



Cisco Collaboration Endpoint Software 9

Release notes

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Contents

Contents	2
Document revision history	7
Introduction to Collaboration Endpoint Software 9	8
Important notes and warnings for this software version	8
Equipment and feature considerations before upgrading to Collaboration Endpoint Software 9	8
Briefing Room does not work as expected	9
CE9 - Notice of Deprecation: MultiStream with Cisco TelePresence Server	9
CE9.2.0 for Cisco Spark Room 70 and Room 70 Dual	9
Camera firmware.....	10
Camera support	11
Deferred software versions.....	13
CE9.0.1 deferred due to bug CSCvf27027	13
CE9.1.1 deferred due to bug CSCve94476.....	13
CE9.1.2 deferred due to potential issues with peripherals upgrade	13
CE9.1.3, CE9.1.4 deferred due to WPA2 (KRACK) vulnerability	13
CE9.1.3, CE9.1.4, CE9.1.5, CE9.2.1, CE9.2.2, CE9.2.3, CE9.2.4, CE9.3.0 deferred.....	13
New features and functionality in CE9.3.2.....	14
New features and functionality in CE9.3.1.....	15
New features and functionality in CE9.3.0.....	16
New feature and functionality descriptions CE9.3.0.....	17
Backup and restore settings and custom elements	17
Getting started.....	17
Restore or provision across multiple room devices	17
TMS provisioning	18
UCM customization provisioning.....	18
Checksum verification	19
Other information	19
In-Room Control Updates.....	19
Support for ISDN Link	20

One Button to Push (OBTP) Snooze	20
SX10 Screen status monitoring (CEC).....	20
Adjust call rate before making a call	21
Select ringtone and adjust ringtone volume	21
Other changes	21
Resume a postponed upgrade.....	21
Hide sensitive information in the UI.....	21
Accessibility: Flashing screen on incoming calls	21
Mirrored self-view on Cisco DX Series.....	21
New features and functionality in CE9.2.6.....	22
New features and functionality in CE9.2.5.....	23
New features and functionality in CE9.2.4.....	24
New features and functionality in CE9.2.3.....	25
New features and functionality in CE9.2.2.....	26
New features and functionality in CE9.2.1.....	27
New feature and functionality descriptions CE9.2.1.....	28
Macro Framework for customized endpoint behavior	28
Designed to work with In-Room Controls	28
Supported systems (Macro framework)	28
HDCP Support for Cisco Spark Room 55.....	29
Branding and halfwake customization.....	29
Halfwake	29
Awake.....	30
Supported systems (Branding)	30
Source composition.....	31
Supported systems.....	31
HTTP Proxy support.....	31
Touch 10 and On-screen UI features.....	32
Admin settings lockdown in UI.....	32
Snap to whiteboard configuration re-instated	32
IEEE 802.1x configuration UI.....	32
Keyboard localization (Russian, Arabic and Hebrew).....	32

Right to left language support (Arabic and Hebrew)	32
Support for Cisco TelePresence SX80 with Cisco Spark Quad Camera	33
Certificate upload via xAPI	33
Trigger custom input prompt via xAPI	33
USB to Serial port support for Cisco Spark Room Kit, Room Kit Plus and Room 55	33
Mute remote participants in a CMS hosted conference (Active Control)	34
In-Room Control.....	34
Widgets.....	34
Preview mode	35
Briefing Room	35
Other features or changes.....	36
Removed Intelligent Proximity indicators and UI toggle.....	36
Changing the device activation from the UI will reset some of the system configurations.....	36
New features and functionality in CE9.1.6.....	37
New features and functionality in CE9.1.5.....	38
New features and functionality in CE9.1.4.....	39
New feature and functionality descriptions CE9.1.4.....	40
Support for Cisco Spark Room Kit Plus + Precision 60	40
New features and functionality in CE9.1.3.....	41
New features and functionality in CE9.1.2.....	42
New features and functionality in CE9.1.1.....	43
New feature and functionality descriptions CE9.1.1	44
Support for Cisco Spark Room Kit Plus	44
Cisco Spark Quad Camera speaker tracking	44
Feature parity with Cisco Spark Room Kit.....	44
Dual Screen Experience for CMS based meetings.....	45
Active control	45
Supported video systems	45
New wakeup experience	46
Bluetooth headset support for Cisco DX70 and DX80.....	47
Bluetooth controls.....	47

Wi-Fi: WPA-EAP	48
Trusted CA certificates	48
Minor changes	49
Additions for Room Analytics	49
Configuration to disable the secondary network port on Cisco DX70 and DX80	49
New features and functionality in CE9.0.1	50
New feature and functionality descriptions CE9.0.1	51
Support for Cisco Spark Room Kit	51
Speaker tracking	51
Best overview	51
Wi-Fi support	52
Room Analytics	52
Support for upgrading firmware with COP files	52
Cisco recommended screens for the best UHD experience	53
Updated user interface “Activity Circles”	54
Touch 10 updates	54
New phonebook and share tray UI	55
Keyboard improvements on Touch 10 and Cisco DX70/DX80	55
Call forward on Touch 10	55
Wakeup on motion detection	55
Improved In-Room Control editor	55
Minor changes	55
Support for HTTPS Client certificates	55
New Briefing Room controls	56
Local Contacts is now renamed to Favorites in the web interface	56
Added language: Portuguese	56
Open and resolved caveats in CE9	57
Using the Bug Search Tool	57
Known limitations and advisories	60
Limitations and advisories	60
Interoperability	67
H.323 gatekeepers/traversal servers	67

SIP registrars/proxies	67
Gateway interoperability	67
MCU interoperability	68
Streaming servers	68
Management servers.....	68
Endpoint Interoperability.....	69
Cameras	71
xAPI Changes	72
Cisco TelePresence systems hardware dependencies	73
Introduction	73
Cisco TelePresence Touch 10 hardware dependencies.....	76
New hardware revisions for Cisco TelePresence Touch 10.....	76
Documentation	77
Latest software filenames.....	78
Software integrity verification	79

Document revision history

Revision	Date	Description
19	June 8 th 2018	Release of CE9.2.6.7fa942b, minor release
18	June 5 th 2018	Release of CE9.3.2.748b9742af6, minor release
17	May 24 th 2018	Release of Android to CE9.1.6.50b2793 conversion software for DX70 and DX80
16	May 4 th 2018	Release of CE9.1.6.50b2793, CE9.2.5.9c6d387 and CE9.3.1.61bfa3834f2, minor releases
15	April 11 th 2018	Release of Collaboration Endpoint Software CE9.3.0.7394032fb9c
14	February 28 th 2018	Release of CE9.2.4.4d375bc, minor release
13	January 17 th 2018	Release of CE9.2.3.3ba381b, minor release
12	December 21 st 2017	Release of CE9.2.2.f7269d5, minor release
11	December 14 th 2017	Release of Android to CE9.1.5.d1c67fb conversion software for DX70 and DX80
10	November 24 th 2017	Release of CE9.1.5.d1c67fb, minor release
09	November 21 st 2017	Release of Collaboration Endpoint Software CE9.2.1.360d0bf
08	October 12 th 2017	Release of Android to CE9.1.4.5f64050 conversion software for DX70 and DX80
07	September 11 th 2017	Added additional feature descriptions to CE9.1.4.3ae3106
06	September 5 th 2017	Release of CE9.1.4.3ae3106, minor release
05	August 14 th 2017	Updated minimum software version of CUCM and VCS required for CMS dual screen experience and other minor corrections
04	July 19 th 2017	Release of CE9.1.3.75ff735, minor release with bug fixes
03	June 22 nd 2017	Release of CE9.1.2.454d186, minor release with bug fixes
02	June 21 st 2017	Release of Collaboration Endpoint Software 9.1.1.9675283
01	April 10 th 2017	Release of Collaboration Endpoint Software 9.0.1.4c1e2ba

Introduction to Collaboration Endpoint Software 9

This release note describes the features and capabilities included in the Cisco Spark Room Kit, Room Kit Plus, Room 55, Room 70, Room 70 Dual, Cisco TelePresence MX200 G2, MX300 G2, MX700, MX800, MX800 Dual, SX10, SX20, SX80, Cisco DX80 and DX70 Collaboration Endpoint Software version 9. Collaboration Endpoint Software is only supported by the endpoints listed above.

The Collaboration Endpoint software version 9 can be downloaded from <http://www.cisco.com>.

Important notes and warnings for this software version

Before upgrading from TC software to Collaboration Endpoint Software it is important to check that your environment supports the changes. We recommend that you read the release note thoroughly before upgrading.

Equipment and feature considerations before upgrading to Collaboration Endpoint Software 9

Before upgrading to CE9:

- If you are not already using CE software, please read the upgrade considerations in the CE8 release note before upgrading.
- Please verify that you are not using MultiStream with Cisco TelePresence Server before upgrading. This feature is deprecated in CE9, please use CMS for a Dual Screen Experience.
- The Touch 10 has a feature gap on CE9 compared to CE8. Most of the features not available on the Touch 10 can be configured through the web interface of the codec. Please refer to the feature gap matrix in the “Touch 10 updates” section below “New feature and functionality description” in CE9.0.1 for more information.
- If you are using Briefing Room mode, please read the known limitation section under “Briefing Room”.

Upgrade and downgrade paths:

- Upgrading from TC7.3.6 and above or CE8.x to CE9 directly is supported.
- Cisco Spark Room Series is only supported from CE9 and above, see the hardware dependencies section further down in this document.
- You can downgrade from CE9 directly to CE8.x or TC7.3.6 and above.

Briefing Room does not work as expected

There were multiple issues with Briefing Room when enabled on CE9.0.x and CE9.1.x to the point where the feature was not working as expected. Cisco recommends everyone that is using Briefing Room on these software versions to turn it off or upgrade to CE9.2.1 or the latest version available. Briefing Room is disabled by default, requires a special room setup and is only available on Cisco TelePresence SX80, MX700, MX800 and MX800D. **This issue is fixed from CE9.2.1 and above.**

CE9 - Notice of Deprecation: MultiStream with Cisco TelePresence Server

Support for TelePresence Server based MultiStream implementation is deprecated from CE9. Focused effort will be allocated to the new Dual Screen Experience for CMS based meetings (requires CE9.1.3 or above). If support for TelePresence Server based MultiStream is required, we recommend that you stay on CE8.3.x.

CE9.2.0 for Cisco Spark Room 70 and Room 70 Dual

Cisco Spark Room 70 is supported from CE9.2.0 and will initially ship with this software version. CE9.2.0 was released only for these systems but not posted on Cisco.com. We recommend that you use the latest software version available.

Other limitations and advisories

Please refer to the known limitation section in this document.

Camera firmware

In the table below, you can find an overview of the camera software included in the CE software release. Only new camera software is listed. If not listed, the camera software is the same as on the previous release.

Release	Hardware name/ID	Software name/ID	Notes
CE9.3.2	Precision 60 55000000	HC9.3.2.748b9742af6	
CE9.3.1	Precision 60 55000000	HC9.3.1.61bfa3834f2	
CE9.3.0	Precision 60 55000000	HC9.3.0.7394032fb9c	
CE9.2.6	Precision 60 55000000	HC9.2.5.7fa942b	
CE9.2.5	Precision 60 55000000	HC9.2.5.9c6d387	
CE9.2.4	Precision 60 55000000	HC9.2.4.4de75bc	
CE9.2.3	Precision 60 55000000	HC9.2.3.3ba381b	
CE9.2.2	Precision 60 55000000	HC9.2.2.f7269d5	
CE9.2.1	Precision 60 55000000	HC9.2.1.360d0bf	
	PrecisionHD 1080p 4x S2 Precision 40 53000000	S01777-2.2 RC17 ID: 20040	
CE9.1.6	Precision 60 55000000	HC9.1.6.50b2793	
CE9.1.5	Precision 60 55000000	HC9.1.5.d1c67fb	
CE9.1.4	Precision 60 55000000	HC9.1.4.3ae3106	

Release	Hardware name/ID	Software name/ID	Notes
CE9.1.3	Precision 60 55000000	HC9.1.3.75ff735	
CE9.1.2	Precision 60 55000000	HC9.1.2.454d186	
CE9.1.1	Cisco Spark Quad Camera 0C000000	CE9.1.1.9675283	See known limitations Software version is always noted the same as the released software
	Precision 60 55000000	HC9.1.1.9675283	
	PrecisionHD 1080p 4x S2 Precision 40 53000000	S01777-2.2 RC15 ID:20038	
CE9.0.1	Precision 60 55000000	HC9.0.1.5c1e2ba	
	PrecisionHD 1080p 12x Precision 12x 5000000(1-5)	S01718-4.0 FINAL ID:40085	
	PrecisionHD 1080p 2.5x 54000000	S01777-2.2 RC14 ID:20037	
	PrecisionHD 1080p 4x S2 Precision 40 53000000	S01777-2.2 RC14 ID:20037	

Camera support

Codec	Camera	Support comments
Cisco Spark Room Kit Plus	Precision 60	Full support from CE9.1.4
	Cisco Spark Quad Camera	Full support
SX20	PrecisionHD 1080p 2.5x	Full support
	PrecisionHD 1080p 4x S2 Precision 40	Full support

	PrecisionHD 1080p 12x	Full support
SX80	Cisco Spark Quad Camera	Full support from CE9.2.1
	Precision 60	Full support
	SpeakerTrack 60	Full support
	PrecisionHD 1080p 4x S2 Precision 40	Full support
	PrecisionHD 1080p 12x	<p>Basic usage with pan tilt and zoom functionality is supported.</p> <p>* Software upgrade of this camera is not supported natively by this codec.</p> <p>* Daisy chaining cameras may work but is not supported on SX80 due to lack of testing.</p>

Deferred software versions

A software version is deferred when we find critical issues within the software. This is to prevent users from downloading and installing affected software versions. Replacement software will always be in place before a software version is deferred.

CE9.0.1 deferred due to bug CSCvf27027

CE9.0.1 was deferred due to a software bug, CSCvf27027. Please read the deferral notice for more information.

https://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce9/release-notes/cisco_ce901_deferral_notice.pdf

CE9.1.1 deferred due to bug CSCve94476

CE9.1.1 was deferred due to a software bug, CSCve94476, causing the Cisco Spark Quad Camera upgrade to fail. The failure occurs if there is a software mismatch between the Cisco Spark Codec Plus and the Cisco Spark Quad Camera, and the Cisco Spark Codec Plus has been factory reset before connecting the camera.

<http://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce9/release-notes/cisco-ce911-deferral-notice.pdf>

CE9.1.2 deferred due to potential issues with peripherals upgrade

There has been identified an issue with upgrading peripherals running CE9.1.2. Issue could cause upgrade of peripherals to fail, requiring several boots. Please use CE9.1.3 that contains a fix for this issue. Please see the deferral notice by following the link below.

<http://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce9/release-notes/cisco-ce912-deferral-notice.pdf>

CE9.1.3, CE9.1.4 deferred due to WPA2 (KRACK) vulnerability

There has been identified an issue with room devices with support for Wi-Fi that makes the systems vulnerable to the WPA2 (KRACK) vulnerability. The software has been deferred for devices with support for Wi-Fi. Please see the deferral notice by following the link below for more information.

<https://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce9/release-notes/CE830-CE831-CE832-CE833-CE913-CE914-deferral-notice.pdf>

CE9.1.3, CE9.1.4, CE9.1.5, CE9.2.1, CE9.2.2, CE9.2.3, CE9.2.4, CE9.3.0 deferred

Please see the deferral notice for more information.

<https://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/software/ce9/release-notes/CE913-CE914-CE915-CE921-CE922-CE923-CE924-CE930-deferral-notice.pdf>

New features and functionality in CE9.3.2

- This is a minor release and only contain bug fixes

New features and functionality in CE9.3.1

- This is a minor release and only contain fix for CSCvj32935

New features and functionality in CE9.3.0

- Backup and restore settings and custom elements
- In-Room Control updates
- Support for ISDN Link
- One Button to Push Snooze (OBTP)
- SX10 Screen status monitoring (CEC)
- Adjust call rate before making a call (UI)
- Select ringtone and adjust ringtone volume (UI)
- Other changes
 - Resume postponed upgrades (UI)
 - Hide sensitive information (UI)
 - Accessibility: Flashing screen on incoming call
 - Mirrored self-view for Cisco DX Series

New feature and functionality descriptions

CE9.3.0

Backup and restore settings and custom elements

CE9.3.0 includes a new and improved version of “Backup and Restore”. In Previous versions, you could backup your room device by saving the configuration file but not include other elements, such as Branding, Macros, Favorites (Local phonebook), Sign-In Banner and In-Room Control panels.

The solution implemented in CE9.3.0 will allow you to backup and restore all of these features in a bundle. By provisioning a non-system specific backup bundle, you can setup multiple room devices with the same setup of Macros, Branding images and more using TMS, CUCM or third-party integrations.

Getting started

The UI is available on the room device web interface at “Maintenance → Backup and Restore”. By default, it includes all configured elements available but you can simply uncheck elements before you create the backup. This process generates a zip file that contains all the information and content necessary to restore.

Restore or provision across multiple room devices

The backup file can either be restored manually via the same page (for system specific settings) or you can generalize it as a template with the purpose of provision it across multiple room devices using UCM, TMS, or third-party integrations using existing API interfaces.

In CE9.3.0 you can include the following in the backup bundle if configured:

- Favorites (Local phonebook)
- Sign-In Banner
- Branding images (Halfwake Background, Halfwake Branding, Branding)
- Macros (Select all or pick single macros you want to backup)
- In-Room Control Design
- Configuration document (Select configurations you want to backup)

Requirements

The backup bundle can be hosted on the UCM TFTP file service, TMS or a custom web server reachable by the room device on HTTP or HTTPS.

Note: Currently the room devices only support fetching the bundle from a web service (GET).

Important: If you back up a room device with the intention of distributing it across multiple devices, you should remove all device specific configurations from the configuration document. On the same page as you create the backup, there is a button that can remove these configurations for you. If you provision a backup bundle to multiple devices with device specific configurations (containing network information) you may end up with multiple unreachable devices. Provisioning using UCM will currently not restore the configuration document at all to avoid these scenarios. See the UCM provisioning section.

TMS provisioning

TMS can provision the command necessary for the room device to fetch the backup bundle from the web service where the bundle is hosted. This is done by creating a configuration template with a custom command containing the following XML string:

```
<Command><Provisioning><Service><Fetch>
<URL>https://host/backup.zip</URL>
<Checksum>c9d1feb...</Checksum>
<Origin>Other</Origin>
</Fetch></Service></Provisioning></Command>
```

Replace the URL content with your web server path to the backup bundle and the sha512 checksum of the backup bundle located on this URL. Note that the URL can be different depending on where you choose to host the backup bundles. The origin field is optional and tells the device if it should restore the configuration file or not, default is "Other" which will restore configurations, while "Provisioning" will not restore configurations.

There is no TMS version requirement to issue this command as all newer versions of TMS has support for this. Please follow the TMS version requirement for CE9.x room devices if in doubt.

When the configuration template is applied to a room device the room device will download and restore the backup bundle automatically.

UCM customization provisioning

UCM provisioning requires a new device template that adds a bulk customization section to the product specific configuration layout. In these fields, you apply the URL to where the backup bundle can be downloaded, hash type (sha512) and hash (checksum) respectively. When applied, the room devices will download and restore the backup bundle once. In order to re-provision a backup bundle, you must either factory reset the device and re-provision or upload a new backup bundle with a different checksum and apply configuration accordingly from UCM.

UCM can host the files by uploading the bundles via UCM OS Administration to the TFTP service. The files will be available on HTTP (<http://ucmhost:6970/path/to/backup.zip>) and from UCM 11.5/12.x HTTPS (<https://ucmhost:6971/path/to/backup.zip>). The checksum is required regardless of HTTP or HTTPS when provisioning via UCM.

Limitation: To avoid misconfiguration scenarios of system specific network and registrar info, the configuration.txt will be intentionally **ignored** when provisioning using UCM (not applicable for TMS or Third-party provisioning unless “Origin” specifies “Provisioning”, please see the TMS provisioning section above). UCM provisioning of the backup bundle will currently only setup Branding, Macros, Sign-In banner, Local phonebooks, and In-Room Control designs if those are included in the backup bundle.

Checksum verification

When the device receives the command to download a backup-bundle on HTTP, it will require a sha512 checksum of the backup bundle in the request to avoid man in the middle attacks. With HTTPS, the checksum is not required with the exception of UCM provisioning but recommended.

At the end of this document there are instructions on how to generate sha512 checksums for files.

Note: If you open the restore section on the room device web interface and select the newly created backup bundle, the room device will generate and display the sha512 checksum of the selected file.

Other information

If the backup that is restored contains Macros, the Macro runtime will be set to enabled, restarted and all the Macros are automatically activated.

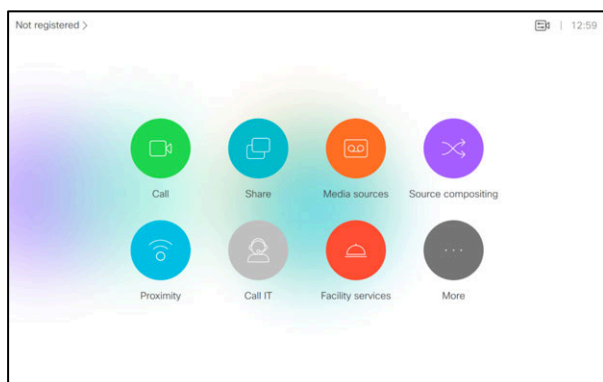
If the backup contains branding images the Wallpaper configuration will automatically be set to “Auto”. This will enable the branding images to be displayed if you were previously using custom wallpapers.

Note: The room device will always try to verify the server certificate if HTTPS is used and the sha512 checksum is not provided.

In-Room Control Updates

Highlighted updates:

- The In-Room Control editor and the UI is now updated to support up to 20 In-Room Control panels
- A few new icons are available in the editor (Cisco Spark, Proximity and Webex logo)
- Set the color of the In-Room Control panels from a selection of colors in the editor
- Double click on the text elements to edit text directly on the design in the editor
- Drag and drop exported In-Room Control XML files directly into the editor to load
- Mechanism for creating standalone trigger-buttons
- The global entry point (top right corner) has been removed



All the panels are now displayed on the home/in-call screen. A “More..” button appears if the amount of panels exceeds the available space on the UI. Note that the In-Room Control panel is removed from the top menu bar. By pressing “More...” a scrollable pane with the exceeding panels is displayed.

The availability concepts of out-of-call only, in-call only or always still applies.

You can create as many panels as you want in the editor but only a total of 20, depending on priority, will be available in the home screen as well as for the in-call scenario.

With the trigger button functionality, you can choose if the panel button should open a panel design or trigger an event directly without opening a panel. This is done by deleting the linked design of the panel and giving the panel a unique ID in the editor. The panel button will then only trigger an event in the xAPI when pressed.

A selection of colors is available in the In-Room Control editor that can be applied to the panel buttons. Because you can create up to 20 panel buttons, setting different colors on the buttons makes them easier to recognize. Choose the colors carefully to avoid confusing users as the same colors are used for other features as well. When you hover the mouse pointer on a color in the In-Room Control editor you will see what theme that color is used for.

Support for ISDN Link

ISDN Link version IL1.1.7 is supported for all room devices that supports CE9.3.0. ISDN Link has previously been supported with CE8 and requirements are the same from CE9.3.0.

In order to pair the ISDN Link, you must enable IPv6 on the room device.

One Button to Push (OBTP) Snooze

The meeting reminder will now provide the option to snooze for 5 minutes. The reminder will typically appear if you are already in a call and a scheduled meeting that is about to start. You can snooze the reminder for 5 minutes each time it appears.

SX10 Screen status monitoring (CEC)

CEC is disabled by default on the SX10 and must be enabled via the web interface. SX10 had a CEC implementation in previous releases. The CEC implementation is now in parity with the Cisco Spark Room Series. New CEC xCommands are available. Please refer to the SX10 API guide for more information.

Adjust call rate before making a call

From CE9.3.0 you can adjust the call rate when making a call from the on-screen UI or Touch 10.

Select ringtone and adjust ringtone volume

In the settings menu, you can now select the preferred ringtone and adjust the ringtone volume separately from the system volume.

Other changes

Resume a postponed upgrade

When you get a notification that an upgrade is available and you choose to postpone the upgrade for 6 hours, you can now resume the upgrade when you are done using the system. If you do not manually resume the upgrade, the system will automatically start the upgrade after 6 hours.

Hide sensitive information in the UI

Hide sensitive information in the UI by enabling UserInterface Strong Security mode. This feature will hide system IP information, for example the IP address of the room device, Touch 10 and the Registrar (UCM/VCS). The feature will only be active if the admin password is not blank, settings menu is locked and User Interface Strong Security mode is enabled.

Note that while this feature is active you will not see the system IP address on the screen if you disconnect the Touch 10 from the system.

You must authenticate with the admin password to see the information.

This feature is added as part of being JITC compliant but can be enabled as a separate feature without setting the system into full Strong Security Mode.

Accessibility: Flashing screen on incoming calls

This feature is mainly targeting hearing impaired users, making it easier to notice an incoming call. The screen and the Touch 10 will flash red/gray approximately once every second. The feature is disabled by default and can be enabled in the web interface of the room device. Supported by all devices that supports CE9.3.0.

Mirrored self-view on Cisco DX Series

Invert the self-view on the Cisco DX80 or DX70 to create a mirror effect. This feature was available on the Cisco DX series on Android software and is now available from CE9.3.0. The feature is enabled by default and can be disabled from the web interface of the room device.

New features and functionality in CE9.2.6

- This is a minor release and contains only bug fixes
 - Please see the “Open and resolved caveats” section in this document

New features and functionality in CE9.2.5

- This is a minor release and only contain fix for CSCvj32935

New features and functionality in CE9.2.4

- This is minor release and contains only bug fixes
 - Please see the “Open and resolved caveats” section in this document

New features and functionality in CE9.2.3

- This is minor release and contains only bug fixes

New features and functionality in CE9.2.2

- This is minor release and contains only bug fixes

New features and functionality in CE9.2.1

- Macro framework
- HDCP Support for Cisco Spark Room 55
- Branding and Halfwake customization
- Source composition
- HTTP Proxy support
- Touch 10 and On-screen UI features
 - Admin settings lockdown in UI
 - Snap to whiteboard configuration UI
 - IEEE 802.1x configuration UI
 - Keyboard localization (Russian)
 - Right to left language support (Arabic and Hebrew)
- Support for Cisco TelePresence SX80 with Cisco Spark Quad Camera
- Certificate upload via xAPI
- Trigger custom input prompt via xAPI
- USB to serial port support for Cisco Spark Room Kit and Room Kit Plus
- Mute remote participants in CMS conference (Active Control)
- In-Room Control
 - Widgets
 - Preview mode
- Briefing room mode
- Other features or changes
 - Removal of Cisco Proximity indicators and UI toggle
 - Changing device activation will factory reset the video system

New feature and functionality descriptions

CE9.2.1

Macro Framework for customized endpoint behavior

CE9.2.1 introduces a new powerful macro development framework. This feature allows users and integrators to write small macro scripts using standard JavaScript in order to automate scenarios and customize endpoint behavior to suite individual requirements.

You can create your own custom features that triggers specific actions based on status changes or xAPI events. For example, you can automate reset of all the configurations on a video system a few minutes after the system has entered standby, leaving the room ready for the next group of people.

If you can do the actions in the xAPI you can in most scenarios automate it using the macro framework. You can create up to 10 individual macro scripts on a supported system.

The macro development editor can be found on the video system web interface and has features, such as appearance, key bindings (Emacs or Vim), syntax checks, auto-complete and a debug console. The macros run natively on the codec and can be started from the same editor.

To get started, visit the macro editor, review the help section and the embedded tutorial that contains all the information and code examples you need to start writing macros.

If you do not have the capacity or knowledge to create your own macros, a collection of downloadable pre-written macros can be found here: <https://developer.cisco.com/site/roomdevices>.

Visit Cisco TelePresence Support Forums to share ideas and to get help.

Designed to work with In-Room Controls

Combining a macro script together with the In-Room Control allow you to create user-friendly graphical user interfaces for your local custom features without connecting third-party devices. You can create your own mini-panels with associated behavior, such as speed dial, custom layout controls, language selectors, Proximity toggle, call quality surveys etc. If you require to control external room peripherals or perform other external actions a control system is still required.

For known limitations, please see the Limitations and advisories section in this document.

Supported systems (Macro framework)

All systems that support CE9.2.1 except Cisco TelePresence SX10 due to platform stability issues

Macro framework support disclaimer:

Cisco Technical Assistance Center (TAC) will only be able to assist in support cases if there are issues with the macro runtime framework or issues with the editor itself. TAC is not obligated to provide assistance with debugging macro code or code that otherwise do not give the expected experience. To get the most out of this feature, we assume you are versed in writing standard JavaScript or otherwise familiar with integration scripting and programming.

To provide support for a video system that currently have active macros, TAC may ask you to disable all macros before they will move on with the case. For help with ideas and debugging macros, please seek out the Cisco support forums for assistance from the Cisco TelePresence community.

HDCP Support for Cisco Spark Room 55

You can enable High-bandwidth Digital Copy Protection (HDCP) support for one of the input sources on the Cisco Spark Room 55. By enabling HDCP you can connect a consumer grade device for example, an AppleTV, HD TV-Decoder or a gaming console to re-purpose the integrated 4k screen when not used for conferencing calls.

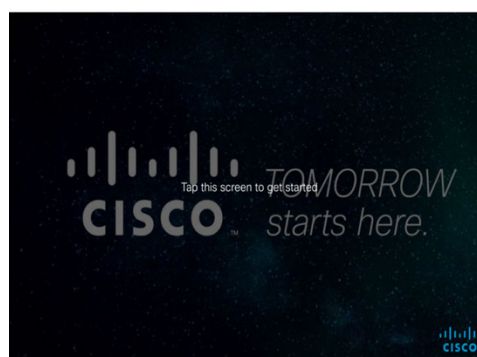
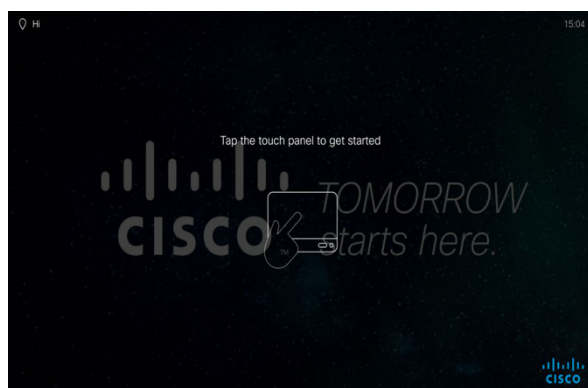
Note that you can only view content from the HDCP enabled input source locally. You cannot share anything from the HDCP-configured input while in call. This includes when content from a laptop is not actually HDCP protected, nor when composing video from the HDCP input into the main video stream. This will only produce a black frame sent to the far-end.

Branding and halfwake customization

Upload your own company branded images to be placed on the on-screen UI including the Touch 10. This feature extends the flexibility of the halfwake state and allow you to customize its appearance.

Halfwake

Upload a background brand image to replace the default animated halfwake background. You can also upload your own company's logo and put your own brand on the video system.



The screenshots show an example system in halfwake with custom branded images. The left image shows how it looks like on-screen and the right image is the Touch 10.

If you have third party integrations, the text that is displayed on-screen can be customized to say for example, “Use the Crestron touch panel on the stage podium”. By changing the halfwake text it will remove the Touch 10 panel or the TRC6 remote control illustration displayed below the text as well. You cannot modify the text “Tap this screen to get started” on the Touch 10.

Awake

Upload your own branded image logo that will be placed in the lower right corner of the screen and the Touch 10 while the system is awake.



The screenshots above show an example system in awake with a branded logo in the lower right corner. You can also place a custom text line in the bottom left corner from the web interface.

All of the images can be uploaded via the video system web interface under personalization. Please follow the user-friendly instructions presented on the web interface. All the branded images you upload will be previewed and displayed in the web interface as it would be presented on the screen. From this page, you can manually trigger halfwake to see the results on the system instantly.

Upload Base64 encoded branded images via the xAPI and the XMLAPI, please see the CE9.2.1 administrator guide for more information.

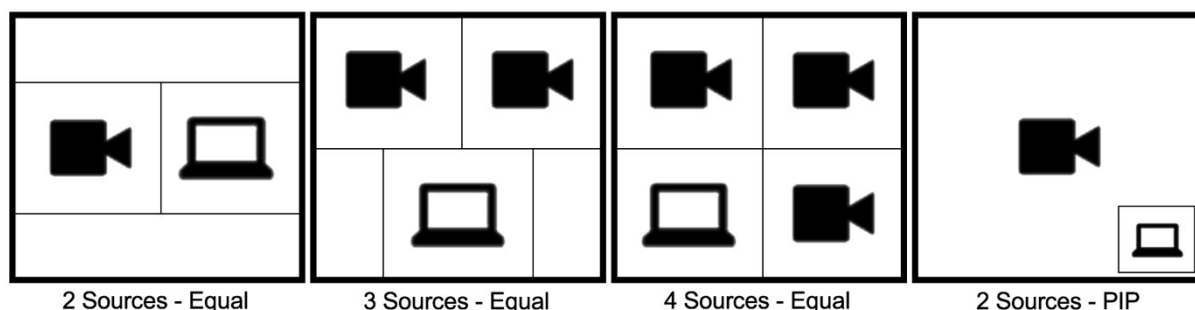
Supported systems (Branding)

All systems that support CE9.2.1 except Cisco TelePresence SX10 due to platform stability issues.

Source composition

This feature replaces some of the functionality that was previously provided with TC-Console for legacy products. With source composition, you can compose up to four input sources into one image (the number of input sources you can compose is also dependent on available physical input sources on the codec). This image will be sent in the main video stream to the far end in a call. Source composition can only be enabled via the xAPI, so we recommend creating an In-Room Control UI combined with a macro to control the compositions on demand.

Note that source composition does not provide the same flexibility as TC-Console did but is easier to use. The composition has two layouts; Equal and Picture in Picture (PIP). Equal layout can have up to four sources composed into the main video while PIP is limited to two sources. You can decide what source should be displayed in which frame but you cannot modify the frame positions or size as this is decided by how many sources you are composing with and the layout you choose. See below for example main video source compositions.



Please refer to the administrator guide for more information on the xAPI operations.

Supported systems

All systems that supports CE9.2.1 except Cisco TelePresence SX10, DX80 and DX70 due to hardware limitations.

HTTP Proxy support

When you register a video system to Cisco Spark, you can configure the system to go through a HTTP Proxy if required in your environment for communication over HTTP(S). The HTTP Proxy feature can be configured via the Touch 10 panel when registering to Cisco Spark or via the web interface. Media will still be direct and not via the proxy.

Note that if your proxy server requires authentication the video system only support digest authentication.

HTTPS inspection is supported by uploading a valid CA certificate to the system.

Touch 10 and On-screen UI features

Some of the features that was missing when moving from CE8 to CE9 has now been re-instated for the new UI.

Admin settings lockdown in UI

Adds the possibility to lock administrative settings on the Touch 10 or in the on-screen UI. The feature is unlocked by default and can be locked through the xAPI or via the web interface. When the admin password is configured on the video system and the SettingsMenu Mode is “Locked”, you must present the admin credentials in order to configure a locked setting. The settings that are locked will be marked with a padlock icon on the Touch 10 or on-screen UI respectively. If the admin password is blank, the settings will be open even if the SettingsMenu Mode is “Locked”.

Search for “SettingsMenu” from the web interface on the endpoint configuration pages to configure.

Snap to whiteboard configuration re-instated

If you have a video system with SpeakerTrack, you can setup the Snap to whiteboard feature from the Touch 10. This includes the following systems that have a SpeakerTrack unit installed:

- Cisco TelePresence SX80 (with SpeakerTrack 60 or Cisco Spark Quad Camera), MX700, MX800 and MX800 Dual
- Cisco Spark Room Kit, Room Kit Plus and Room 55

Note that if the system does not have a SpeakerTrack camera you will not be able to configure this feature.

Follow the instructions on the Touch 10 to setup Snap to Whiteboard.

IEEE 802.1x configuration UI

From the Touch 10 network settings you can setup IEEE 802.1x. Note that if a certificate is required for authentication you must still upload this via the web interface or the xAPI.

Keyboard localization (Russian, Arabic and Hebrew)

Support for keyboard localization for some languages. When you select Russian, Arabic or Hebrew as the preferred language the keyboard will be localized.

Right to left language support (Arabic and Hebrew)

Selecting Arabic or Hebrew as the preferred language the user interface will be inverted (right to left) in addition to keyboard localization.

Support for Cisco TelePresence SX80 with Cisco Spark Quad Camera

Cisco Spark Quad Camera can be used together with the SX80 from CE9.2.1. By using the Cisco Spark Quad Camera, you will free up one extra HDMI input compared to the SpeakerTrack 60 and gain the People Count feature with the limitation that it will only work while you are in a call and not out of call as supported with Cisco Spark Room Kit Plus. The Cisco Spark Quad Camera will also work in Briefing Room mode together with a Precision 60 camera for PresenterTrack.

Certificate upload via xAPI

A PEM formatted certificate can be installed directly via the xAPI using a new multiline command or via the XMLAPI. Please read the CE9.2.1 admin guide for more information about xAPI commands.

Trigger custom input prompt via xAPI

Enable an on-demand custom input prompt in the UI. The prompt can only be enabled via the xAPI so it is recommended that functionality is created via the Macro framework in combination with an In-Room Control UI or auto-triggered after an event. For example, you can prompt a user to leave feedback after an ended call. The input prompt will generate an event in the xAPI when submitted. Please refer to the CE9.2.1 admin guides for more information about xAPI commands.

USB to Serial port support for Cisco Spark Room Kit, Room Kit Plus and Room 55

For third party integrations, you can connect a USB (Type A) to serial (D-sub 9) adapter to support, for example a Crestron panel. Most USB to serial should work but Cisco recommends the UC232R-10 USB to RS232 (FTDI) adapter for the most tested and stable serial connection.

Mute remote participants in a CMS hosted conference (Active Control)

When a video system is enabled for Active Control in a CMS (2.3) conference you can mute remote participants from the participant list on the Touch 10 or on-screen UI (also required to be enabled on the CMS). If the remote system is on CE9.2.1 the mute state will be reflected on the CMS and locally on the Touch 10 and microphone mute state LED.

You cannot un-mute a remote participant on CE9.2.1 that is also muted locally for privacy reasons, but when requested a message will pop up on the remote system saying that the remote participant requested you to un-mute your microphone. The remote user must manually un-mute.

You can mute third-party far end participants and participants that are running unsupported software as well, but then it will not be reflected locally and they will be muted on the CMS side only.

Please see the CMS API documentation on how to enable this feature on the CMS by following the link below.

<https://www.cisco.com/c/en/us/support/conferencing/meeting-server/products-programming-reference-guides-list.html>

In-Room Control

New features added to In-Room Control where you can enable a custom text, pin or password input prompt from the xAPI. The In-Room Control editor now also has a virtual Touch 10 where you can try out your features from the web interface.

Widgets

The widgets with state (toggle button, slider and group button) now set their state in xStatus immediately when an action occurs, such as a user toggling the toggle button or moving the slider. Previously the GUI updated itself 'optimistically' without reflecting it in the xStatus and relying on the controller to confirm the change explicitly by setting the xStatus widget value. This change fixes some confusing GUI behavior, since if you forgot to set the state the GUI and xStatus values could easily get out of sync.

It also solves a design bug that you sometimes were not able to override the GUI state from your controller.

Note that you must still make your controller/macro update the widget values as before to reflect what happens on the controller side for example, someone turns on the light using the light switch on the wall or someone changes a configuration in the xAPI.

Because the codec will update the xStatus value before the UI event occurs it will not cause race conditions between the codec and the controller. So, if the controller decides to override a widget value, this command will always arrive after the update done by the codec earlier.

Preview mode

The In-Room Control editor has a new preview mode. A virtual Touch 10 panel will be available for you to see how the design looks like on the Touch 10 panel. The UI is interactive and lets you test the functionality as well as print out the widget values when interacted with in the console located on the same page. This will make it easier to create In-Room Control functionality remotely and test the functionality on demand. When the virtual Touch 10 is interacted with, it will also produce real events on the video system to trigger any functionality you have created with a third-party control system or with a macro. The console will also display any control system feedback messages, to be sure that the control system and In-Room Control UI is in sync. Keep in mind that some widgets, as mentioned in the Widgets section above, now also updates the xStatus values when interacted with and will appear in the console (under "Control system") before the actual GUI event. This is the expected behavior.

To access the preview mode, locate and click the "eye" icon in the In-Room Control editor.

Briefing Room

Briefing Room mode is not a new feature but is re-instated to be supported from CE9.2.1. Briefing room mode is now also supported with Cisco TelePresence SX80 connected to a Cisco Spark Quad Camera. All briefing room mode requirements still apply, please read the administrator guide for more information.

Note: Briefing Room layouts will be controlled by In-Room Controls that will overwrite any existing In-Room Control panels on the video system. Please make sure to back up any In-Room Control designs before enabling Briefing Room mode. These can be added to the In-Room Control setup after Briefing Room mode is enabled.

Briefing Room Mode is only supported on Cisco TelePresence SX80, MX700 and MX800 Dual with three screens, SpeakerTrack 60 or Quad Camera (SX80) and an additional Precision 60 camera for PresenterTrack.

Note: Content Share to Clients, which is an Intelligent Proximity service, will be disabled to avoid high load scenarios that may affect other use cases when Briefing Room mode is enabled.

Other features or changes

Removed Intelligent Proximity indicators and UI toggle

The video system will no longer display the Proximity icon in the top left corner of the screen when enabled. The button for toggling the Proximity services on and off is also removed.

Proximity will still be configurable from the xAPI and the web interface. When a client is paired to the video system you will see the Proximity icon right part of the screen to indicate that one or more clients are paired to the system with Cisco Proximity.

Tip: If Cisco Proximity controls are required, it can be solved for example, with In-Room Controls together with the new Macro framework as with many other scenarios. A collection of downloadable pre-written macros for scenarios like this will soon be available.

Changing the device activation from the UI will reset some of the system configurations

A behavioral change in CE9.2.1 is that the system will now erase all of the call service settings and reboot to ensure that all settings are correct before changing the device activation method for example, from VCS to UCM activation. This will avoid conflicting configurations when you are provisioning your video system to a new service.

Please note that this will also erase all contacts and call history. Make sure you take a backup of these before changing the device activation.

New features and functionality in CE9.1.6

- This is a minor release and only contain fix for CSCvj32935
- Android to CE9.1.6 conversion software released for DX70 and DX80

New features and functionality in CE9.1.5

- Minor release and contains bug fixes
- Fixes WPA2 related vulnerabilities (KRACK) – CSCvf71761
- Android to CE9.1.5 conversion software released for DX70 and DX80

New features and functionality in CE9.1.4

- Minor release and contains bug fixes
- Support for Cisco Spark Room Kit Plus + Precision 60
- Android to CE9.1.4 conversion software released for DX70 and DX80

New feature and functionality descriptions

CE9.1.4

Support for Cisco Spark Room Kit Plus + Precision 60

Cisco Spark Codec Plus paired with a Cisco Spark Quad Camera is Cisco Spark Room Kit Plus.

Support for connecting Precision 60 cameras to the Cisco Spark Codec Plus is available with the release of CE9.1.4. Precision 60 cameras can be used in addition or replace the Cisco Spark Quad Camera up to a total of two cameras.

Please note that connecting multiple cameras to Cisco Spark Room Kit Plus require an external switch to be connected to the camera control port.

New features and functionality in CE9.1.3

- Minor release and contains mostly bug fixes
- Software support for Cisco Spark Room 55
- Applied a filter to increase speech intelligibility on G.729 codec.

New features and functionality in CE9.1.2

- No new features are introduced with CE9.1.2.
 - Contains a fix for bug CSCve94476

New features and functionality in CE9.1.1

- Support for Cisco Spark Room Kit Plus
 - Cisco Spark Quad Camera speaker tracking
 - Feature parity with Cisco Spark Room Kit
- Dual Screen Experience for CMS based meetings
 - Active Control
 - Supported video systems
- New wakeup experience
- Bluetooth headset support for DX70 and DX80
 - Bluetooth controls
- Wi-Fi: WPA-EAP
 - Trusted CA certificates
- Minor changes
 - Additions for Room Analytics

New feature and functionality descriptions

CE9.1.1

Support for Cisco Spark Room Kit Plus

Cisco Spark Room Kit Plus is a new room system in the Cisco Spark Room Series that can be registered to use the Cisco Spark cloud service or existing on premise infrastructure. For UCM registration, please make sure you have installed the latest device pack.

For more information on the Cisco Spark Room Kit Plus hardware and technical specifications, please refer to the product data sheet here:

<http://www.cisco.com/c/en/us/products/collateral/collaboration-endpoints/spark-room-kit-series/datasheet-c78-738752.html>

Please note when upgrading this system from CUCM you must specify the software with the “.loads” extension and not “.pkg”. The “.pkg” file do not include software for the Cisco Spark Quad Camera.

Cisco Spark Quad Camera speaker tracking

Cisco Spark Room Kit Plus comes with an external camera module with integrated loudspeakers and four 5k lenses that enhances the SpeakerTrack experience.

Look behind the scenes by enabling the SpeakerTrack diagnostics mode directly on the Touch 10 panel. In this mode, it is easy to see how the image is cropped, how many people is detected in the room currently and which lens is currently in use.

Feature parity with Cisco Spark Room Kit

As with Cisco Spark Room Kit the Cisco Spark Room Kit Plus supports the following features

- Speaker tracking
- Best overview
- Wi-Fi
- Room Analytics
- Support for upgrading firmware with COP files
- Cisco recommended screens for the best 4K experience

Dual Screen Experience for CMS based meetings

Dual screen video systems can now utilize both screens for video in a CMS based meeting for an optimal meeting experience. The video system receives two transcoded video streams and one content stream from the CMS and utilizes both screens to render the streams.

Active control

With Active Control enabled on the video system you get the best meeting experience including a participant list that shows all the participants in the meeting and their current activity status, such as mute, sharing and active speaker indication for each participant.

You can change the layouts seamlessly from the Touch 10 panel using the familiar layout selection panel (no DTMF tones required).

Supported video systems

To enable this feature, you need a CMS 2.2 or above, CUCM 11.5 / VCS X8.7 or above and a dual screen video system.

See the support matrix below:

Supported video systems	Unsupported video systems
Cisco TelePresence SX80	Cisco TelePresence MX200 G2 and MX300 G2
Cisco TelePresence MX800, MX800D and MX700	Cisco TelePresence SX10 and SX20 Quick Set
Cisco Spark Room Kit	
Cisco Spark Room Kit Plus	
Cisco Spark Room 55	
Cisco Spark Room 70	

The supported room devices must be in a two-screen setup and have the Conference MultiStream configuration set to "Auto". The default value for this setting is "Auto".

Note: When the system is in a three-screen setup, for example the Cisco TelePresence SX80, MX700 or MX800, the third screen will be reserved for content while in a dual screen call.

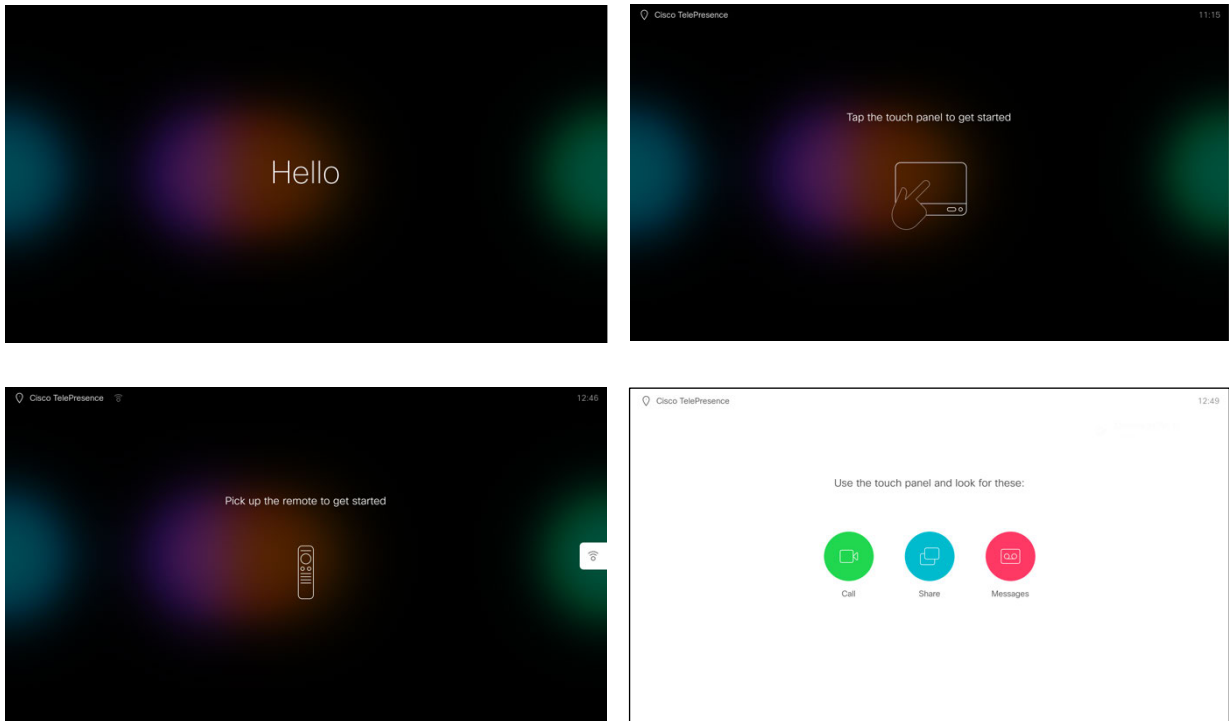
Please refer to the CMS deployment guides on how to enable this feature on the CMS.

New wakeup experience

The new wake-up experience in CE9.1.1 introduces a Halfwake state, which leads to a calmer wake-up of the system, and gives users better guidance on how to get started. This feature builds upon the wake up on motion detection feature introduced in CE9.0.1.

When wake-up on motion detection is enabled (not available for DX70 and SX10) the system will automatically wake to the Halfwake state when people enter the room. Also, the system will wake to this state when a user pairs a Cisco Proximity client to the system (all systems).

The video system will wake up with a greeting before going into the “Halfwake” state with simple guidance how to get started.



Depending on the system, whether it is controlled by a TRC6 remote control or a Touch 10 panel the guidance text will automatically adapt to the current configuration. If you have a Touch 10 panel connected and wake up the system by tapping the touch screen further guidance will be displayed on-screen instead of the large clock that was displayed in earlier software versions.

Note that Proximity mode must be enabled in order to use the WakeUpOnMotionDetection feature. No other Proximity services needs to be enabled. Please see the limitation section in this document for known limitations.

Bluetooth headset support for Cisco DX70 and DX80

The video system has a built-in Bluetooth module. The user can enable Bluetooth in the settings menu from the on-screen UI to set the video system in pairing mode. Please read the instruction manual on how to set the headset in pairing mode. Select the headset from the list on the video system when it is discovered to start pairing. When the headset is showing status as “connected” you can start using it.

- Note that you can select between handset, Bluetooth headset, USB headset and speaker by pressing the icon in the top right corner next to the self-view icon on the home screen.
- You can have paired several headsets that will be stored in the pairing list, but only one can be connected at a time. If you pair and/or connect a new headset while already using a different headset, the new headset will take over as the active headset.
- The headset must support HFP (Hands Free Protocol) and A2DP in order to be supported. This can be verified in the documentation that came with the headset. Please note that there may be some deviations in the HFP and A2DP implementation for some headsets. This may cause pairing or audio playout to fail so we cannot guarantee that all headsets in the market supporting these protocols will work.
- The DX70 and DX80 currently only support narrowband audio. For wideband audio, we recommend connecting the Bluetooth dongle to video system. Then the headset will be detected as a USB headset. This will be fixed in a future software release.

Bluetooth controls

Some headsets have extra controls for volume up/down, answer/hang up call and mute. The video system supports the following depending on the headset implementation of these controls:

- Volume up, Volume down, Answer call, Disconnect call, Mute

Please see the limitation section in this document for known limitations.

Wi-Fi: WPA-EAP

This applies to video systems that currently have Wi-Fi support, Cisco DX70, Cisco DX80, Cisco Spark Room Kit, Cisco Spark Room Kit Plus and Cisco Spark Room 55.

Added support for the WPA-EAP framework with the below methods.

Supported WPA-EAP methods	Supported inner methods
PEAP	EAP-MSCHAPv2
EAP-TLS	EAP-GTC
EAP-TTLS	
EAP-FAST	

Trusted CA certificates

A trusted CA certificate may be required for connecting to a WPA-EAP enabled Wi-Fi network. Use of CA certificate for validation is highly recommended to avoid man in the middle scenarios. The CA certificate can be uploaded via the web interface of the video system. Note that in order to upload the certificate the system must be connected to either a wired network or a WPA-PSK Wi-Fi network before connecting to the WPA-EAP enabled network that requires a trusted certificate. There is currently no support for mass distribution of CA certificates to the video systems, but this may become available in a future software version.

You can configure the video system to require a CA certificate in order to connect to a WPA-EAP enabled Wi-Fi network. If there is no CA certificate installed on the video system when selecting Wi-Fi configuration in the GUI, a warning will be displayed. This setting is turned off by default.

Minor changes

Additions for Room Analytics

Two additional features are available for the Room Analytics feature in CE9.1.1.

Detect people presence in the room

The video system has the capability to find whether or not people are present in the room. It takes a minimum of two minutes to detect whether people are present or not in the room, and for the status to change. This feature is based on ultrasound. It will not keep record of who was in the room, only whether or not the room is in use or not.

The feature is supported for all systems supporting ultrasound except for the Cisco TelePresence SX10 QuickSet and Cisco TelePresence DX70 for the same reasons it does not support wake up on motion detection. The feature can be enabled via the web interface of the video system.

People count

People count was introduced in CE9.0.1 for the new Cisco Spark Room Series and could only count the people present in the room while the video system was in a call or when it displayed the self-view picture. In CE9.1.1, this feature can be enabled to count the number of people present in the room when the system is outside of a call, as long as the system is not in standby. It will not keep record of who was in the room, only the number of faces that were detected.

Configuration to disable the secondary network port on Cisco DX70 and DX80

You can disable the secondary network port on the Cisco DX70 and Cisco DX80 with the following configuration: `xConfiguration NetworkPort 2 Mode: <On, Off>`.

New features and functionality in CE9.0.1

- Support for Cisco Spark Room Kit
 - Speaker tracking
 - Best overview
 - Wi-Fi support
 - Room Analytics
 - Support for upgrading firmware with COP files
 - Cisco recommended screens for the best 4K experience
- Updated user interface “Activity Circles”
 - Touch 10 updates
 - New phonebook and share tray UI
 - Keyboard improvements on Touch 10 and Cisco DX70/DX80
 - Call forward on Touch 10
- Wakeup on motion detection
- Updated In-Room Control Editor
- Minor changes
 - Support for HTTPS client certificates
 - New Briefing Room controls
 - Local Contacts is renamed to Favorites in the web interface
 - Added language: Portuguese

New feature and functionality descriptions

CE9.0.1

Support for Cisco Spark Room Kit

Cisco Spark Room Kit (Room Kit) is a new room system in the Cisco Spark Room Series that can be registered to use the Cisco Spark cloud service or existing on-premise infrastructure. For UCM registration, please make sure you have installed the latest device pack.

For more information on the Room Kit hardware and technical specifications, please refer to the product data sheet here:

<http://www.cisco.com/c/en/us/products/collateral/collaboration-endpoints/spark-room-kit-series/datasheet-c78-738729.html>

Speaker tracking

SpeakerTrack is a feature that has been around for a while and has only been available on SX80, MX700, MX800 and MX800 Dual.

Cisco Spark Room Kit comes with a non-movable integrated camera that has digital speaker tracking functionality to locate and frame the active speaker in the room using the integrated microphones.

Best overview

Cisco Spark Room Kit uses digital face detection to automatically create the best view of a single person or a group of people in the conference room. If people are moving around in the room or additional participants enters the conference room, the feature will adopt to the changes and automatically adjust the view to include all persons in the picture. This feature works together with speaker tracking to provide the best possible conferencing experience.

Wi-Fi support

Cisco Spark Room Kit has support for Wi-Fi connectivity. Touch 10 must be directly paired to the Cisco Spark Room Kit in order to configure Wi-Fi.

Supported IEEE standards	Supported security protocols
IEEE802.11ac, IEEE802.11n, IEEE802.11a, IEEE802.11g, IEEE802.11b	WPA-PSK (AES), WPA2-PSK (AES)

Support for additional enterprise security protocols will come in a later Collaboration Endpoint Software release. Please refer to the product data sheet for more detailed information.

Access the network settings via the Touch 10 panel and connect to a wireless network. In order to use the Wi-Fi, you must disconnect the Ethernet cable if connected. A notification will be displayed if the system detects that you are connected with an Ethernet cable and that you cannot proceed until you have disconnected the Ethernet cable.

Ethernet will always take precedence over Wi-Fi if connected.

If you are connecting to an unsupported network, a notification will be displayed on the Touch 10 panel that the system does not support the specific network.

Room Analytics

Room Analytics is a feature that uses the face detection to count the average number of people present in the conference room during a video call. The data can be used to generate room usage reports. The room system will collect data that can be retrieved through the system API or from the Call History, manually or automatically by third party integrations.

Support for upgrading firmware with COP files

Cisco Spark Room Series can be upgraded directly using COP files via the web interface. This is the only package format released for the Cisco Spark Room Series.

Cisco recommended screens for the best UHD experience

Cisco recommends using the following LG screens together with Cisco Spark Room Kit and Cisco Spark Room Kit Plus for the best 4K experience* and verified CEC 2.0 compatibility.

Model	LG global website link
49" UHD (49UH5C)	http://www.lg.com/global/business/information-display/digital-signage/lg-49UH5C
55" UHD (55UH5C)	http://www.lg.com/global/business/information-display/digital-signage/lg-55UH5C
65" UHD (65UH5C)	http://www.lg.com/global/business/information-display/digital-signage/lg-65UH5C
75" UHD (75UH5C)	http://www.lg.com/global/business/information-display/digital-signage/lg-75UH5C
86" UHD (86UH5C)	http://www.lg.com/global/business/information-display/digital-signage/lg-86UH5C
98" UHD (98UH5C)	http://www.lg.com/global/business/information-display/digital-signage/lg-98LS95D

*Cisco recommends use of high quality HDMI 2.0 certified cables. Lower quality cables may work but may also have an impact on the image quality. If you experience problems and do not have access to high quality cables, try using shorter HDMI cables.

Updated user interface “Activity Circles”

Activity Circles is the name of the new UI released with CE9.0.0 to align the user interface across the collaboration portfolio, including Spark Room OS UI and other Cisco Spark platforms for example, the Cisco Spark Board.

The UI updates includes a change of default background image, new icons and visual design.

Touch 10 updates

Cisco Touch 10 has a new user interface that is identical to the Touch 10 UI for Cisco Spark registered endpoints and similar to the on-screen user interface of a Cisco DX70 or Cisco DX80 that is running Collaboration Endpoint Software 9.

Compared to the UI in CE8 the Touch 10 panel is currently missing some features that may be added in a later release. Please see below for a list of features that is currently missing from the Touch 10 panel with the new UI.

Feature gaps

Features	CE8	CE9
Subset of settings has password protection (Factory reset, network, un-pairing of Touch 10, provisioning)	Yes	From CE9.2.1
Localized keyboard	Yes	From CE9.2.1 (Russian, Hebrew, Arabic)
Adjust call rate in phonebook	Yes	From CE9.3.0
Snap to whiteboard configuration	Yes	From CE9.2.1 (Requires a SpeakerTrack enabled system)
Arabic and Hebrew (Inverted UI and text direction)	Yes	From CE9.2.1
Manual clock adjustments, duplex settings, network DNS domain, auto answer, default call rate, camera white balance, exposure and backlight compensation, DVI output mode, main source selection, speaker track adjustments (tracking mode), multipoint mode configuration, change ringtone and key tones on/off.	Yes	Can be configured via the codec web interface

New phonebook and share tray UI

As part of the new UI update, the phonebook and share tray have been updated. The phonebook and share tray is rendered in full screen and has a refreshed look.

Keyboard improvements on Touch 10 and Cisco DX70/DX80

The Touch 10 keyboard has been updated to be larger and also include a dial pad button. An additional page of special characters has also been added.

Call forward on Touch 10

Call forward can be configured on Touch 10 and display a notification that all calls are being forwarded while active. UCM is required to utilize this feature.

Wakeup on motion detection

Wakeup on motion detection is a feature that will sense when a person walks into the conference room using audio technology. The system will wake up automatically. This feature is turned off by default, and when enabled you will not be able to manually place the system in standby.

Improved In-Room Control editor

The In-Room Control editor is updated with a new look, improved logic and usability for producing a control interface more efficiently. In addition, a new directional pad widget is added.

An In-Room Control simulator is also added to demonstrate some of the functionality you can gain with the power of In-Room Controls together with third party equipment. The virtual simulation room has a number of common peripherals that you can control using the virtual Touch 10 panel or export directly to your physical Touch 10 and control the virtual room using this. This feature is only for demonstrational and inspirational purposes.

The simulator is available in the codec web interface under Integrations → In-Room Control.

Minor changes

Support for HTTPS Client certificates

By enabling HTTPS client certificate verification, the system will ask the user for a client certificate when they attempt to access the login page of the codec. CA certificate is required and must be uploaded to the codec.

The client certificate is used automatically to verify the LDAP user when LDAP authentication is utilized. A user DN can be manually configured on a local user to match a client certificate.

New Briefing Room controls

With the new UI, Briefing Room mode now enables In-Room Control panels for controlling the Briefing Room layouts. Please note that Briefing Room must be enabled after you have upgraded to CE9. If you have upgraded with Briefing Room enabled, you must disable and re-enable the feature to enable the controls. See the known limitation section for more information.

Local Contacts is now renamed to Favorites in the web interface

To align the naming convention on the Touch 10 and the web interface for contacts stored locally, Local Contacts has been renamed to Favorites in the web interface. Functionality has not changed.

Added language: Portuguese

To align the naming convention on the Touch 10 and the web interface for contacts stored locally, Local Contacts has been renamed to Favorites in the web interface. Functionality has not changed.

Open and resolved caveats in CE9

Using the Bug Search Tool

You can use the Bug Search Tool to find information about caveats (bugs) for this release, including a description of the problems and available workarounds. The Bug Search Tool lists both open and resolved caveats. **No subset of open or resolved bugs will be listed in the release notes.** A pre-defined link will provide the correct list of all open or resolved bugs. Please note that the "Series/Model" listed in the pre-defined search is universal and will list all relevant bugs relating to all products that runs Collaboration Endpoint Software.

To use the Bug Search Tool, follow these steps:

Step 1 Access the Bug Search Tool by navigating to <http://www.cisco.com/cisco/psn/bssprt/bss>

Step 2 Log in with your Cisco.com user ID and password.

Step 3 To look for information about a specific problem, enter the bug ID number in the 'Search for bug ID' field, then click 'Go'.

Use the below links to access the open and resolved caveats lists for a specific software release.

Software version	Resolved caveats	Open caveats
CE9.3.2	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.3.2&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9,8&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.3.1	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.3.1&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.3.1&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.3.0	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.3.0&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.3.0&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.2.6	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.6&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.6&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV

CE9.2.5	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.5&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.5&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.2.4	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.4&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.4&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.2.3	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.3&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.3&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.2.2	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.2&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.2&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.2.1	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.1&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.2.1&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.1.6	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.6&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.6&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.1.5	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.5&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.5&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.1.4	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.4&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.4&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.1.3	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.3&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.3&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV

CE9.1.2	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.2&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.2&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.1.1	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.1&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.1.1&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV
CE9.0.1	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.0.1&sb=fr&sts=fd&bt=custV	https://bst.cloudapps.cisco.com/bugsearch/search?kw=*&pf=prdNm&pfVal=283661039&rls=9.0.1&sb=anfr&sts=open&svr=3nH&scs=hSc&bt=custV

Known limitations and advisories

Limitations and advisories

Equipment / Feature	Summary
Spark activation	<p>In order to activate a system on Cisco Spark with a LAN paired Touch 10 panel, you must pair the Touch 10 before you activate the system on Cisco Spark.</p> <p>We recommend that you upgrade to the latest available CE version before activating your device on Cisco Spark.</p>
CUCM	<p>H.323 and SIP consideration when provisioned by CUCM</p> <p>When using CUCM provisioning, the endpoint cannot register to a VCS (SIP or H.323) at the same time. This use-case is not supported. When CUCM provisioning is active, H.323 mode is disabled. We recommend TelePresence customers to migrate from H.323 to SIP.</p> <p>Please note that being registered to CUCM without having provisioning mode set to "CUCM" is not a supported scenario.</p> <p>NTP</p> <p>The collaboration endpoints do not support broadcast NTP servers from CUCM, unicast only.</p>
Mobile Remote Access	<p>Clustered CUCM failover does not work as expected with VCS X8.10 CE software and MRA</p> <p>Failover between clustered CUCM nodes does not work as expected on all current CE versions including CE9.1.2 and below. This is fixed in CE9.1.3.</p> <p>Provisioning a backup bundle is currently not supported over MRA</p>
Cisco TelePresence DX70 and DX80	<p>Scheduled meetings in TMS</p> <p>From CE9.1 and above the value space for bandwidth was changed from 6000 to 3072, which causes the DX system call to fail as TMS (<=15.6) uses 6000Kbps as a default hardcoded value. It can be worked around by changing the bandwidth in the meeting from TMS or have the bridge dial the systems instead of the DX systems dialing in.</p>

Cisco TelePresence SX10 Quick Set	<p>Feature limitations</p> <p>Due to platform stability issues, some features may not be supported with SX10. In CE9.2.1 the Branding and Macro framework feature is currently not supported but may be added in the future.</p>
Cisco TelePresence SX20 Quick Set	<p>Microphone mute button</p> <p>It is a known issue that the SX20 Quick Set with PID CTS-SX20CODEC microphone mute button is still lit (red or green) when the system is not in a call. This is resolved in newer hardware revisions of the SX20 Quick Set with PID CTS-SX20N-CODEC running CE9. The PID number is located on the bottom side of the codec.</p>
Cisco TelePresence SX80, MX700, MX800, MX800D	<p>Bandwidth limitation</p> <p>The maximum available bandwidth for these systems is limited to 6000 kbps (previously 10000 kbps) due to a limitation related to high load on the endpoints. A fix for this is planned for a future release.</p>
SIP	<p>SIP Listen Port diagnostics warning</p> <p>When registered to a SIP proxy and SIP Listen Port is enabled, a diagnostics warning will be displayed in the web interface "SIPListenPortAndRegistration". We recommend that SIP Listen Port is turned off when registered to a SIP proxy</p>
H.265	<p>H.265 will only work with SIP</p> <p>The H.265 protocol will only work with SIP and is currently only supported with SX80/MX700/MX800/MX800D and Cisco Spark Room Series (p2p).</p>
Multistream with Cisco TelePresence Server	<p>This feature is deprecated and no longer supported with CE9.0.0 and above.</p>
Cisco Intelligent Proximity	<p>Please refer to the Cisco Support Forums for questions and support</p> <p>http://www.cisco.com/web/go/proximity-support</p> <p>Troubleshooting guide</p> <p>https://supportforums.cisco.com/document/12159326/troubleshooting-guide-cisco-proximity</p> <p>Strong Security mode (JITC)</p> <p>If strong security mode is enabled, Proximity traffic will intentionally be blocked by the Collaboration Endpoint. Proximity should be turned off while the system has Strong Security mode enabled.</p> <p>Sharing via Proximity in a meeting and sending resolution of</p>

	<p>1440x900 can potentially crash the codec. This issue will be resolved in CE9.1.3. The workaround is to set a different resolution on your PC or MAC.</p> <p>Content Share to Clients are disabled when SX80/MX700/MX800 are in Briefing Room mode due to high load issues.</p>
Touch 10	<p>Bug ID: CSCum67440</p> <p>An area may appear dead on the Touch 10 controller's screen if this area has been touched during start-up of the panel. In the start-up phase, a touch calibration process takes place. If something is in contact with the touch panel at this time, this area may lose its function until the Touch 10 has been restarted. Do not touch the touch panel during boot to avoid this.</p> <p>After upgrading from TC to CE the Touch 10 may need to be rebooted</p> <p>A limitation with the software may cause a remotely paired Touch 10 to hang after an upgrade from TC to CE. In order to resolve this issue, unplug the Touch 10 and re-plug it so the Touch 10 will reboot.</p> <p>Facility service</p> <p>Facility service is only supported with Touch 10.</p>
Web interface	<p>Bug ID: CSCul35568</p> <p>Due to lack of cipher suite support in IE8 running on Windows XP, HTTPS access is not possible due to Cisco security requirements. Chrome, Firefox and Opera browsers work fine. These browsers have the necessary cipher suite support. IE8 works fine with Windows Vista, Windows 7 and Windows 8.</p> <p>Support for TLS 1.0 has been deprecated</p> <p>Please use a browser that supports TLS 1.1 and above.</p>
SNMP	<p>Bug ID: CSCtq44757</p> <p>The Collaboration Endpoint Software is configured with the default SNMP community strings. This is needed for "plug and play" functionality. SNMP community strings should be treated as credentials, and therefore these must be changed after initial configuration.</p> <p>SNMPv1 Not supported in CE9</p> <p>SNMPv1 is not supported in CE9, Cisco recommends using other versions of SNMP.</p>
Security	<p>Bug ID: CSCtr32420</p> <p>The codecs shipped with Collaboration Endpoint Software do not meet the Cisco standard passphrase policy. Cisco recommends users to set a passphrase on the system when installed to avoid the system</p>

	from being compromised.
Encryption	<p>Bug ID: CSCvd33159</p> <p>The AES-256 encryption algorithm (supported for SIP from CE8.3.0) may cause some interoperability issues with endpoints that do not have support for this, for example E20. From CE8.3.3 and CE9.1.3 this algorithm can be filtered away by adding it to the codec cap set filter to work around these issues.</p>
IPv6	<p>Bug ID: CSCuo94615</p> <p>Option 242 from DHCPv6 is not supported on endpoints running Collaboration Endpoint Software.</p>
Management	<p>TLS 1.0 for HTTPS not supported by endpoints running CE8.1.0 and above.</p> <p>If the system after upgraded to CE8.1.0 or above (including CE9.x) is showing no HTTPS response in TMS, please make sure that TLS1.1 or TLS1.2 is enabled on the TMS server.</p>
Camera Presets	<p>Bug ID: CSCux71105</p> <p>When upgrading from TC software to CE software all camera presets are lost. This is a hard limitation and will not be resolved in software.</p>
PresenterTrack	<p>PresenterTrack is disabled in MultiSite calls</p> <p>The PresenterTrack feature is not available in MultiSite calls.</p> <p>Note that PresenterTrack will work in a Dual Screen call with CMS from CE9.</p> <p>Trigger zone configuration</p> <p>There is a known limitation when configuring the trigger zone via the web interface; whenever the blue squared is moved around and placed the trigger zone will be saved (regardless if the "save" button is pressed or not. The blue square that is displaying in the selfview on the endpoint do not disappear until the configuration has been saved manually from web or activated the PresenterTrack preset from the Touch 10.</p>

Briefing Room	<p>Briefing Room does not work properly in CE9.0.x and CE9.1.x</p> <p>There are multiple issues with Briefing Room in the mentioned software to the point where the feature does not work as expected. Cisco recommends everyone that is using Briefing Room on these software versions to turn it off or downgrade to the latest CE8.3.x version available. This is resolved in CE9.2.1.</p> <p>Bug ID: CSCvd83107</p> <p>If you have upgraded from CE8.x or lower to CE9.x with briefing room mode enabled before performing the upgrade, you are required to disable and re-enable briefing room mode for the controls to appear.</p> <p>Also, make sure you have a backup of your existing In-Room Control configurations if any as this operation will overwrite any existing panels you may have on the home screen or in-call. Briefing Room is utilizing In-Room Controls to control the layouts. Any new In-Room Controls must be supplemented to the existing briefing room control panel.</p> <p>Downgrading back to CE8 while In-Room Control is enabled on CE9 will still display the controls activated in CE9, but they will not have any functionality and can safely be removed using the in-room control editor.</p> <p>From CE9.2.1 echo cancelling is changed to mono on MX700 and MX800 in Briefing Room mode.</p>
Startup Wizard	<p>While the Startup Wizard is active the system will have “Do Not Disturb” mode enabled by design. The DND mode cannot be turned off while the Startup Wizard is active. To remove the Startup Wizard, finish the Startup Wizard normally by following the steps or turn off the “RunStartupWizard” by setting the value to “False”. If the Startup Wizard is active, a diagnostics message will be active in the web interface with a link to the configuration in order to turn it off. This should only be done by advanced users that wants to configure the system manually.</p>
Presentation	<p>Bug ID: CSCuh68226</p> <p>No video is displayed to share as content from a MacBook Air when using a MiniDisplay Port to VGA dongle, where a MacBook Pro has no issues displaying video as content. This is considered to be an Apple problem.</p>

<p>Custom Wallpaper</p> <p>Custom Branding</p>	<p>Bug ID: CSCvb67596</p> <p>A system using custom wallpaper will not display on-screen elements for example; custom branding, the clock, today's bookings or One Button to Push. This limitation is intentional as we do not know how these elements will appear on customized wallpapers. On-screen operated systems like Cisco TelePresence SX10, SX20, DX70 and DX80 are more affected by this limitation due to the lack of OBTP join mechanism compared to systems operated by a Touch 10.</p> <p>A workaround was introduced in an earlier release to make a meeting reminder appear on-screen when the meeting starts (early reminders are not supported) to allow on-screen operated systems with custom wallpaper to join the meeting using OBTP. Note: If the reminder is dismissed the meeting must be joined manually.</p>
<p>New wakeup experience</p> <p>WakeUpOnMotionDetection</p>	<p>Proximity mode must be enabled</p> <p>Currently, Proximity mode must be set to enabled for WakeUpOnMotionDetection to work. The endpoint does not emit ultrasound if Proximity is turned off. No Proximity services is required to be enabled, only Proximity mode.</p> <p>WakeUpOnMotionDetection is not supported for Cisco TelePresence SX10 QuickSet or Cisco DX70</p> <p>Due to hardware limitations, the SX10 and DX70 do not support the WakeUpOnMotionDetection feature. The configuration is still available and can be turned on, but may not work as expected. The feature may be supported in the future for these systems.</p> <p>DX80</p> <p>WakeUpOnMotionDetection is supported but turned off by default.</p>
<p>Bluetooth on DX</p>	<p>Some features, for example a smart sensor that activates the headset when worn, may not work well together with the video system. Try turning those features off when used together with the Cisco DX70 and DX80</p>
<p>HTTP Proxy</p>	<p>Auto configuration</p> <p>In some cases, the auto configuration will not let you register to Cisco Spark immediately. Please wait a few minutes until the software has been updated and it should register. If you are still experiencing issues, please try to use manual proxy configuration. A fix for this issue will come in a future release.</p>

<p>Macro framework</p>	<p>The Macro Framework runs the code locally on the codec and is currently isolated to the xAPI. You cannot receive or initiate remote network connections using the Macro Scripts.</p> <p>You can create up to 10 individual macro scripts on a supported video system.</p> <p>For support, please visit the Cisco TelePresence Support forums.</p> <p>For learning please visit: https://developer.cisco.com/site/roomdevices</p>
<p>Wi-Fi</p>	<p>WPA-EAP</p> <p>There is currently no diagnostic message for expired certificates</p> <p>CA Certificates</p> <p>CA certificates must be uploaded per endpoint. There is currently no way to mass-distribute certificates to endpoints running software version < CE9.2.1. Please also note that the endpoint must be connected to a wired or WPA2-PSK wireless network in order to upload a certificate before attempting to connect to a WPA-EAP enabled network that requires a CA certificate.</p> <p>Network paired Touch 10 not supported when the video system is connected via Wi-Fi</p> <p>Even though this connectivity works, you may end up in cumbersome scenarios if the Wi-Fi connectivity is lost for any reason, for example when the Wi-Fi password is changed. In order to reconfigure the Wi-Fi connection, you need to setup a direct pairing between the video system and the Touch 10 before reconnecting the Touch 10. When the video system is using Wi-Fi connectivity Cisco recommends that you have the Touch 10 directly paired with the video system.</p>
<p>Cisco Spark Quad Camera</p>	<p>Cisco Spark Room Kit Plus camera upgrade issue</p> <p>A weakness was discovered with the Cisco Spark Room Kit Plus. When a factory reset is performed on the Cisco Spark Codec Plus it erases a link to the camera software leaving the codec unable to upgrade the Cisco Spark Quad Camera if the software is not already in sync. The workaround was to re-install CE9.1.1 but this release is now deferred. The issue is resolved in CE9.1.2 and above.</p>
<p>ISDN Link</p>	<p>ISDN Link requires IPv6 to be enabled on the codec</p>
<p>Cisco Spark Room Series</p>	<p>Upgrading via CUCM</p> <p>Please remember to use the “.loads” extension when upgrading Cisco Spark Room Series and not “.pkg”</p>

Interoperability

The interoperability section describes the equipment and software revisions that have been tested for interoperability with this release. Please note: The absence of a device or revision from this section does not imply a lack of interoperability.

H.323 gatekeepers/traversal servers

Equipment	Software version	Comments
Cisco TelePresence System Video Communication Server (VCS)	X8.x	Both Assent and H.460.18/19 traversal technologies are supported

SIP registrars/proxies

Equipment	Software version	Comments
CUCM	9.1(2), 10.5, 11.0, 11.5, 12.0	Using the latest device packs are always recommended.
Cisco TelePresence System Video Communication Server (VCS)	X8.x	

Gateway interoperability

Equipment	Software version	Comments
Cisco ISDN Link	IL1.1.7, IL1.1.8	From CE9.3.0
Cisco ISDN GW 3241	2.2	

MCU interoperability

Equipment	Software version	Comments
Cisco Meeting Server (CMS)	2.x	
Cisco TelePresence Server 7010	4.3(x.x)	
Virtual TelePresence Server	4.3(x.x)	
Cisco TelePresence Server MSE 8710	4.3(x.x)	
Cisco MCU 53xx	4.5(x.x)	
Cisco MCU 42xx	4.5(x.x)	
Cisco MCU 45xx	4.4, 4.5(x.x)	
Cisco CTMS	Not supported	CTMS is not supported with endpoints running Collaboration Endpoint Software.

Streaming servers

Equipment	Software revision	Comments
Cisco TelePresence System Content Server	TCS7.x	

Management servers

Equipment	Software revision	Comments
CTS Manager	Not supported	CTS Manager is not supported with endpoints running Collaboration Endpoint Software

TelePresence Management Suite	15.6	15.6 or later is recommended (Cisco Spark Room 70 is supported in TMS from 15.6.1)
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Endpoint Interoperability

General information	Known affects endpoints		Comments
H.265 Interoperability	Polycom Lifesize Vidyo		<p>We have observed some interoperability issues with H.265 endpoints (SX80, MX700, MX800, MX800D, and Cisco Spark Room Series) and third-party endpoints. The symptom is no video coming from one or both directions.</p> <p>A workaround that in some cases can rectify the issue is to turn off H.265 on the above Cisco endpoints. From the web interface in "System Configuration" search for "H265" and set the Experimental Conference 1 VideoProtocol DisableH265 to "On".</p>
Cisco	Software version	Protocol	Comments
Cisco TelePresence System 500series 3x00series 1x00series TX9000 TX9200 TX1310	1.10.7 (Ten Bears)	SIP	720p30 max resolution point to point.
Cisco TelePresence System CTS500-32 TX1300 TX9000 TX9200	TX6.0.2 (Lago)	SIP	1080p30/60 support on Lago 1G codecs
Cisco TelePresence MX G1 Series	TC6.x, TC7.x	SIP/H.323	
Cisco TelePresence	TC6.x, TC7.x	SIP/H.323	

EX Series			
Cisco TelePresence C Series	TC6.x, TC7.x	SIP/H.323	
Cisco IP Video Phone E20	TE4.1.x	SIP/H.323	
Sony	Software version	Protocol	Comments
Sony PCS-1		H.323/SIP	Dual stream is limited to 1 FPS. The main video frame rate will never exceed 15 FPS.
Sony PCS-XG80		H.323/SIP	SIP Far End Camera Control does not work. SIP encrypted calls do not work. SIP/H.323 transfer does not work. Sony is unable to start presentation (BFCP).
Lync	Software version	Protocol	Comments
Microsoft Lync	2013	SIP over VCS trunk from VCS x8	Requires VCS X8 released September 2013.
Polycom	Software version	Protocol	Comments
Polycom VSX 7000		H.323/SIP	At a low video rate and with main video set to sharpness the VSX will not display any video. SIP/H.323 transfer does not work. H.264 is only used on lower bandwidths.
Polycom Real Presence Group 500		H.323/SIP	FECC controls do not work for incoming calls. Unattended H.323 transfer fails on incoming/outgoing calls. No video in unattended SIP transfers from CE to CE for outgoing calls.
Polycom Real Presence Group 300		H.323/SIP	FECC controls not available for outgoing / incoming calls. Unattended H.323 transfer disconnects all calls on outgoing calls. No video in unattended SIP transfers from CE to CE for outgoing calls.

			Unattended H.323 transfer succeeds but video is lost on both ends on incoming calls.
Polycom HDX 9000		H.323/SIP	
Polycom HDX 8000 HD		H.323/SIP	No video on SIP for outgoing calls to CE endpoints.

Cameras

Equipment	Software revision	Comments
Third party cameras	N/A	Third-party cameras may work with our codecs, but this is not tested and functionality cannot be guaranteed. TAC support may be rejected or limited.

xAPI Changes

We recommend endpoint configuration through the web interface and not from the xAPI command line.

The admin user has access to only a subset of relevant commands and configuration from the xAPI. The admin user can fully manage the system from the web interface where all the configurations are available. The remotesupport user has access to the full list of xAPI commands when utilized (requires TAC engagement).

Specific xAPI changes are not published in the release notes. Please refer to the Cisco API Reference Guides for the integrator products at the following location.

DX70 and DX80: <http://www.cisco.com/c/en/us/support/collaboration-endpoints/desktop-collaboration-experience-dx600-series/products-command-reference-list.html>

MX series: <http://www.cisco.com/c/en/us/support/collaboration-endpoints/telepresence-mx-series/products-command-reference-list.html>

SX series: <http://www.cisco.com/c/en/us/support/collaboration-endpoints/telepresence-quick-set-series/products-command-reference-list.html>

Cisco Spark Room Series: <http://www.cisco.com/c/en/us/support/collaboration-endpoints/spark-room-kit-series/products-command-reference-list.html>

Cisco TelePresence systems hardware dependencies

Introduction

Due to occasional updates to hardware components there can be constraints on running older software on newly manufactured endpoints. To identify an endpoints compatibility level, you can access the web interface of the endpoint and click on Configuration > System Status > SystemUnit. Scroll down to the compatibility level on this page. The below tables can be used to identify software constraints based on the compatibility level of your endpoint.

Downgrading to an unsupported software version will fail.

The latest software release is backward compatible with previous hardware revisions.

SX10

Compatibility level	Applicable systems	Description	Minimum software version	
			CE8	CE9
0	SX10	N/A	All	All
1	SX10	N/A	All	All
2	SX10	N/A	All	All
3	SX10	N/A	All	All

SX80, MX700, MX800 and MX800 Dual

Compatibility level	Applicable systems	Description	Minimum software version	
			CE8	CE9
0	SX80	N/A	All	All
0	MX700/MX800/MX800D	N/A	All	All

SX20, MX200 G2 and MX300 G2

Compatibility level	Applicable systems	Description	Minimum software version	
			CE8	CE9
2	SX20	N/A	All	All
3	SX20	N/A	All	All
4	SX20	N/A	All	All
5	SX20	N/A	All	All
0	MX200 G2	N/A	All	All
1	MX200 G2	N/A	All	All
2	MX200 G2	N/A	All	All
0	MX300 G2	N/A	All	All
1	MX300 G2	N/A	All	All
2	MX300 G2	N/A	All	All

DX Series

Compatibility level	Applicable systems	Description	Minimum software version	
			CE8	CE9
0	DX70	N/A	8.2.0	All
0	DX80	N/A	8.2.0	All

Cisco Spark Room Series

Compatibility level	Applicable systems	Description	Minimum software version	
			CE8	CE9
0	Cisco Spark Room Kit	N/A	N/A	All
0	Cisco Spark Room Kit Plus	N/A	N/A	9.1.1
0	Cisco Spark Room 55	N/A	N/A	9.1.3
0	Cisco Spark Room 70/70D	N/A	N/A	9.2.0

Cisco TelePresence Touch 10 hardware dependencies

New hardware revisions for Cisco TelePresence Touch 10

Systems that support Touch 10 are Cisco Spark Room Series, SX10(N), SX20(N), SX80, MX200 G2, MX300 G2, MX700, MX800 and MX800D.

The hardware revision number is displayed on the Touch controller during boot in the lower right corner on the touch screen.

Hardware revision	Applicable systems	Description	Minimum software version	
			CE8	CE9
102300-3 102310-0 102310-1	All	N/A	All supported codec software versions are compatible	
101282-0	All	N/A	8.3.3	9.1.1

Documentation

The following table lists documents and web sites referenced in this document. All product documentation can be found on our web site.

Name	Document reference
Cisco website	http://www.cisco.com
Cisco Software Download	http://www.cisco.com/cisco/software/navigator.html?i=lch
Cisco TelePresence User Documentation	http://www.cisco.com/go/TelePresence/docs

Latest software filenames

The released software filenames are listed in the following table.

Cisco Collaboration Endpoint	Encryption and Non-encryption* for CUCM	Encryption and Non-encryption*	Encryption and Non-encryption* bundle** for CUCM
SX10	cmterm-s52030ce9_3_2-748b9742af6.k3.cop.sgn	s52030ce9_3_2-748b9742af6.pkg	cmterm-ce9_3_2-748b9742af6.k3.cop.sgn
SX20	cmterm-s52010ce9_3_2-748b9742af6.cop.sgn cmterm-s52011cenc9_3_2-748b9742af6.k3.cop.sgn	s52010ce9_3_2-748b9742af6.pkg s52011cenc9_3_2-748b9742af6.pkg	cmterm-ce9_3_2-748b9742af6.k3.cop.sgn ***
SX80, MX700, MX800, MX800 Dual	cmterm-s52020ce9_3_2-748b9742af6.k3.cop.sgn	s52020ce9_3_2-748b9742af6.pkg	cmterm-ce9_3_2-748b9742af6.k3.cop.sgn
MX200 G2, MX300 G2	cmterm-s52010ce9_3_2-748b9742af6.k3.cop.sgn	s52010ce9_3_2-748b9742af6.pkg	cmterm-ce9_3_2-748b9742af6.k3.cop.sgn
DX80, DX70	cmterm-s52040ce9_3_2-748b9742af6.k3.cop.sgn	s52040ce9_3_2-748b9742af6.pkg	cmterm-ce9_3_2-748b9742af6.k3.cop.sgn
Conversion load	cmterm-synergy-ce9_1_6_no_defaults.cop.sgn		
Cisco Spark Room Series	cmterm-s53200ce9_3_2-748b9742af6.k3.cop.sgn	N/A	cmterm-ce9_3_2-748b9742af6.k3.cop.sgn

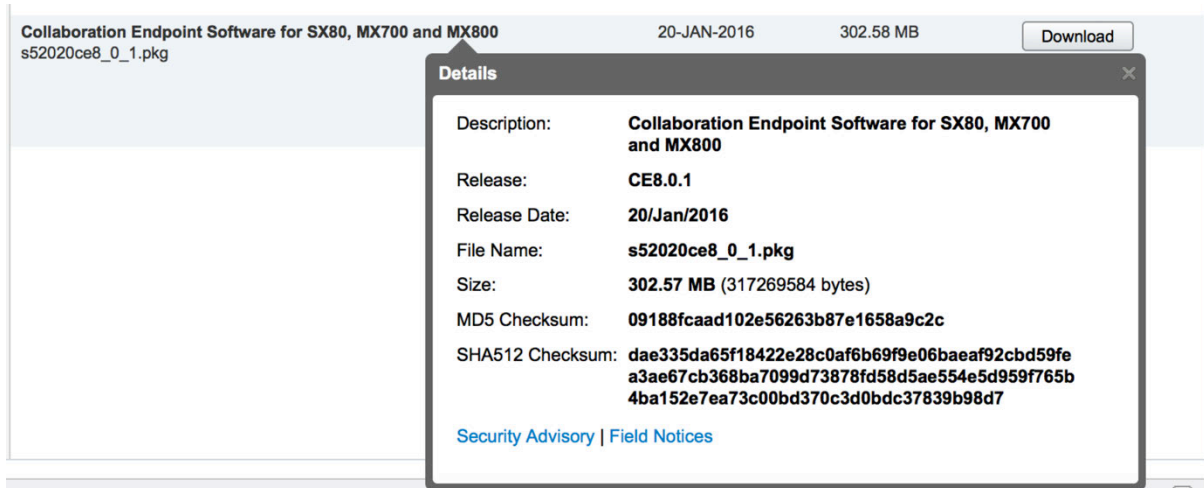
* SX20 is the only product that requires a separate software image for non-crypto, for all other products (except Cisco Spark Room Series, DX70 and DX80), this is controlled by the encryption option key which is free of charge.

** This Cisco Options Package contains software packages for all the CE platforms in one file.

*** The cop bundle does not contain no-crypto packages for SX20

Software integrity verification

To verify the integrity of the software image you have downloaded from cisco.com you can calculate a SHA512 checksum and verify that it matches with the one listed on the software download page. To find the checksum, hover the mouse pointer over the software image you have downloaded.



At the bottom you find the SHA512 checksum, if you do not see the whole checksum you can expand it by pressing the "...".

To calculate a SHA512 checksum on your local desktop please see the table below.

Operative system	SHA512 checksum calculation command examples
Microsoft Windows	Open a command line window and type the following command <pre>> certutil.exe -hashfile s52020ce9_3_2-748b9742af6.pkg SHA512</pre>
Apple MAC	Open a terminal window and type the following command <pre>\$ shasum -a 512 s52020ce9_3_2-748b9742af6.pkg</pre>
Linux	Open a terminal window and type the following command <pre>\$ sha512sum s52020ce9_3_2-748b9742af6.pkg</pre> <p>Or</p> <pre>\$ shasum -a 512 s52020ce9_3_2-748b9742af6.pkg</pre>

If the SHA512 checksum matches, there is a high level of certainty that no one has tampered with the software image or the image has not been corrupted during download.

If the SHA512 checksum does not match, we advise you to not attempt upgrading any systems with the corrupted software image. Download the software again and verify the SHA512 checksum again. If there is a constant mismatch, please open a case with the Cisco Technical Assistance Center.

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