



Cisco TelePresence Management Suite Extension for Microsoft Exchange

Administrator Guide

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Introduction

Cisco TelePresence Management Suite Extension for Microsoft Exchange (Cisco TMSXE) is an optional add-on to the Cisco TelePresence Management Suite (Cisco TMS) that allows you to fully integrate the scheduling functionality of Cisco TMS with your existing Microsoft Exchange deployment. The extension gives users the ability to schedule videoconferences and invite participants directly from their Microsoft Outlook clients.

This administrator guide provides a functional overview of the solution and a reference to the administrator features of Cisco TMSXE. It also contains an extensive [Troubleshooting \[p.24\]](#) section.

For a guide to installing and configuring the software and an overview of prerequisites and best practices, refer to the *Cisco TelePresence Management Suite Extension for Microsoft Exchange Installation Guide*.

Upgrade recommended

The 2.x version branch of this product is no longer being maintained by Cisco. We strongly recommend that customers migrate to Cisco TMSXE 3.0 or later, which supports Microsoft Exchange 2007 and 2010. For migration guidance, see [Cisco TelePresence Management Suite Extension for Microsoft Exchange Installation Guide \(3.0\)](#).

Limited Cisco TMS support

Note that only certain versions of Cisco TMS support Cisco TMSXE 2.x. For details, see the system requirements in [Cisco TelePresence Management Suite Extension for Microsoft Exchange Installation Guide \(2.3\)](#).

End user guidance

We recommend that administrators supply their users with a link to the [Cisco TelePresence Management Suite Extension for Microsoft Exchange User Guide \(2.3\)](#). It is also important that users be made aware which Exchange version (and subsequently which booking model) applies to them.

Configuration tool reference

This section provides detail on the features and uses of the configuration tool, which is found in the **Start** menu at **TANDBERG > TANDBERG Conferencing eXtensions for Microsoft Exchange > TANDBERG Configuration**.

Initialization testing

Every time the configuration tool is launched, it will perform a series of tests on the components of the integration and the accounts it recognizes as integrated with Cisco TMS.

These tests are diagnostics to detect any changes to the resource accounts, server, or service accounts that may adversely affect the Exchange integration. These tests can catch most errors that may arise due to misconfigurations or similar. The number of integrated accounts will affect the duration of these tests, and a progress bar is displayed to show percentage of completion.

Selecting **Copy log to Clipboard** will copy all the text displayed to the clipboard for pasting into another application, if desired.

If any errors are detected that the configuration tool can repair, a pop-up window will be displayed explaining the error and asking whether the error should be repaired. After attempting repair, the tool will report whether it was able to resolve the issue.

Operations tab

The screenshot shows the 'Conferecing eXtensions for Microsoft Exchange 2.3 - 10.47.28.205' configuration tool. The 'Operations' tab is active, displaying two tables of TMS systems and resources. The left table lists 5 systems in TMS, and the right table lists 4 resources found. A progress bar at the bottom indicates 5 Systems in TMS and 4 Resources found. The current domain controller is set to 'dc-ps2003.ps2003.tms.lab'.

TMS Id	Display Name
3	TelePresence system A
4	TelePresence system C
5	TelePresence system E
6	TelePresence system B
7	Test

5 Systems in TMS.

Current Domain Controller:

TMS Id	Display Name	AD Account
6	TelePresence system B	CN=TMS-6,OU=vcresources,...
5	TelePresence system E	CN=TMS-5,OU=vcresources,...
3	TelePresence system A	CN=TMS-3,OU=vcresources,...
4	TelePresence system C	CN=TMS-4,OU=vcresources,...

4 Resources found.

Restart Synchronizer

Last TMS e-mail notification: Never

Systems and accounts listings

Endpoints, rooms, and recording devices are listed on the **Operations** tab. Other system types are not available for integration with Exchange, but multipoint control units (MCUs) are included automatically in meetings by Cisco TMS when required.

The left column displays all systems read from the configured Cisco TMS server that the Cisco TMS service account has access to.

- **TMS Id:** the System ID from Cisco TMS.
- **Display Name:** the system's name as defined in Cisco TMS.

The right column displays all accounts that are integrated with Cisco TMSXE, or that are staged for integration. The tool scans all mailboxes on the local Exchange server for the AD user object field that identifies accounts as integrated.

- **TMS Id:** the System ID of the Cisco TMS system the account is associated with
- **Display Name:** the name as read from the **Display Name** attribute of the Active Directory account associated with this mailbox
- **AD Account:** the DN of the Active Directory account associated with this mailbox

A progress bar and summary is shown at the bottom of each column.

Note: For more information about the AD user object field/custom attribute that is set on integrated mailboxes and how it is used, see the section "Avoiding custom attribute conflicts" in *Cisco TelePresence Management Suite Extension for Microsoft Exchange Installation Guide*.

Arrow button

The arrow button between the columns in the **Operations** tab is used to link systems from Cisco TMS to resource accounts in Exchange. When the button is clicked, a dialog opens.

Associate TMS systems with AD accounts dialog

This dialog walks the administrator through the process of associating a Cisco TMS system with a new or existing Active Directory account. Note that creating a new account is strongly recommended.

Refer to *Cisco TelePresence Management Suite Extension for Microsoft Exchange Installation Guide* for a description of this process.

Context menu for integrated accounts

Right-click on any entry in the right-hand column of the **Operations** tab to display a context menu of available tools and actions for the selected account(s). To select multiple entries in the column, use **Shift** or **Control**.

Action	Description
Enable sink (s)	Enable the sinks in the mailbox used to notify Cisco TMS about a booking in Exchange. When disabling the sinks, no check or booking is done on the Cisco TMS server, and the booking will only be done in Exchange. This is used for repairing a damaged account or for advanced installation scenarios.
Test sink(s)	Test whether the sinks defined in the mailbox are calling the integration components with Cisco TMS properly. This is done by doing a booking in the past, and verifies that Cisco TMS replies with an exception informing that the bookings can not be done in the past. This can be used to validate bookings from Exchange to Cisco TMS are operating properly for this account. This is strictly a troubleshooting tool.
Disable sink (s)	Disable the sinks in the mailbox used to notify Cisco TMS about a booking in Exchange. When disabling the sinks, no check or booking is done on the Cisco TMS server, and the booking will only be done in Exchange. This is used for troubleshooting purposes only.
Add Calendar permissions	Adds the groups defined in the Resource Defaults page as Editor and Author permissions respectively to the Calendar permissions of the selected mailboxes. Useful for updating existing accounts if those group settings are updated.
Add Service User Permissions	Give the Exchange service account permissions for the mailbox and calendar of the selected account and set the sinks on the account. Used for repairing a damaged account or troubleshooting.
Reconfigure Account(s) from TMS	Fetch updated data from Cisco TMS for the selected accounts and update their displayed information in Exchange. This is particularly useful when systems change name or numbers in Cisco TMS. If this happens, selecting this option will update the Active Directory information for the selected accounts. Note: Due to Active Directory replication and Address Book generation, it may take some time before these changes are seen by Outlook users.
Remove AD User(s)	Permanently delete the selected Active Directory account and mailbox from Cisco TMSXE, Active Directory, and Exchange. Note that due to Active Directory replication and Address Book generation, it may take some time before these changes are seen by Outlook users.
Detach from Integration	Removes the selected account from being integrated with Cisco TMS by disabling the sinks and removing the custom attribute. Meetings created in Exchange for the account will no longer be synchronized with Cisco TMS or vice versa. The account will still be visible and usable by Exchange users as a normal Exchange resource account. This would be used to remove an account from Integration, but allow it to still be used in Exchange.
(Re)Book all meetings	This option looks at all future meetings in the resource's calendar and checks it against Cisco TMS. Any meetings not in Cisco TMS will be booked in Cisco TMS so Cisco TMS has the correct availability information for the account. If there is any issue creating a particular meeting in Cisco TMS, the meeting's organizer will receive an email describing the issue. This function is typically used when an existing resource in Exchange is updated with video support or staged in advanced installs. This does not replicate previously created meetings from the associated system in Cisco TMS to the Exchange account.

Current Domain Controller drop-down menu

This drop-down menu determines which Domain Controller Cisco TMSXE will communicate with for all its Active Directory needs. The menu will be populated with all domain controllers that the configuration tool detects for the current domain.

This allows the administrator to control which domain controller handles the workload of all the queries from Cisco TMSXE and simplifies the troubleshooting of replication issues.

Synchronizer button

The synchronizer replicates bookings and modifications made in Cisco TMS to the associated accounts in Exchange.

The button at the bottom right of the **Operations** tab will have different labels depending on the current state of the synchronizer:

- **Start Synchronizer:** when Cisco TMSXE is first installed, this label indicates that the synchronizer has never been activated . Click to start synchronizing any existing bookings in Cisco TMS to Exchange.
- **Reactivate Synchronizer:** when upgrading Cisco TMSXE, the synchronizer is set to idle and must be reactivated to resume where it left off.
- **Restart Synchronizer:** when the synchronizer has already been started, clicking the button will reset Cisco TMSXE's starting point for synchronization and begin processing all scheduling changes in Cisco TMS from the beginning. Otherwise, the synchronizer keeps track of a transaction history in Cisco TMS so that it only has to process new changes.

Note: We recommend against restarting the synchronizer when new systems are added. Restarting the synchronizer is not needed in normal operation and is only for specific, advanced scenarios. A restart will not affect any meeting data, but it is a process that can take many hours to complete.

Configuration tab

This tab allows the administrator to review and update the communications and configuration elements of Cisco TMSXE that were defined during installation. Changes made here will affect Cisco TMSXE immediately.

The screenshot shows a configuration window titled "Confencing eXtensions for Microsoft Exchange 2.3 - 10.47.28.205". It has three tabs: "Operations", "Configuration", and "Resource Defaults". The "Configuration" tab is selected. The window is divided into four sections:

- Change Password for Service User:** Contains fields for "User Name" (pre-filled with "PS2007\TMS-Service"), "Password", and "Verify Password". An "Apply" button is at the bottom right.
- Rebuild TMS Server Connection:** Contains fields for "User Name" (pre-filled with "TMS01\tmsconfuser1"), "Password", and "Server" (pre-filled with "10.47.28.205"). There is a checkbox for "Secure connection (HTTPS)" which is unchecked. An "Apply" button is at the bottom right.
- Change Log Directory:** Contains a text box with the path "C:\Program Files\TANDBERG\Confencing eXtensions for Microsoft Exc". There is a "Browse..." button and an "Apply" button at the bottom.
- Change Sender Address for E-Mails:** Contains fields for "Display Name" and "E-Mail Address" (pre-filled with "TMS-Service@ps2007.tms.lab"). An "Apply" button is at the bottom right.

Change Password for Service User

The account used as the Exchange service user is listed here, by default: <domain>\TMS-Service.

Updating the password of the service account must be done here. The configuration tool will update Cisco TMSXE's references to the account's credentials and the password in Active Directory. Changing the service account's password outside the configuration tool will cause Cisco TMSXE to fail. If this occurs, the account's password can be updated again on this tab to restore the service.

Rebuild TMS Server Connection

These fields display the information Cisco TMSXE uses to communicate with the Cisco TMS server. These fields are used to update the connection in case any of the values change, such as the service user's password or the Cisco TMS server address. New values will be tested automatically when **Apply** is clicked.

Field	Description
User Name	The username used by the Integration to log into Cisco TMS. The installation created a local user account named 'tmsconfuser' by default. The account specified here must have Cisco TMS booking rights on the systems to be integrated, the Exchange Integration Service Account flag enabled in its Cisco TMS user profile, and book on behalf permission in Cisco TMS. The username should be entered with its machine name or domain name as appropriate. Examples: machinename\username or domain\username.

Field	Description
Password	The password to the specified user account. Entering a password here will not change the password on the account itself, only the password saved to be used by the Integration. To change the password of the service account itself, do so using Windows and then enter the password here to update the Cisco TMSXE integration.
Server	The network address of the Cisco TMS server. If using a load balancer for Cisco TMS, enter the shared address of Cisco TMS.
Secure Connection (HTTPS)	When checked, the integration will use a HTTPS connection when communicating with Cisco TMS. HTTPS must be enabled on Cisco TMS for this option to be functional. Please see the document <i>Implementing Secure Management</i> for more information regarding HTTPS on the Cisco TMS Server.

Change Log Directory

This setting controls where the logs for Cisco TMSXE are saved. The folder path can be entered manually or navigated to using the **Browse** button.

Change Sender Address for E-Mails

These fields define what information goes into email headers for messages sent to users by Cisco TMSXE.

Note: The behavior of your mail client with regards to headers and **From** fields may affect what users see.

Field	Description
Display Name	This field is optional.
E-Mail Address	Defaults to the Exchange service user address (TMS-Service) and is used as the From address in the mail header.

Resource Defaults tab

This tab shows several controls available regarding the default configuration of resource accounts created by the configuration tool.

Note: These values are the defaults for accounts to be created. Changes here do not affect accounts that have been created previously.

Mailbox type for new resources

The screenshot shows a configuration window titled "Conferecing eXtensions for Microsoft Exchange 2.3 - 10.47.28.205" with three tabs: "Operations", "Configuration", and "Resource Defaults". The "Resource Defaults" tab is active and contains the following sections:

- Mailbox type for new resources:** Two radio buttons are present: "Room Mailbox" (selected) and "Equipment Mailbox".
- Default Organizational Unit:** A text box contains "CN=Users" and a "Browse..." button is to its right.
- Mailbox Database for new accounts:** A dropdown menu shows "First Storage Group\Mailbox Database".
- Resource calendar permissions:**
 - Group to get Editor Access:** A text box contains "PS2007\videoadmins", with "Clear" and "Browse..." buttons to its right.
 - Group to get Author Access:** An empty text box, with "Clear" and "Browse..." buttons to its right.

This setting controls the account type used for new accounts. The choice does not affect how Cisco TMSXE functions and is relevant only to how administrators want to list or display accounts to users in their clients. Note that this setting applies to Exchange 2007 installations only.

Asynchronous Booking

This is a system-wide setting that allows users to use asynchronous booking in addition to resource booking on an Exchange 2003 server.

- If set to *Allow*, invitations sent via email will be processed by Cisco TMSXE.
- If set to *Instruct user to use resource booking*, when an email invitation is received, it will be rejected and the user will receive an email instructing them to make the meeting request using the **Resources** field in the meeting invitation.

We strongly recommend that this setting is left as disabled. For more information, refer to the [Resource booking models \[p. 14\]](#) section of this document.

Default Organizational Unit

This setting controls where accounts created by the configuration tool will be created in Active Directory.

Mailbox Database for new accounts

This setting controls which mailbox storage group is used for mailboxes created for new accounts created by the configuration tool. The drop-down menu will automatically be populated with all mailbox storage groups found on the local server.

Resource calendar permissions

The groups defined here will automatically be assigned *Editor* or *Author* permissions respectively on the calendars of accounts created by the configuration tool.

In Exchange 2003 installations, these groups are defined during installation, and users must be a member of the Author group to be able to use Direct Resource Booking. Users who are members of the Editor group will be able to book the resource and also able to edit meetings in the resource's calendars that were created by other users.

CAUTION: Creating and modifying bookings from resource calendars is no longer supported by Cisco TMSXE. This functionality should only be used in advanced troubleshooting scenarios.

In Exchange 2007 installations, these groups are empty by default as the permission groups are not used to control booking resource accounts in asynchronous booking.

To retroactively apply changes made here to existing accounts, use the **Set Calendar Permissions** action in the **Operations** tab of the configuration tool to apply the security groups to selected existing accounts.

Resource booking models

Microsoft Exchange and Outlook offer two distinct ways to book resource accounts. The different models have different requirements and user experiences.

Exchange 2003 and 2007 have different booking models by default. While it is possible to go with the alternate booking model for each version of Exchange, we strongly recommend that organizations deploying Cisco TMSXE use the default booking model for their Exchange version.

Exchange 2003: direct resource booking

When using this model, also referred to as synchronous booking, users place the resource accounts for the meeting in the **Resources** field of the meeting invitation. By doing so, the Outlook client tries to save the meeting in the resource's calendar directly before the meeting is allowed to be saved by the user. The benefit to this is the user gets immediate feedback if the meeting can be saved in the resource accounts calendars and avoids needing to edit a meeting after it is saved due to a later rejection. In this model, the user must use the **Resources** field in the meeting invitation for resources, and not the **Required** or **Optional** fields.

This model requires specific calendar permissions and settings to operate. The Cisco TMSXE configuration tool automates those tasks when enabling resource accounts to minimize the effort for the administrator.

When Cisco TMSXE is installed on an Exchange 2003 server, this model is the default and recommended choice. Exchange Server 2007 changed the booking models available, and Direct Resource Booking is no longer the preferred booking model in Exchange, see below.

Exchange 2007: resource scheduling model

When using this model, also referred to as asynchronous booking, users send a meeting invitation via email to the resource just like they invite other meeting participants. The meeting invitation is then accepted or rejected by the resource account and the meeting coordinator receives a response just as they do from other meeting participants. The sending of the invitation and receiving of the response are done separately, and we therefore refer to this model as "asynchronous booking".

This model does not require granting users special permissions to resource calendars or using the **Resources** field. This model also does not rely on the Outlook client, which makes it more compatible with other interfaces, such as Outlook Web Access (OWA).

With this model, if a resource rejects the initial meeting invitation, the user should re-open the calendar entry and try to rebook it.

In an Exchange-only installation, there is less potential for a resource account to reject a meeting as long as it is free. But when scheduling audio/video resources in addition to room availability, there can be other reasons such as a lack of routing resources, incompatible call types and so on that could lead to a request being rejected.

Asynchronous requests are facilitated by the Resource Booking Attendant, which is configurable using the Exchange Management Shell.

Functional overview

The calendaring functionality of Microsoft Outlook and Microsoft Exchange allows users to create meeting events, invite other participants and resources directly from their Outlook client. Cisco TMSXE leverages the programmable extensibility of Microsoft Exchange to include functionality from Cisco TMS while making minimal changes to the user experience. This reduces training needed to deploy the product and makes scheduling of videoconference resources easier and more accessible.

How Exchange and Cisco TMS handle resources

Exchange uses designated mailboxes and user accounts to represent resources that users can schedule. Exchange Server 2007 also has special designations of "room" or "equipment". These accounts have their own calendars and permissions, just like personal accounts. In a traditional installation, these accounts are configured to automatically accept all meeting invitations sent to them, and their calendar is updated so other users can see when the room is available.

Cisco TMS has its own database which maintains scheduling information and availability for all systems it manages. Beyond availability, Cisco TMS also manages information such as:

- whether routing resources/MCUs are required
- how and whether call connections are automated
- whether the systems to be connected are using compatible protocols or require interworking

Users can book resources managed by Cisco TMS directly from its web interface.

To allow users to schedule videoconferencing systems from Outlook or Cisco TMS interchangeably, the system/room must be represented in both environments. In Cisco TMS, the representation is the managed system. In Exchange, a resource account is created to represent the system/room.

These two representations must be kept in sync.

Why Cisco TMS is considered the master

Because Cisco TMS has more information about the resources, and adds additional checks before allowing a meeting to be created, Cisco TMS is given the authoritative role and is considered the master. Meetings are not allowed to be saved unless Cisco TMS says the meeting is valid.

When meetings are created in Exchange, however, a request must therefore be sent to Cisco TMS before the meeting can be saved.

For meetings created directly in Cisco TMS, the validity check is performed directly and there is no need to check with Exchange.

Sinks and synchronization

Two methods are used by Cisco TMSXE to ensure that Cisco TMS and Exchange are in sync:

- Calendar sinks on the resource accounts interject when a meeting is about to be saved in a resource's Exchange calendar and send a request to Cisco TMS based on the details provided.

- If Cisco TMS is able to book the meeting, it will be saved in Exchange, and the meeting organizer receives confirmation and meeting detail notifications.
- If Cisco TMS is not able to book the meeting, the Exchange request is also rejected, and the organizer receives notification of why the meeting could not be booked.
- Synchronization updates Exchange with changes that originate on the Cisco TMS side. The Cisco TMSXE synchronizer resides on the Exchange server and is notified whenever a booking change happens on Cisco TMS. The synchronizer connects to Cisco TMS to determine whether the change affects systems integrated with Exchange, and proceeds to update integrated resource calendars as needed. The synchronizer also automatically checks every 3 minutes as a failsafe in case notifications from Cisco TMS are missed.

Note that *only* Exchange accounts integrated with Cisco TMS through Cisco TMSXE are affected by these processes.

Note: If deleting bookings from Cisco TMS that exist in Exchange resource calendars, "(Re)Book all meetings" will not recreate them in Cisco TMS. The expected behavior is that such bookings are deleted from the Exchange resource calendars as well.

Understanding the logs

Cisco TMSXE has logging features to assist with troubleshooting of the installation and operation. By default, all logs are located in a sub-folder of the installation directory named **logs**.

Log	Description
Installation	Installer logging
TANDBERG Configuration	Cisco TMSXE configuration tool logging
TANDBERGSinks	Logging of bookings created in Outlook and how they replicate to Cisco TMS
SyncHandler	Logging of bookings that replicate from Cisco TMS to Exchange/Outlook

All log files follow the format of this sample log message:

```
@05 W: 20110419 14:26:19:234 <actual log message>
```

Explanation of the sample log message:

1. @05 refers to the thread number inside Cisco TMSXE, and can be ignored for general troubleshooting purposes.
2. One of these letters indicating log message type will follow next:
 - D for "debug"
 - I for "info"
 - W for "warning"
 - E for "error"
3. 20110419 14:26:19:234 is a timestamp (indicating April 19, 2011 at 2:26 PM)
4. The actual log message comes last.

Setting log levels

Logging is controlled per component. You can define the level of information logged, and where it is logged to. By default, Errors and Info are logged to file for all components.

The logging detail and modes are controlled by the administrator via registry settings. All values are stored in the registry at **HKEY_LOCAL_MACHINE\SOFTWARE\Tandberg\TANDBERG Management Suite Exchange Integration**

Administrators can use the Windows Registry Editor to create or modify the registry keys as needed.

Component overview

Two registry strings can be created for each component to modify logging behavior: **LogLevel** and **LogMode**. These keys are not present by default, and if not detected, the default values are used. You may also opt to only create one of the strings.

A list of valid components you can control are listed below. The name in the left column must be used for the registry string, and all names are case sensitive.

Component	Usage
Installation	Logs steps and actions from the software installer (including upgrade, repair, and uninstall options)
TANDBERG Configuration	Logs actions initiated from the configuration tool
TANDBERGSinks	Logs communication from Exchange to Cisco TMS
SyncHandler	Logs the synchronization process between Cisco TMS and Exchange

LogLevel

The **LogLevel** value is used for controlling the amount of detail that is logged for a particular component. To set **LogLevel** for a particular component, create a new String Value in the Cisco TMSXE registry key whose name is `LogLevel ComponentName` replacing `ComponentName` with one of the valid Component names. When created, modify the string by double-clicking it and set the value to the desired level from the list below.

Value	Description
-2	Off
-1	Errors Only
0	Errors and Info (default)
1023	Full debugging

LogMode

The **LogMode** value defines where the information for a particular component is logged to. Logging can be to file or to `OutputDebugString`. When logging to `OutputDebugString`, you can use the freely downloadable `DebugView` utility from Microsoft to capture and view the information in real-time. `DebugView` can be found at <http://technet.microsoft.com/en-us/sysinternals/bb896647>

To set the **LogMode** for a particular component:

1. Create a new String Value in the Cisco TMSXE registry key whose name is `LogMode [ComponentName]` where the latter is one of the four valid component names.
2. Modify the string by double-clicking it and set the value to the desired level from the list below.

Value	Description
1	Log to file (default)
2	Log to <code>OutputDebugString</code>

Restarting the COM+ package

After modifying any registry setting, Cisco TMSXE must be restarted for the changes to take effect. This can be done either by restarting the Windows Server, or by restarting the TANDBERG COM+ package itself, thus avoiding a server restart.

To restart the COM+ package:

1. Open the Component Services Snap-in in an MMC Console
2. Expand the tree **Component Services > Computers > My Computer > COM+ Applications**
3. Find the TANDBERG listing, right-click on it and select **Shut Down**.
4. Right-click on the TANDBERG listing again, and select **Start**.

CAUTION: Never leave the COM+ components as disabled, or calendars will become out of sync.

The installation log

Installation.log is used by the Cisco TMSXE setup tool. The tool logs actions from fresh installations, upgrades, repairs, and uninstalls.

The installation log is normally only of interest if an installation or upgrade fails. Note that if an installation fails during its initial steps (such as the **Destination Folder** selection screen), no installation log is created.

Sample log from a successful installation:

```
@08 I: 20110527 13:31:12:499 UserName:EXAMPLE\administrator
@11 I: 20110527 13:31:30:680 Changing the password for 'CN=TMS-Service,CN=Users,
DC=example,DC=com' on all domain controllers in the site. If the account is new, the
account might not yet have replicated.
@01 I: 20110527 13:31:32:617 Installing the COM+ application.
@01 I: 20110527 13:31:32:992 Removing COM+ application TANDBERG
@01 I: 20110527 13:31:33:070 Removed COM+ application
@01 I: 20110527 13:31:33:164 InstallComPlusApplication EXAMPLE\TMS-Service
path:C:\Program Files\Cisco\Conferencing eXtensions for Microsoft Exchange
@01 I: 20110527 13:31:40:458 All components installed.
@01 I: 20110527 13:31:40:474 ConfigureComSecurity {30FA651D-9FB8-4409-A7C6-A9C8041DBAB7}
@01 I: 20110527 13:31:40:474 Roles added.
@01 I: 20110527 13:31:40:568 Roles saved
@01 I: 20110527 13:31:40:677 System role created
@01 I: 20110527 13:31:40:787 Service role created
@01 I: 20110527 13:31:40:880 Administrators role created
@01 I: 20110527 13:31:40:880 Starting configuration of roles
@01 I: 20110527 13:31:41:333 saving changes
@01 I: 20110527 13:31:41:427 Roles configured.
@01 I: 20110527 13:31:41:427 Components configured.
@01 I: 20110527 13:31:41:427 COM+ installed.
@01 I: 20110527 13:31:50:877 Testing service sinks. CN=TMS-Service,CN=Users,DC=example,
DC=com
```

Sample log from a successful uninstallation:

```
@01 I: 20110527 13:29:37:755 Clearing the COM+ application.
@01 I: 20110527 13:29:37:770 Clearing COM+ application TANDBERG
@01 I: 20110527 13:29:37:880 Found Package. Shutting Down.
@01 I: 20110527 13:29:38:536 Retrieving components.
@01 I: 20110527 13:29:38:926 Package contents cleared. 0
@01 I: 20110527 13:29:38:926 Clearing COM+ application
@01 I: 20110527 13:29:38:926 Removing old tlb files.
@01 I: 20110527 13:29:39:942 Unregistering all sinks.
@01 I: 20110527 13:29:42:597 Disabling service sinks. CN=TMS-Service,CN=Users,DC=example,
DC=com
@01 I: 20110527 13:29:45:908 Service sinks disabled.
@01 I: 20110527 13:29:45:908 Removing the COM+ application.
```

```
@01 I: 20110527 13:29:45:908 Removing COM+ application TANDBERG
@01 I: 20110527 13:29:45:987 Found Package. Shutting Down.
@01 I: 20110527 13:29:47:049 Package removed. 1
@01 I: 20110527 13:29:47:049 Removed COM+ application
@01 I: 20110527 13:29:47:049 Removing old tlb files.
```

The TANDBERGSinks log

Every time a booking is created in Cisco TMS by Cisco TMSXE, this is logged in the **TANDBERGSinks** file.

As Cisco TMSXE works synchronously, updates are sent to Cisco TMS as they are received by Cisco TMSXE from Exchange.

Sample log entries:

```
@20 I: 20110419 13:57:39:655 Meeting not found in TMS.
@20 I: 20110419 13:57:39:936 Checking old recurrence instances.
@20 I: 20110419 13:57:39:936 Booking conference: TEST BOOKING, Owner:
testuser01@example.com, Participants: 3
@20 I: 20110419 13:57:43:357 Conference saved: 56 -TEST BOOKING
@17 I: 20110419 13:57:43:701 Updating conference: 56 - TEST BOOKING
(ParticipantsAdded)
@17 I: 20110419 13:57:50:933 ReplyToUser: Subject: Conference information:
Body: You have successfully saved the following conference: Conference
title: TEST BOOKING Conference id: 56 [...]
@14 I: 20110419 13:58:11:552 Sending e-mail to testuser01@example.com
subject=Conference information:TEST BOOKING
@14 I: 20110419 13:58:11:724 Sent e-mail to testuser01@example.com
```

In the above example, the user **testuser01** had created a new booking with two videoconference systems and saved it to Exchange. Cisco TMSXE intercepted the meeting request and sent it to Cisco TMS.

- Cisco TMSXE receives notification that the meeting does not yet exist in Cisco TMS.
- Cisco TMS books the meeting at the request of Cisco TMSXE. It is given conference ID 56.
- Systems are added to the conference as accept notifications are received from Exchange. The meeting is therefore first created with one system only, and then updated to add system number 2.
- When both participants have been added to the meeting in Cisco TMS, a routing email notification for the organizer is generated and sent.

If you experience problems with how bookings replicate from Exchange to Cisco TMS, enable full debug mode on the **TANDBERGSinks** log. Debug logs are very verbose, and include many function calls internal to Cisco TMSXE. For example, the booking that spanned eight lines in the example above would have logged between 50 and 100kB of text if debug mode was enabled. For this reason, TANDBERGSinks logs in full debug mode are hard to read and mostly of interest to Cisco TelePresence support.

In debug mode, the **TANDBERGSinks** log shows the exact booking information that is sent between Cisco TMSXE and the Cisco TMS Booking API. The bookings are sent in XML format.

For example, the save operation that was logged as "Booking conference: TEST BOOKING [...]" above, would in debug mode have been logged as:

```
@20 I: 20110419 13:57:39:936 SaveWorkProcessor: Booking conference: TEST
BOOKING, Owner: testuser01@example.com, Participants: 3

@20 D: 20110419 13:57:39:946 Enter:SaveConference(-1)

@20 D: 20110419 13:57:39:951 BookingAPI: SaveConference: <?xml
version="1.0"?>

<Conference xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://tandberg.net/2004/02/tms/external/booking/">

<ConferenceId>-1</ConferenceId>

<Title>TEST BOOKING</Title>

<StartTimeUTC>2011-04-19 16:00:00Z</StartTimeUTC>

<EndTimeUTC>2011-04-19 16:30:00Z</EndTimeUTC>

<RecurrenceInstanceIdUTC />

<OwnerId>-1</OwnerId>

<OwnerUserName>DOMAIN \testuser01</OwnerUserName>

<OwnerFirstName>testuser</OwnerFirstName>

<OwnerLastName>01</OwnerLastName>

<OwnerEmailAddress>testuser01@example.com</OwnerEmailAddress>

<ConferenceType>Automatic Call Launch</ConferenceType>

[...]
```

Evaluating the booking information sent between Cisco TMSXE and Cisco TMS can be useful if there are inconsistencies in how a booking is displayed in the Cisco TMS web interface and Exchange resource calendars.

The synchronizer log

The synchronizer is the Cisco TMSXE component responsible for copying bookings from Cisco TMS to the Exchange resource calendars.

The Cisco TMS transaction log keeps track of all changes to conference (creation, deletion, updates to participant lists and so on). New entries are sequentially assigned a transaction ID.

Every three minutes:

1. The synchronizer will request the current transaction ID from Cisco TMS.
2. Cisco TMSXE will then compare the received ID with the transaction ID reported three minutes ago (stored as "Current Transaction Id" in the Windows registry of the Cisco TMSXE server).
 - If the current transaction ID has changed, the synchronizer will sequentially process the bookings associated with the new transactions and update the Exchange resource calendars as needed.

- If the transaction ID is identical, Exchange and Cisco TMS are already in sync.

Transaction IDs and the associated conference IDs are logged in the **SyncHandler** log when the synchronizer is processing bookings. Example log entries:

```
@118 I: 20110413 13:21:23:592 SyncToNow.284
@118 I: 20110413 13:21:23:592 Reqeusting transactions.
@118 I: 20110413 13:21:25:904 Performing transaction: New Id:285 ConfId:34
@118 I: 20110413 13:21:26:497 Saving new appointment 34 - Conference title 1
@118 I: 20110413 13:21:26:794 Saving new appointment 34 - Conference title 1
@118 I: 20110413 13:21:26:982 Performing transaction: New Id:286 ConfId:35
@118 I: 20110413 13:21:27:591 Saving new appointment 35 - Conference title 2
@118 I: 20110413 13:21:27:810 Saving new appointment 35 - Conference title 2
@118 I: 20110413 13:21:28:013 Saving new appointment 35 - Conference title 2
```

In the example log excerpt above:

- The current transaction ID as stored by Cisco TMSXE was **284** before the synchronizer polled Cisco TMS.
- Cisco TMS reports the current transaction ID as **286**.
- The synchronizer first processes transaction **285**, which involves a booking with conference ID **34** and the title **Conference title 1**. The booking includes two Exchange-integrated systems managed by Cisco TMS, and the synchronizer therefore saves the appointment twice, as two Exchange resource calendars are affected.
- The synchronizer then moves on to transaction **286**, which involves a booking with conference ID **35** and the title **Conference title 2**. As this appointment involved three integrated systems, three save events are logged.

The configuration log

The **TANDBERG Configuration** log records actions by the Cisco TMSXE configuration tool. All warnings and errors logged here will also prompt a message box in the configuration tool. It is therefore unnecessary to proactively review this log for possible errors.

Sample log excerpt:

```
@03 I: 20110523 16:38:12:477 ConfigureComSecurity {DE7EA27B-BF0A-4131-93FD-68357B738F65}
@03 I: 20110523 16:38:12:492 Roles verified.
@03 I: 20110523 16:38:12:508 Starting configuration of roles
@01 I: 20110523 16:38:13:508 Testing service sinks. CN=TMS-Service,OU=Users,DC=example,
DC=com
@14 E: 20110523 16:38:37:465 PipelineInvoke Error:
@14 E: 20110523 16:38:37:465 Ex: System.InvalidOperationException: The value "TMS-
209@example.com" of property "UserPrincipalName" is used by another recipient object
"example.com/Users/TMS-209". Please specify another value.
System.Collections.Generic.ICollection`1[System.Management.Automation.PSObject]
PipelineInvoke(System.Management.Automation.Runspace.Command)
@01 I: 20110523 16:41:42:015 Setting calendar and free-busy folder permissions:CN=TMS-
209,OU=Users,OU=LoadGen Objects,DC=example,DC=com
```

```
@04 I: 20110523 16:41:42:328 Setting default msg class: CN=TMS-209,OU=Users,DC=example,DC=com
@01 I: 20110523 16:41:42:406 Enabling sink: CN=TMS-209,OU=Users,DC=example,DC=com
```

In the above example:

- The first four lines indicate that the configuration tool started successfully. The tool runs a series of health checks at startup, and notifies the administrator of the results. The results are also logged, and the "Testing service sinks[...]" entry without a trailing error message indicates that all sinks work as expected.
- The "Ex: System.InvalidOperationException [...]" entry was logged when the administrator tried to add a new system (Cisco TMS Id 209) . The administrator initially chose to create a new Exchange resource account with the name of **TMS-209@example.com** for the system, but this was rejected by Cisco TMSXE, as an identically named account already existed in the Exchange organization.
- Three minutes later, at 16:41, the administrator added the system again, this time reusing the existing **TMS-209@example.com** account. The configuration log then shows that all necessary configuration changes to the account were completed successfully by Cisco TMSXE.
- The telepresence system with a Cisco TMS ID of 209 is now available for booking by end users through Exchange.

Managing log files

All log files are written to the same directory. This directory is normally defined using the configuration tool, and can be seen in the registry key as the string **Log directory**. When a component is set to log to file, each component creates a separate log file named **ComponentName.log** in the log directory.

To prevent the logs from getting too big and taking up too much disk space, an administrator can control the maximum file size and rotation of the log files. This is done globally, so all logs share the same rotation and sizing rules. The size of files is controlled by the string value **Log Size**.

Log Size

This registry setting is used to control the size of log files, using a string whose value is the maximum size of a log files in bytes. To set it:

1. Create a new string value in the Cisco TMSXE registry hive whose name is **Log Size** .
2. Modify the string by double-clicking it and set the value to the desired size in bytes. For example, setting the value to **10485760** means 10MB. (This is the default value used if this string is not defined.)

The log files will be rotated when a log reaches its maximum sizee. The log file is then renamed **ComponentName.bak** and a new **ComponentName.log** file is created. If a **ComponentName.bak** file already exists, it is replaced by the newly rotated log.

Troubleshooting

Installation issues

Could not verify/create calendar security groups

If installing Cisco TMSXE with Exchange 2003, by default, the installer will attempt to create security groups for use with resource calendar permissions. This requires the Active Directory domain functional level to be Windows 2000 native mode or higher.

If the level is Windows 2000 mixed mode, the groups will not get created, and this will be logged in the installation log:

```
@01 E: 20110520 10:35:33:426 Could not verify/create calendar security groups.
@01 E: 20110520 10:35:33:426 Ex: System.Exception: NT4 Mixed mode domains are not
supported.
    Void VerifyGroupsExist(System.String)
    Boolean InstallExServiceUser(TANDBERG.InstallerFunctions.MSI_Session)
```

The recommended solution is to raise the domain functional level to Windows 2000 native mode or higher, uninstall Cisco TMSXE, and then rerun the installer.

If this is not an option, security groups and resource mailbox permissions must be configured manually as described in the *Cisco TelePresence Management Suite Installation Guide (2.3)*.

Could not establish trust relationship for the SSL/TLS secure channel

If you select *Use HTTPS* during installation of Cisco TMSXE, both the installer and the synchronizer will need to verify the TLS/SSL certificate.

If you get the message "Could not establish trust relationship for the SSL/TLS secure channel" when installing or running Cisco TMSXE, the CA root certificate (or the Cisco TMS server's certificate, if using a self-signed certificate) is not installed properly as a trusted root certification authority.

Both the administrator account performing the installation and the Cisco TMS service account need to trust this certificate. The certificate must therefore be imported into **Trusted Root Certification Authorities > Local Computer** on the Exchange server.

Note that in Windows 2008, certificates in Local Computer must be imported through the Microsoft Management Console. Select *Show physical stores* in the Certificate Import Wizard to see the Local Computer node.

To verify that the certificate has been correctly installed:

1. Use the administrator account to open Internet Explorer (other browsers will *not* work for this).
2. Connect to Cisco TMS over HTTPS.
3. Repeat the Internet Explorer test using the Cisco TMS service account.

If neither the administrator account nor the service account get a warning when browsing Cisco TMS over HTTPS, the certificate has also been accepted by Cisco TMSXE.

Synchronizer issues

Symptoms of a hanging synchronizer

If the synchronizer is unable to process a booking, it might not be able to move on to the next transaction. The synchronizer is then said to be hanging. When the synchronizer is hanging, no new bookings or changes made in Cisco TMS will replicate to Exchange. Changes made in Outlook/Exchange are not affected by a hanging synchronizer, and will replicate as expected to Cisco TMS.

The following log snippet shows an example of a hanging synchronizer:

```
@687 I: 20110413 22:16:52:037 SyncWorkLeader: SyncToNow.555
@687 I: 20110413 22:16:52:037 SyncWorkLeader: Requesting transactions.
@687 I: 20110413 22:16:57:381 SyncWorkLeader: Performing transaction: Deleted
Id:556 ConfId:123
@687 E: 20110413 22:16:58:115 Ex:
System.Web.Services.Protocols.SoapException: System not found. Host name:
System Id: 5
System.Object[] ReadResponse(System.Web.Services.Protocols.SoapClientMessage,
System.Net.WebResponse, System.IO.Stream, Boolean)
System.Object[] Invoke(System.String, System.Object[])
TANDBERG.TMSConferenceAPI.Booking.Conference GetConferenceById(Int32)
Boolean TryGetConferenceFullFromTMS(Int32,
TANDBERG.TMSConferenceAPI.Booking.Conference ByRef)
@674 I: 20110413 22:19:52:036 SyncWorkLeader: SyncToNow.555
@674 I: 20110413 22:19:52:036 SyncWorkLeader: Requesting transactions.
@674 I: 20110413 22:19:57:411 SyncWorkLeader: Performing transaction: Deleted
Id:556 ConfId:123
@674 E: 20110413 22:19:58:130 Ex:
System.Web.Services.Protocols.SoapException: System not found. Host name:
System Id: 5
```

In the example log excerpt above:

- The current transaction ID as stored by Cisco TMSXE at 22:16:52 is 555.
- Cisco TMS then reports 556 as the current transaction ID.
- The synchronizer subsequently attempts to process the associated booking (conference ID: 123).
- However, something goes wrong, and the update to the Exchange calendar fails. An error is logged, with the exception "Ex: System.Web.Services.Protocols.SoapException: System not found. Host name: System Id: 5".
- Three minutes later, the synchronizer is again trying to process transaction 556 / conference 123, failing again. Until this hang is resolved, the synchronizer will not be able to process any transactions.

Synchronizer hang error messages

Log message: "Ex: System.Web.Services.Protocols.SoapException: Unspecified Error"

All "Unspecified Error" messages are due to a problem in Cisco TMS. Evaluate the Cisco TMS log files, in particular log-web.txt.

Log message: "COMEx: -2141913053: Submitted SQL statement was incomplete."

This is due to a time format mismatch between Windows and Cisco TMSXE, which is fixed in version 2.3. A workaround for customers running older versions is to change the language under "Regional and Language Options" on the Exchange server to "English (United States)" and reboot.

Log messages: "SyncWorker: Deleting appointment
file:///backofficestorage/example.example.com/MBX/TMS-9/Calendar/example.EML ... COMEx: -
2147217887: Multiple-step OLE DB operation generated errors."

The synchronizer is unable to delete the conference in question from the Exchange resource calendars. As a workaround, use Outlook to delete the conference from the resource calendars. If this does not solve the problem, delete the conference from the Cisco TMS database.

Log message: "Ex: System.Web.Services.Protocols.SoapException: System not found. Host name: System
Id: NN"

If system NN was purged from the Cisco TMS database, but remains a participant in (past) conferences, this error may be encountered if you are not running an updated version of Cisco TMS. (Issue resolved in version 12.6.2.)

Log message: "Unspecified Error". TMS log-web.txt file logs "System.ArgumentException: Item has already been added. Key in dictionary: 'Deleted System' Key being added: 'Deleted System'"

This error will be logged when there are two or more deleted systems in a conference and you are not running an updated version of Cisco TMS. (Issue resolved in version 13.0.)

Resolving a synchronizer hang

If the synchronizer is hanging, the first troubleshooting step is to upgrade both Cisco TMSXE and Cisco TMS to the latest versions available. The synchronizer does not need to be restarted after upgrading Cisco TMS, but it will need to be reactivated if you upgraded Cisco TMSXE.

Note: If the synchronizer is hanging, it *cannot* be resolved by uninstalling and reinstalling the same version of Cisco TMSXE, nor by restarting the synchronizer itself.

If upgrading does not fix the hanging synchronizer, contact your Cisco TelePresence support representative to get help solving the issue.

When reporting an issue:

- Always report the exact versions of Cisco TMSXE, Cisco TMS, and Exchange.
- Raise the log level to full debug on the **SynchHandler** log, and attach the Cisco TMSXE and Cisco TMS logs to the ticket.

- You might later be asked for a backup copy of the Cisco TMS database if the support organization is unable to reproduce the synchronizer problem.

Workarounds

If the synchronizer is hanging because of a bug in either Cisco TMS or Cisco TMSXE, there are two basic workaround approaches that can be utilized until the problem is fixed:

- The first alternative is using the registry to override the synchronizer's current transaction ID:
 - a. Using `regedit.exe`, locate the TANDBERG hive in the Windows registry
 - b. Increase the "**Current Transaction Id**" value by one (in the example above: from 555 to 556).
 - c. After two or three minutes, the synchronizer will pick up the new current transaction id and continue processing from there. If the synchronizer then later hangs on a new transaction, repeat the procedure. Should you choose this workaround, you will have to redo all of these steps if you later restart the synchronizer.
- The second approach is to remove any conferences that make the synchronizer hang:
 - a. Use the Cisco TMS web interface to delete the conference (in the example above: conference 123).
 - b. If the synchronizer is still hanging three minutes later, the conference needs to be removed from the Cisco TMS database. Since manipulating the database directly is a risky operation, do not attempt this without a ready-made SQL query from Cisco TelePresence support. Always back up your Cisco TMS database before running any delete query.

Other synchronizer issues

If you see the following logged as errors, you should upgrade to the latest version of Cisco TMSXE:

```
@134 E: 20100510 16:52:30:863 LookupOwnerEmailByUserName(nt authority\system)
FAILED
```

```
@134 E: 20100510 16:52:30:863 COMEx: -2147016426: Name translation: Could
not find the name or insufficient right to see name. (Exception from HRESULT:
0x80072116)
```

The messages mean that the owner of the conference in Cisco TMSXE was a local account, and that Cisco TMSXE thus was unable to find it in Active Directory. As a result, no organizer is set on the Exchange side.

Booking consistency problems

Cisco TMSXE supports two-way synchronization between Exchange and Cisco TMS. Bookings created in Cisco TMS will synchronize to Exchange resource calendars through the Cisco TMSXE component referred to as the synchronizer, while the component that pushes events from Exchange over to Cisco TMS is referred to as the sinks.

Cisco TMSXE is a synchronous and stateless application. Events sent by Exchange are immediately processed by Cisco TMSXE and pushed to Cisco TMS in the order they are received, and the order of these events are in some cases non-deterministic.

The Exchange notion of recurrence differs from the Cisco TMS notion of recurrence, in some rare cases making it impossible to successfully copy an Exchange recurrence pattern to Cisco TMS. These factors sometimes lead to inconsistencies between Exchange resource calendars and the Cisco TMS database.

Refer to the *Cisco TMSXE Release Notes (2.3.1)* for an overview of open caveats related to booking consistency.

CAUTION: Booking or modifying an existing booking in the resource calendars directly is known to cause consistency problems. Making changes in the resource calendars is therefore not supported, although no technical constraints are implemented. As a general rule, bookings should be modified in the system where they originated, and the resource calendars in Exchange should only be used for free/busy information.

Certain clients may also lead to booking inconsistencies. Outlook 2007 Service Pack 1 is for example known to have problems with advanced recurrent scenarios. If users experience consistency problems while using unsupported clients, they should migrate to the one of the clients listed in the system requirements section of the *Cisco TMSXE Installation Guide (2.3.1)*.

Booking problems

All bookings fail

If all bookings fail and users get "The request failed with HTTP status 401: Unauthorized" email notifications, Cisco TMSXE is unable to log in to Cisco TMS.

Check that:

- the local "tmsconfuser" account exists on the Cisco TMS server
- the tmsconfuser is able to log in and authenticate to Cisco TMS
- the password is correct
- the IIS settings on the Cisco TMS server are correct. To verify:
 - a. Open a web browser.
 - b. Paste the Cisco TMSBooking API URL in the URL field. The URL is `http://<tms_server>/tms/external/Booking/BookingService.aspx` where `<tms_server>` must be replaced by the server Cisco TMS is installed on.
 - c. Attempt to log on.
 - If able to log on as any user, IIS settings are correct.
 - If unable to log on, IIS settings need adjusting.

User gets "Cannot open this item. The operation failed. An object cannot be found"

If this error message appears when opening an occurrence with exceptions in a recurrent booking that has been booked using the Cisco form, scripts have been disallowed for shared folders in Outlook. This is not specific to the Cisco form.

To enable such scripts in Outlook 2007:

1. In the menu, go to **Tools > Trust Center**.
2. Go to **E-mail Security > Script in Folders**.
3. Enable the setting **Allow script in shared folders**.

Conference gets terminated when user extends an ongoing conference

This happens when an ongoing (currently active) meeting is extended using Outlook to a time where one of the participating systems is part of another booking. Cisco TMS will then reject the change and terminate the ongoing conference. This is expected behavior.

WARNING: Conferences must never be edited through Outlook while they are active.

Bookings fail for a specific system

If the **TANDBERGSinks** log displays the following message:

```
COMEx: -2147463168: Unknown Error (...) Ex: System.Exception: Could not access Calendar
```

Certain special characters such as quotation marks, slashes or backslashes in the AD object's LDAP common name are not allowed. Create a new AD account without special characters for the system.

Systems are dropped from future bookings without user interaction

Such behavior has been observed when buggy clients are used. Update all your Outlook clients to the latest service pack. Avoid using non-Outlook clients when booking videoconferences.

Setup and teardown buffers not supported with Outlook booking

Setup and teardown buffers can be specified in Cisco TMS under **Administrative Tools > Configuration > Conference Settings**. If such buffers are enabled, they are added to bookings created using the Cisco TMS web interface.

For example, if 10 minute setup and teardown buffers are specified, a booking in Cisco TMS with a start time of 3:30 and end time 3:40 will have an actual connect time of 3:20 and an actual teardown time of 3:50. When this booking synchronizes to Exchange through Cisco TMSXE, it will appear to have a start time of 3:20 and end time of 3:50 in the Exchange resource calendar.

Setup and teardown buffers are not supported by the Cisco TMS Booking API. If 10 minute buffers are enabled in Cisco TMS, and a user books a conference from 4:00 to 4:30 through Outlook, the actual connect and teardown times will still be 4:00 and 4:30. But this will be missed by the Cisco TMS email subsystem, and the booking confirmation email sent to the organizer will incorrectly state the start time as 4:10 and the end time as 4:20.

If 10 minute setup and teardown buffers are specified, and a user books a conference from 5:00 to 5:20 using Outlook, the booking will be declined. The user will get a reply from each resource account stating that "Start time cannot be after end time of a conference".

Adding setup and teardown buffers in Cisco TMS is currently not supported if Outlook/Exchange is used for booking, as the behavior is likely to be confusing to end users.

Ex: TANDBERG.ADLookup.ResourceNotFoundException: Organizer not found in Active Directory

If the **TANDBERGSinks** log displays the following messages:

```
Ex: TANDBERG.ADLookup.ResourceNotFoundException: Organizer not found in Active Directory:  
/O=EXAMPLE/OU=EXCHANGE
```

```

ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EXAMPLEUSER System.String
LookupEmailFromLegExDN(System.String)
(...)
SaveWorkProcessor: ReplyToUser: Subject: Could not process your reservation: Body:
Organizer not found in Active Directory:
/O=EXAMPLE/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=
EXAMPLEUSER
Could not send e-mail to meeting organizer: . Organizer not found in Active Directory

```

These messages mean that Cisco TMSXE is unable to find the organizer of a meeting in Active Directory. Cisco TMSXE uses an appointment's **PR_SENDER_EMAIL_ADDRESS_W** property when determining the organizer. If the organizer was moved, or their CN changed in Active Directory, so that the value of **PR_SENDER_EMAIL_ADDRESS_W** is out of date, the entries above are logged as errors in the sinks log when the organizer make subsequent changes to his old bookings.

Note that it is only the "your request was accepted" replies from the Exchange resource accounts that cannot be sent to the organizer in this situation. The organizer will still get the "Conference information: You have successfully saved the following conference: (...)" email message from Cisco TMSXE, and the changes to the booking are correctly replicated to Cisco TMS.

Client issues

Unexpected results if using checkboxes to remove participants

Using the checkboxes in the Outlook Scheduling assistant to remove participants from a booking is only supported in Exchange 2007 and Outlook 2007 SP2 with Cisco TMSXE version 2.2 or later.

Cannot preview meetings created using the Cisco form

Outlook users are not able to preview meetings that were created using the Cisco form, and must fully open them to view meeting details. This is expected behavior defined by Outlook security, which does not allow previewing of custom forms. Users must open the booking to view all details.

Dropped participants and duplicate calendar entries when using "Send the updates only to the added or deleted attendees"

Cisco TMSXE requires updates to existing conferences to be sent to all attendees. Users must choose *Send updates to all attendees* if prompted by their Outlook client.

"Add external" button missing from the Cisco form

If unable to add dial-in or dial-out participants to a conference because the **Add External** button is missing, scripts are disabled by Outlook. As scripts are disabled in unpublished forms, verify that the form has been published:

- A published form will display its version number in the upper left corner.
- An unpublished form has the text "Warning! Form not published." displayed in the upper left corner.

Outlook sometimes not displaying videoconferences in cached mode

If turning cached mode off, all conferences will appear in resource calendars as expected. This behavior is caused by Outlook/Exchange handling of cached mode, which is outside the control of Cisco TMSXE.

Other issues

Cisco TMSXE is unable to send email messages on Windows Server 2008 R2

This is due to a bug in how Windows Server 2008 R2 handles Collaboration Data Objects for Exchange Server (CDOEX).

1. Use the following Microsoft hotfix to correct Windows Server behavior:
<http://support.microsoft.com/kb/982720/en-us>.
2. After applying the hotfix, use the following commands to re-register CDOEX:

```
regsvr32 /u C:\Program Files\Common Files\Microsoft Shared\CDO\cdoex.dll  
regsvr32 C:\Program Files\Common Files\Microsoft Shared\CDO\cdoex.dll
```
3. Reboot the server.

The domain controller I want to use is not present in the list in Cisco TMSXE

Cisco TMSXE has access to the same domain controller as Exchange sees. You need to reconfigure your Exchange server so that it finds the desired domain controller before Cisco TMSXE can use it.

"Could not establish trust relationship" error message when installing or running the software

If you select *Use HTTPS* during installation of Cisco TMSXE, both the installer and the synchronizer will need to verify the TLS/SSL certificate.

If you get the message "Could not establish trust relationship for the SSL/TLS secure channel" when installing or running the Cisco TMSXE software, the CA root certificate (or the Cisco TMS server's certificate, if using a self-signed certificate) is not installed properly as a trusted root certification authority.

Both the administrator account performing the installation and the Cisco TMSXE service account need to trust this certificate. The certificate should thus be imported into **Trusted Root Certification Authorities > Local Computer** on the Exchange server.

Note that in Windows 2008, certificates in Local Computer must be imported through the Microsoft Management Console. Select *Show physical stores* in the Certificate Import Wizard to see the Local Computer node.

To verify that the certificate has been correctly installed, use the administrator account to open Internet Explorer (other browsers will not work for this) and connect to Cisco TMS over HTTPS. Repeat the Internet Explorer test using the Cisco TMS service account.

If neither the administrator account nor the service account get a warning when browsing Cisco TMS over HTTPS, the certificate has also been accepted by Cisco TMSXE.

Microsoft.Mapi.MapiExceptionCallFailed: MapiExceptionCallFailed: Unable to save changes

In some deployments, entries such as the following can be seen in the Exchange server's Application log:

```
Log Name: Application
Source: MSExchange Assistants
Date: 5/13/2010 6:14:01 PM
Event ID: 9040
Task Category: Assistants
Level: Error
Keywords: Classic
User: N/A
Computer: tmsxe.example.com
Description:
Service MSExchangeMailboxAssistants. An error has been detected due to this exception:
Microsoft.Exchange.Assistants.
AIGrayException ---> Microsoft.Exchange.Common.GrayException --->
Microsoft.Exchange.Data.Storage.StoragePermanentException:
Cannot save changes made to an item to store. --->
Microsoft.Mapi.MapiExceptionCallFailed: MapiExceptionCallFailed:
Unable to save changes. (hr=0x80004004, ec=-2147467260)
```

The log entry above says that a change could not be saved to a resource calendar. This is however expected behavior whenever a Cisco TMSXE calendar sink stops a save event because the change was rejected by Cisco TMS. These situations are logged as errors by Exchange, despite Cisco TMSXE's intentional cancellation of the event. These log entries can thus safely be ignored by the Exchange administrator.

References and related documents

Documents and web sites referenced in this document are listed below.

All product documentation for Cisco TMSXE can also be found on our website:

http://www.cisco.com/en/US/products/ps11472/tsd_products_support_series_home.html

Title	Reference
<i>Cisco TelePresence Management Suite Extension for Microsoft Exchange Release Notes (2.3.1)</i>	D14848
<i>Cisco TelePresence Management Suite Extension for Microsoft Exchange Installation Guide (2.3.1)</i>	D14846
<i>Cisco TelePresence Management Suite Extension for Microsoft Exchange User Guide (2.3.1)</i>	D14753
<i>Cisco TelePresence Implementing Secure Management Configuration Guide (13.0)</i>	D50520

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