



VIDEO ENDPOINTS

Transitioning from Unified CM / Expressway to Webex

Deployment Guide

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Introduction

Target Audience

With a multi-phased approach to transitioning an on-premises deployment to the Webex Cloud, the most logical and recommended approach is to move the meetings workflow first, and then move the endpoints.

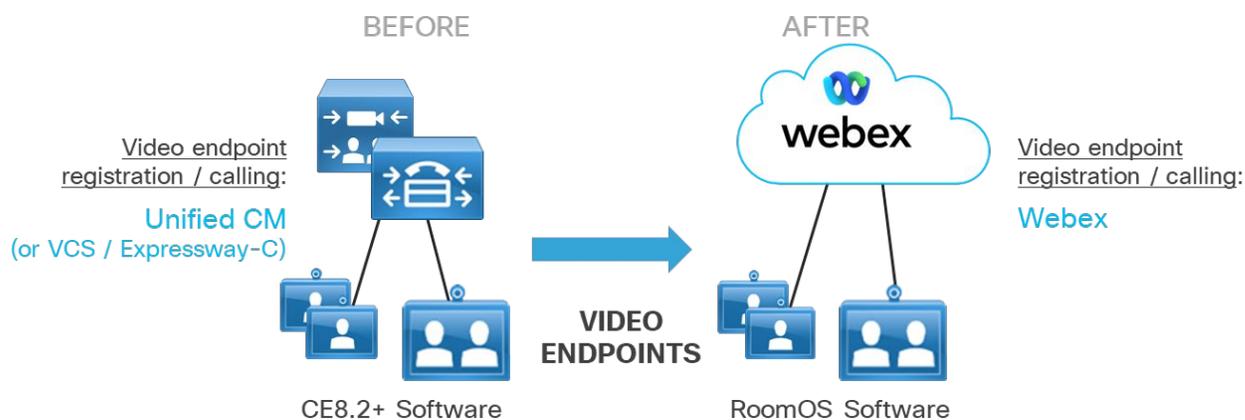
Note: The endpoint transition documented here assumes the meeting workload has already been transitioned to the cloud. For more information on the meeting transition refer to the [Meetings: Transitioning from TelePresence Server / CMR-H Bridging to Cisco Webex](#) transition map.

This transition document should be used by individuals with administrator access and knowledge of both the current on-premises endpoint environment, and the Webex Control Hub administration portal for registration and management.

Overview

As shown in Figure 1, this transition explores moving video endpoints from registering with on-premises Unified CM (or Expressway/VCS) (before) to registering with Webex (after).

Figure 1. Video Endpoints Transition from On-Premises to Cloud

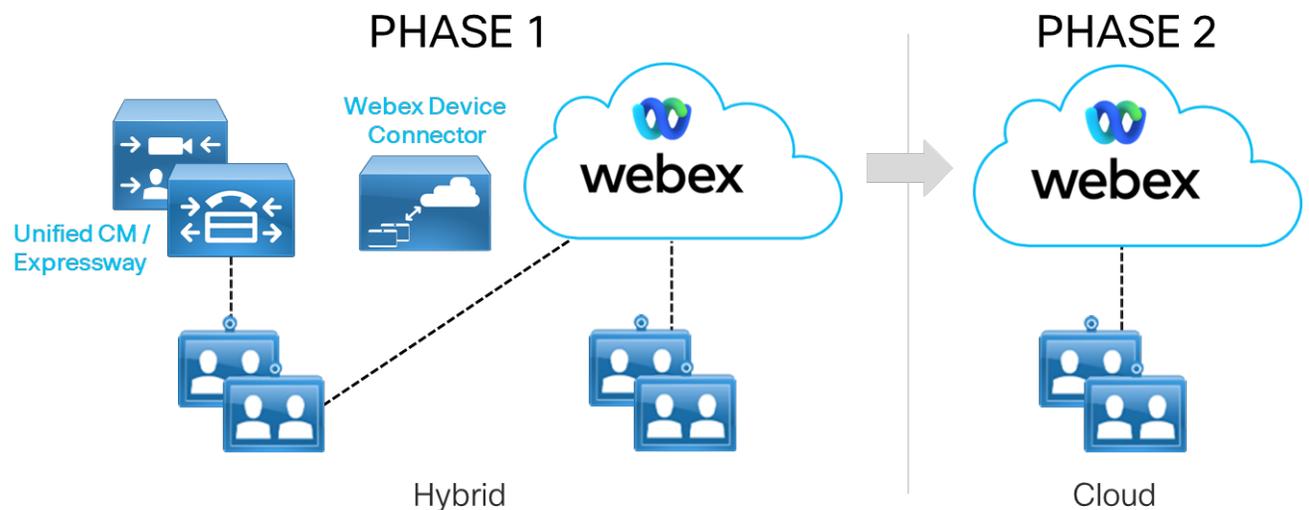


Transition

This section covers the pre-transition preparation steps, the transition implementation steps, and the post-transition steps to be considered for this workflow transition.

This document describes a phased transition in two parts. As shown in Figure 2, the initial transition phase (Phase 1) results in a hybrid deployment with dual call control where some devices are transitioned fully to cloud calling and other devices are hybrid registered. With hybrid registration, an endpoint maintains connectivity to on-premises call control for device registration and call routing, but also connects to the Webex. This connection to Webex allow on-premises registered devices to leverage a select set of cloud features and enables cloud analytics and reporting for the devices in Control Hub. The final transition phase (Phase 2) results in a pure cloud calling environment where all devices have been fully transitioned to cloud call control.

Figure 2. Phased Transition from On-Premises/Hybrid to Cloud



How long an organization takes to fully transition all devices to the cloud will vary based on the deployment in question. In some cases, organization may initially fully transition only a sub-set of devices while hybrid registering other devices. The organization may remain in this hybrid dual call control phase (Phase 1) for an extended period (months or even years). In other cases, an organization may fully transition all devices to Webex (Phase 2) in a very short period (days or weeks). This document is intended to cover both hybrid (Phase 1) and full transitions (Phase 2).



Pre-Transition Activities

Below is a summary of pre-transition items/steps to consider when performing the transition from Unified CM/Expressway (VCS) on-premises video endpoint registration to Webex device registration.

1. Verify Webex licenses

Before you begin to enable devices with service from the Webex cloud or fully transition devices from on-premises to the Cloud, you must verify that sufficient Webex Device licenses are available to support your devices in the cloud.

- Perform an inventory of all devices you intend to fully transition or simply enable for Webex cloud services and verify that they meet the minimum requirements:
 - For full transition to Webex registration, CE 8.2 or later is required. See Collaboration Endpoint Software 8 release notes available at <https://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce8/release-notes/ce-software-release-notes-ce8.pdf> (refer to topic *Cisco Spark on-boarding*).
 - For Webex service enablement for devices, CE 9.10 or later is required. See Collaboration Endpoint Software 9 release notes available at <https://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce9/release-notes/ce-software-release-notes-ce9.pdf> (refer to topic *New feature and functionality descriptions CE9.10.0*).

Additional requirements for cloud service enablement include:

- i. Unified CM or Expressway device registration.
- ii. Unified CM, version 12.5(1) SU1, or 11.5(x) with the latest device pack or .cop file.
- iii. With Expressway registration, HTTPS connectivity to devices for the Webex Device Connector tool is required.
- iv. Control Hub administrative access.
- v. Cisco Collaboration Flex Plan.
- vi. Installation of Device Connector.

Limitations with Webex service enablement for devices to be aware of include:

- i. Web proxy is not supported for on-premises registered devices connecting to Webex services.
 - ii. Enabling Hybrid Calendar disables Cisco Telepresence Management Suite (TMS) calendar. Only one calendaring source is supported at a time.
- Navigate to the subscriptions page on Control Hub (<https://admin.webex.com/my-company/subscriptions>) and login to verify the quantity of available licenses (see Figure 3). The example shown in Figure 3 indicates the Webex organization has 80 available room device licenses, which would be the maximum number of devices that could be transitioned to this Webex organization. If you do not have enough licenses to support all your devices, you need to contact your account representative.

Figure 3. Webex Room Device License Availability

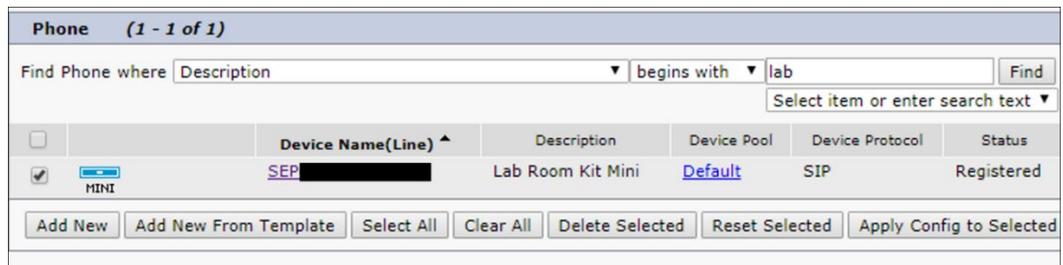


2. Remove devices to be fully transitioned from on-premises call control

For fully transitioned video devices, there are several methods to remove these devices from the call control: One-by-one, bulk, and automated. Because this is a permanent action, please exercise caution when using bulk and automated processes, and if available test in a sandbox environment before proceeding in production. This document specifically covers Cisco Unified Communications Manager (Unified CM) and Video Communications Server (VCS)/ Expressway.

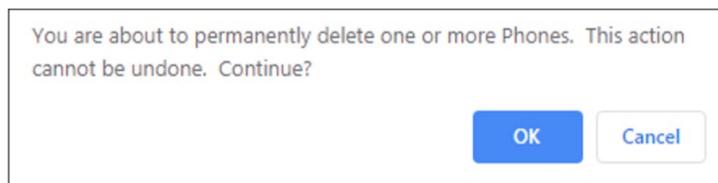
- Remove devices registered to Unified CM
 - i. Login to the Unified CM Administration Portal
 - ii. Navigate to **Device > Phone**
 - iii. Use the **Find Phone Where** filter boxes to find the device you want to remove
 - iv. Place a check mark in the selection box to the left of the device
 - v. Click **Delete Selected** (see Figure 4)

Figure 4. Video Endpoint: Removing Device from UCM



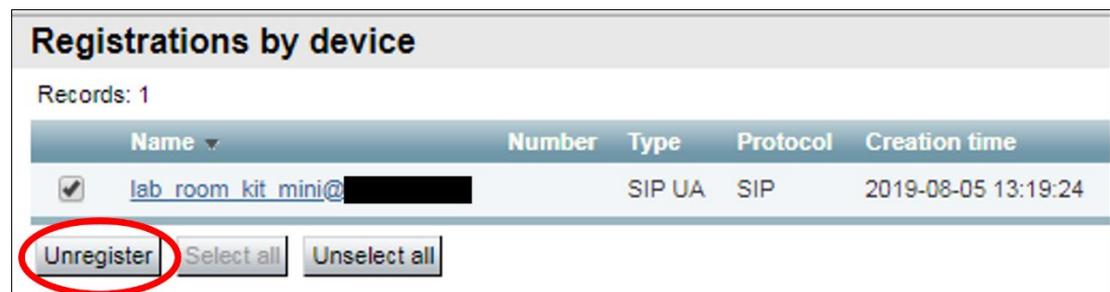
- vi. Next, click **OK** to acknowledge that this is a permanent deletion (see Figure 5)

Figure 5. Video Endpoint Confirming Permanent Removal of Device



- Remove devices registered to VCS / Expressway
 - i. Login to the VCS / Expressway administration portal
 - ii. Navigate to **Status > Registrations > By Device**
 - iii. You can sort the columns to find the device you are looking for
 - iv. Place a check mark in the selection box to the left of the device
 - v. Click **Unregister** (see Figure 6)

Figure 6. Video Endpoint: Removing Device from VCS/Expressway



3. Remove devices to be fully Transitioned from on-premises management

At this point an administrator will want to check if the video devices being fully transitioned are part of any future on-premises scheduled meetings. If this is the case, an administrator will need to manually transition those meeting invites to your

Webex Meeting environment immediately after transitioning the registration point of the video endpoint from the on-premises call control to Webex. There is no automatic transition of meeting information from TMS to Webex Meetings

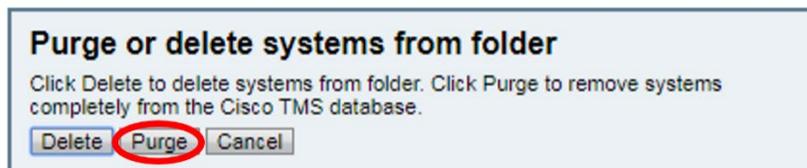
- Remove devices managed by TMS
 - i. Login to TMS portal
 - ii. Navigate to **System > Navigator**
 - iii. Sort the columns to find the device you are looking for
 - iv. Place a check mark in the selection box to the left of the device
 - v. Click **Delete** (see Figure 7)

Figure 7. Video Endpoint: Removing Device from TMS



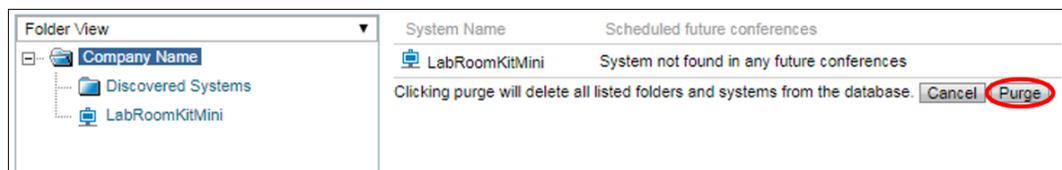
- vi. Select **Purge** to completely remove the device from TMS and remove any residual communications (see Figure 8).

Figure 8. Video Endpoint: Acknowledge Purging Device from TMS



- vii. Click **Purge** to complete the process (see Figure 9)

Figure 9. Video Endpoint: Purging Device from TMS



4. Factory reset devices to be fully transitioned

At this point the video device has been deregistered from the call control, removed from the on-premises infrastructure, and can be safely factory reset. Please follow the factory reset instructions for your video device found in the Administrator Guide for each device type. For example, the Webex Room Series administrator guides are available at <https://www.cisco.com/c/en/us/support/collaboration-endpoints/spark-room-kit-series/products-maintenance-guides-list.html>.

Transition Steps and Considerations

Below is a summary of transition steps required for the transition from Unified CM/Expressway (VCS) on-premises video endpoint registration to Cloud registration in the cloud. Transition to hybrid registering devices that will continue to leverage on-premises call control is also covered.

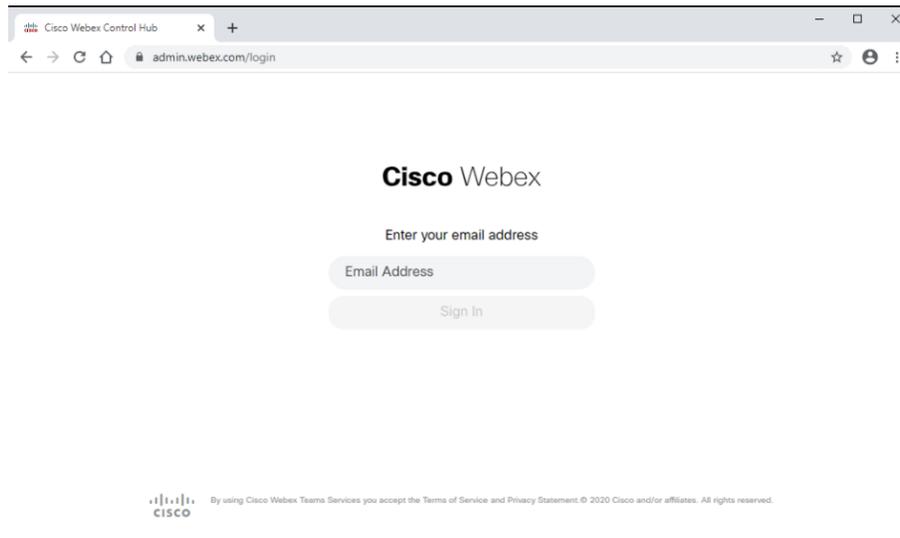
You should only perform these steps during a planned maintenance window for your organization. Before proceeding you should back up all collaboration and infrastructure systems if you must back out or abandon the transition.

1. Add Devices to Control Hub

You are now ready to begin adding your devices to Control Hub using the following procedure:

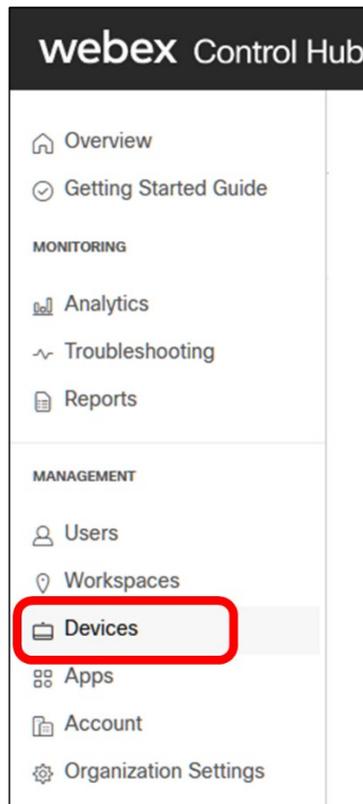
- i. Login to Control Hub (<https://admin.webex.com/login>) using an Administrator account with device management rights (see Figure 10).

Figure 10. Control Hub Administrator Login



- ii. Select **Devices** from left hand menu (see Figure 11).

Figure 11. Control Hub: Device



- iii. Select the green **Add Device** button (see Figure 12)

Figure 12. Control Hub: Add a New Device



- iv. Select the type of device assignment: **Existing User – Personal Usage** (devices assigned to users for personal use) or **Workspace – Shared Usage** (represents a location and device not owned by a specific user). Then, select **Next** (see Figure 13).

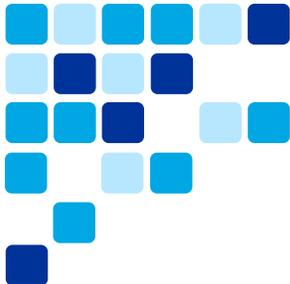
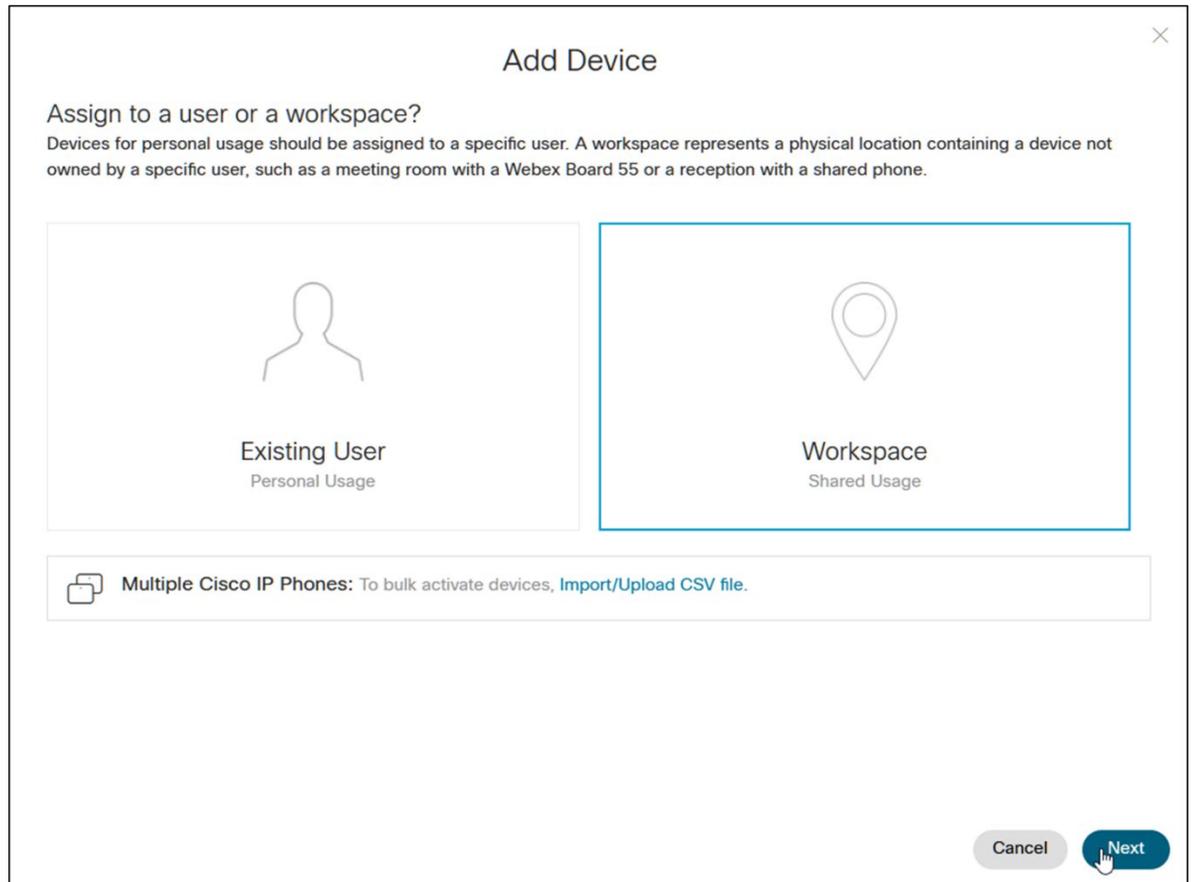


Figure 13. Control Hub: Device Assignment



Add Device ✕

Assign to a user or a workspace?
Devices for personal usage should be assigned to a specific user. A workspace represents a physical location containing a device not owned by a specific user, such as a meeting room with a Webex Board 55 or a reception with a shared phone.

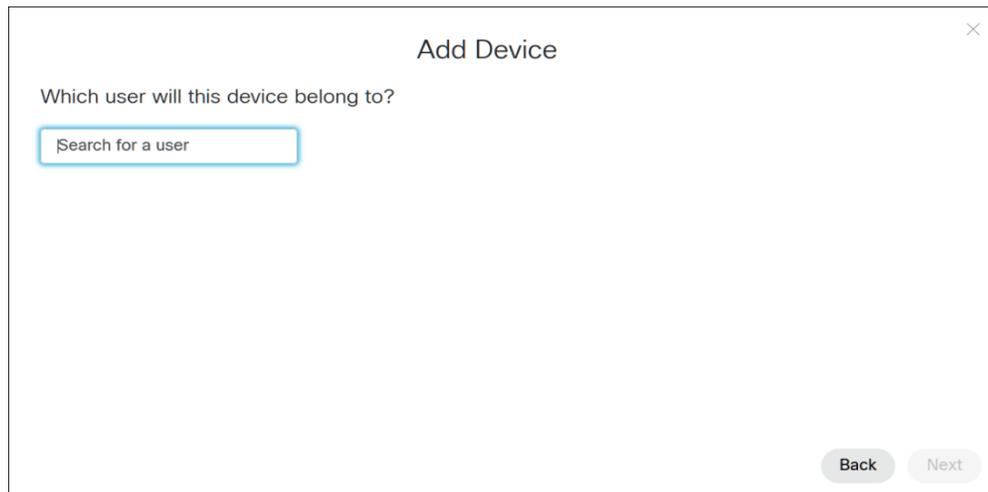
Existing User
Personal Usage

Workspace
Shared Usage

 **Multiple Cisco IP Phones:** To bulk activate devices, [Import/Upload CSV file](#).

Cancel Next

- v. If assigning the device to a user for personal use, select **Existing User - Personal** and after clicking next, search for and select a specific user (see Figure 14).

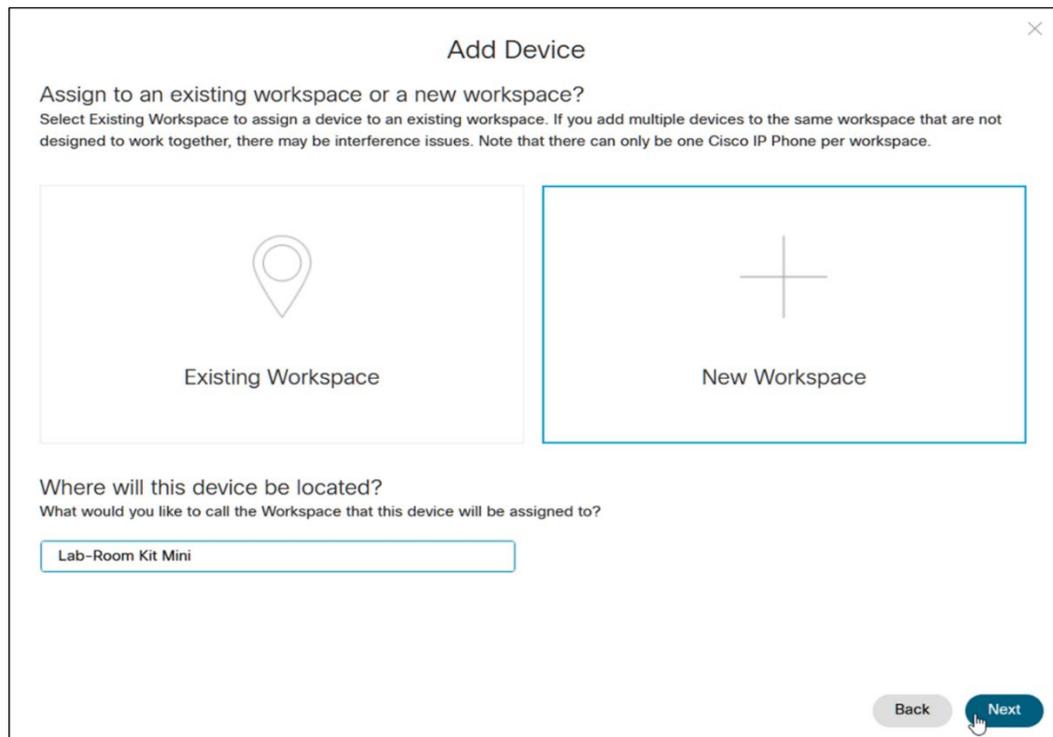
Figure 14. Control Hub: Existing User Search

Add Device

Which user will this device belong to?

Back Next

- vi. On the other hand, if assigning the device to a location, select **Workspace - Shared Usage** and after clicking next, select **Existing Workspace** or **New Workspace**. Specify the location of the device (existing or new) as shown in Figure 15.

Figure 15. Control Hub: Assigning Location to New Device

Add Device

Assign to an existing workspace or a new workspace?
Select Existing Workspace to assign a device to an existing workspace. If you add multiple devices to the same workspace that are not designed to work together, there may be interference issues. Note that there can only be one Cisco IP Phone per workspace.

Existing Workspace

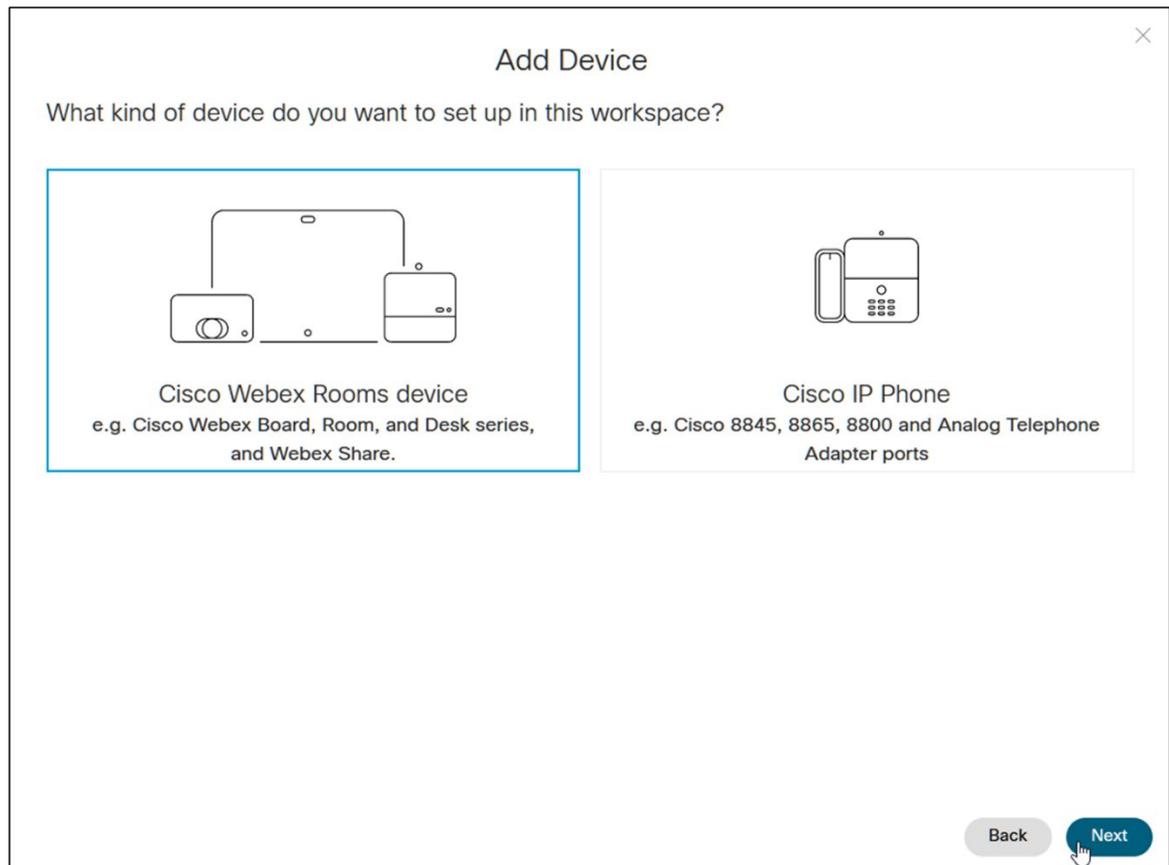
New Workspace

Where will this device be located?
What would you like to call the Workspace that this device will be assigned to?

Back Next

- vii. Next, select the type of device to be activated: Webex Rooms device or IP Phone and then click **Next** (see Figure 16).

Figure 16. Control Hub: New Device Type Selection



- viii. Optional at time of registration: Select services associated with your Webex Account. You can enable Calling and Calendar services (see Figure 17).

Figure 17. Control Hub: Enabling Additional Services

✕

Add Device

Which service is needed in this place?

 **Calling**

- Free Calling (default)**
This place can make and receive calls when paired with the Cisco Webex Teams app or directly using SIP.
- Hybrid Calling**
Free Calling features with additional PSTN service from existing premises, using Unified CM or an HCS partner.
- Cisco Webex Calling**
Free Calling features with additional PSTN service provided through Webex.

 **Calendar**

Calendar service enables One Button To Push for this place.

Back
Next

✕

Add Device

Which services are needed in this Workspace?

 **Calling**

- Call on Webex (1:1 call, non-PSTN) (default)**
- Cisco Webex Calling**
Free Calling features with additional PSTN service provided through Webex.
- Hybrid Calling**
Free Calling features with additional PSTN service from existing premises, using Unified CM or an HCS partner.

 **Calendar**

Calendar service enables One Button To Push for this Workspace.

Back
Next

It is recommended to configure One Button to Push (OBTP) for ease of joining meetings from your cloud endpoints. For more information about using OBTP and the Calendar Service refer to <https://help.webex.com/en-us/nvibg1k/Make-it-Easier-for-Video-Devices-to-Join-Meetings-with-OBTP>.

- ix. When presented with **Activation Code**, follow prompts on touch panel or touchscreen to input the activation code and complete video device registration to the cloud (see Figure 18).

Figure 18. Video Endpoint: Activation Code Prompt

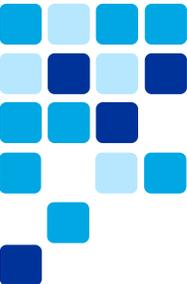
The screenshot shows a mobile application interface for registering a Room Kit Mini. At the top, there is a back arrow on the left and a forward arrow on the right. The title is "Register Room Kit Mini". Below the title, the instruction reads: "Enter your 16 digit Webex activation code or get a code from settings.webex.com". There is a row of 16 circular input fields, with the first one highlighted in blue. Below this row, the text "Proxy options" is displayed in blue. At the bottom, there is a numeric keypad with buttons for digits 1-9, *, 0, and #. Each digit button also contains its corresponding letters (e.g., 2 has ABC, 3 has DEF). There is also a button with a back arrow and an 'X' icon. At the bottom left, there is a button with a speech bubble icon and the text "ABC".

2. Alternatively, use Device Connector for bulk transition

Instead of adding devices to Control Hub directly, you can bulk transition your devices to cloud registration using the Device Connector tool.

Before proceeding with this option, ensure the following minimum requirements are met:

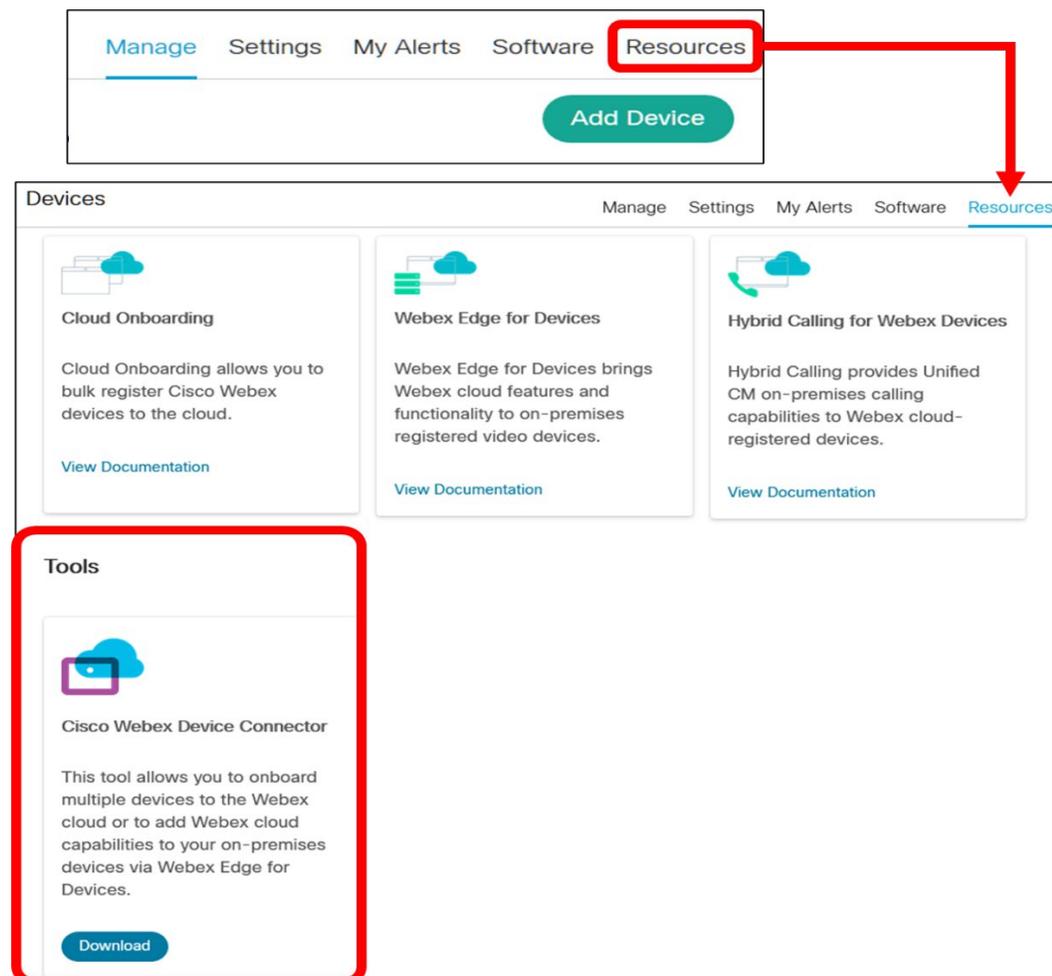
- Endpoints to be transitioned are running CE 9.8 or later.

- 
- Login account for Control Hub available with either Device Administrator or Full Administrator capabilities.
 - Enough device licenses are available in Control Hub (i.e., through Collaboration Flex Plan).
 - HTTPS connectivity to access your devices must be available as this is how the Device Connector tool communicates with the endpoints.
 - For all devices to be transitioned, ensure you have IP addresses/host names as well as device usernames and passwords. These should be collected either in a comma-separated values (CSV) file or in a TMS Overview Export file.

Transition devices to Webex with the Device Connector using the following procedure:

- i. Login to Control Hub at <https://admin.webex.com> and navigate to **Devices**. Select **Resources** and click the Device Connector **Download** button under Tools as shown in Figure 19.

Figure 19. Webex Device Connector Tool Download



To read more about the tool, see the Webex Device Connector article available at <https://help.webex.com/en-us/383gbd/Cisco-Webex-Device-Connector>.

- ii. Prepare file containing information on devices to be onboarded or transitioned to Webex.

As shown in Figure 20, there are two device file options:

- Option 1: Export a System Overview report from TMS and then manually add columns for *Username* and *Password* information to the file
- Option 2: Manually create a CSV file with columns for device *Address*, *Username*, and *Password*.

Figure 20. Prepare Device Information File for Onboarding

Prepare your files for onboarding

Devices can be onboarded using two different file formats

Option 1 → **Cisco TMS Export**

1. Export a System Overview report from Cisco TMS, selecting only the Network Settings > Hostname system parameter.
2. Manually add a 'Username' and 'Password' column.

System ID	System Name	IP Address	Status	Hostname	Username	Password
1234	System 1	10.47.1.1	Idle	system1.example.com	Username1	Password1
5678	System 2	10.47.1.2	Idle	system2.example.com	Username2	Password2

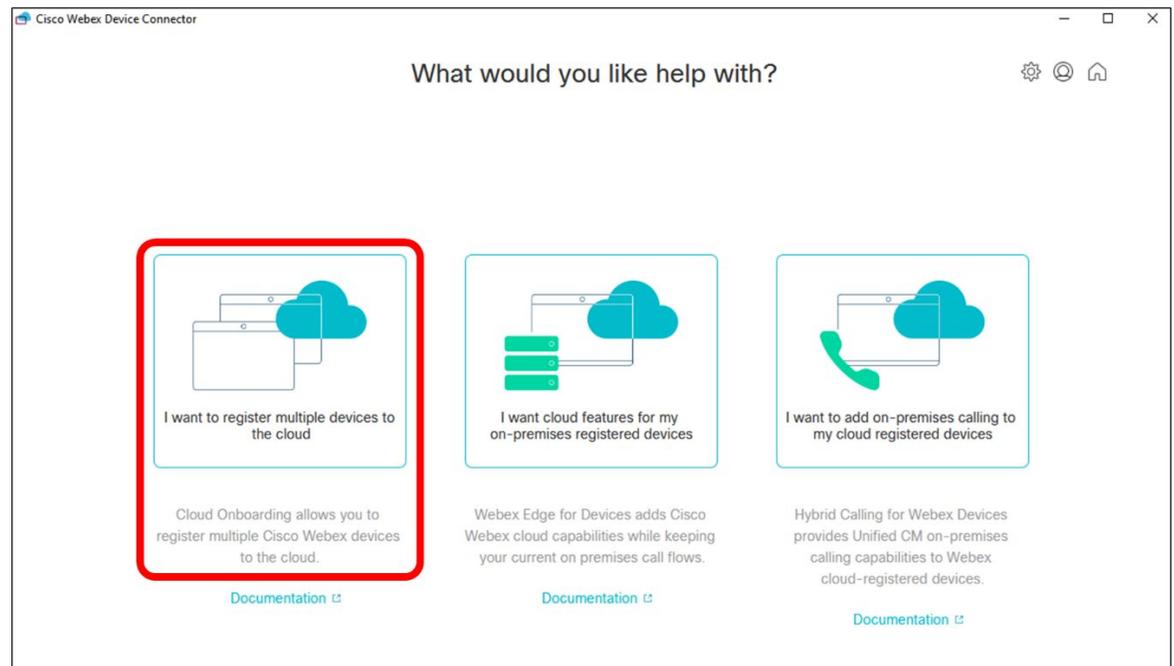
Option 2 → **CSV File**

Use a simple comma-separated-value (CSV) file, with device 'Address', 'Username', and 'Password' columns.

Address	Username	Password
system1.example.com	Username1	Password1
system2.example.com	Username2	Password2

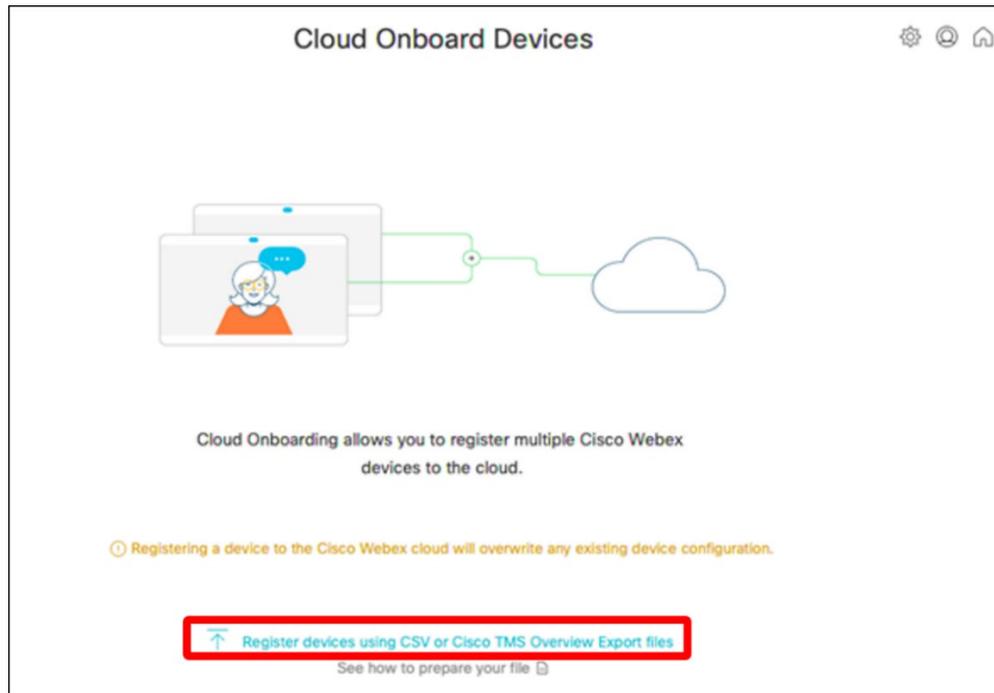
Close

- iii. After you have installed the Device Connector tool and prepared the required files, start tool and select the **I want to register multiple devices to the cloud** option as shown in Figure 21.

Figure 21. Device Connector: Register Devices to the Cloud

- iv. Next, as shown in Figure 22, you will be presented with an information screen and dialog box allowing you to upload the device information file you prepared previously.

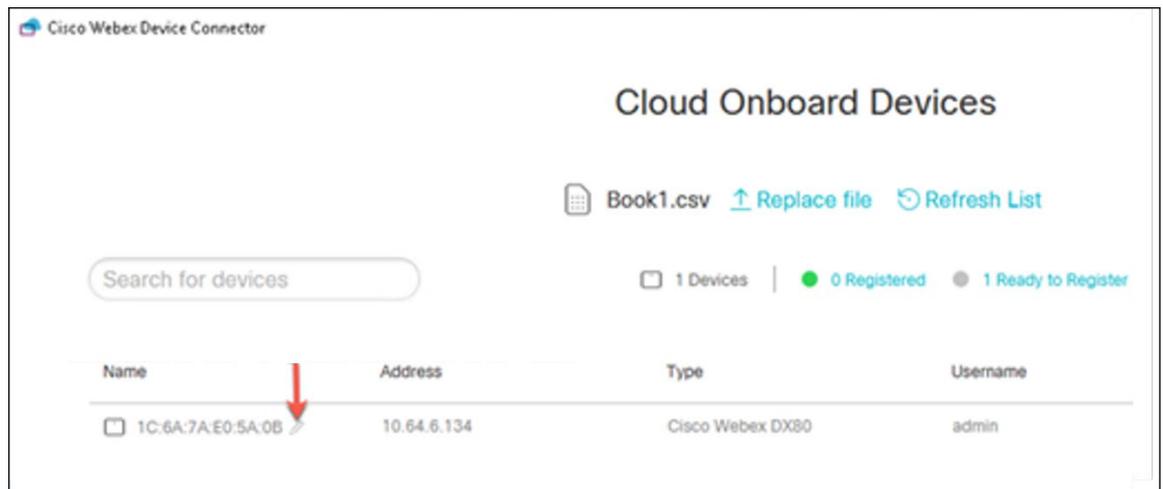
Figure 22. Device Connector: Register Devices Using CSV or TMS Export Files



Note: As shown in Figure 22, any devices you are onboarding will overwrite any existing Webex device configuration you already have for those devices.

- v. The tool uses the System Unit name for the Place Name in Control Hub. If the System Unit name has not been populated, the MAC address of the device will be used.
- vi. It is possible to change system name for each device via the Device Connector tool prior to onboarding using the edit button next to the value in the Name column (see Figure 23)

Figure 23. Device Connector: Editing System Name Prior to Onboarding



3. Hybrid Registration: Link On-Premises Devices to Cloud

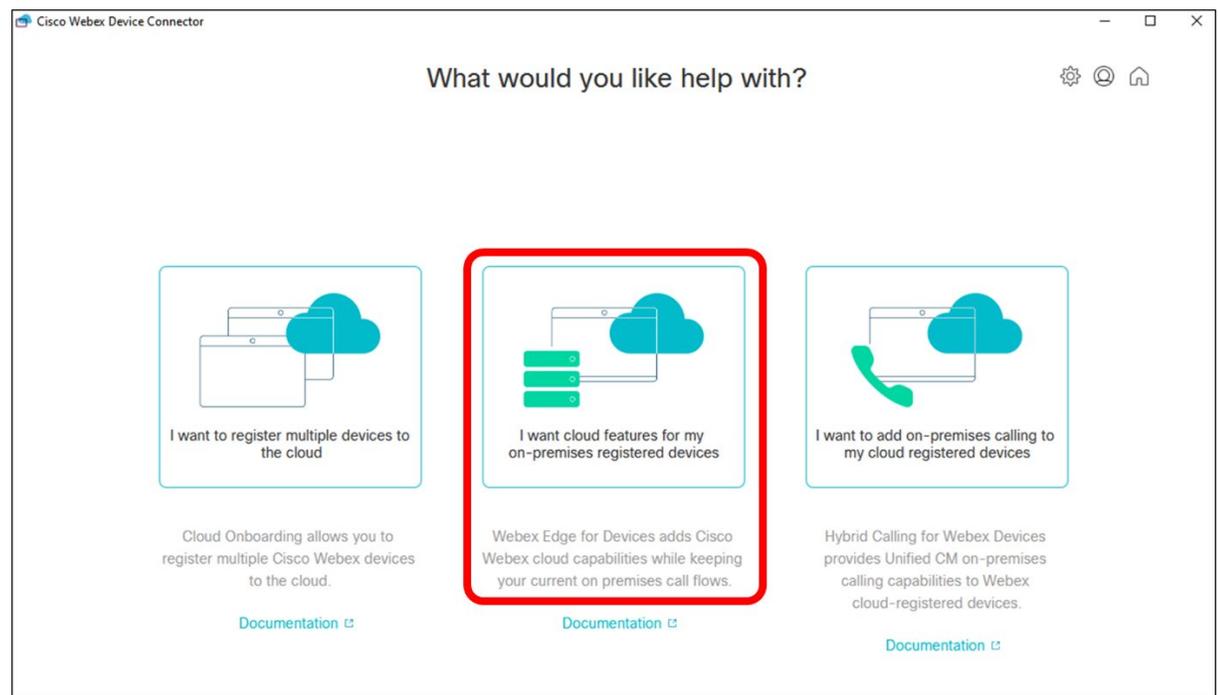
To enable cloud features and cloud-based device analytics and reporting for on-premises registered devices, use the Device Connector tool to hybrid register these devices to Webex.

Just as with fully transitioning devices to Webex as described in the previous step, if you have not already done so, download, install, and launch the Device Connector tool to begin the process of linking on-premises devices to Webex features and analytics (refer to Figure 19). For more details about Device Connector see the Device Connector article available at <https://help.webex.com/en-us/383gbd/Cisco-Webex-Device-Connector>.

Unified CM Call Control

To link on-premises devices leveraging Unified CM call control do the following:

- i. After you have installed Device Connector, start tool and select the I want cloud features for my on-premises registered devices option as shown in Figure 24.

Figure 24. Device Connector: Link Devices to the Cloud for Cloud Features

- i. On the subsequent screen click **Link devices registered with Cisco Unified Communications Manager** as shown in Figure 25.

Figure 25. Device Connector: Link Devices Registered with UCM



- ii. As shown in Figure 26, enter the Host (*ucm1.example.com* in this example), Username corresponding to a standard Unified CM application user with AXL API access (*ucm_axl* in this example), and Password information for your Unified CM and click **Connect**. If you have Unified CM with public signed certificates, make sure those are valid or click **Proceed without certificate validation** when prompted.

Figure 26. Device Connector: Unified CM Connection Information

Host (Unified CM FQDN) → ucm1.example.com

Username (AXL-enabled application user) → ucm_axl

Password (application user password) → [Masked]

Connect

- iii. As shown in Figure 27, the Device Connector retrieves the name and description of the Unified CM configured devices. The Contact Info Name becomes the name for the Place the device is connected to. If there is no Contact Info Name set, the System Unit Name or MAC address is used.

Figure 27. Device Connector: Link Devices to the Cloud for Cloud Features

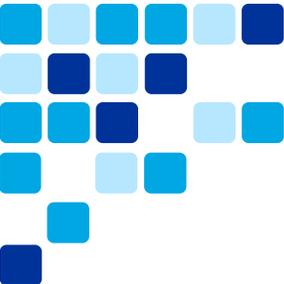
Connected to ucm1.example.com Refresh List Connect to different Unified CM

Search for devices

5 Devices | 0 Linked | 5 Ready to link | 0 Needs attention | 0 Link failed

Name	Description	Type	Link all
<input type="checkbox"/> SEPA1A1A1A1A1A1	Charles Hollands DX70	Cisco TelePresence DX70	Link
<input type="checkbox"/> SEP881DFC610A45	Eric Steele (Cisco TelePresence DX70 SIP)	Cisco TelePresence DX70	Link
<input type="checkbox"/> SEPA2A2A2A2A2A2	Charles Hollands DX80	Cisco Webex DX80	Link
<input type="checkbox"/> SEP1C6A7AE05A0B	Charles Holland (Cisco Webex DX80 SIP)	Cisco Webex DX80	Link
<input type="checkbox"/> SEP6C8BD3C6FCFC	Lounge	Cisco Webex Room Kit Mini	Link

- If you want to change the device name, you should do that within Unified CM before proceeding.
- Click **Link All** to link all the listed devices. To link an individual device, click the **Link** button next to it (see Figure 27).

- 
- Device Connector sends the device information to your Webex organization, and the Webex Identity Service creates activation codes for all devices. Unified CM applies the activation code to the devices and the devices link to your Webex organization.
 - When the device is linked to Webex cloud services, you can click the device name to open the device page directly in Control Hub.
 - If the device status shows Link Pending, it is not linked yet. The activation code is provisioned from Unified CM. The system attempts to link to the device for 7 days until the activation code expires. If the device is available during that time, it gets linked.

Expressway Call Control

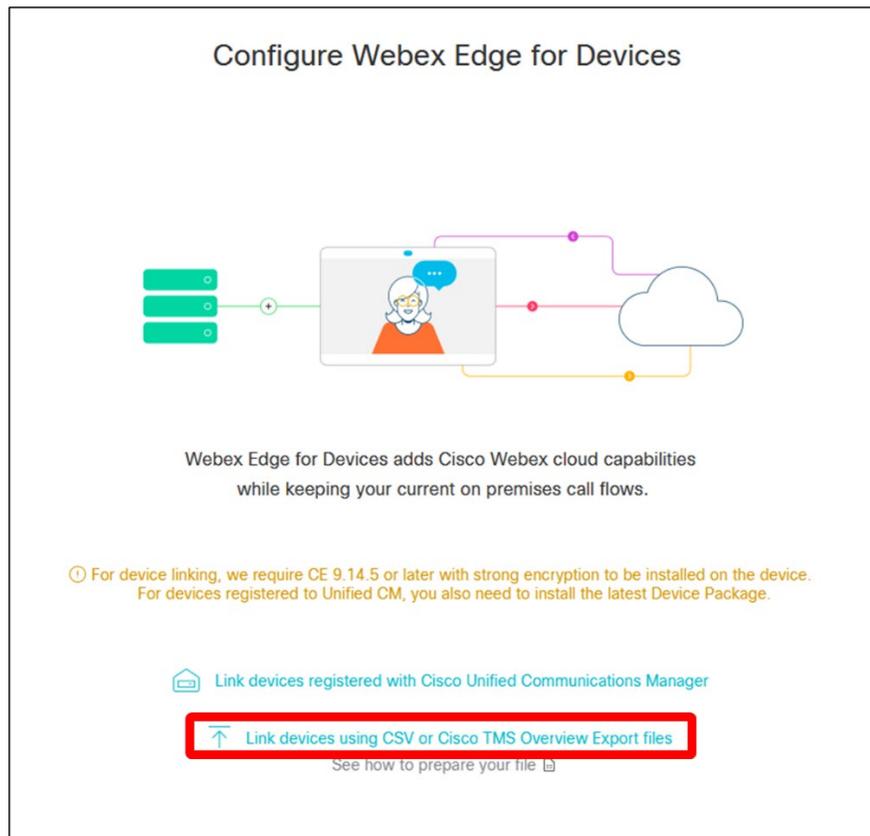
To link on-premises devices leveraging Expressway/VCS call control do the following:

- i. Prepare file containing information on on-premises devices to be linked to Webex.

There are two device file options:

- Option 1: Export a System Overview report from TMS and only select the **Network Settings > Hostname** system parameter. Then, manually add columns for *Username* and *Password* information to the file.
 - Option 2: Manually create a CSV file with columns for device *Address*, *Username*, and *Password*.
- ii. After you have installed Device Connector, start tool and select the **I want cloud features for my on-premises registered devices** option as shown previously in Figure 24.
 - iii. Next, click **Link devices using CSV or Cisco TMS Overview Export files** as shown in Figure 28.

Figure 28: Device Connector: Link Devices to the Cloud for Cloud Features



- iv. Browse to the previously prepared CSV or TMS Overview Export file on your computer and open it.
 - The tool uses Contact Info Name for the Place name. If one isn't available, the System Unit Name or MAC address is used. If no name is found for the device, click the name field to enter one.
- v. Click **Link All** to link all the listed devices. To link an individual device, click the **Link** button next to it (refer to Figure 27).
 - Device Connector sends the device information to your Webex organization, and the Webex Identity Service creates activation codes for all devices. The activation codes are sent to the devices through the API. HTTPS must be enabled for this to work.
 - When the device is linked to Cisco Webex cloud services, you can click the device name to open the device page directly in Control Hub.

Post-Transition Steps and Considerations

After on-premises devices registered to Unified CM/Expressway (VCS) are hybrid registered and/or fully transitioned to cloud registration device visibility and management is available in Control Hub.

1. Managing Devices and Viewing Analytics on Webex Control Hub

Once video devices are fully transitioned or hybrid registered to Webex and active in the Control Hub, management of these devices can be done in two places: Control Hub and the video device's graphical web interface. To access the device in the Control Hub, go to Devices and search for the video device as shown in Figure 29.

Figure 29. Control Hub: Device Management Functions

The screenshot shows the Webex Control Hub interface. On the left, a navigation sidebar includes sections for 'MONITORING' (Overview, Getting Started Guide, Analytics, Troubleshooting, Reports) and 'MANAGEMENT' (Users, Workspaces, **Devices**, Apps, Account, Organization Settings). The 'Devices' menu item is highlighted with a red box. The main area displays a 'Devices' management page with a search bar and a table of 189 devices. The table has columns for Type, Status, and Belongs to. A detailed view of a 'Cisco Webex Room Kit Mini' device is shown on the right, including actions like Reboot, Report Issue, and Delete, and details such as IP Address, Network Connectivity, and Software version.

Type	Status	Belongs to
Cisco Webex Room Kit	Offline	
Cisco Webex Room Kit	Offline	
Cisco Webex Room Kit Mini	Offline	
Cisco Webex Room Kit Mini	Online	
Cisco Webex Room Kit Mini	Offline	
Cisco Webex Room Kit Mini	Offline	
Cisco Webex Room Kit Mini	Online	
Cisco Webex Room Kit Mini	Online	
Cisco Webex Room Kit Mini	Offline	

Device Details for Cisco Webex Room Kit Mini (Online):

- Actions: Reboot, Report Issue, Delete
- Lines: None
- IP Address: [Redacted]
- Network Connectivity: Wired
- MAC Address: [Redacted]
- SIP Address: webex.com (Primary), ciscospark.com
- Serial Number: [Redacted]
- Software: Latest (RoomOS 2020-04-29 0ae46695f67)

When performing management functions, the Control Hub can be used for high level settings and analytics, while the device's web interface may be used for more granular settings and log file gathering. Local LAN access and administrative rights are required for access to the device's web interface.



References

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Ways to Add Users to your Control Hub Organization

<https://help.webex.com/en-us/nj34yk2/Ways-to-Add-Users-to-your-Control-Hub-Organization>

Make it Easier for Video Devices to Join Meetings with OBTP

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<https://help.webex.com/en-us/WBX000028782/Network-Requirements-for-Webex-Services>

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<https://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce8/release-notes/ce-software-release-notes-ce8.pdf>

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RoomOS 9 Known and Resolved Issues

<https://help.webex.com/en-us/llygcp/RoomOS-9-Known-and-Resolved-Issues>

What's New in RoomOS

<https://help.webex.com/en-us/6ger7db/What-s-new-in-RoomOS>



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