Windows service.
  If installing with a clustered setup, make sure the services on both nodes are left as disabled.

Task 29: Optional: Pre-import mitigation

If your planning and/or trial import show incompatibilities that need to be dealt with before import:

- Changes to dial plan, routing capacity, and so on.
- Consider asking users to change bookings that would be declined by Cisco TMS, such as meeting series with no end date or more than 100 occurrences.

Task 30: Notifying users of upcoming changes

Notify users of the upcoming downtime. Prepare them by sharing information about the changes, including:

- differences in their booking experience
- new functionality that will be available after the transition, such as Smart Scheduler and CMR Hybrid.

Also make sure users are aware of:

- changes in functionality for their existing meetings
- the potential need to rebook meetings after the import
- email notifications that they may receive during the import

Cutover (downtime)

Perform the tasks in these section during the scheduled maintenance window.

Task 31: Exporting an updated list of meetings

Run the export script again to ensure that all scheduled meetings will be included when running Meeting Updater.

Contacting Cisco TAC

Contact Cisco TAC and refer to bug search identifier CSCum96237. Perform the next procedure while in contact with TAC.

Generating a temporary password

You need to create a temporary password that the TAC engineer will use to generate a remote access password and use it to run the enhanced export script and provide you with the .tsv file containing exported meeting data.

Using the web interface:

1. Log into Cisco TelePresence Manager as a user that has administrative privileges.
2. Go to **Configure > System Settings**.
3. On the Remote Account tab, enter an account name, such as "ciscotac", and expiration.
   We recommend setting a generous enough expiration that you will not have to generate a new password for doing the second meeting export at cutover time.
4. Click **Add**.
5. Provide the TAC engineer with the generated account name and passphrase.

Using the command line:

1. SSH to Cisco TelePresence Manager.
2. Log in as a user with administrative privileges.
3. Type `utils remote_account enable`
4. Type `utils remote_account create ciscotac 1` (the number is the number of days until password expiry).
5. Provide the TAC engineer with the generated account name and passphrase.

Task 32: Permanently shutting down Cisco TelePresence Manager

To prevent Cisco TMS and Cisco TelePresence Manager from managing endpoints simultaneously, you must completely disable the latter once you have obtained the latest meeting data:

1. Back up Cisco TelePresence Manager from **Configure > Database**.
   Cisco TAC may use this backup to assist you in troubleshooting at a later point.

2. Shut down Cisco Telepresence Manager completely.
3. Remove Cisco TelePresence Manager from the network or disable its network connection.

Task 33: Completing the dial plan changes

Complete any remaining changes to dial plan in Unified CM that were deferred during staging.

Task 34: Reenabling services and management (new Cisco TMS)

If working with a new Cisco TMS installation where you have already done a trial import and services have since been disabled:

1. Re-enable all Cisco TMS Windows services.
2. In Cisco TMS, set **Administrative tools > Configuration > Network settings > TMS Services >Enforce Management Settings on Systems** to *Yes*.

As your endpoints and bridges have already been added, proceed to Task 38: Scheduling test meetings [p.39].

Task 35: Adding bridges to Cisco TMS

If you are deploying new TelePresence Servers or need to do any reconfiguration of existing servers such as clustering or cluster expansion, complete this before adding the bridges to Cisco TMS.

Follow the instructions in TelePresence Server documentation on installation and configuration:

- Installation and upgrade guides
- Configuration guides

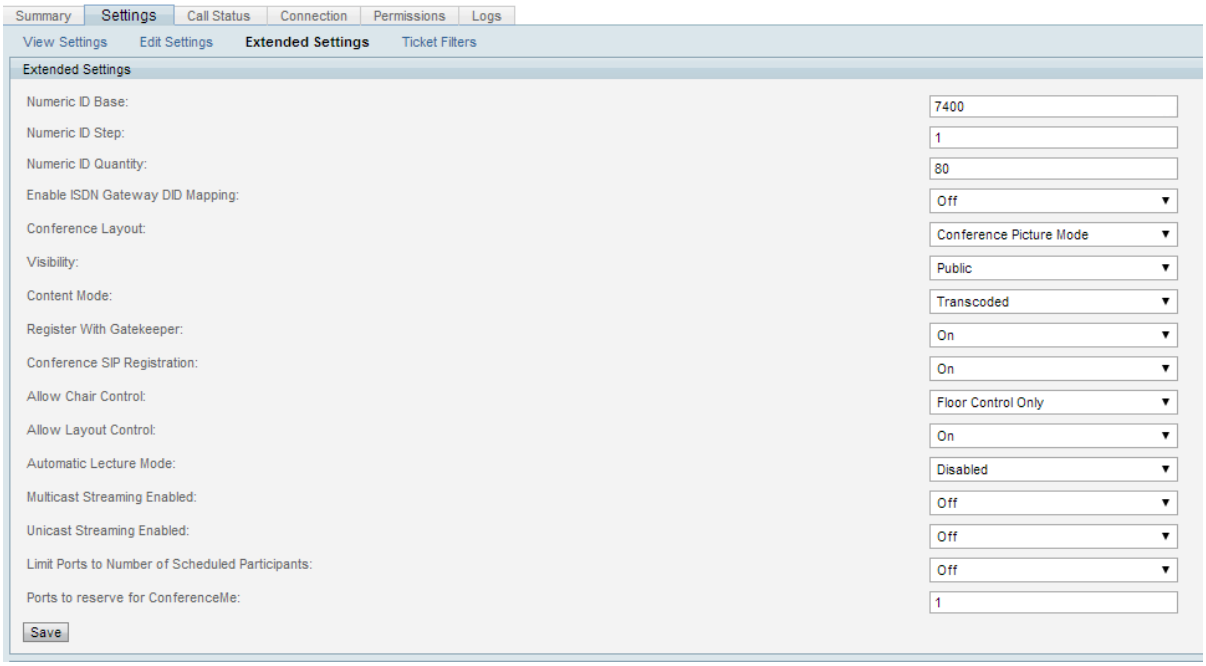
Next, add all of your TelePresence Servers into Cisco TMS using the information collected during planning, following the instructions in the Cisco TMS webhelp or administrator guide. For SIP-trunked bridges, make sure to disable:

- H.323 dialing (incoming and outgoing)
- IP address dialing (incoming and outgoing)

When you have added the bridge, configure the numeric ID settings for each TelePresence Server:

1. In Cisco TMS **Systems > Navigator**, select the TelePresence Server and go to **Settings > Extended Settings**, then configure **Numeric ID Base**, **Numeric ID Step**, and **Numeric ID Quantity** to match your dial plan. These settings control the numeric addresses that Cisco TMS will use when scheduling calls on that bridge.
   Ensure that there is a minimum of 1-2 numeric IDs available per bookable port.

Figure 5: Extended Settings



2. Go to **Settings > View Settings** to confirm the numeric addresses for the bridge.

If adding one or more Multipoint Switches to Cisco TMS as unmanaged bridges, do so at this stage. For instructions, see Appendix 1: Using Multipoint Switch with Cisco TMS [p.47].

Task 36: Purging any auto-discovered Unified CM-registered endpoints

You can only add Unified CM-registered endpoints to Cisco TMS if they have not already been auto-discovered by Cisco TMS.

To purge any systems that have been auto-discovered:

1. In Cisco TMS, go to **Systems > Purge Systems**.
2. Click the **In Folder** column to sort the system list with any systems not in a folder on top.
3. Select all systems not in a folder and click **Purge Systems**.
4. Repeat the above steps until all systems not in a folder have been purged from Cisco TMS.

Proceed immediately to the next task to avoid systems being re-added as auto-discovered.

Task 37: Adding endpoints to Cisco TMS

If you have Cisco VCS-registered endpoints in Cisco TelePresence Manager and wish to consolidate all endpoints in Unified CM as part of your deployment changes, you must register them with Unified CM before adding the systems to Cisco TMS.

Add all endpoints to Cisco TMS:

1. Go to **Systems > Navigator** and navigate to the desired folder.
2. Click **Add Systems** and add:
   - Unified CM-registered systems on the **Add from Unified CM or TMS** tab. We recommend bulk-adding systems by intended IP zone, as you can then specify the IP zone as you add the systems rather than add it per system later.
     To add systems, they must be active and registered, and show as registered in Unified CM.
   - Any remaining Cisco VCS-registered systems on the **Add by Address** tab.
3. Ensure that the alias, registration status, zones, and booking settings are correct before continuing.
   Tickets saying "The feedback address on the system is incorrectly configured" can be ignored for Cisco TC systems added from Unified CM. Address any other tickets.
   Failure to perform this step may result in conferences being declined or stored as defective on import.

Note that using the mailbox name as the endpoint's configured display name in Unified CM simplifies mapping mailboxes to systems in Cisco TMSXE.

Task 38: Scheduling test meetings

1. Book both point-to-point calls and multipoint conferences that include TelePresence Server from:
   - Cisco TMS **Booking > New Conference**
   - Smart Scheduler (if installed)
2. Verify that:
   - the OBTP information is correctly displayed on endpoints.
   - you are receiving booking confirmation by email.
   - your dial plan is working as intended.
3. Delete all future test conferences from Cisco TMS before proceeding to avoid any conflicts with imported meetings.

Task 39: Creating or updating a list of endpoints and email addresses (existing Cisco TMS)

- If you performed the trial import with a new Cisco TMS, you can skip this step, as the required data is already in Cisco TMSXE.
- If you performed the trial import with an existing Cisco TMS that was then reset, you already have a **.csv** file with the endpoint addresses, but you need to update the system IDs, as systems will have been given new IDs when they were added the second time.

To ease the import of a large amount of endpoints to Cisco TMS into Cisco TMSXE, we recommend creating a comma-separated list of system information.

1. In the tool of your choice, create a comma-separated list of systems formatted as follows:

   ```
   TMS ID,System name,Email
   42,Meeting Room 1,meetingroom1@example.com
   ```

   We recommend omitting the header line and System name column for simplicity as they are optional.
2. Get the system IDs from Cisco TMS by going to **Systems > System Overview** and selecting the desired folders.
3. Get the email addresses from the list of endpoints exported from Unified CM.

Task 40: Performing the import

New Cisco TMS with trial import

If you performed the trial import and are working with a new Cisco TMS installation, all endpoint and mailbox information is already available in Cisco TMSXE.

When you are ready to begin the resource-intensive import of existing meetings from the resource mailboxes: Go to the Windows Services Control Panel on the Cisco TMSXE server.Change the disabled Cisco TMSXE service to automatic startup, and start the service.

Existing Cisco TMS or no trial import

If you are working with an existing Cisco TMS deployment where you needed to re-add systems during cutover, or you did not perform the trial import, you must add the systems to Cisco TMSXE before you can start the import:

1. On the Cisco TMSXE server, open the configuration tool and go to the **Systems** tab.
2. Click **Import Systems from CSV File**, browse to and add the **.csv** file created in Task 21: Creating a list of endpoints and email addresses [p.30]
   The configuration tool will refuse to use the file if the format is not valid.
3. At the bottom of the **Systems** tab are options to enable or disable the sending of notifications to meeting organizers for imported meetings.
   These notices are only sent for meetings that could not be scheduled in Cisco TMS based on the reserved endpoints, not for feature incompatibilities.
   We recommend setting the options to *not* send notices to meeting organizers if:
   - you plan for administrators to intervene post-import to correct impacted meetings.
   - your deployment has a very large number of future meetings.
4. Click **Save**.
   Cisco TMSXE will start a verification process for all of the linked accounts to check their mailbox configuration. This process can take a significant amount of time depending on how many linked systems are configured.
   The validation process takes approximately 1 minute for every 180 endpoints.
5. Close the configuration tool.
   When prompted whether you wish to start the Cisco TMSXE service, click **No**.
6. When you are ready to begin the resource-intensive import of existing meetings from the resource mailboxes: Go to the Windows Services Control Panel on the Cisco TMSXE server.Change the disabled Cisco TMSXE service to automatic startup, and start the service.

Monitoring the import

Once started, the Cisco TMSXE service will continue importing meetings in the background until all future meetings have been processed.

1. In the tool of your choice, monitor the Cisco TMSXE service log. Default location: **C:\ProgramData\Cisco\TMSXE\Logs\TMSXE-log-file.txt**.
   It has completed when no new bookings are logged for several minutes.
2. The replication of bookings back to Exchange will impact Cisco TMS for some time after the import has completed.

Look for the log message **`INFO ReplicationEngine - No changes on TMS`** to verify that replication has completed.

Task 41: Identifying and correcting declined, downgraded, or defective meetings

Identify and mitigate booking issues as soon as possible after migration. If there is a large quantity of meetings to process, you can continue investigation and mitigation after cutover, but note that the logs are not chronological by meeting date. When dealing with defective meetings through Cisco TMS, we recommend sorting by date and dealing with shortly upcoming meetings first.

Declined and downgraded meetings

Reading the logs

Logs for Cisco TMSXE are available in the default location **C:\ProgramData\Cisco\Cisco TMSXE\Logs**.

An entry will be created in the **TMSXE_decline_downgrade_log_file_YYYYMMDD.txt** log for each participant that is declined or downgraded.

Example log entries for typical decline scenarios:

- 2014-08-19 14:39:50,402 [30] INFO TMSXEBestEffortCommitter - Saving conference as requested was declined (conference can never be booked): Unexpected recurrence pattern frequency type encountered: Yearly
- 2014-08-19 14:39:50,318 [10] INFO TMSXEBestEffortCommitter - Saving conference as requested was declined (conference can never be booked): Number of occurrences must be between 1 and 100.

Re-creating declined meetings

Any meetings that were incompatible with Cisco TMS and not corrected before import, will have been declined during import. This includes:

- meetings outside of the specified booking window.
- recurrent meetings with more occurrences than Cisco TMS supports.
- meetings that were booked in the same timeslot as another meeting (double booking).

To resolve declined meetings:

1. Identify the declined meetings using the log.
2. Do one of the following:
   - Re-create these bookings in Cisco TMS on behalf of the organizers at an available time with a supported recurrence pattern.
   - Contact the organizers and ask them to re-create their bookings using Outlook.

Note that declined meetings that are re-created after import will not be processed by Meeting Updater. All changes to properties must be made directly in Cisco TMS.

Correcting downgraded meetings

When one or more participants cannot be scheduled into a meeting due to configuration issues such as missing software licenses or booking permissions, or scheduling with the endpoint has been disabled, Cisco TMSXE will try to downgrade the meeting rather than decline:

- All participants will be tentatively booked as *Reservation*.
- Failing participants will then be declined, and if no participants can be booked, this meeting will also be a decline and must be handled as described above.

To correct a downgraded meeting:

1. Identify the downgraded meetings and failing participants using the log.
2. Correct the configuration or license issue for the failing participants.
3. Using Cisco TMS, re-add the corrected participants to the original bookings.
4. For each downgraded meeting, change the **Type** to *One Button To Push*.

Defective meetings

About defective meetings

A *Defective* conference in Cisco TMS has been booked by an external client that encountered a resource conflict or routing problem.

A defective conference retains all properties of the booking request without setting up routing or consuming telepresence resources. Until all issues are resolved, Cisco TMS will not initiate a defective conference or send it to endpoints.

- In the case of a routing issue, all endpoints in the booking will be set to *Busy* for the scheduled time, keeping the reservation while the administrator or user resolves the issue.
- In the rare case of an endpoint reservation conflict, the endpoints will not be set to *Busy* for the defective booking.

Defective conferences can be corrected by the organizer or the administrator:

- Users who book conferences that are saved as defective will be notified by email and can resolve most issues by changing their request and rescheduling from their client.
- Administrators can locate and resolve defective conferences in Cisco TMS by going to **Administrative Tools > Diagnostics > Conference Diagnostics** or **Booking > List Conferences**.
  Conferences that are defective because of configuration errors or a permanent lack of routing resources must be resolved by an administrator.

When scheduling a series where only some occurrences have a resource conflict or routing issue, Cisco TMS will only store the problematic occurrences as defective, leaving the remaining occurrences unaffected.

Correcting defective meetings

To identify and attempt to correct all bookings saved as *Defective* during import, we recommend the following procedure:

1. In Cisco TMS, go to **Administrative Tools > Diagnostics > Conferences Diagnostics**.
2. Select all entries.
3. Click **Autocorrect**.
   Cisco TMS will now attempt to re-save all problematic conferences and series, re-routing any instances or series as necessary.
4. Click Refresh to see an updated status field for each entry. When no more entries are in the *Autocorrect Pending* state, go through any remaining entries one by one to determine what caused the booking to be defective and how to resolve it:

a. Click on the conference title to view the conference information page.
b. Click on the **Event Log** tab on the lower half of the conference information page. The log will display detail on the routing and/or resource issue.
c. Click **Edit** and update the booking properties as required to resolve the issue; typically:
   - If the problem is a temporary lack of bridge resources, the conference must be moved or made less resource intensive (remove participants).
   - If the problem is a permanent lack of bridge resources, the environment needs more resources before the booking can be resolved.

   The Cisco TMS booking interface will only allow you to save your changes if the changes resolve all the booking issues. Meetings cannot be saved as *Defective* when booking from Cisco TMS itself.

Task 42: Mitigating meeting feature discrepancies

All future meetings exported from Cisco TelePresence Manager should now be in Cisco TMS. As some meeting properties are handled differently in Cisco TMS and some are unsupported, further mitigation is required for meetings to match the original bookings as closely as possible.

Meeting Updater will handle some of these updates automatically. The remaining mitigations must be done manually in Cisco TMS.

Using Meeting Updater

The Meeting Updater tool is delivered with Cisco TMSXE. It parses export files from Cisco TelePresence Manager and tries to add features that were not imported from Exchange to the bookings that are already saved in Cisco TMS:

- Meeting Updater can add a fixed number of dial-in participants to guarantee capacity for unscheduled and/or external participants. The number of dial-ins to add is set once in Meeting Updater for all affected meetings. This applies to meetings that were:
  - Marked as using *Interoperability* in Cisco TelePresence Manager, either by enabling Interoperability or scheduling Video Conference Endpoints
  - Booked as *Intercompany hosted by Our Company*.
- For single-participant meetings in Cisco TelePresence Manager that used *Number to Dial*, Meeting Updater can add that number as a dial-out participant, so that the number will appear in the OBTP menu of the scheduled endpoint.
- For meetings booked with WebEx OneTouch in Cisco TelePresence Manager, Meeting Updater can re-add WebEx if CMR Hybrid is already set up with Cisco TMS.

No setup is required for the tool. Meeting Updater will read the configurations from the Cisco TMSXE configuration tool, including the setting that enables and disables trial import mode.

To run the tool:

1. On the Cisco TMSXE server, go to the directory **Program Files/Cisco/TMSXE/** and run **TMSMeetingUpdater.exe**.
   The updater opens to a welcome screen.
2. Click **Start** to open the main Meeting Updater screen.
3. Click **Browse**, locate the **.tsv** file containing all the meeting data from Cisco TelePresence Manager, and click **Open**.
   Meeting Updater will read the file and display the total number of meetings, as well as the number of meetings with properties that you may want to add to the bookings in Cisco TMS.

4. Select which updates to include. The count of eligible meetings will update based on your choices.
5. Click **Start**.
   Meeting Updater will try to add the desired properties to bookings in Cisco TMS.
   Bookings that did not include any affected properties will be left untouched by Meeting Updater.
   Once the update has completed, Meeting Updater displays a link to a log file containing detail on any failed attempts. The log is also in **.tsv** format and can be opened in Excel for ease of sorting and filtering.

Resolving remaining meeting feature issues

Any remaining feature discrepancies need to be handled directly in Cisco TMS:

1. Using the log obtained from Meeting Updater, identify any meetings that the tool failed to update.
   - If Meeting Updater failed to add one feature failed for all meetings, such as WebEx, correct any configuration issues and run the tool again. CMR Hybrid must be correctly set up for this feature to work.
   - Manually address any remaining failures by updating the individual bookings in Cisco TMS.
2. Using the exported meeting data from Cisco TelePresence Manager to identify affected meetings, you can manually add:
   - Recording: Add a recording participant to affected meetings.
   - Intercompany meetings hosted by another company: Create a dial-out participant for the externally provided video address. If more than one company-internal participant was booked, create a separate booking with the same dial-out for each participant.

Task 43: Checking for additional defective meetings

After running Meeting Updater, verify that all meetings are still routable:

1. In Cisco TMS, go to **Administrative Tools > Diagnostics > Conferences Diagnostics**.
2. Select all entries.
3. Click **Autocorrect**.
   Cisco TMS will now attempt to re-save all problematic conferences and series, re-routing any instances or series as necessary.
4. Click Refresh to see an updated status field for each entry. When no more entries are in the *Autocorrect Pending* state, go through any remaining entries one by one to determine what caused the booking to be defective and how to resolve it:
   a. Click on the conference title to view the conference information page.
   b. Click on the **Event Log** tab on the lower half of the conference information page. The log will display detail on the routing and/or resource issue.
   c. Click **Edit** and update the booking properties as required to resolve the issue; typically:
      - If the problem is a temporary lack of bridge resources, the conference must be moved or made less resource intensive (remove participants).
      - If the problem is a permanent lack of bridge resources, the environment needs more resources before the booking can be resolved.

   The Cisco TMS booking interface will only allow you to save your changes if the changes resolve all the booking issues. Meetings cannot be saved as *Defective* when booking from Cisco TMS itself.

Task 44: Verifying completion with Meeting Analyzer

When all post-import mitigation tasks are completed, you can run the Meeting Analyzer to verify that Cisco TMS and Exchange are in sync and have information about the same telepresence meetings.

This tool is installed with Cisco TMSXE and is located on the Cisco TMSXE server at **Start > All Programs > Cisco > Cisco TMSXE Meeting Analyzer**.

For instructions on running and following up on a Meeting Analyzer check, see the Troubleshooting chapter of the Cisco TMSXE Deployment Guide.

Completing the new deployment

Task 45: Notifying users of completion

When you have completed mitigation as an administrator, encourage users/meeting organizers to:

- Review their upcoming meetings and ensure that all the participants are booked as intended.
- Pay special care to any meeting logged as declined or downgraded.

Due to Microsoft Exchange limitations for security, the import does not touch any meeting organizer's calendars, so meeting organizers cannot rely on text information in the body of calendar entries that were imported. The meeting title, date, time, and participant accept/deny tracking details of the Outlook meeting will be accurate (Tracking Details will be accurate only if send decline notifications was enabled during import), but any additional features or meeting details are not in the calendar text and must be looked up in Cisco TMS.

The organizer's view of the meeting may be out of date if decline notices were not sent during import. If fixing a meeting requires creating a new meeting, notify the user to delete their original meeting to avoid confusion. They will get email notifications from Cisco TMS for the new meeting, and can forward it to invitees using Outlook.

Appendix 1: Using Multipoint Switch with Cisco TMS

We strongly recommend deploying Cisco TelePresence Server when replacing Cisco TelePresence Manager with Cisco TMS.

Licenses available from Cisco allow limited Cisco TMS support for Multipoint Switch, which can be added as an unmanaged bridge.

Limitations

Cisco TMS can never connect to unmanaged bridges or read or make changes to their configuration.

Therefore, ending an unmanaged bridge conference from Cisco TMS will result in the conference appearing as finished, but endpoints will stay connected. Unmanaged bridge conferences are listed in **Booking > List Conferences**.

The following features are not supported for unmanaged bridges in Cisco TMS:

- Cascading, Ad Hoc calls, ISDN, call termination, resource guarantees
- Dial-out participants
- CMR Hybrid
- Native API support for Cisco TelePresence Multipoint Switch
- Reporting
- Guaranteed encryption
- Participant templates
- Meeting extension
- Meeting end notifications
- Automatic disconnection of conferences at scheduled end time

CAUTION: Cisco TMS is unaware of the unmanaged bridge's compatibility with endpoints and will not be able to schedule around them. If your environment includes endpoints that are not natively compatible with Multipoint Switch, meetings may fail.

Supported features

- An unmanaged bridge can be configured as **Immersive** if it supports hosting conferences including multiscreen systems. Unmanaged bridges that are configured as immersive are preferred in routing if multiscreen systems are added to a conference.
- If the conference includes participants that are controlled by Cisco TMS or registered to Unified CM, some limited monitoring of scheduled conferences hosted on unmanaged bridges is available in **Conference Control Center**. You can send participants messages, view basic details for each participant, and add participants to the conference.
- SIP and H.323 dial-in participants are fully supported.
- A Network Integration license key must be obtained for each unmanaged bridge before adding it into Cisco TMS. Up to 25 meeting addresses can be configured for each bridge, reflecting conference addresses that must already be created on the bridge itself.

Adding the unmanaged bridge

You must add the bridge during the trial import or cutover, after Cisco TelePresence Manager has been shut down.

To do this:

1. In Cisco TMS, go to **Systems > Navigator**, and navigate to the desired folder.
2. Click **Add System**.
3. Go to the **Add Unmanaged Bridge** tab.
4. Fill in the basic settings for the Multipoint Switch you are adding.
5. Specify port settings:
   - Select the maximum number of video calls and audio calls.
   - Uncheck **Allow Incoming H.323 Dialing**.
   - Add SIP URIs.
6. Add an appropriate IP zone for the bridge.
7. Click **Add**.
   The bridge is added to **Navigator** at your current folder location.
   The **Summary** tab will list any open tickets due to missing settings or similar.

Repeat these steps for all Multipoint Switches you want to add to Cisco TMS.

Appendix 2: Scheduling limitations with Cisco TMSXE

The following limitations apply when booking through Cisco TMSXE or any other extension using Cisco TelePresence Management Suite Extension Booking API:

- Cascading to additional MCUs when the number of participants exceeds the capacity of the first MCU is not supported.
  To support such scenarios, set up Cisco TelePresence Conductor as the preferred MCU in Cisco TMS.
- When a service user is performing all bookings, the booking permissions are the same for all users. Individual permissions and restrictions in Cisco TMS are ignored.
- Meetings in the past cannot be changed or deleted, and you cannot move a meeting from the past to the future.
- If sufficient system licenses are not available at the time of editing an existing booking, the booking will be deleted.
- Yearly recurrence is not supported.

Booking horizon and recurrence

Cisco TMS will decline any meeting request that is not within its booking horizon or that has an unsupported recurrence pattern:

- Series with more than 100 occurrences or with no end date.
- Meetings including occurrences outside of the Cisco TMS booking window. We strongly recommend configuring identical booking windows for Cisco TMS and all integrated resource mailboxes in Exchange.
- Meetings in the past.

Ongoing meetings

Updating a single meeting that is currently ongoing is possible, but will not always be successful.

- Modifying any meeting:
  - If the meeting is using an MCU that does not support WebEx, WebEx may not be added, as the meeting would have to be disconnected and re-routed for this to work.
  - Extending the meeting will fail if it creates a booking conflict for any of the participants.
- Modifying single meetings, including meetings that are part of a series:
  - Editing the start time will not work and Cisco TMS will throw an exception.
  - Any other aspects of the meeting can be modified, but if the number of participants exceeds the available capacity of the MCU or TelePresence Server, Cisco TMS will throw an exception and the participants will not be added.
- *Deleting* a recurrent series while a meeting in the series is ongoing will cause the ongoing meeting to end.
- *Modifying* a recurrent series while a meeting in the series is ongoing will turn the ongoing occurrence into a single meeting, separate from the series:
  - Any occurrences of the modified series that are in conflict with the ongoing meeting, will not be created.
  - Any past occurrences in the series will not be modified.
  - Pending occurrences are assigned new conference IDs.

Document revision history

Date	Description
October 2014	Release of Cisco TMSXE 4.1 and this document.