Configure and Troubleshoot CVI for Microsoft Teams

Contents

Introduction

This document describes how to configure and troubleshoot Cisco Video Integration (CVI) with Microsoft Teams (MS Teams) integration.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Webex Control Hub general configuration
- Office 365 (O365) general configuration
- Endpoint web admin configuration
- Windows Power Shell configuration
- Webex Edge for Devices configuration

Components Used

The information in this document is based on these software and hardware versions:

- O365 Admin Site
- Cisco WebEx Control Hub with A-MST-WX-CVI-ROOMS license
- Windows Power Shell version 5.1

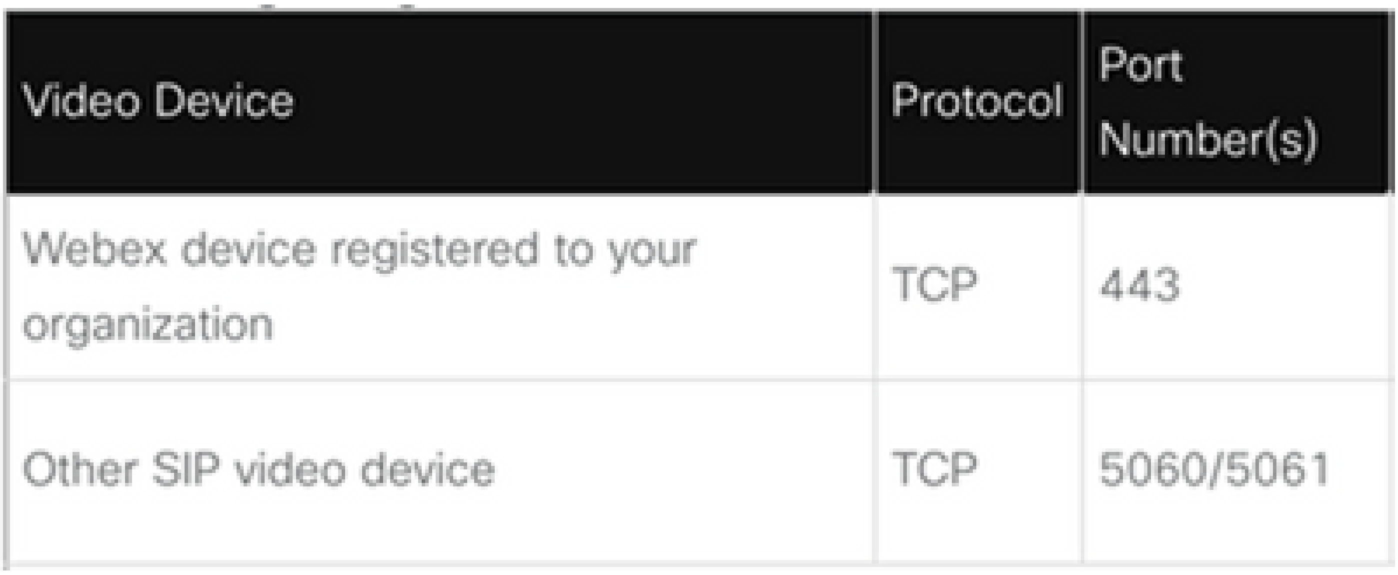
- DX70 with Webex Edge for Devices

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

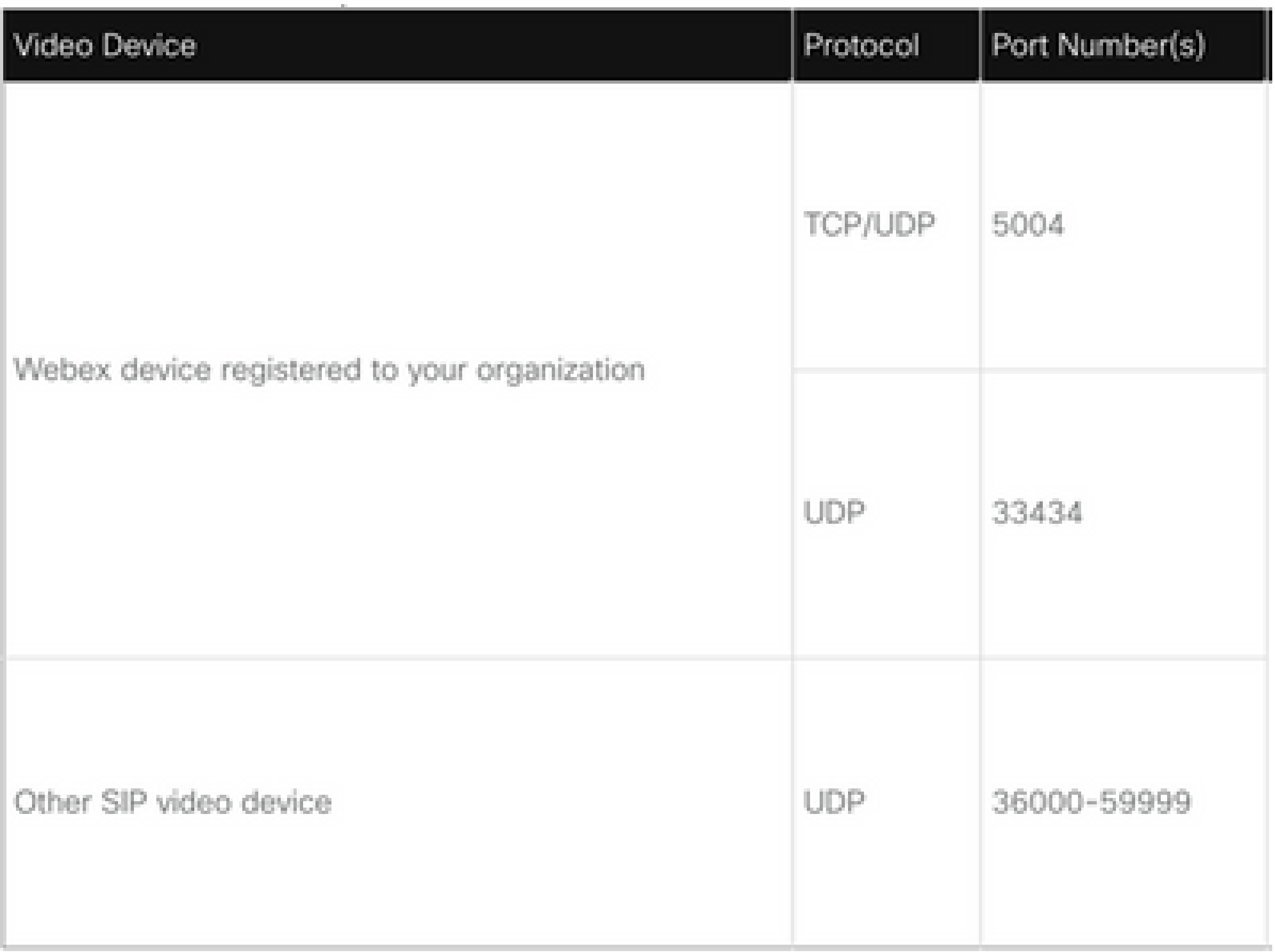
Required Ports

Ports required for signaling:



Video Device	Protocol	Port Number(s)
Webex device registered to your organization	TCP	443
Other SIP video device	TCP	5060/5061

Ports required for media:



Video Device	Protocol	Port Number(s)
Webex device registered to your organization	TCP/UDP	5004
	UDP	33434
Other SIP video device	UDP	36000-59999

Supported Device Types for One Button to Push (OBTP)

- Webex Board, Room, and Desk devices
- Webex Room Kit and Room Phone
- Cisco MX, SX, and DX series

Configuration

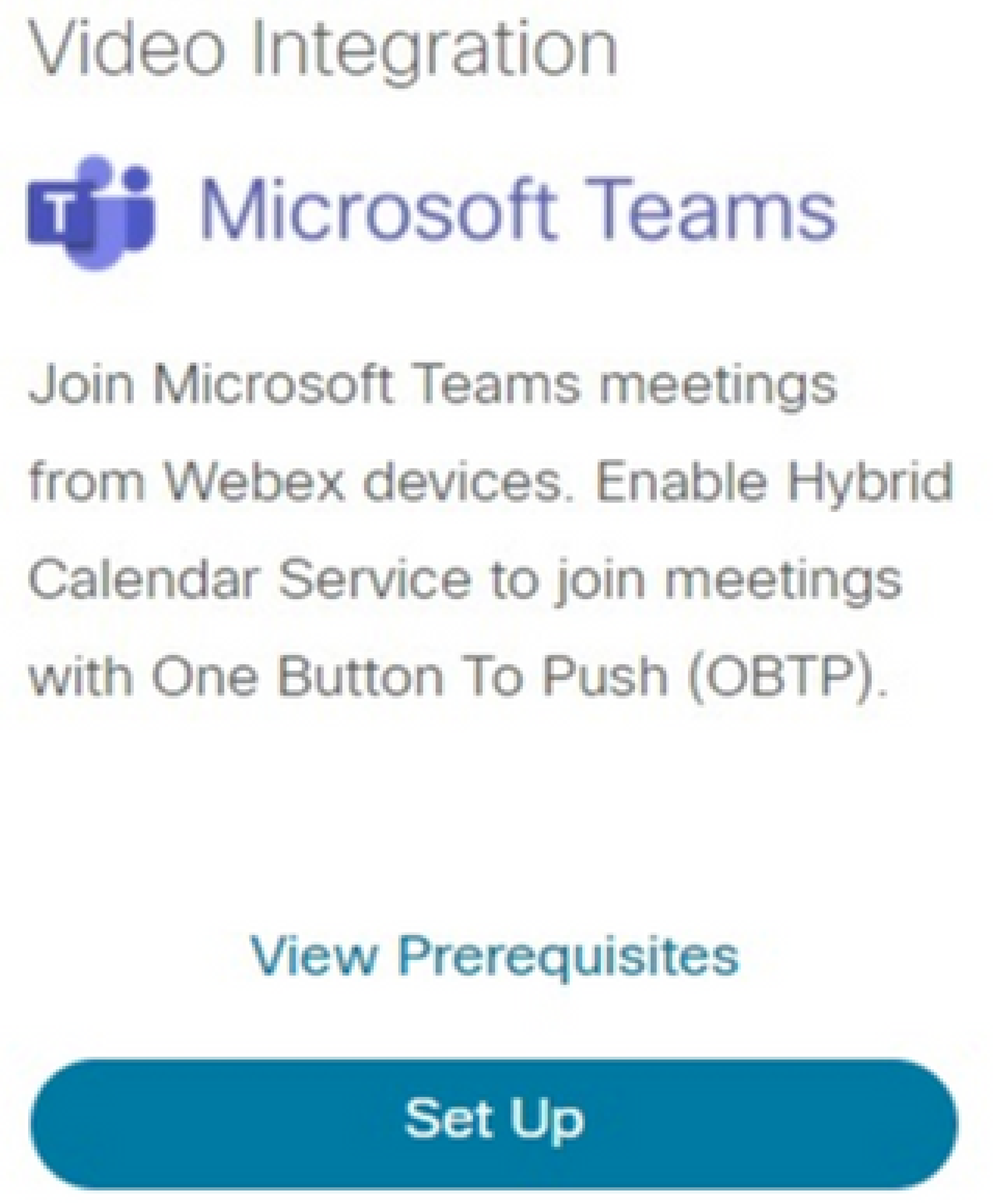
Set Up the Video Integration in Control Hub

Step 1. Sign in to https://admin.webex.com.

Step 2. In order to check if the subdomain is set for Webex Session Initiation Protocol (SIP) addresses, navigate to **Organization Settings >SIP Address for Cisco Webex Calling**.

Note: In case it is not set, review the next document, Change Your Cisco Webex SIP Address.

Step 3. Navigate to**Services >Hybrid**. Locate the Video Integration card for Microsoft Teams, select**Set Up**. (Additional License is required).



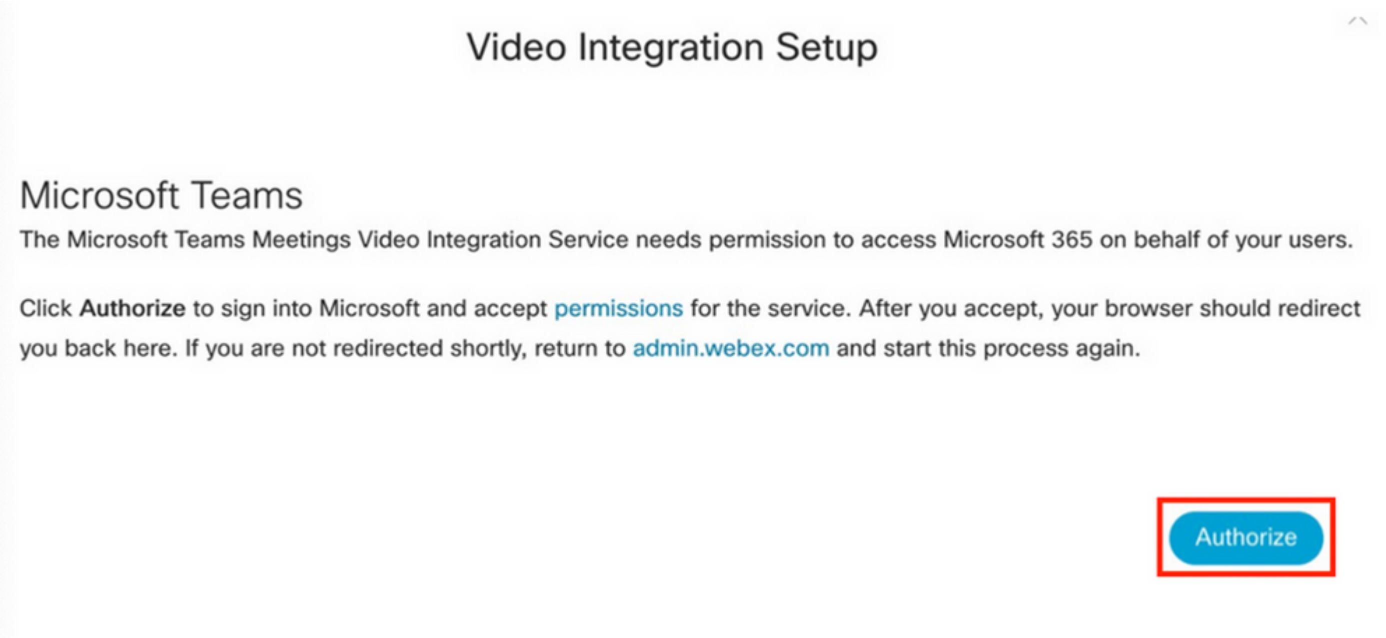
Video Integration

Microsoft Teams

Join Microsoft Teams meetings from Webex devices. Enable Hybrid Calendar Service to join meetings with One Button To Push (OBTP).

⚠ **Warning**: At this point, A-MST-WX-CVI-ROOMS license is required in order to make further progress.

Step 4. On the Video Integration Setup screen, select **Authorize**.



Video Integration Setup

Microsoft Teams

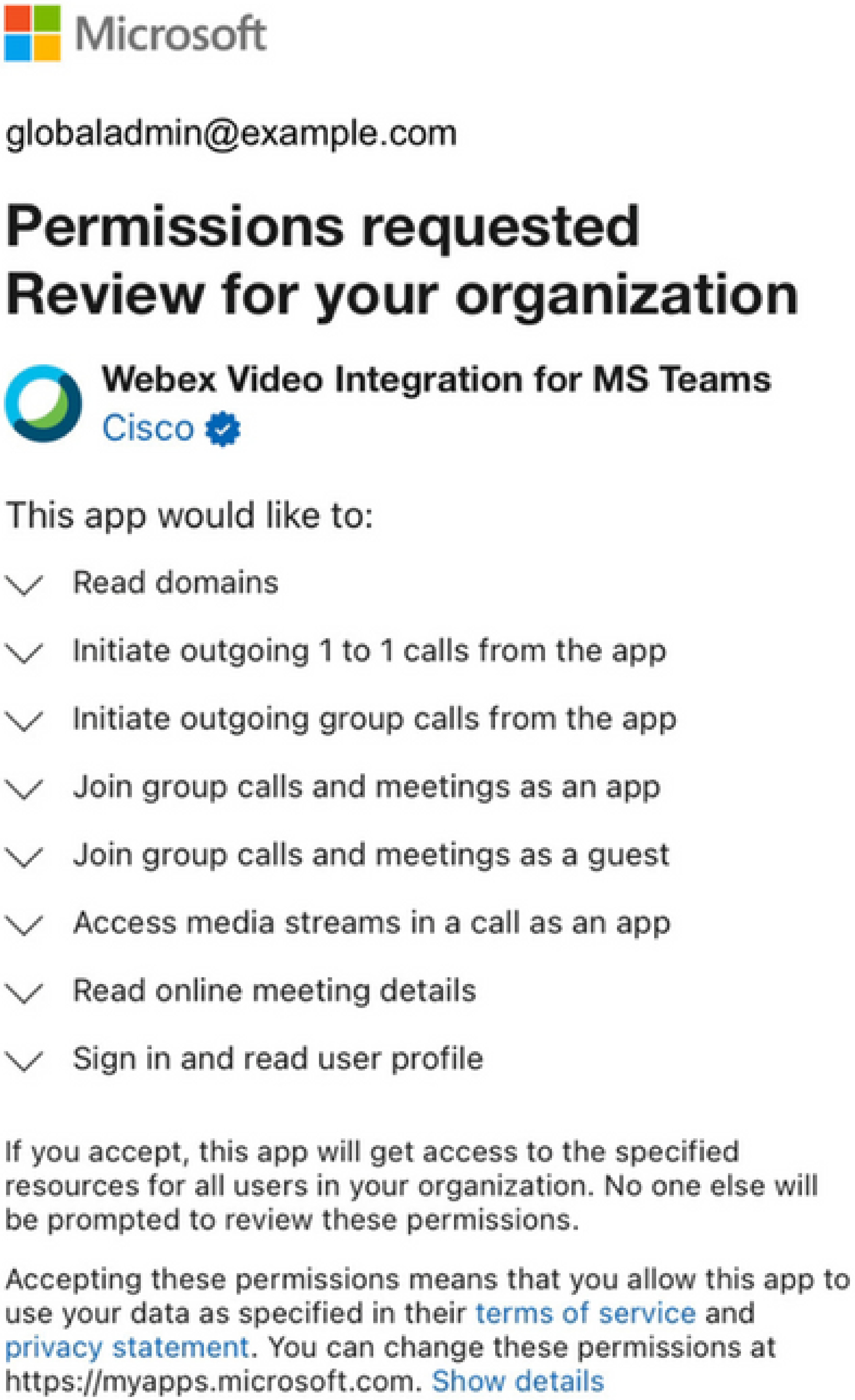
The Microsoft Teams Meetings Video Integration Service needs permission to access Microsoft 365 on behalf of your users.

Click **Authorize** to sign into Microsoft and accept permissions for the service. After you accept, your browser should redirect you back here. If you are not redirected shortly, return to admin.webex.com and start this process again.

Step 5. Select the account with the **Microsoft Tenant Global Administrator** privileges, and enter the credentials.

Note: The Microsoft user has to authenticate at least two separate times. It is recommended the steps are performed by a Microsoft administrator whose account has full administrator access to Control Hub.

Step 6. In order to validate the requested permissions, select **Accept**. This grants Webex Video Integration application access your Microsoft tenant. A redirect to the Control Hub Video Integration Setup screen takes place.



Microsoft

globaladmin@example.com

Permissions requested Review for your organization

Webex Video Integration for MS Teams

Cisco ✓

This app would like to:

- Read domains
- Initiate outgoing 1 to 1 calls from the app
- Initiate outgoing group calls from the app
- Join group calls and meetings as an app
- Join group calls and meetings as a guest
- Access media streams in a call as an app
- Read online meeting details
- Sign in and read user profile

If you accept, this app will get access to the specified resources for all users in your organization. No one else will be prompted to review these permissions.

Accepting these permissions means that you allow this app to use your data as specified in their terms of service and privacy statement. You can change these permissions at https://myapps.microsoft.com. Show details

```
Connect-MicrosoftTeams
```

Step 9. A Microsoft sign-in page appears. Enter the credentials for the user with Microsoft Teams administration privileges for the tenant. If the process is successful, feedback is provided about the account and tenant is successfully signed in.

Step 10. Navigate to **Video Integration** setup screen in Control Hub, select the **clipboard** button in order to copy the text of the **New-CsVideoInteropServiceProvider** section, from the first text box and paste it into the PowerShell session and confirm.

Step 11. Select how you want to enable the integration for your users. Use the examples as reference for the integration for all users, or per user as shown in the next examples:

All users:

```
Grant-CsTeamsVideoInteropServicePolicy -PolicyName
 CiscoServiceProviderEnabled -Global
```

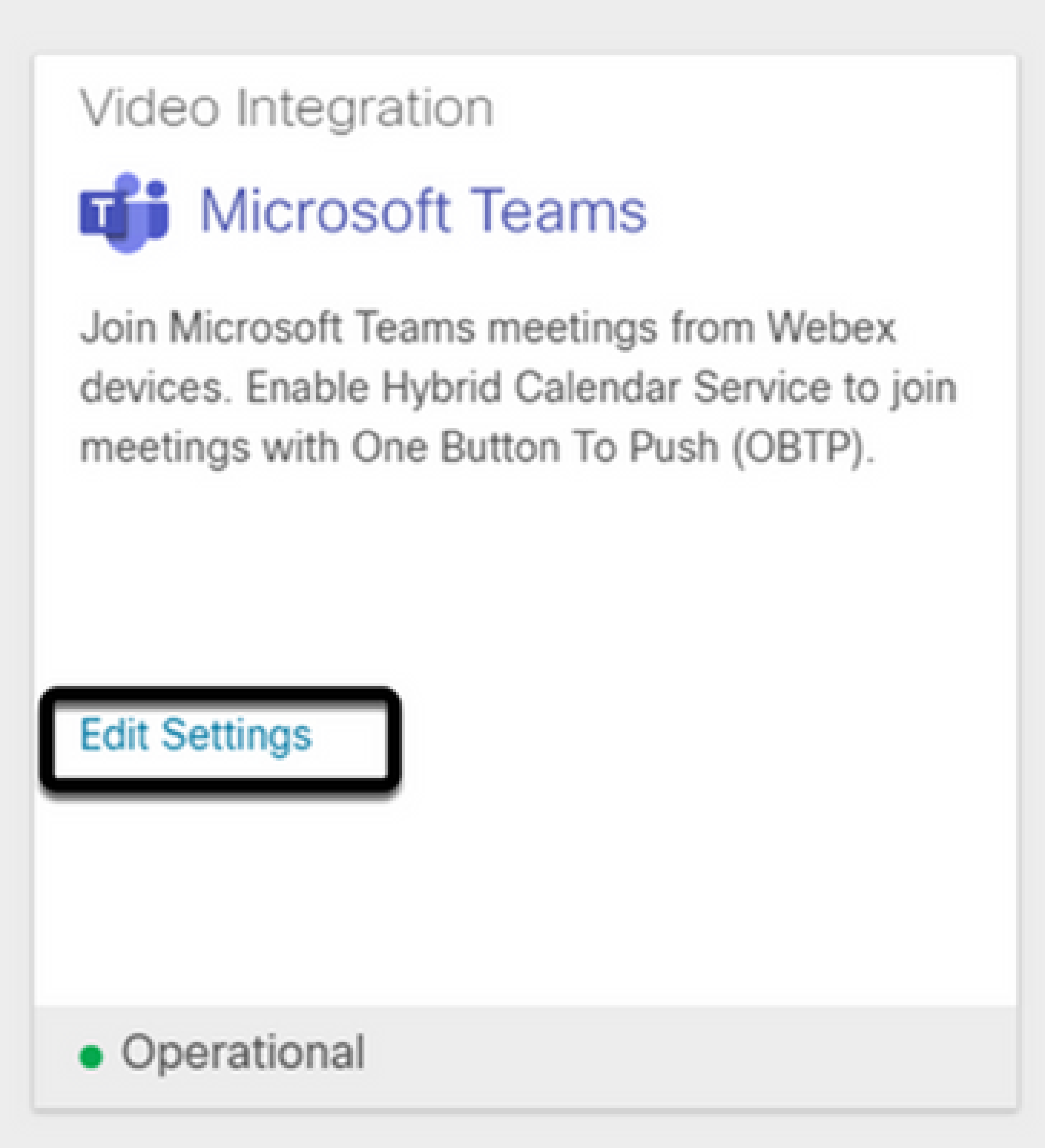
Per User:

```
Grant-CsTeamsVideoInteropServicePolicy -PolicyName
CiscoServiceProviderEnabled -Identity
```

Step 12. Select **Ok** to complete the setup.

Note: PowerShell changes to Microsoft tenant can take time to propagate in the Microsoft 365 environment. Microsoft says this can take up to 6 hours, although it typically takes less than 20 minutes.

Step 13. In case access to the PowerShell command text after configuration is not completed, navigate to **Control Hub > Hybrid > Services > Video Integration** and select **Edit settings**.



Video Integration

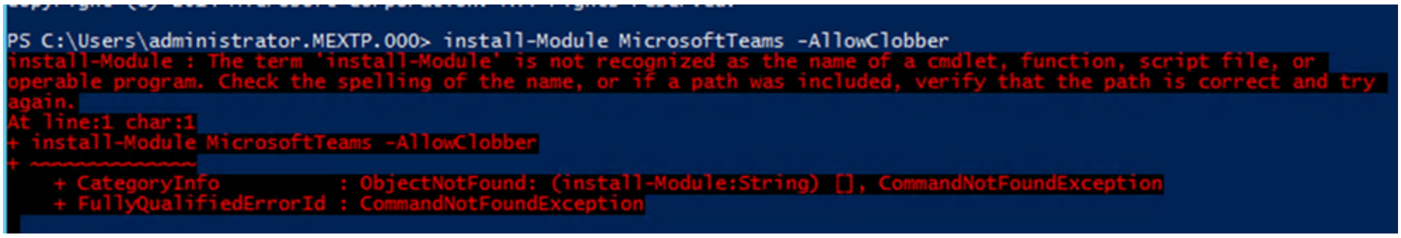
Microsoft Teams

Join Microsoft Teams meetings from Webex devices. Enable Hybrid Calendar Service to join meetings with One Button To Push (OBTP).

Troubleshoot

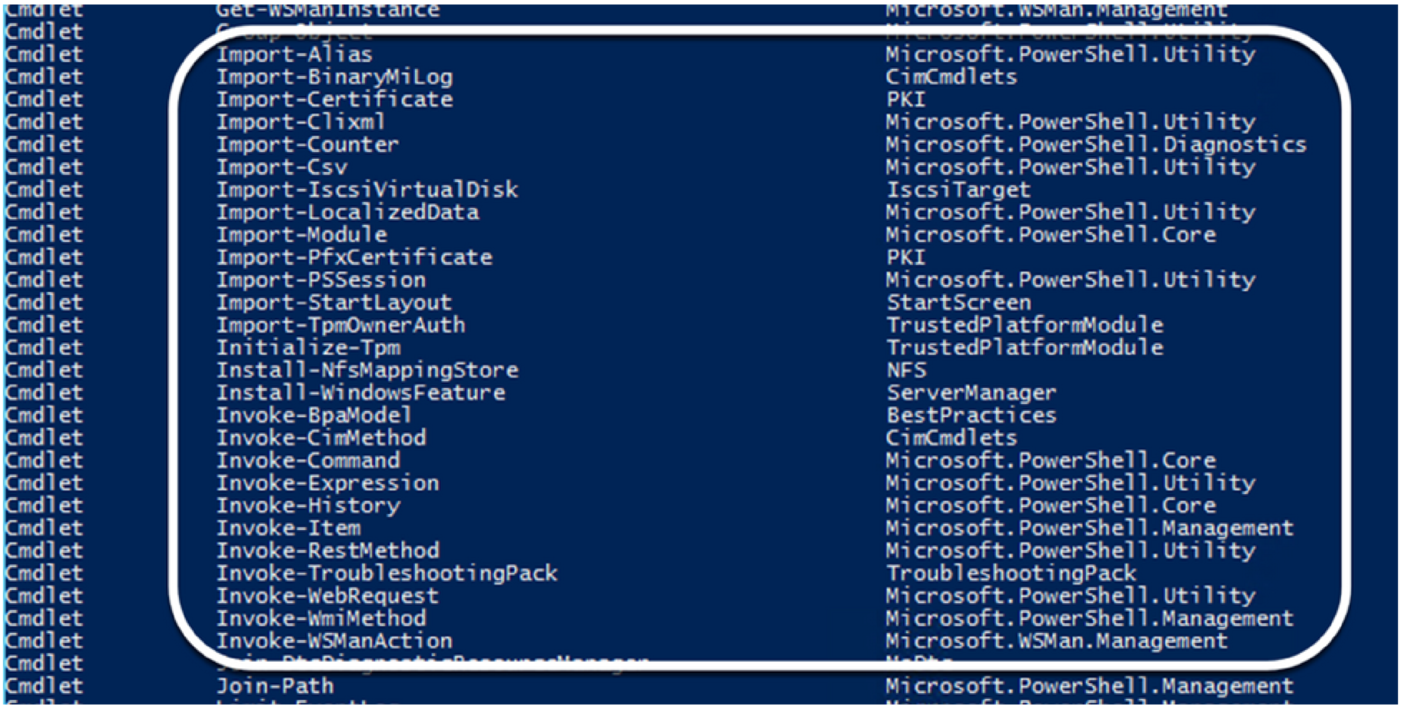
Case 1. Command Install-Module not Recognized in Windows Power Shell

When command **Install-Module** is configured on Windows PowerShell, no variation from the command is recognized by the console:



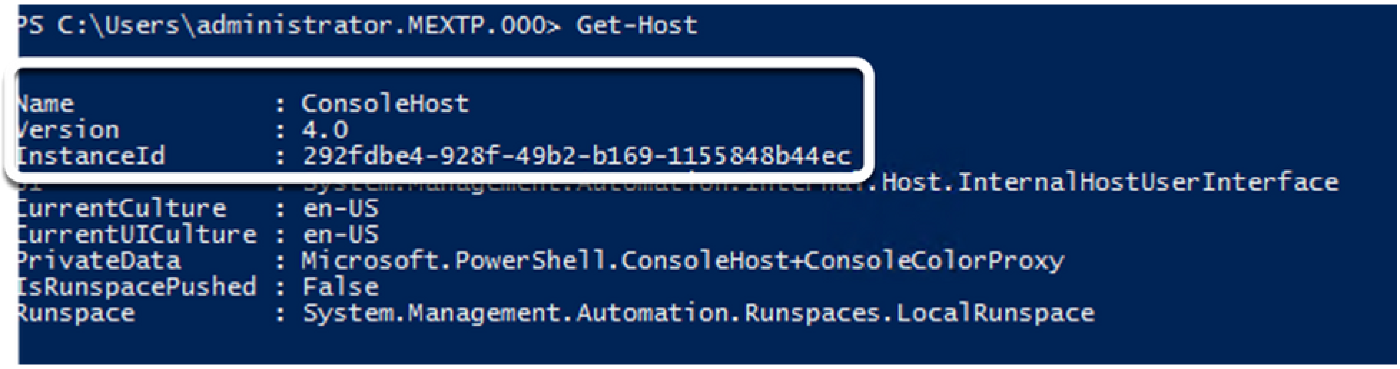
```
PS C:\Users\administrator.MEXTP.000> install-Module MicrosoftTeams -AllowClobber
install-Module : The term 'install-Module' is not recognized as the name of a cmdlet, function, script file, or
operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and try
again.
At line:1 char:1
+ install-Module MicrosoftTeams -AllowClobber
+ ~~~~~~~~~~~~~~
    + CategoryInfo          : ObjectNotFound: (install-Module:String) [], CommandNotFoundException
    + FullyQualifiedErrorId : CommandNotFoundException
```

Step 1. With an Windows Admin account, open Windows PowerShell and run the command **Get-Command** on the console in order to validate if **Install-Module** is listed as a valid command.



```
Cmdlet          Get-WSManInstance                                  Microsoft.WSMan.Management
Cmdlet          Group-Object                                       Microsoft.PowerShell.Utility
Cmdlet          Import-Alias                                       Microsoft.PowerShell.Utility
Cmdlet          Import-BinaryMiLog                                 CimCmdlets
Cmdlet          Import-Certificate                                 PKI
Cmdlet          Import-Clixml                                      Microsoft.PowerShell.Utility
Cmdlet          Import-Counter                                     Microsoft.PowerShell.Diagnostics
Cmdlet          Import-Csv                                         Microsoft.PowerShell.Utility
Cmdlet          Import-IscsiVirtualDisk                            IscsiTarget
Cmdlet          Import-LocalizedData                               Microsoft.PowerShell.Utility
Cmdlet          Import-Module                                      Microsoft.PowerShell.Core
Cmdlet          Import-PfxCertificate                              PKI
Cmdlet          Import-PSSession                                   Microsoft.PowerShell.Utility
Cmdlet          Import-StartLayout                                 StartScreen
Cmdlet          Import-TpmOwnerAuth                                TrustedPlatformModule
Cmdlet          Initialize-Tpm                                     TrustedPlatformModule
Cmdlet          Install-NfsMappingStore                            NFS
Cmdlet          Install-WindowsFeature                             ServerManager
Cmdlet          Invoke-BpaModel                                    BestPractices
Cmdlet          Invoke-CimMethod                                   CimCmdlets
Cmdlet          Invoke-Command                                     Microsoft.PowerShell.Core
Cmdlet          Invoke-Expression                                  Microsoft.PowerShell.Utility
Cmdlet          Invoke-History                                     Microsoft.PowerShell.Core
Cmdlet          Invoke-Item                                        Microsoft.PowerShell.Management
Cmdlet          Invoke-RestMethod                                  Microsoft.PowerShell.Utility
Cmdlet          Invoke-TroubleshootingPack                         TroubleshootingPack
Cmdlet          Invoke-WebRequest                                  Microsoft.PowerShell.Utility
Cmdlet          Invoke-WmiMethod                                   Microsoft.PowerShell.Management
Cmdlet          Invoke-WSManAction                                 Microsoft.WSMan.Management
Cmdlet          Join-DtcDiagnosticResourceManager                  MsDtc
Cmdlet          Join-Path                                          Microsoft.PowerShell.Management
```

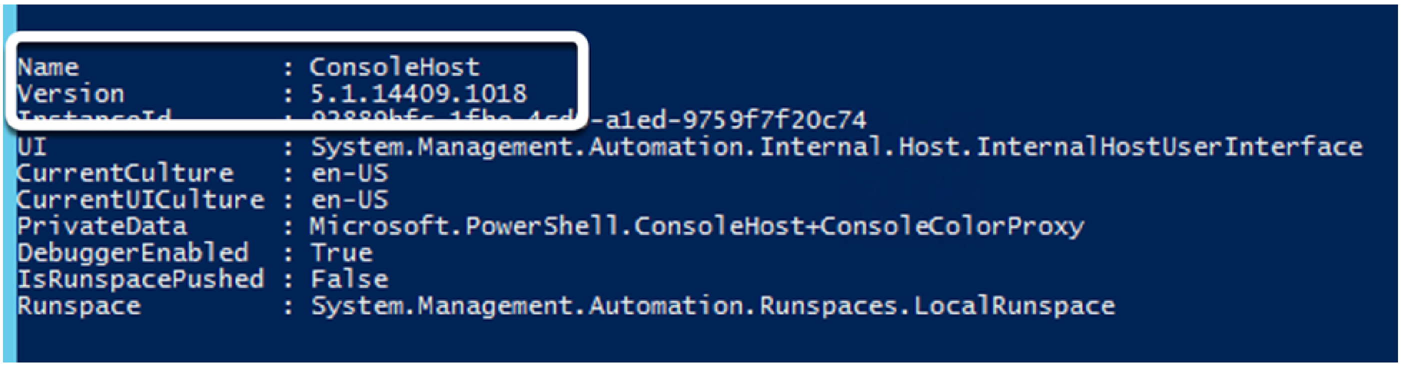
Step 2. In case it is not listed, run the command **Get-Host** and validate the current PowerShell version:



```
PS C:\Users\administrator.MEXTP.000> Get-Host

Name             : ConsoleHost
Version          : 4.0
InstanceId       : 292fdbe4-928f-49b2-b169-1155848b44ec
UI               : System.Management.Automation.Internal.Host.InternalHostUserInterface
CurrentCulture   : en-US
CurrentUICulture : en-US
PrivateData      : Microsoft.PowerShell.ConsoleHost+ConsoleColorProxy
IsRunspacePushed : False
Runspace         : System.Management.Automation.Runspaces.LocalRunspace
```

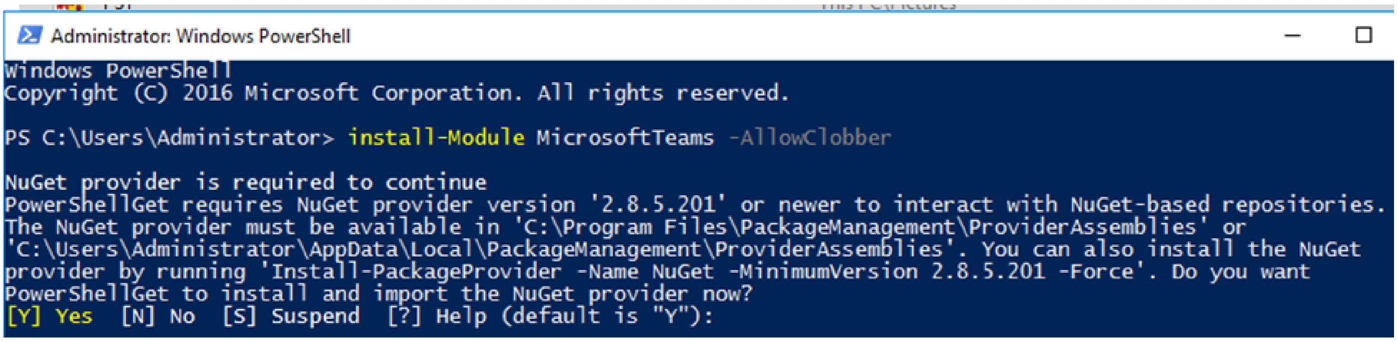
Step 3. In case PowerShell current version is older than 5.0, upgrade to any supported version mentioned on the next Microsoft document: Install-Module Supported PowerShell version.

Step 4. After the upgrade, verify one more time that the version is now updated with **Get-Host** command.



```
Name             : ConsoleHost
Version          : 5.1.14409.1018
InstanceId       : 92889bfc-1fbe-4cd-a1ed-9759f7f20c74
UI               : System.Management.Automation.Internal.Host.InternalHostUserInterface
CurrentCulture   : en-US
CurrentUICulture : en-US
PrivateData      : Microsoft.PowerShell.ConsoleHost+ConsoleColorProxy
DebuggerEnabled  : True
IsRunspacePushed : False
Runspace         : System.Management.Automation.Runspaces.LocalRunspace
```

Step 5. Run the command **Install-Module MicrosoftTeams -AllowClobber**, and confirm with **Y** command in order to continue with the regular installation process.

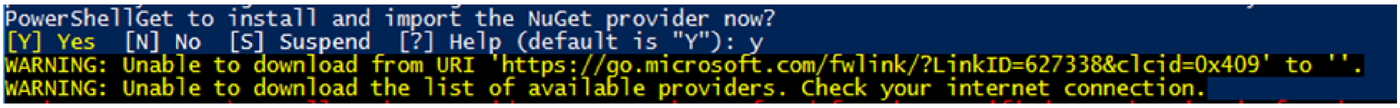


Administrator: Windows PowerShell

```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\Administrator> install-Module MicrosoftTeams -AllowClobber

NuGet provider is required to continue
PowerShellGet requires NuGet provider version '2.8.5.201' or newer to interact with NuGet-based repositories.
The NuGet provider must be available in 'C:\Program Files\PackageManagement\ProviderAssemblies' or
'C:\Users\Administrator\AppData\Local\PackageManagement\ProviderAssemblies'. You can also install the NuGet
provider by running 'Install-PackageProvider -Name NuGet -MinimumVersion 2.8.5.201 -Force'. Do you want
PowerShellGet to install and import the NuGet provider now?
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"):
```

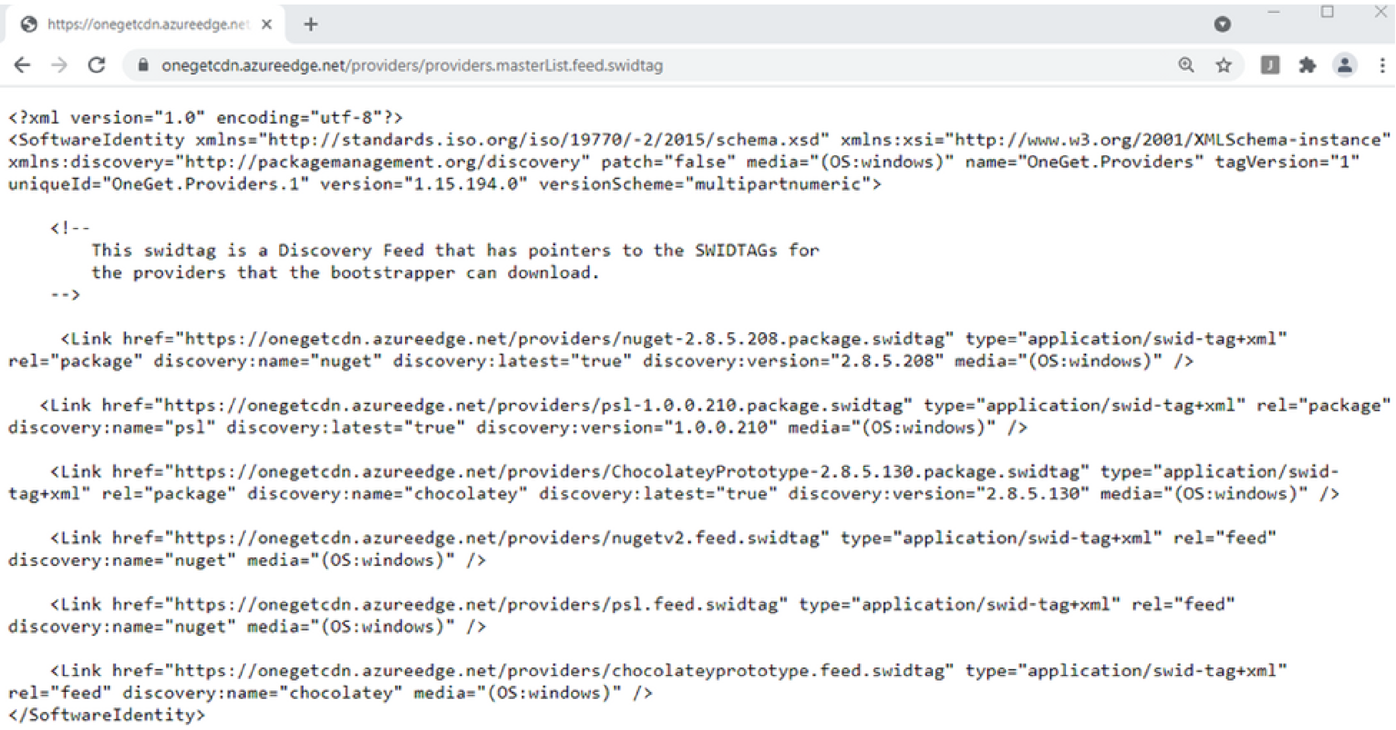
Case 2. Command Install-Module not Recognized in Windows PowerShell

Even with the correct PowerShell version, download process can fail with a similar error as shown in the next image:



```
PowerShellGet to install and import the NuGet provider now?
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"): y
WARNING: Unable to download from URI 'https://go.microsoft.com/fwlink/?LinkID=627338&clcid=0x409' to ''.
WARNING: Unable to download the list of available providers. Check your internet connection.
```

Step 1. Discard any issue with reachability from the server to the Uniform Resource Locator (URL). Copy the URL specified on the PowerShell window, and paste it on a web browser in order to validate content is displayed.



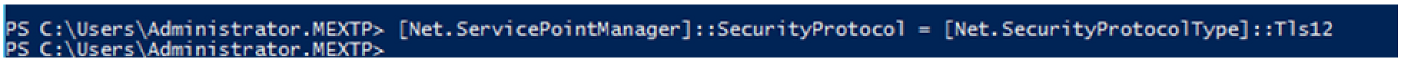
https://onegetcdn.azureedge.net
onegetcdn.azureedge.net/providers/providers.masterList.feed.swidtag

```
<?xml version="1.0" encoding="utf-8"?>
<SoftwareIdentity xmlns="http://standards.iso.org/iso/19770/-2/2015/schema.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:discovery="http://packagemanagement.org/discovery" patch="false" media="(OS:windows)" name="OneGet.Providers" tagVersion="1"
uniqueId="OneGet.Providers.1" version="1.15.194.0" versionScheme="multipartnumeric">

    <!--
        This swidtag is a Discovery Feed that has pointers to the SWIDTAGs for
        the providers that the bootstrapper can download.
    -->

     <Link href="https://onegetcdn.azureedge.net/providers/nuget-2.8.5.208.package.swidtag" type="application/swid-tag+xml"
rel="package" discovery:name="nuget" discovery:latest="true" discovery:version="2.8.5.208" media="(OS:windows)" />

   <Link href="https://onegetcdn.azureedge.net/providers/psl-1.0.0.210.package.swidtag" type="application/swid-tag+xml" rel="package"
discovery:name="psl" discovery:latest="true" discovery:version="1.0.0.210" media="(OS:windows)" />

    <Link href="https://onegetcdn.azureedge.net/providers/ChocolateyPrototype-2.8.5.130.package.swidtag" type="application/swid-
tag+xml" rel="package" discovery:name="chocolatey" discovery:latest="true" discovery:version="2.8.5.130" media="(OS:windows)" />

    <Link href="https://onegetcdn.azureedge.net/providers/nugetv2.feed.swidtag" type="application/swid-tag+xml" rel="feed"
discovery:name="nuget" media="(OS:windows)" />

    <Link href="https://onegetcdn.azureedge.net/providers/psl.feed.swidtag" type="application/swid-tag+xml" rel="feed"
discovery:name="nuget" media="(OS:windows)" />

    <Link href="https://onegetcdn.azureedge.net/providers/chocolateyprototype.feed.swidtag" type="application/swid-tag+xml"
rel="feed" discovery:name="chocolatey" media="(OS:windows)" />
</SoftwareIdentity>
```

Step 2. If reachability is not an issue, this can mean the issue is related to Transport Layer Security (TLS) protocol version. Microsoft deprecated TLS versions 1.0 and 1.1 as shown in the next document: [Microsoft TLS 1.0 and 1.1 Disablement Notice]().

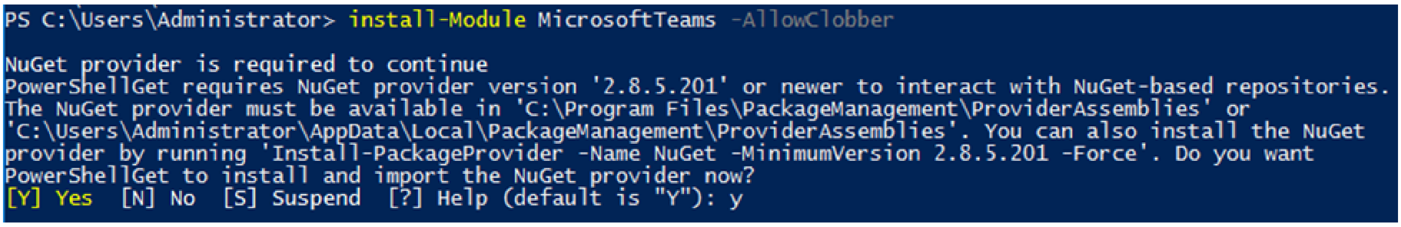
Step 3. In order to change TLS default PowerShell version, run the next command:

```
[Net.ServicePointManager]::SecurityProtocol = Net.SecurityProtocolType]::Tls12
```



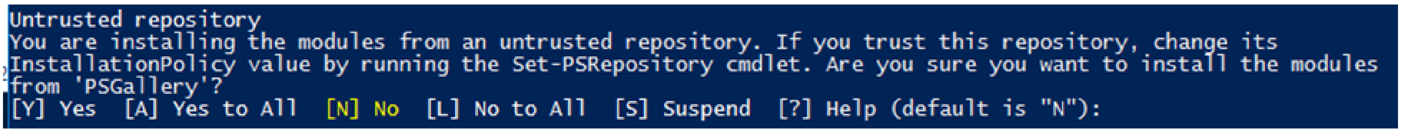
```
PS C:\Users\Administrator.MEXTP> [Net.ServicePointManager]::SecurityProtocol = [Net.SecurityProtocolType]::Tls12
PS C:\Users\Administrator.MEXTP>
```

Step 4. Run the command **Install-Module MicrosoftTeams -AllowClobber**, and confirm with **Y** command in order to attempt the regular installation process.

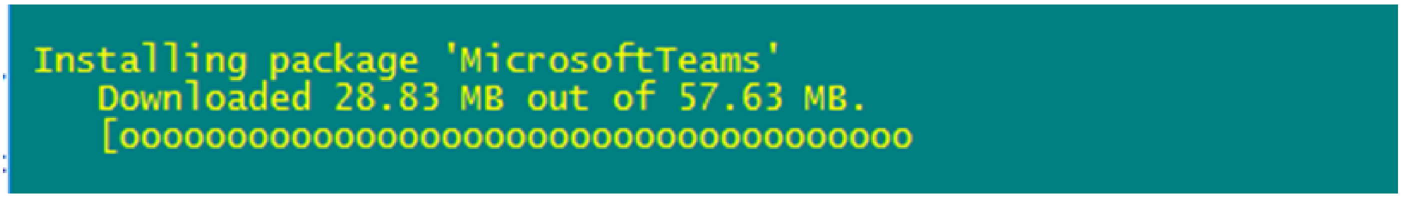


```
PS C:\Users\Administrator> install-Module MicrosoftTeams -AllowClobber

NuGet provider is required to continue
PowerShellGet requires NuGet provider version '2.8.5.201' or newer to interact with NuGet-based repositories.
The NuGet provider must be available in 'C:\Program Files\PackageManagement\ProviderAssemblies' or
'C:\Users\Administrator\AppData\Local\PackageManagement\ProviderAssemblies'. You can also install the NuGet
provider by running 'Install-PackageProvider -Name NuGet -MinimumVersion 2.8.5.201 -Force'. Do you want
PowerShellGet to install and import the NuGet provider now?
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"): y
```

Step 5. Confirm the second selection with **Y** command in order to start the download process.

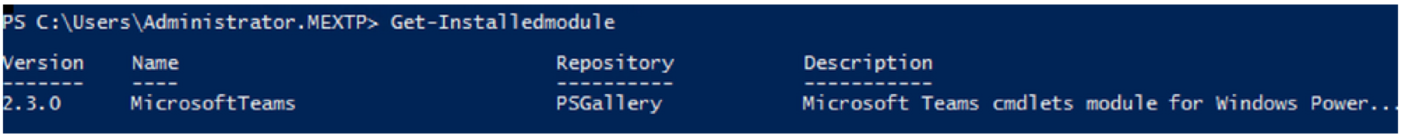


```
Untrusted repository
You are installing the modules from an untrusted repository. If you trust this repository, change its
InstallationPolicy value by running the Set-PSRepository cmdlet. Are you sure you want to install the modules
from 'PSGallery'?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "N"):
```

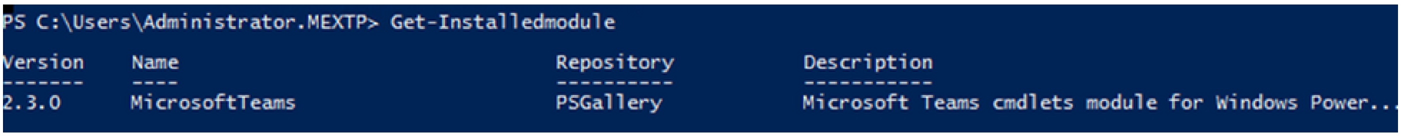


```
Installing package 'MicrosoftTeams'
   Downloaded 28.83 MB out of 57.63 MB.
   [oooooooooooooooooooooooooooooooooooooo
```

Step 6. Confirm Microsoft Teams module is installed with the command **Get-InstalledModule**, and proceed with the deployment process.



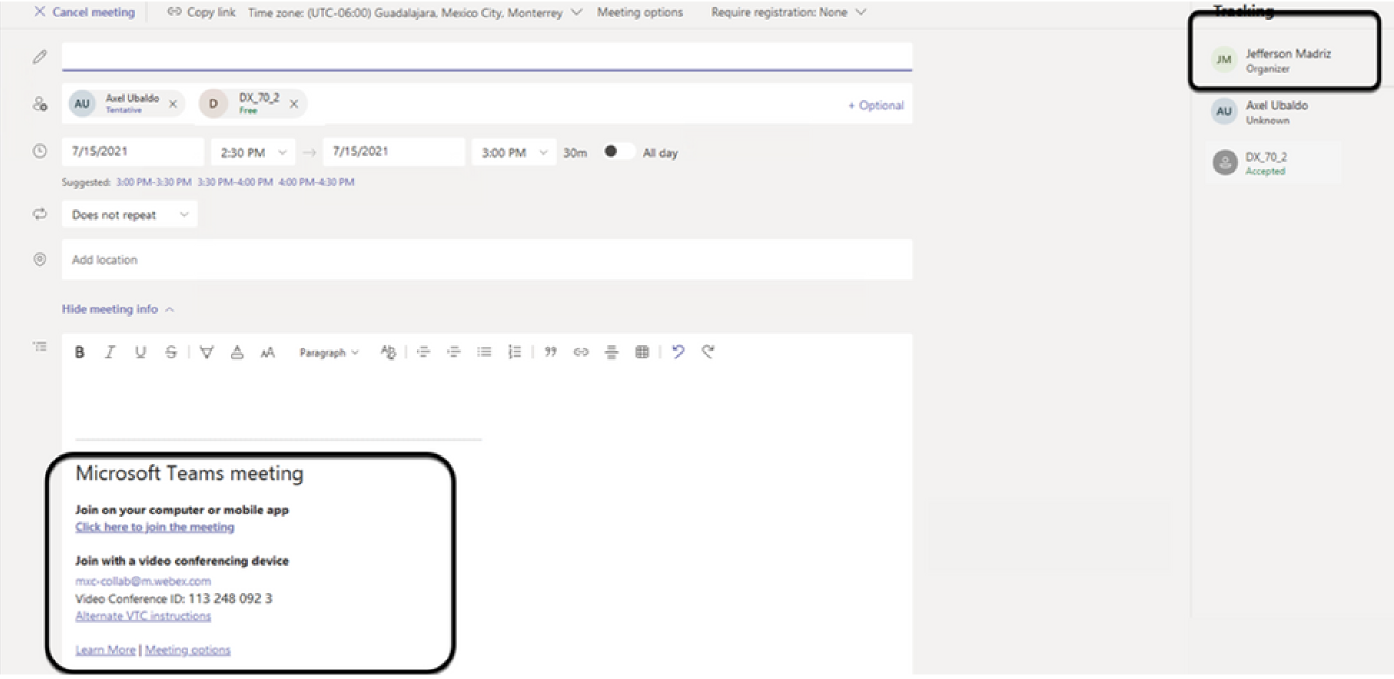
```
PS C:\Users\Administrator.MEXTP> Get-Installedmodule

Version    Name                                Repository           Description
-------    ----                                ----------           -----------
2.3.0      MicrosoftTeams                      PSGallery            Microsoft Teams cmdlets module for Windows Power...
```



```
PS C:\Users\Administrator.MEXTP> Get-Installedmodule

Version    Name                                Repository           Description
-------    ----                                ----------           -----------
2.3.0      MicrosoftTeams                      PSGallery            Microsoft Teams cmdlets module for Windows Power...
```

Case 3. Meeting is Scheduled but is not Displayed on the Device

When you schedule a meeting on MS Teams, details are displayed within the invite, however, the endpoint does not show the meeting.



Time zone: (UTC-06:00) Guadalajara, Mexico City, Monterrey

Require registration: None

AU Axel Ubaldo Tentative

D DX_70_2 Free

7/15/2021 2:30 PM → 7/15/2021 3:00 PM 30m All day

Suggested: 3:00 PM-3:30 PM 3:30 PM-4:00 PM 4:00 PM-4:30 PM

Does not repeat

Add location

Microsoft Teams meeting

Join on your computer or mobile app
Click here to join the meeting

Join with a video conferencing device
mxc-collab@m.webex.com
Video Conference ID: 113 248 092 3
Alternate VTC instructions

Learn More | Meeting options

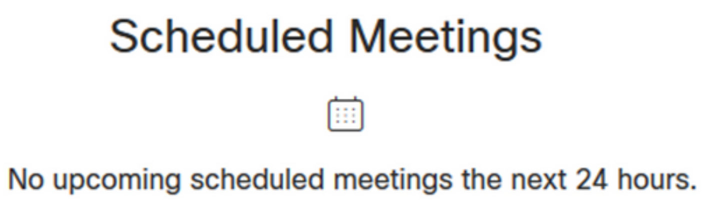
JM Jefferson Madriz Organizer

AU Axel Ubaldo Unknown

DX_70_2 Accepted

Device Room mailbox appears listed within Microsoft Teams meeting invite, some details are not properly configured.

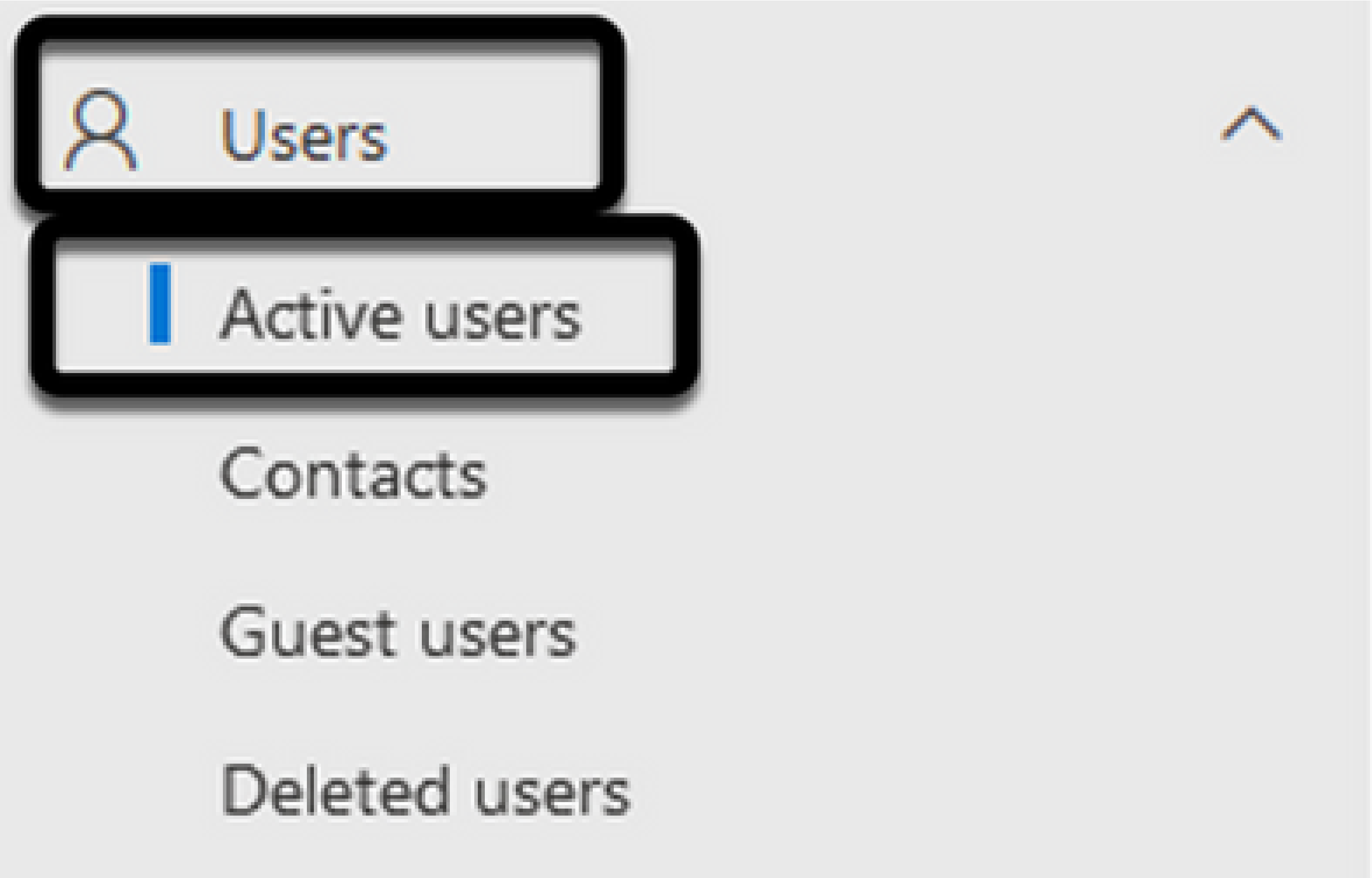
Webex Control Hub does not display meeting information either.


Scheduled Meetings

No upcoming scheduled meetings the next 24 hours.

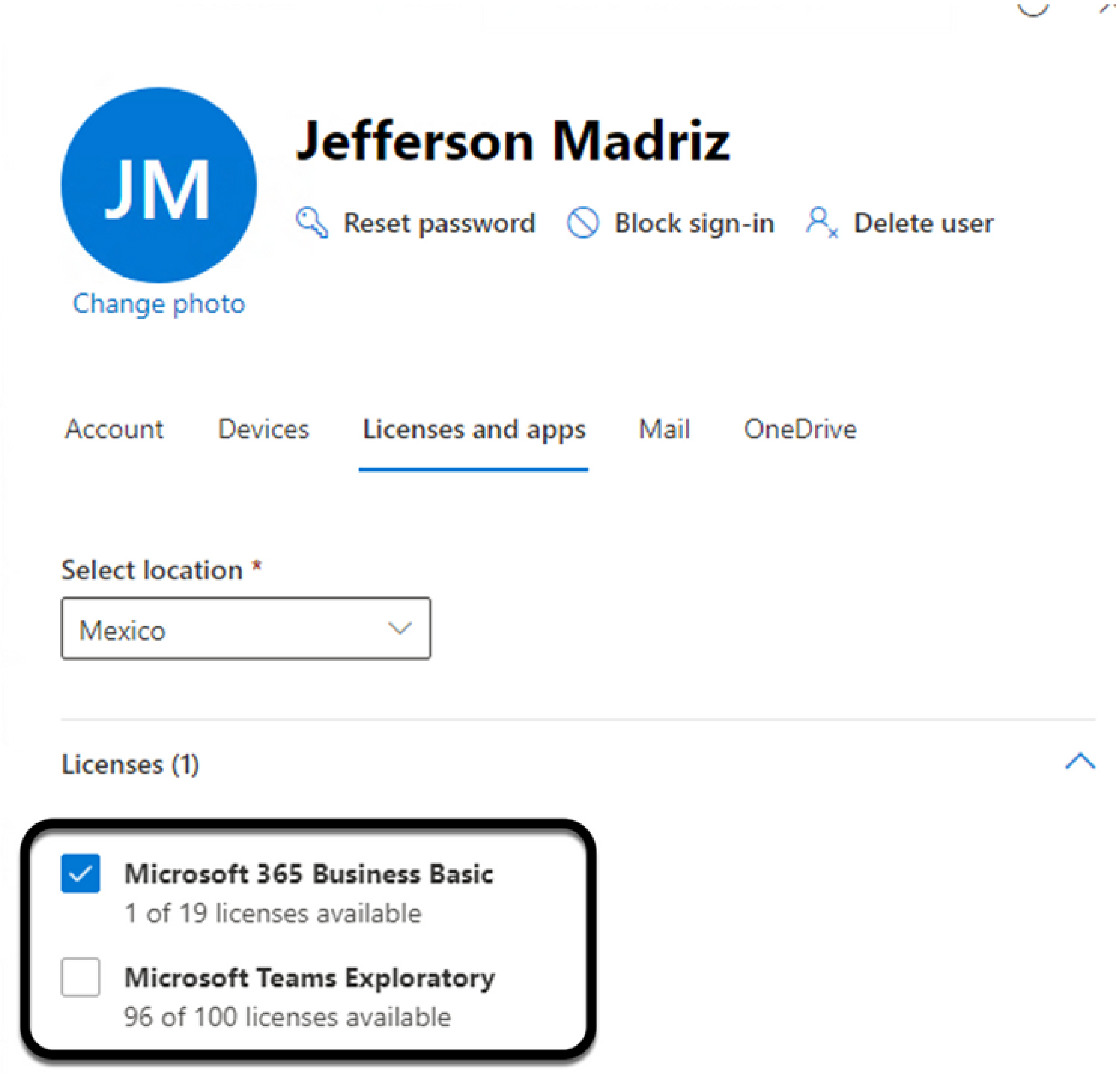
Step 1. Navigate to **O365 admin site https : admin . microsoft . com** and log in with an admin account.

Step 2. Navigate to **Users** > **Active Users** menu.



Step 3. Locate the meeting organizer user account and expand its details.

Step 4. Navigate to **Licenses and Apps** section within the user details in order to find the assigned licenses to it.



Jefferson Madriz

Select location *

Mexico

Licenses (1)

☑ **Microsoft 365 Business Basic**
1 of 19 licenses available

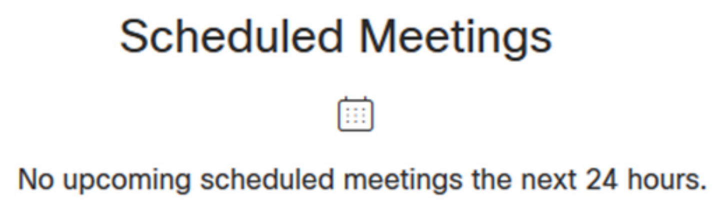
□ **Microsoft Teams Exploratory**
96 of 100 licenses available

Step 5. Microsoft Teams Exploratory license must be assigned for each user on O365. In case this is not assigned, MS Teams meeting details are not sent to device calendar on Webex Control Hub.

Step 6. Assign the license and test.

Case 4. MS Teams License is Assigned, but Meeting is still not Displayed on the Device

Even after the proper licenses are in place, the meeting is not displayed yet on the device calendar with the same banner from Webex Control Hub:

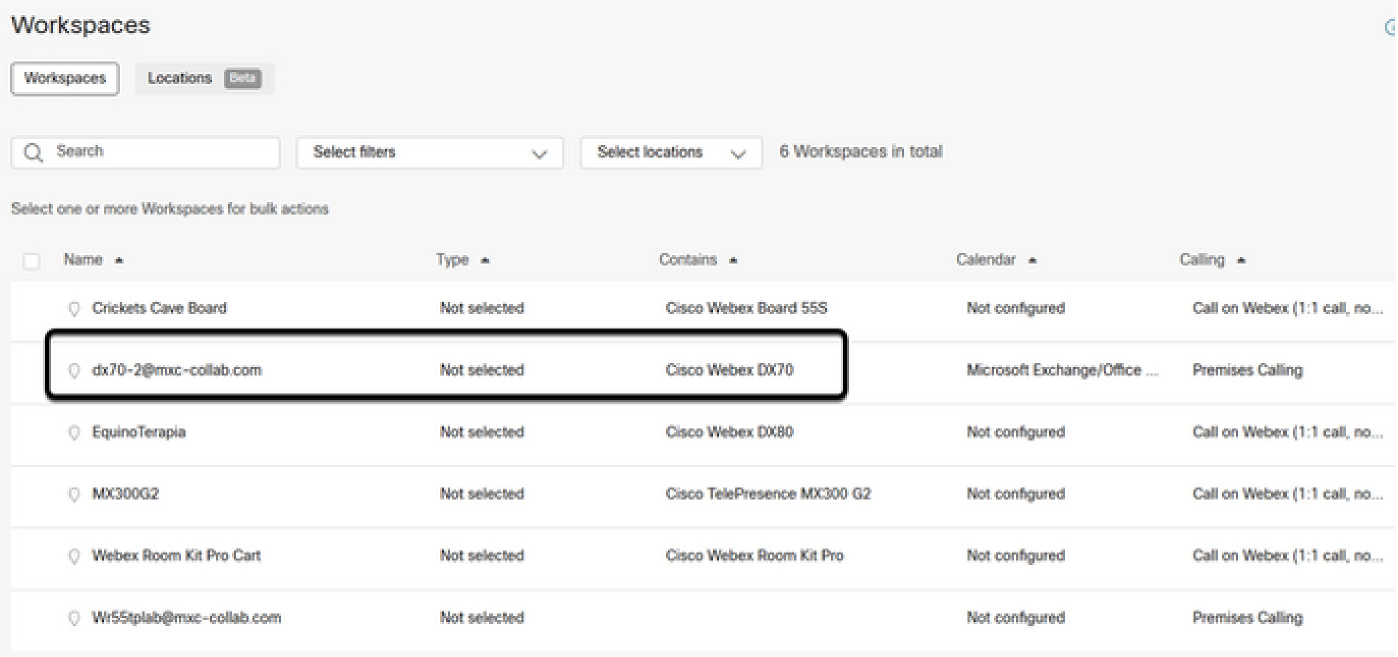


Scheduled Meetings

No upcoming scheduled meetings the next 24 hours.

Step 1. Navigate to **https://admin.webex.com**.

Step 2. Navigate to **Management > Workspaces**, in order to find the affected device listed.



Workspaces

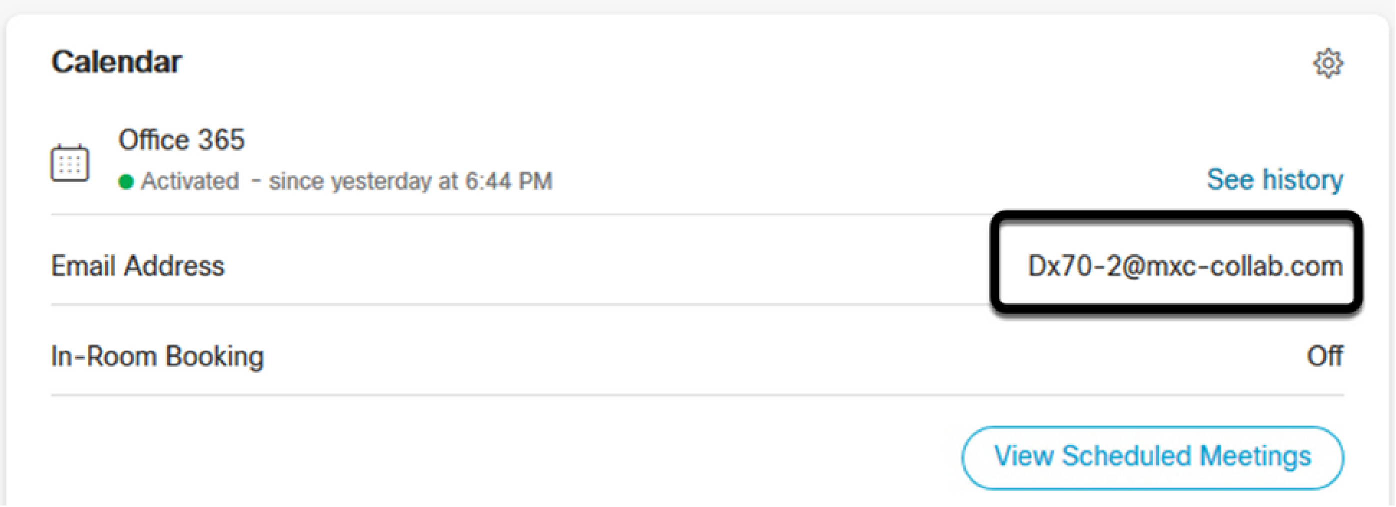
Workspaces | Locations Beta

Search | Select filters | Select locations | 6 Workspaces in total

Select one or more Workspaces for bulk actions

Name	Type	Contains	Calendar	Calling
Crickets Cave Board	Not selected	Cisco Webex Board 55S	Not configured	Call on Webex (1:1 call, no...
dx70-2@mxc-collab.com	Not selected	Cisco Webex DX70	Microsoft Exchange/Office ...	Premises Calling
EquinoTerapia	Not selected	Cisco Webex DX80	Not configured	Call on Webex (1:1 call, no...
MX300G2	Not selected	Cisco TelePresence MX300 G2	Not configured	Call on Webex (1:1 call, no...
Webex Room Kit Pro Cart	Not selected	Cisco Webex Room Kit Pro	Not configured	Call on Webex (1:1 call, no...
Wr55tplab@mxc-collab.com	Not selected		Not configured	Premises Calling

Step 3. Open the device details, and locate **Calendar** section. Validate the **Email Address** configured for that device.



Calendar

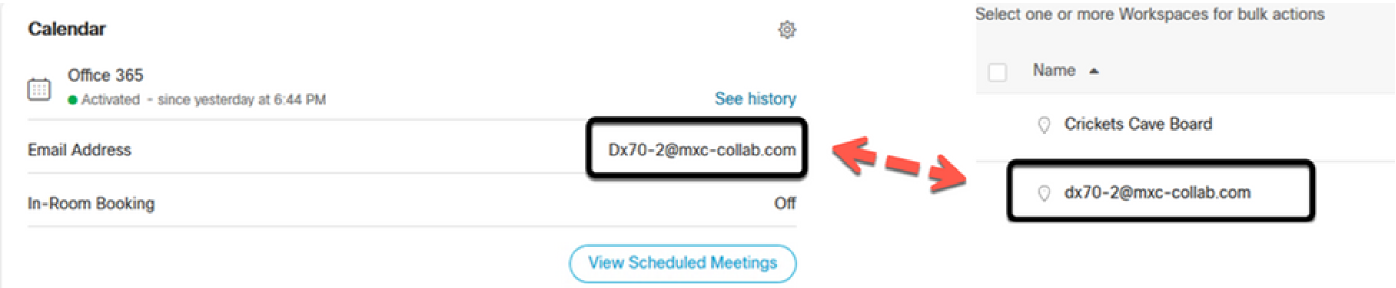
Office 365
● Activated - since yesterday at 6:44 PM | See history

Email Address: Dx70-2@mxc-collab.com

In-Room Booking: Off

View Scheduled Meetings

Email Address assigned to the device must match the device Workspace display name on Control Hub, and Username and email on O365 User configuration. In case this information does not match, Control Hub is not able to identify and forward the meeting to the proper device.



Calendar

Office 365

Activated - since yesterday at 6:44 PM

See history

Email Address: Dx70-2@mxc-collab.com

In-Room Booking: Off

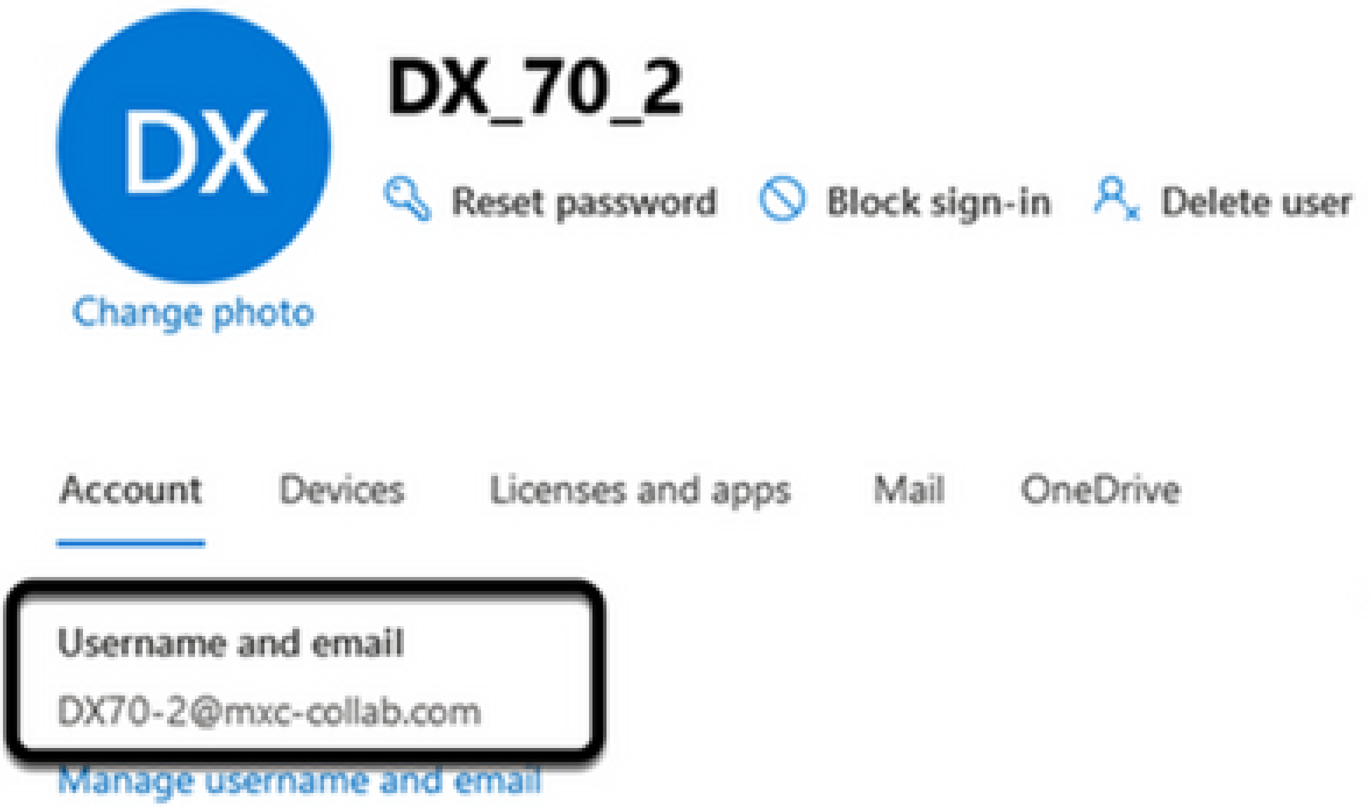
View Scheduled Meetings

Select one or more Workspaces for bulk actions

Name

Crickets Cave Board

dx70-2@mxc-collab.com



DX_70_2

Reset password | Block sign-in | Delete user

Change photo

Account | Devices | Licenses and apps | Mail | OneDrive

Username and email

DX70-2@mxc-collab.com

Manage username and email

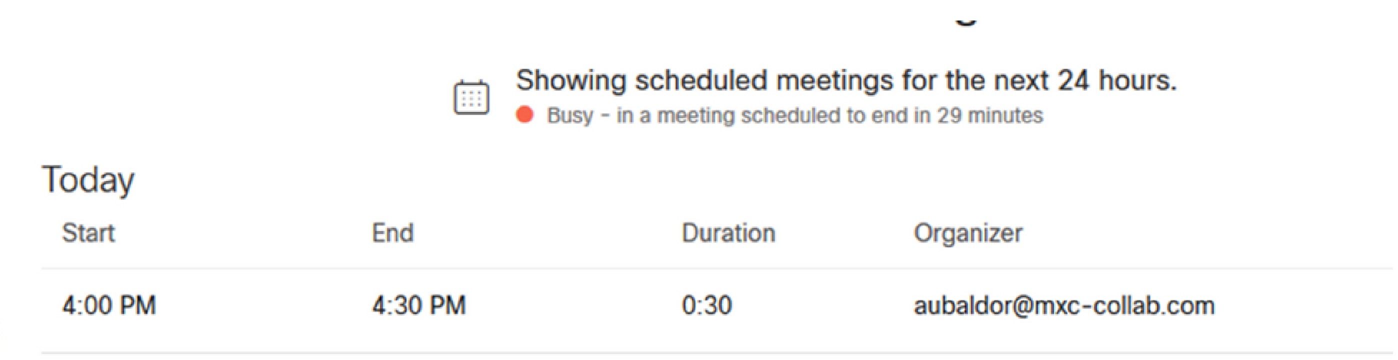
Note: This field is not case sensitive. However, it must match exactly any other letter or symbol.

Verify

Example with logs from a viable Scenario:

When everything is in place and fully operational, you can validate that the implementation works properly on three different perspectives:

Device Calendar on Webex Control hub shows the scheduled meeting with Start, End, Duration and Organizer meeting details:



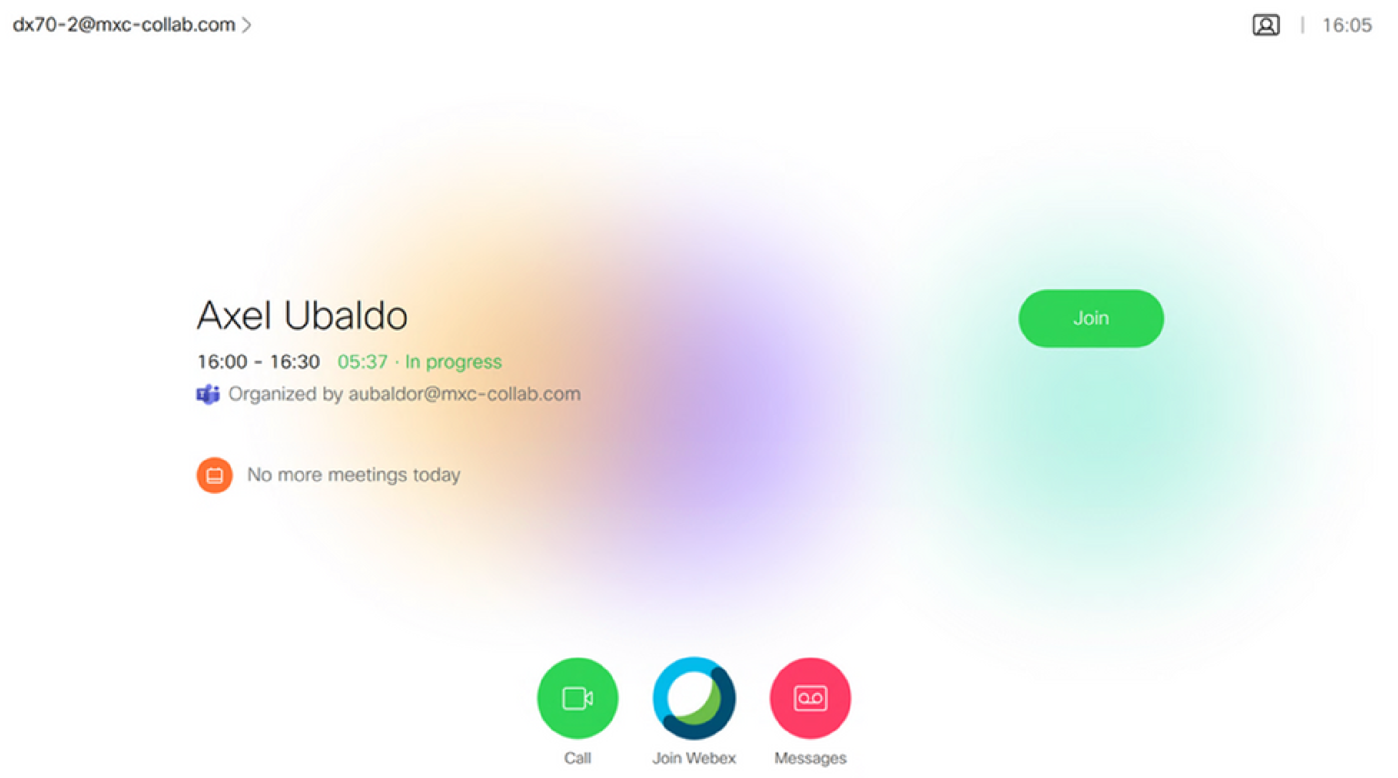
Showing scheduled meetings for the next 24 hours.

● Busy - in a meeting scheduled to end in 29 minutes

Today

Start	End	Duration	Organizer
4:00 PM	4:30 PM	0:30	aubaldor@mxc-collab.com

Device shows the One Button to Push, along with the MS Teams Icon on the touch panel:



dx70-2@mxc-collab.com >

16:05

Axel Ubaldo

16:00 - 16:30 05:37 · In progress

Organized by aubaldor@mxc-collab.com

No more meetings today

Additionally, this can be verified in All.log file from endpoint logs. You can see the next information:

It contains the instruction calendar.meeting.create and a unique TrackingID. MSTEAMS is listed as the meeting Type:

```
2021-07-02T15:51:49.571-05:00 appl[2073]: Wx2 I: NotificationChannel: calendar.meeting.create, tracking
2021-07-02T15:51:49.572-05:00 appl[2073]: Wx2[3]: CalendarClientImpl::on_meeting_updated_event
2021-07-02T15:51:49.573-05:00 appl[2073]: Wx2[1]: Inserting new meeting - organizer='7ad83eb6-549d-4282
new meeting - organizer='7ad83eb6-549d-4282-86a4-bf3c05e4b6f3' start='2021-07-02T21:00:00.000Z' id='8fd
```

An update event from Webex is pushed to the endpoint:

```
2021-07-02T15:51:49.579-05:00 appl[2073]: Wx2[5]: Creating new Meeting (id=2)
2021-07-02T15:51:49.579-05:00 appl[2073]: Wx2[5]: Attaching CalendarEvent (id=8fd64402-f665-6bd3-bf15-b
2021-07-02T15:51:49.579-05:00 appl[2073]: Wx2 I: Wx2MeetingsHandlerImpl::meetings_updated: num meetings
```