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# Deploy the Webex video integration for Microsoft Teams

## Overview

This integration enables your video devices to join Microsoft Teams meetings. The integration applies to Webex devices, and other SIP-capable video devices, whether they register to Webex or to your on-premises infrastructure.

Here's how the integration enhances the device user's experience when they join Microsoft Teams meetings hosted in your organization:

- Webex meeting experience—multi-screen with flexible layout options
- Participant list showing both Microsoft and video integration participants
- Bi-directional content sharing between the device and Microsoft Teams
- Recording indicator on the device

### Video device join experience, from the meeting invitation

A standard email invitation to a Microsoft Teams meeting has meeting join details that include a clickable link to join the meeting from the Microsoft Teams client. The section may also include audio dial-in information—an audio conference ID and phone numbers to join as an audio-only participant. When you enable the video integration, the invitation join details section expands to include a block of video conferencing device join details.

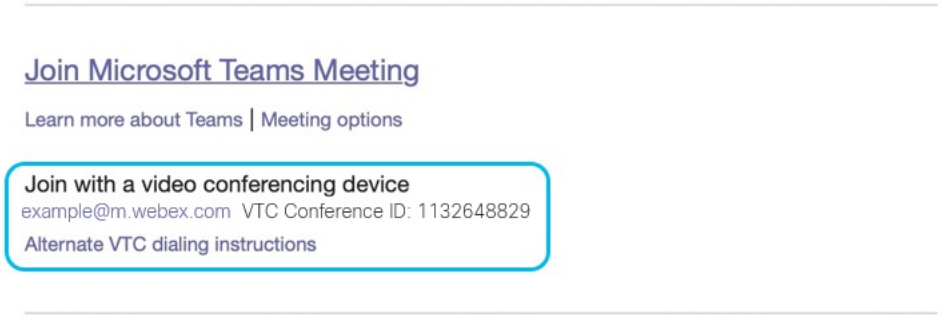



***Figure 1: Video join details in Microsoft Teams meeting invitation***

When it is time to join the meeting, video device users can call the SIP video address listed under the **Join with a video conferencing device** heading. The device calls the Webex interactive voice response (IVR) system, which asks the caller to provide the VTC conference ID (Video Teleconference ID). Note that the VTC Conference ID is specifically for video devices and is different from the audio conference ID, if one is included for the meeting.

The SIP IVR video address is specific to your organization and is formed from your organization's Webex SIP subdomain in the format `<subdomain>@m.webex.com` .

Below the SIP IVR video address and VTC Conference ID, the invitation links to a web page of alternate dialing instructions, which shows how to join the meeting by dialing directly.

### Alternative video device join method—direct dial

Video callers can join the meeting directly, bypassing the IVR, by using a SIP address in the format `<VTC Conference ID>.<subdomain>@m.webex.com` . This method is listed at the top of the alternate VTC dialing instructions web page that the invitation links to. The web page also repeats the IVR prompt join details from the meeting invitation.


***Figure 2: Alternate VTC dialing instructions (hyperlinked meeting-specific web page)***

### Alternative video device join method—Join button

If you also enable the Webex Hybrid Calendar Service, devices can receive One Button to Push (OBTP) when schedulers invite them to Microsoft Teams meetings. An attendee using the device then simply presses the **Join** button when it's time to connect the device to the meeting. The meeting's entry shows the Microsoft Teams logo to indicate the type of meeting the attendee is joining.

## Requirements for video integration with Microsoft Teams

| Requirement | Notes |
|---|---|
| An active Webex organization | If you do not yet have an active Webex organization, we will provision one for you when you purchase the video integration. |
| A Microsoft 365 tenant with Microsoft Teams accounts for users in the organization | The setup process requires an account that can sign in as a Global administrator for the tenant to grant application permissions, and a Microsoft Teams administrator account for the tenant that can execute PowerShell commands. |
| Webex video integration licenses, one for each of the video devices that you plan to use with this integration. | The subscription for this service must be provisioned to your Webex organization in Control Hub and set up as described in this article.<br>Licenses aren't required during the Early Field Trial. To continue using the integration after the trial ends, either purchase licenses within 45 days after the service becomes generally available or start a partner-led trial. Otherwise, the integration will stop working. |
| Webex devices registered to your Webex organization, or other SIP video devices that can make internet calls. | • Your network call control must allow business-to-business (B2B) calling to Webex, and meet the Webex certificate requirements. For help, see How Do I Allow Webex Meetings Traffic on My Network?<br>• Video devices must have the signaling and media network access defined in Ports and protocols for video integration traffic. |
| Webex Hybrid Calendar Service (Optional, but highly recommended) | Required to provide One Button to Push (OBTP) to video devices.<br>For the best experience using Hybrid Calendar, all meeting organizers and shared room mailboxes should be Hybrid Calendar enabled. |

| | |
|---|---|
| | Hybrid Calendar Service has additional requirements. For instructions, see https://www.cisco.com/go/hybrid-services-calendar. |

### Ports and protocols for video integration traffic

#### Signaling

Video devices connect to the Webex data centers for signaling.

Table 1. **Signaling with Webex data centers**

| Video Device | Protocol | Port Number(s) | **Comments** |
|---|---|---|---|
| Webex device registered to your organization | TCP | 443 | For requirements, see Network requirements for Webex services |
| Other SIP video device | TCP | 5060/5061 | For requirements, see How do I allow Webex Meetings traffic on my network? |

#### Media

The media path for video integration calls differs from other Webex Meetings call flows because specialized media clusters handle this call type. These specialized media clusters aren't part of the address ranges published for Webex Meetings, and deployments must ensure that traffic can reach these additional IP networks.

The specialized media clusters are not part of the reachability tests that Webex registered devices perform. Failure to open access to any of the media cluster IP ranges can lead to call failures. The integration attempts to use the optimal media cluster for each call based on where the caller originates. However, you must allow access to all media clusters because the media cluster used can vary based on run-time conditions.

Table 2. **Media with specialized media clusters**

| Video device | Protocol | Port number(s) | Media cluster regions and IP ranges |
|---|---|---|---|
| Webex device registered to your organization | TCP | 443<br>5004<br>We only use these TCP ports as a fall back option for the preferred (UDP) media ports | • Australia East:<br>20.53.87.0/24<br>• Southeast Asia:<br>40.119.234.0/24<br>• US East:<br>52.232.210.0/24<br>20.57.87.0/24<br>• US West 2:<br>20.120.238.0/23<br>• UK South:<br>20.68.154.0/24<br>20.108.99.0/24<br>• West Europe:<br>20.50.235.0/24<br>20.76.127.0/24 |
| | UDP | 5004<br>9000 | |
| Other SIP video device | UDP | 36000-59999 | |

Read Network requirements for Webex services for other Webex services, and the protocols and ports they use.

## Create the video integration from Control Hub

Follow these steps to register Microsoft Teams to the Webex cloud, authorize service permissions with Microsoft, and enable Cisco video devices to join Microsoft Teams meetings. The setup wizard in https://admin.webex.com guides you through the process.

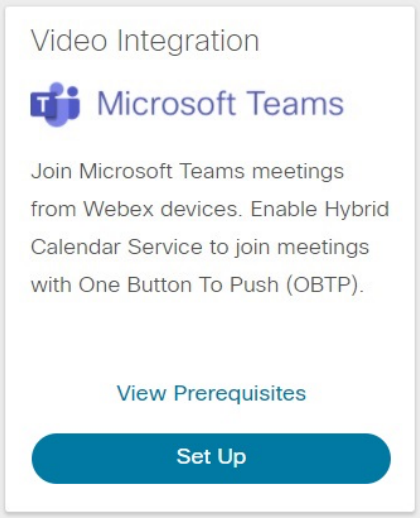
The Microsoft user has to authenticate at least two separate times during the setup. We recommend that the steps be done by a Microsoft administrator whose account has been given full administrator access to Control Hub.

### Before you begin

- Make sure that you've met all of the requirements in Requirements for video integration with Microsoft Teams.
- If you haven't already done so, set up your Webex organization.
- If you haven't already done so, add a subdomain for Webex SIP addresses in your organization.
- In order to set up the video integration, you need the following administrator access:
  - Microsoft Tenant Global Administrator privileges in your organization
  - Microsoft Teams administration privileges within the tenant
  - Full administrator privileges for your own Webex organization, and a web browser that can access Control Hub. (See System requirements for Webex services for browser compatibility.)

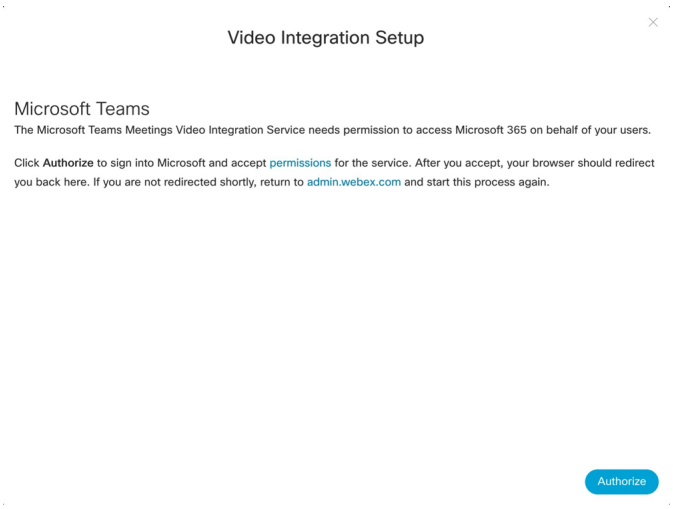
    Users from any other organization that may have access to your Control Hub (such as Partner Admins) do not qualify. Use a full administrator account in the Webex organization that you are configuring.
- You also need access to run Microsoft PowerShell commands to complete these setup steps.
  - MicrosoftTeams PowerShell module installed. (Version 2.0 or newer recommended.) See " Install Microsoft Teams PowerShell" on the Microsoft Documentation web site for more information.
  - At the time of this writing, Microsoft recommends PowerShell version 5.1 when using the MicrosoftTeams module, so we recommend using PowerShell on a Windows machine. See the PowerShell 5.1 system requirements on the Microsoft Documentation web site for more information.

1. Sign in to https://admin.webex.com.
2. Check if you've set the subdomain for Webex SIP addresses: go to **Organization Settings** > **SIP Address for Cisco Webex Calling**. If the subdomain is not set, see Change your Webex SIP address.
3. Go to **Services** > **Hybrid**. On the Video Integration card for Microsoft Teams, click **Set Up**.



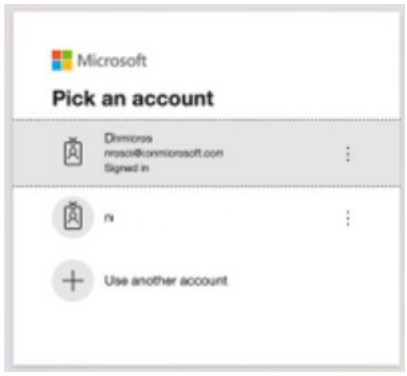

If the card doesn't show the **Set Up** option, make sure that your license is active.

4. On the Video Integration Setup screen, click **Authorize**.

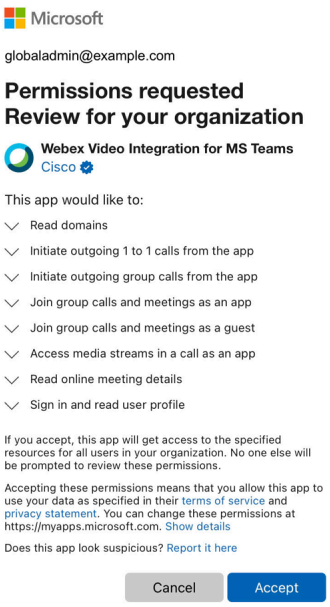



You're redirected to Microsoft consent prompts.

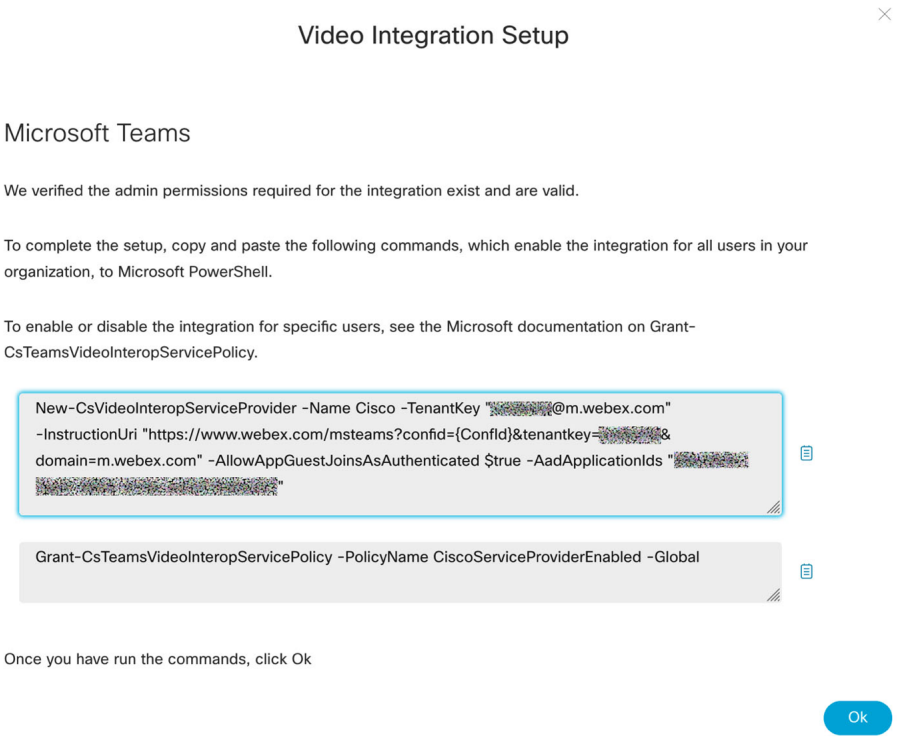
5. Pick the account for the user with the Microsoft Tenant Global Administrator privileges, and enter the credentials.




6. On the permissions screen, review the requested permissions. Then click **Accept** to grant the Webex Video Integration application access to your Microsoft tenant.




The browser should redirect you to the Control Hub Video Integration Setup screen when you've finished the authorization steps. If it does not, try these steps again.




7. Open a PowerShell window on your computer and install the MicrosoftTeams PowerShell module if it's not already installed:
   1. At the PowerShell command prompt, type the following command:

      ```
      Install-Module MicrosoftTeams -AllowClobber
      ```

   2. If you are prompted to trust the PSGallery repo, acknowledge with **Y** to trust and proceed with the download and installation.

8. Import the MicrosoftTeams module and connect to your Teams tenant:
   1. Use the existing window or open a new PowerShell 5.1 window on your computer.
   2. At the PowerShell prompt, type the following command:

      ```
      Import-Module MicrosoftTeams
      ```

   3. At the PowerShell prompt, type the following command:

      ```
      Connect-MicrosoftTeams
      ```

      A Microsoft sign-in page appears.

   4. Enter the credentials for the user with Microsoft Teams administration privileges for the tenant.

If successful, you get feedback on which account and tenant you successfully signed into. If you get an error, repeat the command and refer to the Microsoft documentation for PowerShell for additional assistance.

You must successfully sign in to your Teams tenant before proceeding to the remaining steps.

9. From the Video Integration Setup screen in Control Hub, click the clipboard button to copy the text of the **New-CsVideoInteropServiceProvider** command from the **first** text box and paste it into the PowerShell session. Then run the command.

   This command is specific to your tenant. The command will not work unless you have imported the MicrosoftTeams PowerShell module and successfully signed in to your tenant as described in the previous step.

   Take special care when copying the command to PowerShell so that the copied text is not modified in any way when handling the text. Sending the command through email, messaging clients, or other handling may result in having formatting added, character substitutions, or additional characters added which will break the configuration. PowerShell will not necessarily reject the malformed text. We recommend you directly copy and paste the command from Control Hub to PowerShell when possible or verify the text using a plain text editor before pasting to PowerShell.

   This command defines a new CVI provider of type Cisco and sets the tenantKey assigned by Webex, the Alternate Instructions URL provided by Webex, and other integration settings.

10. Choose how you want to enable the integration for your users.

    For help, see " Grant-CsTeamsVideoInteropServicePolicy" on the Microsoft Documentation web site.

    1. To enable the integration for **all** users in your organization, copy the text of the **Grant-CsTeamsVideoInteropServicePolicy** command from the **second** text box.

       To enable all users:

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

    2. To enable the integration for an individual user, copy the text of the **Grant-CsTeamsVideoInteropServicePolicy** command from the second text box. Replace **-Global** with **-Identity**, and add the user's email address after it.

       To enable user jamie.smith@company.com:

       ```
       Grant-CsTeamsVideoInteropServicePolicy -PolicyName
       CiscoServiceProviderEnabled -Identity jamie.smith@company.com
       ```

    3. Paste the command into your PowerShell session and run it.

11. When you are done with the PowerShell commands, click **Ok** on the Video Integration Setup screen in Control Hub to complete the setup.

The PowerShell changes to the Microsoft tenant can take time to propagate in the Microsoft 365 environment. Microsoft warns this can take up to 6 hours, although it typically takes less than 20 minutes. You can test if the changes for an user have become active by having the user create test meetings in their Microsoft Outlook or Microsoft Teams client. If the changes have successfully propagated, you should see the video integration join details in the meeting invitation created (as shown in Overview). If the join details are not present, wait longer and repeat the test again.

### What to do next

If you need to access the PowerShell command text after leaving the setup wizard, in the left side panel of Control Hub, click on **Hybrid** under the **Services** category. On the video interoperability card with the Microsoft Teams logo, click **Edit settings**.

To take full advantage of the calendar and OBTP Join features of the Hybrid Calendar Service, make sure your Webex devices are either registered to the Webex cloud or linked to the cloud using Edge for devices.

Set up Hybrid Calendar Service if you want OBTP for devices. For help setting up OBTP with the Hybrid Calendar Service on Webex video devices, see Make it easier for video devices to join meetings with OBTP.

## Join button and Hybrid Calendar considerations

As mentioned in Alternative video device join method—Join button, if you enable the Hybrid Calendar Service, you can further enhance the calling experience for your organization using One Button to Push (OBTP).

With OBTP, Webex devices in your organization automatically show a **Join** button shortly before the Microsoft Teams meeting starts, when they're included in the meeting:

- Personal mode devices show the button if the **user** associated with the device accepts the meeting invitation. (The user must be enabled for the calendar service in Control Hub.)
- Shared mode devices show the button if the **room mailbox email address** associated with the device accepts the meeting invitation. (The device's workspace must be enabled for the calendar service in Control Hub.)

### Exchange mailbox requirements for OBTP

The Hybrid Calendar Service will only process a meeting invitation (to add the details needed for OBTP) if the meeting scheduler or at least one of the invitees has the service enabled. If your organization doesn't have many calendar service enabled users, it may be common for a device invitation to trigger the processing, rather than the scheduler or a user. When this happens, it's critical that your Exchange configuration retain all of the details that the service needs in the invitation.

You can now enable users without Webex licenses for the Hybrid Calendar Service.

By default, the Exchange Online settings delete the meeting details from invitations sent to room mailboxes. Apply the following PowerShell commands to the room mailboxes of all shared mode devices that you enable for the Hybrid Calendar Service:

```
Set-CalendarProcessing -identity "room" -DeleteComments $false
Set-CalendarProcessing -identity "room" -DeleteSubject $false
Set-CalendarProcessing -identity "room" -AddOrganizerToSubject $false
```

If you want to be able to forward invitations scheduled from outside of your Microsoft organization to the device, add the following command:

```
Set-CalendarProcessing -identity "room" -ProcessExternalMeetingMessages $True
```

### Supported device types for OBTP

The types of devices that support OBTP for Microsoft Teams meetings using the video integration and the Hybrid Calendar Service include:

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

The devices must be either registered to the Webex cloud or linked to the cloud using Edge for devices.

If your devices are getting the Join button from Cisco TMS or Cisco TMSXE, they cannot get the Join button for Microsoft Teams meetings.

As an alternative, you can simplify joining for the affected devices by adding the SIP IVR video address of the Microsoft Teams meeting as a speed dial or macro.

## Features and limitations

This section explains limitations and feature behavior for the Video Integration for Microsoft Teams.

### Multiple organizations and tenants

- We currently support a 1:1 relationship between Webex organizations and Microsoft 365 tenants:
  - A single Webex organization can interoperate with only one Microsoft 365 tenant.
  - Your Microsoft tenant can support multiple *different* video integrations; for example, the tenant can simultaneously interoperate with Cisco and Poly. However, the tenant can only have one integration of each type; so, one from Cisco, and one from Poly.

If you have multiple Webex organizations, choose one to interoperate with your Microsoft tenant using the Webex video integration.

### Availability

- We only support the Worldwide instance of Microsoft 365. ( Other instances which we do not support include USGovDoD, USGovGCCHigh, China, and Germany.)
- We only support commercial Webex organizations in countries and regions where Webex paid subscriptions are available. (We don't support FedRAMP-authorized Webex offerings.)

### Video device interoperability

- The integration only supports incoming SIP calls, not H.323 or IP calls. You can interwork these legacy protocols to SIP calls using a Cisco Expressway deployment.
- The integration doesn't support calling into a Microsoft Teams meeting using the Webex App. In addition, the integration doesn't support features that require pairing or connecting the Webex App to a device. This includes wireless sharing, dialing from the Webex App, and call control from the Webex App.
- Interactive white boarding from Webex devices is not available for meetings on Microsoft Teams. Users can share whiteboards from the device as video content (BFCP support).
- The integration doesn't support audio-only participants. (Audio-only participants should call in using the PSTN gateway functionality for Microsoft Teams.)

### Layouts

- Video integration participants can cycle through different layout options, by sending DTMF tones 2 and 8 from the device.
- Participants can use the Cisco Touch interface to change layouts on devices that support ActiveControl. (This works with both cloud calling and SIP.)
- Participants can see up to nine video streams at the same time. The number of visible streams also depends on the selected layout and the device type. Layouts show letter avatars instead of video when participants are not sending video streams to the meeting.
- The integration supports single monitor + content, dual monitor + content, and TIP three monitor + content configurations. Panorama-specific layouts and camera behaviors are not supported and operate like a standard dual monitor configuration. The service does not support the iX immersive experience, but those devices may connect as TIP endpoints without immersive specific features. Supported layout families may differ depending on the device type.
- Dual screen devices that receive incoming participant video on two monitors will have a fixed, Focus+Grid two screen layout for VIMT calls while more than one participant monitor is active. Using the layout controls will not change the active layout while two monitors display incoming participant video. Dual monitor configurations without a dedicated presentation monitor will switch to a single participant monitor while content sharing is active and layout controls will be operable for the participant monitor while content sharing is active. Three monitor configurations using a dedicated presentation monitor keep participant video on two monitors and thus remain in the fixed Focus+Grid layout regardless of content sharing.

### Calendars and cross-organization invitations

- Participants from outside your organization can join your Microsoft Teams meetings from their video devices by dialing your IVR video address ( `<yoursubdomain>@m.webex.com` ) and entering the VTC conference ID for the meeting at the prompt, or by using your direct dial alternative ( `<VTC Conference ID>.<yoursubdomain>@m.webex.com` ).
- The video integration for your Microsoft tenant doesn't enable dialing into meetings hosted by other Microsoft customers. When dialing into a Teams meeting that is hosted by another Microsoft tenant, you must use the video address of the video integration that is enabled for that tenant.
- Webex Hybrid Calendar Service does not create OBTP join entries for meetings containing join details supplied by other (non-Cisco) video integrations. (For example, a Hybrid Calendar enabled workspace will not show the One Button to Push (OBTP) Join button for a Pexip invitation.)
- Known Hybrid Calendar limitations, arising from missing comments/body details or organizer-based processing, also apply when processing OBTP for Microsoft Teams meetings.

### Meeting features

- Video integration participants don't have controls to start or stop meeting recordings. Microsoft Teams users must manage meeting recording.
- Content sharing uses BFCP and is subject to the limitations of that protocol, including no ability to share applications or allow remote control.
- Meeting options for limiting sharing do not apply to participants using the video integration; these participants are always allowed to share in a meeting.
- Microsoft Teams chat isn't available to video integration participants.
- Microsoft Teams white boarding isn't available to video integration participants.
- When Microsoft Teams participants share, only the sharing **Desktop** or **Window** options are viewable by video integration participants. Video integration participants can't view files or the **PowerPoint** or **Whiteboard** options shared from the Microsoft Teams client.
- Microsoft Teams participants can mute video integration participants, but can't unmute them for privacy reasons.
- Video integration participants can mute and unmute themselves either on the device (local mute) or by sending DTMF `*6` (server-side mute). The participant sees a confirmation message on the device when sending `*6` .

  In the participant list, you only see a video integration participant's mute indicator turn on if they mute themselves with `*6` or if Microsoft Teams participants mute them. (Local mute doesn't update the roster.)

  If the mute indicator is on, how the participant unmutes can affect the indicator differently depending on the type of calling that the device uses:

  - Cloud calling—The participant can unmute locally to clear the mute indicator in the participant list.
  - SIP or on-prem calling—Only unmuting using `*6` clears the mute indicator in the roster. (Unmuting locally doesn't clear the mute indicator in the roster.)
- Webex devices connecting through the video integration have the Webex IVR and splash screens localized to the language set in the device. US English is the default for all other scenarios. Localization is supported for Webex devices using cloud calling or SIP calling (requires CE9.14.3 or newer.)

### Microsoft Teams lobby

- Trusted devices from your own organization can streamline how they join meetings by automatically bypassing the Microsoft Teams lobby. A device is considered trusted in either of the following cases:
  - It is a Webex device using cloud calling, and registered to the Webex organization where you deploy the video integration.
  - It is a device using on-prem or SIP calling, which uses SIP TLS and presents a certificate that includes one of the verified SIP domains for the Webex organization where you deploy the video integration.

    If you enable TLS verification on your SIP calling to Webex, your TLS verification should check for the subject name **sip.webex.com** (rather than m.webex.com).

    For help with Cisco Expressway, see Configure Expressway for mutual TLS authentication
- If the meeting organizer edits the lobby settings to only admit the host, callers that are treated as trusted (as noted above) will not be restricted by this setting and will still bypass the lobby automatically.
- If you disable **Anonymous users can join a meeting** in the Microsoft Teams tenant settings, then video integration participants cannot join through the lobby. Video integration participants who would normally bypass the lobby will still be able to join Microsoft Teams meetings.

### Networking

- Calls to the video integration do not use Webex Video Mesh nodes; traffic is direct from the device to the cloud.
- The specialized media clusters used by the video integration for Microsoft Teams are not part of the reachability tests that Webex-registered devices perform. Failure to open access to any of the media cluster IP ranges can lead to call failures. The integration attempts to use the optimal media cluster for each call based on where the caller originates. However, you must allow access to all

media clusters because the media cluster used can vary based on run-time conditions.

Was this article helpful?

Yes, thank you! Not really