



You make **possible**



Troubleshooting Collaboration Video Endpoints

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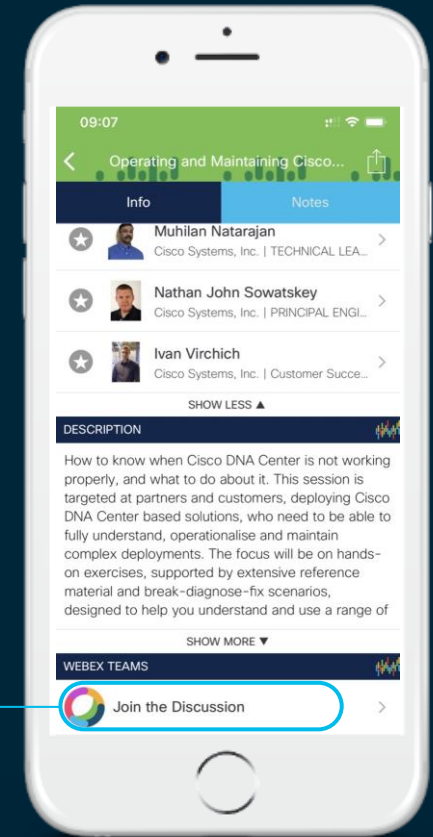
Cisco Webex Teams

Questions?

Use Cisco Webex Teams to chat with the speaker after the session

How

- 1 Find this session in the Cisco Events Mobile App
- 2 Click “Join the Discussion”
- 3 Install Webex Teams or go directly to the team space
- 4 Enter messages/questions in the team space



Agenda

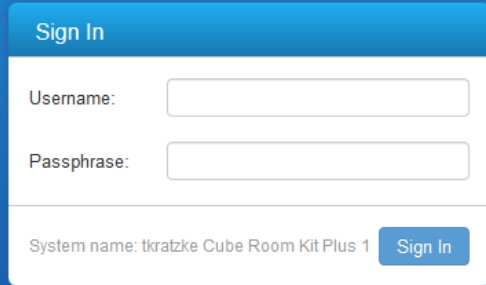
- Introduction
- Log and Diagnostic Overview
- Registrations and Provisioning
- Upgrades and System Crashes
- Call Signaling and Quality
- API and Scheduling

Agenda

- Introduction
- [Log and Diagnostic Overview](#)
- Registrations and Provisioning
- Upgrades and System Crashes
- Call Signaling and Quality
- API and Scheduling

Log Collection

Log Collection

A screenshot of a 'Sign In' dialog box from the Cisco Live! application. The dialog has a blue header with the text 'Sign In'. Below the header, there are two input fields: 'Username:' and 'Passphrase:'. At the bottom of the dialog, it displays 'System name: tkratzke Cube Room Kit Plus 1' and a blue 'Sign In' button.

Sign In

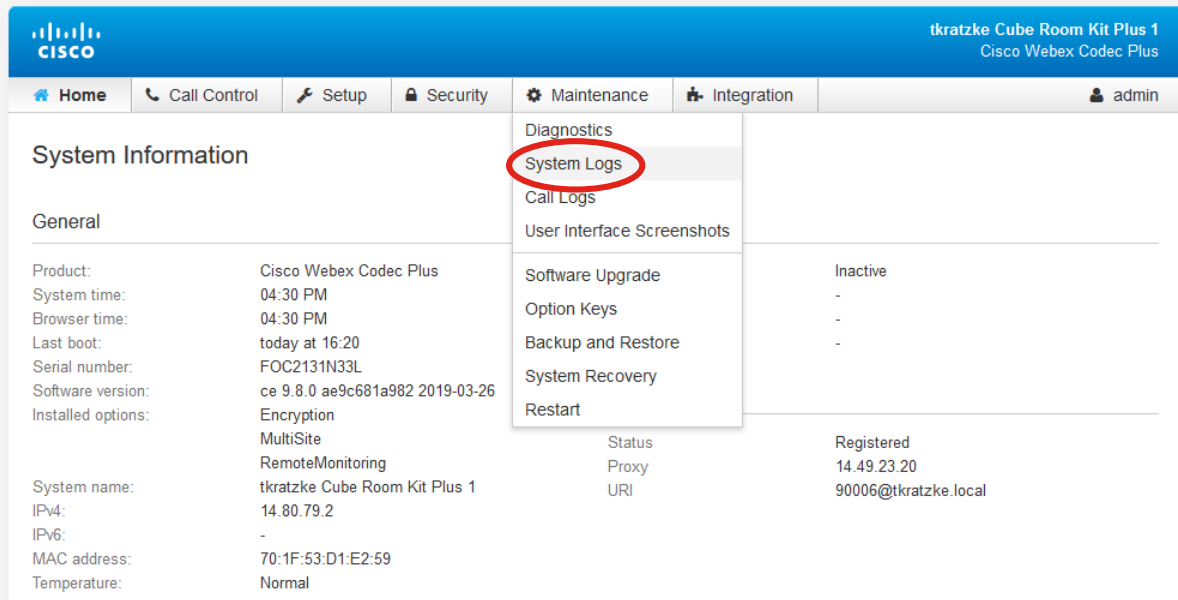
Username:

Passphrase:

System name: tkratzke Cube Room Kit Plus 1

Log into web GUI at codec IP address via web browser

Log Collection



The screenshot shows the Cisco Webex Codec Plus maintenance interface. The top navigation bar includes Home, Call Control, Setup, Security, Maintenance, and Integration. The 'Maintenance' menu is open, showing options: Diagnostics, System Logs (highlighted with a red circle), Call Logs, User Interface Screenshots, Software Upgrade, Option Keys, Backup and Restore, System Recovery, and Restart. The main content area displays system information for 'tkratzke Cube Room Kit Plus 1'.


System Information	
General	
Product:	Cisco Webex Codec Plus
System time:	04:30 PM
Browser time:	04:30 PM
Last boot:	today at 16:20
Serial number:	FOC2131N33L
Software version:	ce 9.8.0 ae9c681a982 2019-03-26
Installed options:	Encryption
	MultiSite
	RemoteMonitoring
System name:	tkratzke Cube Room Kit Plus 1
IPv4:	14.80.79.2
IPv6:	-
MAC address:	70:1F:53:D1:E2:59
Temperature:	Normal

Maintenance	
Software Upgrade	Inactive
Option Keys	-
Backup and Restore	-
System Recovery	
Restart	

Status	
Status	Registered
Proxy	14.49.23.20
URI	90006@tkratzke.local

Maintenance → System Logs

Log Collection

tkratzke Cube Room Kit Plus 1
Cisco Webex Codec Plus

HomeCall ControlSetupSecurityMaintenanceIntegrationadmin

System Logs

Download log archive

A full archive of the logs on the device is useful for diagnosing problems. This archive includes all current and historical logs, in addition to current system configuration, system status, packet captures and diagnostics information. Anonymized call history is included.

Download logs archive... ▾

Extended logging


To help diagnose network issues and problems during call setup, the system can enter a timed extended logging mode. This mode is resource intensive, and populates the existing logs with more detailed information.

The extended logging mode can optionally include a full or partial capture of all network traffic.

Start extended logging... ▾

Extended logging is inactive.

Current Logs



File Name	Size	Last modified
auth.log	11 kB	2019-04-09 16:33
dmesg	76 kB	2019-04-09 16:20
eventlog/all.log	138 kB	2019-04-09 16:34

- Download Archive
- Start/Stop Extended Logging
- Browse Current Files

Extended Logging

The screenshot shows the Cisco Webex Admin Center interface for a 'tkratzke Cube Room Kit Plus 1'. The 'Maintenance' tab is active. The 'System Logs' section is visible, with a 'Download log archive' button and a description of the log archive. The 'Extended logging' section is also visible, with a 'Start extended logging...' button and a dropdown menu. The dropdown menu is highlighted with a red box, showing two options: 'Include a limited packet capture' and 'Include a full packet capture'.

- Extended Logging
 - Enables additional debugs including SIP tracing
 - Lasts 10 minutes
- Include Limited Packet Capture
 - Starts pcap which will filter out RTP media
 - Lasts 10 minutes
- Include Full Packet Capture
 - Captures all traffic including RTP
 - Lasts 3 minutes

Extended Logging

The screenshot shows the Cisco Webex GUI for a device named 'tkratzke Cube Room Kit Plus 1'. The 'Maintenance' tab is selected in the top navigation bar. Under the 'System Logs' section, the 'Extended logging' feature is enabled. A blue status bar indicates 'Extended logging is active for 3 minutes.' Below this, there is a 'Delete packet captures' button. In the 'Packet Captures' section, a table lists a single file: 'extendedlogging.pcap' with a size of 20 kB and a last modified time of 2019-04-09 16:45.

System Logs

Download log archive

A full archive of the logs on the device is useful for diagnosing problems. This archive includes all current and historical logs, in addition to current system configuration, system status, packet captures and diagnostics information. Anonymized call history is included.

Download logs archive...

Extended logging

To help diagnose network issues and problems during call setup, the system can enter a timed extended logging mode. This mode is resource intensive, and populates the existing logs with more detailed information.

The extended logging mode can optionally include a full or partial capture of all network traffic.

Stop extended logging

Extended logging is active for 3 minutes.

Delete packet captures

Packet Captures

File Name	Size	Last modified
extendedlogging.pcap	20 kB	2019-04-09 16:45

- Extended Logging Enabled
- Pcaps shown in GUI and can be downloaded directly or in included log files

Downloading Logs

tkratzke Cube Room Kit Plus 1
Cisco Webex Codec Plus

Home Call Control Setup Security **Maintenance** Integration admin

System Logs

Download log archive

A full archive of the logs on the device is useful for diagnosing problems. This archive includes all current and historical logs, in addition to current system configuration, system status, packet captures and diagnostics information. **Anonymized call history** is included.

Download logs archive...
No call history
Full call history

Extended logging

To help diagnose network issues and problems during call setup, the system can enter a timed extended logging mode. This mode is resource intensive, and populates the existing logs with more detailed information.

The extended logging mode can optionally include a full or partial capture of all network traffic.

Start extended logging...
Extended logging is inactive.

Current Logs

• Downloading Options

- Standard
 - Most details still included for analysis (excludes caller info for privacy)
- No call history
 - No history (save on space)
- Full call history
 - Full call history included with caller info

Downloading Logs

Standard vs. Full Call History

```
*r CallHistoryGetResult Entry 0 CallHistoryId: 17
*r CallHistoryGetResult Entry 0 CallId: 4
*r CallHistoryGetResult Entry 0 TrackingData: " Peripheral state-recents contactCard"
*r CallHistoryGetResult Entry 0 RemoteNumber: "sip:20001@14.49.23.20"
*r CallHistoryGetResult Entry 0 CallbackNumber: "sip:20001@tkratzke.local"
*r CallHistoryGetResult Entry 0 DisplayName: "20001"
*r CallHistoryGetResult Entry 0 Direction: Outgoing
*r CallHistoryGetResult Entry 0 Protocol: Sip
*r CallHistoryGetResult Entry 0 CallRate: 6000
*r CallHistoryGetResult Entry 0 CallType: Video
*r CallHistoryGetResult Entry 0 EncryptionType: "None"
*r CallHistoryGetResult Entry 0 BookingId: ""
```

Log Bundle

Log Bundle Overview

 current	4/16/2019 12:41 PM	File folder
 old	4/16/2019 2:40 PM	File folder

- The log bundle is divided into two folders, current and old
 - “Current” contains all log files and info from the current boot of the system
- “Old” contains historical log bundles created at shutdown

Log Bundle Overview (Current)

eventlog	3/28/2019 2:19 PM	File folder	
nginx	3/28/2019 2:19 PM	File folder	
auth.log	3/27/2019 4:43 PM	Text Document	15 KB
bookings.txt		Text Document	1 KB
call_history.txt		Text Document	9 KB
camera_presets.txt		Text Document	1 KB
configuration.txt		Text Document	25 KB
dhclient.log	3/27/2019 3:42 PM	Text Document	1 KB
diagnostics.txt		Text Document	11 KB
dmesg	3/27/2019 3:41 PM	File	88 KB
hwmon.log	3/27/2019 3:41 PM	Text Document	1 KB
journal.log	3/27/2019 4:43 PM	Text Document	238 KB
kern.log	3/27/2019 4:43 PM	Text Document	154 KB
kernerr.log	3/27/2019 3:41 PM	Text Document	1 KB
latest-provisioning	3/27/2019 4:18 PM	File	15 KB
latest-valid-provisioning	3/27/2019 4:18 PM	File	15 KB
messages.log	3/27/2019 4:43 PM	Text Document	79 KB
osversion	3/27/2019 3:41 PM	File	1 KB
participantlist.txt		Text Document	1 KB
peripherals.txt		Text Document	2 KB
platform-sanity-tests.xml	3/27/2019 4:42 PM	XML Document	1 KB
remotesupport.txt		Text Document	1 KB
status.txt		Text Document	34 KB

- “eventlog” contains most logging for specific CE application processes
- Other key log files noted to the left containing information on current system state, configuration, and OS messages

call_history.txt

- Contains general info on all previous calls made by the system
 - Protocol
 - Negotiated call rate
 - Start/end times
 - Disconnect information
 - Media statistics
 - Direction

```
*r CallHistoryGetResult Entry 0 CallHistoryId: 17
*r CallHistoryGetResult Entry 0 CallId: 4
*r CallHistoryGetResult Entry 0 TrackingData: "__Peripheral_state-recents_contactCard"
*r CallHistoryGetResult Entry 0 Direction: Outgoing
*r CallHistoryGetResult Entry 0 Protocol: Sip
*r CallHistoryGetResult Entry 0 CallRate: 6000
*r CallHistoryGetResult Entry 0 CallType: Video
*r CallHistoryGetResult Entry 0 EncryptionType: "None"
*r CallHistoryGetResult Entry 0 BookingId: ""
*r CallHistoryGetResult Entry 0 Duration: 2986
*r CallHistoryGetResult Entry 0 StartTime: "2019-03-27T16:12:09"
*r CallHistoryGetResult Entry 0 StartTimeUTC: "2019-03-27T20:12:09Z"
*r CallHistoryGetResult Entry 0 EndTime: "2019-03-27T17:01:55"
*r CallHistoryGetResult Entry 0 EndTimeUTC: "2019-03-27T21:01:55Z"
*r CallHistoryGetResult Entry 0 DaysAgo: -1
*r CallHistoryGetResult Entry 0 DisconnectCause: "Normal"
*r CallHistoryGetResult Entry 0 DisconnectCauseCode: 16
*r CallHistoryGetResult Entry 0 DisconnectCauseOrigin: SIP
*r CallHistoryGetResult Entry 0 DisconnectCauseType: RemoteDisconnect
*r CallHistoryGetResult Entry 0 Video Incoming PacketLoss: "0/711288"
*r CallHistoryGetResult Entry 0 Video Incoming PacketLossPercent: 0
*r CallHistoryGetResult Entry 0 Video Incoming MaxJitter: 22
*r CallHistoryGetResult Entry 0 Video Outgoing PacketLoss: "0/1768066"
*r CallHistoryGetResult Entry 0 Video Outgoing PacketLossPercent: 0
*r CallHistoryGetResult Entry 0 Video Outgoing MaxJitter: 13
*r CallHistoryGetResult Entry 0 Audio Incoming PacketLoss: "0/149265"
*r CallHistoryGetResult Entry 0 Audio Incoming PacketLossPercent: 0
*r CallHistoryGetResult Entry 0 Audio Incoming MaxJitter: 18
*r CallHistoryGetResult Entry 0 Audio Outgoing PacketLoss: "0/149262"
*r CallHistoryGetResult Entry 0 Audio Outgoing PacketLossPercent: 0
*r CallHistoryGetResult Entry 0 Audio Outgoing MaxJitter: 7
*r CallHistoryGetResult Entry 0 OccurrenceType: Placed
*r CallHistoryGetResult Entry 0 IsAcknowledged: Acknowledged
*r CallHistoryGetResult Entry 0 RequestedCallType: Video
*r CallHistoryGetResult Entry 0 RoomAnalytics PeopleCount: "1"
```

configuration.txt

- Includes all system configuration settings set through web GUI and CLI
- Same as running “xconfiguration” in CLI
- Good for quick reference of settings without needing to access system directly or if troubleshooting issue from some time ago
- Always pulled at the time of log collection

```
*c xConfiguration Audio DefaultVolume: 70
*c xConfiguration Audio Input HDMI 2 Mode: On
*c xConfiguration Audio Input HDMI 2 VideoAssociation MuteOnInactiveVideo: On
*c xConfiguration Audio Input HDMI 3 Mode: On
*c xConfiguration Audio Input HDMI 3 VideoAssociation MuteOnInactiveVideo: On
*c xConfiguration Audio Input Microphone 1 EchoControl Dereverberation: Off
*c xConfiguration Audio Input Microphone 1 EchoControl Mode: On
*c xConfiguration Audio Input Microphone 1 EchoControl NoiseReduction: On
*c xConfiguration Audio Input Microphone 1 Level: 14
*c xConfiguration Audio Input Microphone 1 Mode: On
*c xConfiguration Audio Input Microphone 2 EchoControl Dereverberation: Off
*c xConfiguration Audio Input Microphone 2 EchoControl Mode: On
*c xConfiguration Audio Input Microphone 2 EchoControl NoiseReduction: On
*c xConfiguration Audio Input Microphone 2 Level: 14
*c xConfiguration Audio Input Microphone 2 Mode: On
*c xConfiguration Audio Input Microphone 3 EchoControl Dereverberation: Off
*c xConfiguration Audio Input Microphone 3 EchoControl Mode: On
*c xConfiguration Audio Input Microphone 3 EchoControl NoiseReduction: On
*c xConfiguration Audio Input Microphone 3 Level: 14
*c xConfiguration Audio Input Microphone 3 Mode: On
*c xConfiguration Audio KeyClickDetector Attenuate: On
*c xConfiguration Audio KeyClickDetector Enabled: Off
*c xConfiguration Audio Microphones Mute Enabled: True
*c xConfiguration Audio Output InternalSpeaker Mode: On
*c xConfiguration Audio Output Line 1 Mode: On
*c xConfiguration Audio Output Line 1 OutputType: Loudspeaker
*c xConfiguration Audio SoundsAndAlerts RingTone: "Sunrise"
*c xConfiguration Audio SoundsAndAlerts RingVolume: 0
*c xConfiguration Audio Ultrasound MaxVolume: 60
*c xConfiguration Audio Ultrasound Mode: Dynamic
*c xConfiguration CallHistory Mode: On
*c xConfiguration Cameras Camera 1 AssignedSerialNumber: ""
*c xConfiguration Cameras Camera 1 Backlight DefaultMode: Off
*c xConfiguration Cameras Camera 1 Brightness DefaultLevel: 20
*c xConfiguration Cameras Camera 1 Brightness Mode: Auto
*c xConfiguration Cameras Camera 1 Focus Mode: Auto
```

status.txt

- Includes all system status outputs at the time
- Same as running “xstatus” in CLI
- Useful as a quick health check for processes such as provisioning or peripheral connections
- Always pulled at the time of log collection

```
*s Peripherals ConnectProgress 1 Ident: "40:CE:24:36:4A:AE"  
*s Peripherals ConnectProgress 1 Progress: "connected"  
*s Peripherals ConnectedDevice 1004 HardwareInfo: "102310-1"  
*s Peripherals ConnectedDevice 1004 ID: "00:62:ec:b1:76:32"  
*s Peripherals ConnectedDevice 1004 Name: "Cisco TelePresence Touch"  
*s Peripherals ConnectedDevice 1004 SoftwareInfo: "ce9.5.0.fb56c25334b"  
*s Peripherals ConnectedDevice 1004 Status: Connected  
*s Peripherals ConnectedDevice 1004 Type: TouchPanel  
*s Peripherals ConnectedDevice 1004 UpgradeStatus: None  
*s Peripherals ConnectedDevice 1023 HardwareInfo: "73-100746-0"  
*s Peripherals ConnectedDevice 1023 ID: "40:CE:24:36:4A:AE"  
*s Peripherals ConnectedDevice 1023 Name: "Quad Camera"  
*s Peripherals ConnectedDevice 1023 SoftwareInfo: "ce9.5.0.fb56c25334b"  
*s Peripherals ConnectedDevice 1023 Status: Connected  
*s Peripherals ConnectedDevice 1023 Type: Camera  
*s Peripherals ConnectedDevice 1023 UpgradeStatus: None  
*s Phonebook HasFavorites: False  
*s Provisioning CUCM CAPF LSC: Installed  
*s Provisioning CUCM CAPF Mode: IgnoreAuth  
*s Provisioning CUCM CAPF OperationResult: NotSet  
*s Provisioning CUCM CAPF OperationState: NonPending  
*s Provisioning CUCM CAPF ServerName: ""  
*s Provisioning CUCM CAPF ServerPort: 0  
*s Provisioning CUCM CTL State: Installed  
*s Provisioning CUCM Customization Checksum: ""  
*s Provisioning CUCM ExtensionMobility Enabled: False  
*s Provisioning CUCM ExtensionMobility LastLoggedInUserId: ""  
*s Provisioning CUCM ExtensionMobility LoggedIn: False
```

peripherals.txt

- Information on all connected peripherals
- Same information included in status.txt
- Good for quick reference without having to sort through other noise

```
*r PeripheralsListResult (status=OK):  
*r PeripheralsListResult Device 1004 ConnectionMethod: IP  
*r PeripheralsListResult Device 1004 HardwareInfo: "102310-1"  
*r PeripheralsListResult Device 1004 ID: "00:62:ec:b1:76:32"  
*r PeripheralsListResult Device 1004 LastSeen: "2019-03-26T13:50:11Z"  
*r PeripheralsListResult Device 1004 Name: "Cisco TelePresence Touch"  
*r PeripheralsListResult Device 1004 NetworkAddress: "169.254.1.41"  
*r PeripheralsListResult Device 1004 SerialNumber: "FOC2133NCNG"  
*r PeripheralsListResult Device 1004 SoftwareInfo: "ce9.5.0.fb56c25334b"  
*r PeripheralsListResult Device 1004 Type: TouchPanel  
*r PeripheralsListResult Device 1023 ConnectionMethod: Other  
*r PeripheralsListResult Device 1023 HardwareInfo: "73-100746-0"  
*r PeripheralsListResult Device 1023 ID: "40:CE:24:36:4A:AE"  
*r PeripheralsListResult Device 1023 LastSeen: "2019-03-25T13:48:10Z"  
*r PeripheralsListResult Device 1023 Name: "Quad Camera"  
*r PeripheralsListResult Device 1023 NetworkAddress: "fe80::42ce:24ff:fe36:4aae"  
*r PeripheralsListResult Device 1023 SerialNumber: "FOC2129NE44"  
*r PeripheralsListResult Device 1023 SoftwareInfo: "ce9.5.0.fb56c25334b"  
*r PeripheralsListResult Device 1023 Type: Camera  
** end
```

journal.log

- Low level system information and boot processes
- Also includes kernel messages from kernel.log
- Useful for troubleshooting system crashes

```
Mar 25 09:47:45 localhost kernel: Tegra reserved memory:
LP0: 00000000 - 00000000
Bootloader framebuffer: 00000000 - 00000000
Bootloader framebuffer2: 92c9c000 - 9349bfff
Framebuffer: 00000000 - 00000000
2nd Framebuffer: 00000000 - 00000000
Carveout: 00000000 - 00000000
Vpr: 00000000 - 18bfffff
Tsec: 00000000 - 00000000
Bootloader Debug Data: 00000000 - 00000000
Mar 25 09:47:45 localhost kernel: cma: CMA: reserved 396 MiB at e6400000
Mar 25 09:47:45 localhost kernel: cma: CMA: reserved 16 MiB at e5400000
Mar 25 09:47:45 localhost kernel: On node 0 totalpages: 1044480
Mar 25 09:47:45 localhost kernel: DMA32 zone: 7168 pages used for memmap
Mar 25 09:47:45 localhost kernel: DMA32 zone: 0 pages reserved
Mar 25 09:47:45 localhost kernel: DMA32 zone: 520192 pages, LIFO batch:31
Mar 25 09:47:45 localhost kernel: Normal zone: 7168 pages used for memmap
Mar 25 09:47:45 localhost kernel: Normal zone: 524288 pages, LIFO batch:31
Mar 25 09:47:45 localhost kernel: psci: probing for conduit method from DT.
Mar 25 09:47:45 localhost kernel: psci: PSCIv0.2 detected in firmware.
Mar 25 09:47:45 localhost kernel: psci: Using standard PSCI v0.2 function IDs
Mar 25 09:47:45 localhost kernel: DTS File Name: arch/arm64/boot/dts/tegra210-svea-rev-e.dts
Mar 25 09:47:45 localhost kernel: DTB Build time: Sep 5 2018 15:12:11
Mar 25 09:47:45 localhost kernel: Tegra21: Speedo/IDDQ fuse revision 4
Mar 25 09:47:45 localhost kernel: Tegra21: CPU Speedo ID 8, Soc Speedo ID 0, Gpu Speedo ID 2
Mar 25 09:47:45 localhost kernel: Tegra21: CPU Process ID 0, Soc Process ID 0, Gpu Process ID 0
Mar 25 09:47:45 localhost kernel: Tegra21: CPU Speedo value 2012, Soc Speedo value 1909, Gpu Speedo value 1909
Mar 25 09:47:45 localhost kernel: Tegra21: CPU IDDQ 1668, Soc IDDQ 1988, Gpu IDDQ 2325
Mar 25 09:47:45 localhost kernel: Tegra Revision: A02 SKU: 0x17 CPU Process: 0 Core Process: 0
Mar 25 09:47:45 localhost kernel: tegra: PLLP fixed rate: 408000000
```

latest-provisioning.log

- Present if system is provisioned by CUCM
- Contains the most recently pushed .cnf.xml file
- Useful to validate configuration from CUCM without needing access to CUCM
- latest-valid-provisioning.log contains config after parsing is complete

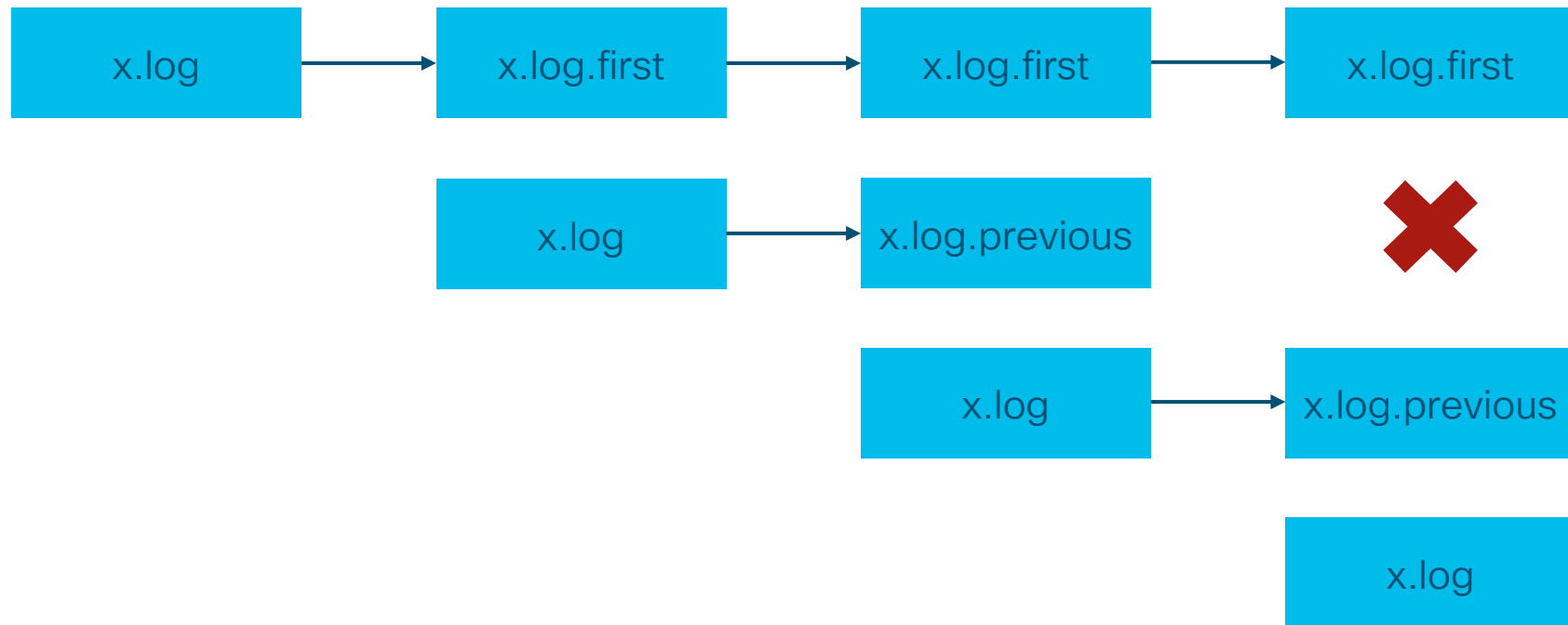
```
<fullConfig>true</fullConfig>
<portalDefaultServer>impl1-pub.tkratzke.local</portalDefaultServer>
<deviceProtocol>SIP</deviceProtocol>
<sshUserId></sshUserId>
<sshPassword></sshPassword>
<ipAddressMode>0</ipAddressMode>
<allowAutoConfig>true</allowAutoConfig>
<dadEnable>true</dadEnable>
<redirectEnable>false</redirectEnable>
<echoMultiEnable>false</echoMultiEnable>
<ipPreferenceModeControl>0</ipPreferenceModeControl>
<ipMediaAddressFamilyPreference>0</ipMediaAddressFamilyPreference>
<tzdata>
<tzolsonversion>2016g</tzolsonversion>
<tzupdater>tzupdater.jar</tzupdater>
</tzdata>
<mlppDomainId>000000</mlppDomainId>
<mlppIndicationStatus>Off</mlppIndicationStatus>
<preemption>Disabled</preemption>
<executiveOverridePreemptable>false</executiveOverridePreemptable>
<devicePool uid="{1b1b9eb6-7803-11d3-bdf0-00108302ead1}">
<revertPriority>0</revertPriority>
<name>Default</name>
<dateTimeSetting uid="{2ddffe47-df53-9df4-bld7-194b581e6253}">
<name>US Eastern</name>
<dateTemplate>M-D-YA</dateTemplate>
<timeZone>Eastern Standard/Daylight Time</timeZone>
<olsonTimeZone>America/New_York</olsonTimeZone>
</dateTimeSetting>
<callManagerGroup>
<name>Default</name>
<tftpDefault>true</tftpDefault>
<members>
<member priority="0">
<callManager>
<name>cucml1-pub.tkratzke.local</name>
```

“eventlog” Directory

Name	Date modified	Type	Size
all.log	3/26/2019 9:50 AM	Text Document	222 KB
all.log.first	3/25/2019 1:22 PM	FIRST File	513 KB
all.log.previous	3/26/2019 7:51 AM	PREVIOUS File	513 KB
all.log.truncated	3/26/2019 7:51 AM	TRUNCATED File	1 KB
application.log	3/26/2019 9:50 AM	Text Document	135 KB
application.log.first	3/25/2019 2:04 PM	FIRST File	513 KB
application.log.previous	3/26/2019 8:38 AM	PREVIOUS File	513 KB
application.log.truncated	3/26/2019 8:38 AM	TRUNCATED File	1 KB
audioctrl.log	3/26/2019 9:48 AM	Text Document	188 KB
audit.log	3/26/2019 9:50 AM	Text Document	40 KB
audit.log.first	3/25/2019 11:33 AM	FIRST File	513 KB
audit.log.previous	3/26/2019 9:42 AM	PREVIOUS File	513 KB
audit.log.truncated	3/26/2019 9:42 AM	TRUNCATED File	1 KB
events.log	3/26/2019 6:45 AM	Text Document	3 KB
logcat.log	3/26/2019 6:45 AM	Text Document	31 KB
macros.log	3/25/2019 9:48 AM	Text Document	1 KB
main.log	3/26/2019 8:05 AM	Text Document	15 KB
mainstate.log	3/26/2019 9:50 AM	Text Document	12 KB
osd.log	3/26/2019 6:45 AM	Text Document	6 KB

- All other logs from system processes are contained in this directory
- More verbose log files will appear with up to four file extensions
 - “x.log” – current active log file
 - “x.log.first” – first of log file after boot (never overwritten)
 - “x.log.previous” – last to be rotated from active
 - “x.log.truncated” – number of times log has rolled to a new file
- Once a .previous file is rolled over again it is deleted leaving a “gap” in the logging

Log File Rotation



all.log

- All logs rolled into a single file
- Quick glance at what's happening and good to see related events in order
- Very “chatty” and overwrites quickly
- Specific log files can generally be referenced by the tagging in all.log

```
appl[1175]: Macros I: Webex Button: Loading...
appl[1175]: Macros I: [system]: Starting macros...
appl[1175]: Macros I: [system]: Macros ready.
I/video ( 1519): FaceDetect max: 97 ms average: 97 ms
appl[1774]: CuilApp[1]: Successfully changed configuration
appl[1774]: CECCTRL I: /dev/cecl (o 1) Enabled = true
I/video ( 1519): Motion max: 2 ms average: 1 ms
appl[1774]: CuilApp[1]: User root about to execute command
eventlog[1774]: Pairing device with sw info: desktop-2.0.8
eventlog[1565]: Last message 'Pairing device with ' repeated
I/video ( 1519): FaceDetect exited with TIMEOUT 1 times d
I/video ( 1519): Average proc time: 96.11
I/video ( 1519): FaceDetect max: 103 ms average: 81 ms
appl[1774]: CuilApp[1]: User __localtouchdevice__ about to
appl[1774]: CuilApp[1]: User __localtouchdevice__ about to
```

application.log

- Includes application level debugging (including additional debugs enabled)
- Call setup and signaling
- Registration information
- Provisioning
- Phonebook searches
- Configuration changes

```
MainEvents I: ParticipantJoinedConference(c=1,p=2)
SipMedia I: shouldOfferIx proxySupport: 1, proxySupport: 2
SipMedia I: eager to offer ANAT but we have one (1) address-type; doing plain offer
SipPacket I: SIP Msg: Outgoing => NOTIFY, CSeq: 102 NOTIFY, Remote: 14.49.23.20:5060, CallId:
SipPacket I: SIP Msg: Outgoing => INVITE, CSeq: 100 INVITE, Remote: 14.49.23.20:5060, CallId:
SipPacket I: SIP Msg: Incoming <= 200 OK, CSeq: 102 NOTIFY, Remote: 14.49.23.20:5060, CallId:
SipPacket I: SIP Msg: Incoming <= 100 Trying, CSeq: 100 INVITE, Remote: 14.49.23.20:5060, Ca
MainEvents I: RemoteVideoInput::InputActivated(p=2) [partId=2 gateId=121 type=MAIN instance=1
MainEvents I: RemoteVideoInput::InputActivated(p=2) [partId=2 gateId=123 type=PRESENTATION in
SipPacket I: SIP Msg: Incoming <= 180 Ringing, CSeq: 100 INVITE, Remote: 14.49.23.20:5060, Ca
MainEvents I: CallAlertIndication(p=2)
SipPacket I: SIP Msg: Incoming <= 200 OK, CSeq: 100 INVITE, Remote: 14.49.23.20:5060, CallId:
MainEvents I: CallConnected(p=2)
MainEvents I: InputAudioChannelChanged(p=2,gid=119) msctrlId=26 channels=1 encryption=None mu
MainEvents I: OutputAudioChannelChanged(p=2,gid=120) msctrlId=-1 channels=1 encryption=None m
MainEvents I: InputDataChannelChanged(p=2,gid=125) msctrlId=29 encryption=None
MainEvents I: OutputDataChannelChanged(p=2,gid=126) msctrlId=-1 encryption=None
Multistream I: Not enabling multistream (not a multistream server)
MainEvents I: OutputAudioChannelChanged(p=2,gid=120) msctrlId=30 channels=1 encryption=None m
ix I: IxController::setupIxChannel: (p:2) remote:14.49.23.50:55257 encrypted:no mode:undefine
Mari I: MariController::connected startRate: 6000000, maxRate:6000000 (callRate:6000000, remo
Mari I: MariController::connected Unsupported by Remote, slowStart On
SipPacket I: SIP Msg: Outgoing => ACK, CSeq: 100 ACK, Remote: 14.49.23.20:5060, CallId: 7ef7c
ix I: IxController::channelConnected: (p:2) ix status ==> ACTIVE
AdaptationResilience I: CreateBandwidthEvaluator, policy = 2connectionType = 0, ver= 1.1.2, r
```

main.log

- Process and system monitoring
- Boot information, software version, option keys
- Place to look for boot issues or crashes

```
eventlog[2215]: Svea
eventlog[2215]: Main board: E
eventlog[2215]: Module partno/sno: 699-82180-1000-400 S.0/0422817048181
eventlog[2215]: UDI: CS-RCODPLUS-K9 FOC2138NR3F
eventlog[2215]: Serial number: FOC2138NR3F
eventlog[2215]: ce9.6.2.5672d8aee2f
eventlog[2215]: SW Release Date: 2019-01-31
eventlog[2215]: Option key: Option 1M003-1-6BEFB11A registered
eventlog[2215]: Option key: Option 1S000-1-0C5BD33A registered
eventlog[2215]: Option key: Option 1P005-1-13EE5DCA registered
eventlog[2215]: Product ID: Cisco Webex Room 70 Dual
eventlog[2215]: Reset cause hwmon: SOFTWARE
eventlog[2215]: Reset cause host: HWMON MCU reset
eventlog[2215]: TTPAR: sent 50 change messages in 0 seconds, new total: 50
eventlog[2215]: Starting notify task
eventlog[2215]: Creating and initialising shared memory
eventlog[2215]: Shared memory configuration: base: 0x0xa0000000, total size: 1048576
eventlog[2215]: Shared memory buffer pool: base: 0x0xa1000000, total size: 74175872
eventlog[2215]: Shared memory configuration: used size: 75692
eventlog[2215]: Shared memory buffer pool: used size: 72418496
eventlog[2215]: Signal that shared memory has been initialised
eventlog[2215]: Shared memory initialisation done
eventlog[2215]: System ready
```

audit.log







```
auditlog[1805]: user=root host=localhost: Command about to execute '/Peripherals/HeartBeat ID: 00:62:EC:B1:76:32 Timeout: 15'.  
auditlog[1805]: user=root host=localhost: Command successfully executed '/Peripherals/HeartBeat ID: 00:62:EC:B1:76:32 Timeout: 15'.  
vega: New session for user admin from 14.49.23.30 on web  
auditlog[1805]: user=root host=localhost: Command about to execute '/Peripherals/HeartBeat ID: 00:62:EC:B1:76:32 Timeout: 15'.  
auditlog[1805]: user=root host=localhost: Command successfully executed '/Peripherals/HeartBeat ID: 00:62:EC:B1:76:32 Timeout: 15'.  
auditlog[1805]: user=admin host=14.0.25.246: Successfully changed configuration 'Configuration/Network[1]/DNS/Server[2]/Address' to '14.49.23.10'.  
auditlog[1805]: user=root host=localhost: Command about to execute '/Experimental/Diagnostics/Tests/Dns/Run'.  
auditlog[1805]: user=root host=localhost: Command successfully executed '/Experimental/Diagnostics/Tests/Dns/Run'.  
auditlog[1805]: user=root host=localhost: Command about to execute '/Experimental/Diagnostics/Tests/Dns/Run'.  
.....
```

- Logs commands from all connected devices
- Includes physically connected such as touch and network connected
- Includes any configuration changes from users or management devices

Historical Logs























 current	4/16/2019 12:41 PM	File folder
 old	4/16/2019 2:40 PM	File folder

Log Bundle Overview (Old)

Name	Date modified	Type	Size
 log.3.tar.gz	3/25/2019 9:46 AM	WinRAR archive	207 KB
 log.tar.gz	3/25/2019 9:46 AM	WinRAR archive	207 KB
 log.2.tar.gz	3/25/2019 6:40 AM	WinRAR archive	205 KB
 log.1.tar.gz	3/25/2019 6:27 AM	WinRAR archive	184 KB
 log.0.tar.gz	3/25/2019 6:21 AM	WinRAR archive	429 KB
 log.4.tar.gz	3/22/2019 1:27 PM	WinRAR archive	180 KB

- “Historical” bundles are similar to the “current” directory but contain slightly less diagnostic info (but the same event logs)
- Contain bundles from the previous 5 boots
- Cleared on factory reset
- Logs are rotated through as “log.x.tar.gz”
- “log.tar.gz” is always a reference to the most recently created historical log

Log Bundle Overview

 eventlog	4/17/2019 11:44 AM	File folder	
 nginx	4/17/2019 11:44 AM	File folder	
 tombstones	4/17/2019 11:44 AM	File folder	
 auth.log	2/18/2019 11:19 AM	Text Document	2 KB
 dhclient.log	2/18/2019 11:24 AM	Text Document	2 KB
 dmesg	2/18/2019 11:19 AM	File	96 KB
 hwmon.log	2/18/2019 11:19 AM	Text Document	1 KB
 installimage.log	2/18/2019 11:26 AM	Text Document	1 KB
 journal.log	2/18/2019 11:26 AM	Text Document	188 KB
 kern.log	2/18/2019 11:26 AM	Text Document	168 KB
 kernerr.log	2/18/2019 11:19 AM	Text Document	1 KB
 latest-provisioning	2/18/2019 11:24 AM	File	13 KB
 latest-valid-provisioning	2/18/2019 11:24 AM	File	13 KB
 messages.log	2/18/2019 11:26 AM	Text Document	59 KB
 osversion	2/18/2019 11:19 AM	File	1 KB
 platform-sanity-tests.xml	2/18/2019 11:26 AM	XML Document	1 KB
 system_state_logger.log	2/18/2019 11:26 AM	Text Document	5 KB
 thermal_hist_data.log	2/18/2019 11:19 AM	Text Document	5 KB
 thermal_hist_errors.log	2/18/2019 11:19 AM	Text Document	3 KB
 vcinfo.txt	2/18/2019 11:19 AM	Text Document	1 KB
 version.json	2/18/2019 11:19 AM	JSON File	1 KB
 wpa_supplicant.log	2/18/2019 11:19 AM	Text Document	12 KB

- No config or status

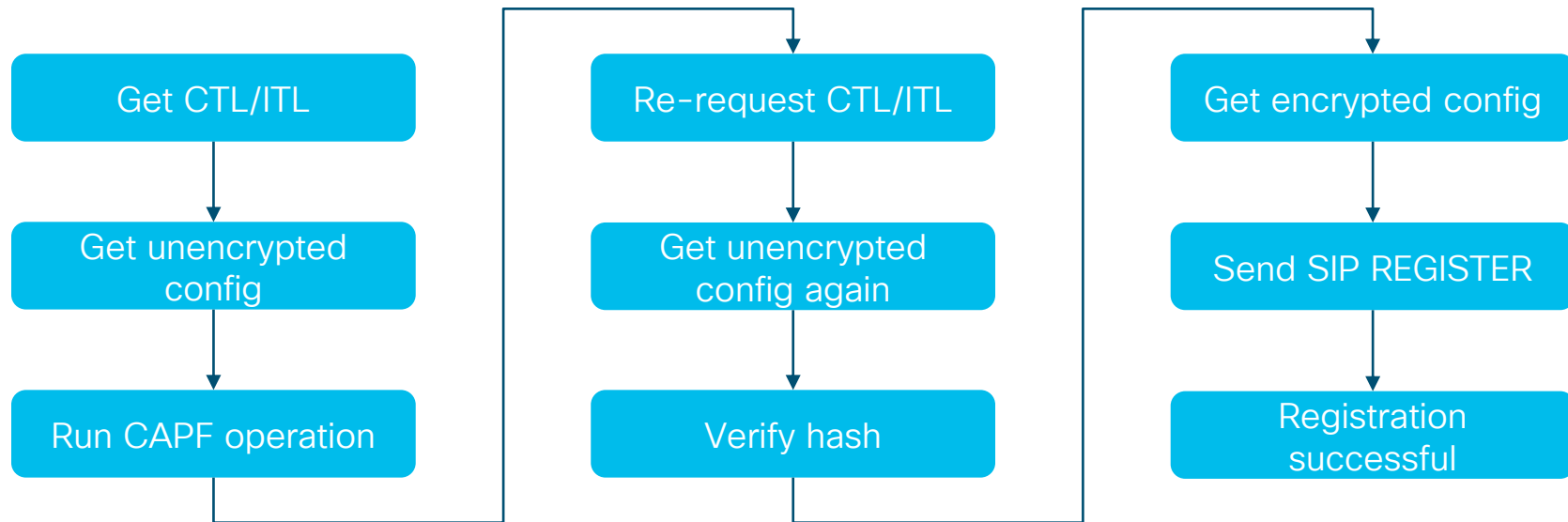
Log Bundle Recap

- The bundle is divided into two main sections, “current” and “old”
- Historical logs are kept for the last 5 boots assuming the system was shut down properly
- Extended logging options will enable additional debugs such as signaling and pcaps depending on the option selected
- Logs will overwrite while always keeping the first file from boot time
- If you are unsure of where to look for an issue, check all.log at the timestamp of the problem

Agenda

- Introduction
- Log and Diagnostic Overview
- [Registrations and Provisioning](#)
- Upgrades and System Crashes
- Call Signaling and Quality
- API and Scheduling

CUCM Registration Process



Registration

PROV[3]: [notify_http_done] http request URL=http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn, req status=success, state=Config (full or mini)

Config Downloaded

...

PROV[1]: ConfigItem: parsing prov file from http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn: signed plaintext

...

PROV[3]: <fullConfig>False</fullConfig>

Notes Mini Config

PROV[3]: <loadInformation>ce9_6_2-5672d8aee2f.loads</loadInformation>

PROV[3]: <ipAddressMode>0</ipAddressMode>

PROV[3]: <capfAuthMode>2</capfAuthMode>

Pending CAPF Operation

PROV[3]: <capfList>

PROV[3]: <capf>

CAPF Server List

PROV[3]: <phonePort>3804</phonePort>

PROV[3]: <processNodeName>cucm11-pub.tkratzke.local</processNodeName>

PROV[3]: </capf>

PROV[3]: </capfList>

Encrypted Config Hash

PROV[3]: <certHash>c202d037705d5ca3430b82fdcf09e23b</certHash>

Confirm Prov. Status

Setup -> Status -> Provisioning

Quick at a glance location to confirm no errors or quickly triage problem

Provisioning

Discovered	None
NextRetry	
Reason	
RoomType	Standard
Server	14.49.23.20
Status	Provisioned

CUCM

CTL State	Installed
Customization Checksum	
ITL State	Installed
Phonebook URL	https://cucm11-pub.tkratzke.local:8443/cucm-uds/users
ProvisionSecurity	Encrypted
Userld	

Confirm CUCM CTL/ITL

Security -> CUCM Certificates

Confirm CTL and ITL are installed

[View contents](#)

Role
Issuer
Serial Number
Subject Name
Subject DNS Name

Role
Issuer
Serial Number
Subject Name
Subject DNS Name

Role
Issuer
Serial Number
Subject Name
Subject DNS Name

SAST

CN=tkratzke-lab-ca
57:00:00:00:03:30:F8:33:5A:74:03:95:BA:00:00:00:00:00:03
CN=cucm11-pub.tkratzke.local; OU=TAC; O=Cisco; L=RTP; ST=NC; C=US
cucm11-pub

CUCM-TFTP

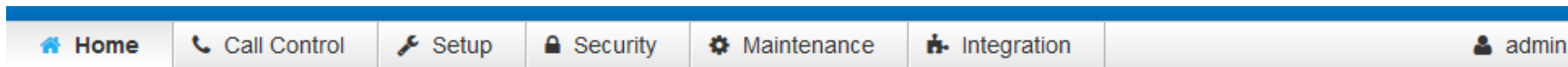
CN=tkratzke-lab-ca
57:00:00:00:03:30:F8:33:5A:74:03:95:BA:00:00:00:00:00:03
CN=cucm11-pub.tkratzke.local; OU=TAC; O=Cisco; L=RTP; ST=NC; C=US
cucm11-pub

CAPF

CN=tkratzke-lab-ca
57:00:00:00:17:D0:E9:FD:8A:BA:89:87:F6:00:00:00:00:00:17
CN=CAPF-9d52a1f9; OU=TAC; O=Cisco; L=RTP; ST=NC; C=US
cucm11-pub

Registration Common Issues

Wrong Device Type (Example 1)



System Information

There are 3 possible issues with your system. See [Diagnostics](#) for more info.

General

Product:	Cisco Webex Room 70 Dual
System time:	03:33 AM
Browser time:	11:21 AM
Last boot:	today at 11:13
Serial number:	FOC2138NR3F
Software version:	ce 9.6.2 5672d8aee2f 2019-01-31
Installed options:	Encryption MultiSite RemoteMonitoring
System name:	-
IPv4:	14.0.70.171
IPv6:	-
MAC address:	40:CE:24:59:F5:2F
Temperature:	Normal

H323

Status	Inactive
Gatekeeper	-
Number	-
ID	-

SIP

Status	Failed: 485 Ambiguous / Device type mismatch
Proxy	14.49.23.20
URI	90010@tkratzke.local

Wrong Device Type (Example 1)

SipPacket I: SIP Msg: Incoming <= 485 Ambiguous, CSeq: 32782 REGISTER, Remote: 14.49.23.20:5060, CallId: 874a297e568e3c2a157c92de68a8605e, SessionId: (none)
SipPacket[2]: SIP/2.0 485 Ambiguous
SipPacket[2]: Via: SIP/2.0/TCP
14.0.70.171:41310;branch=z9hG4bK29da0d7424ac0d2651162926e8be38a1;rport
SipPacket[2]: Call-ID: 874a297e568e3c2a157c92de68a8605e
SipPacket[2]: CSeq: 32782 REGISTER
SipPacket[2]: From: <sip:90010@tkratzke.local>;tag=4a9c8607a2abc37e
SipPacket[2]: To: <sip:90010@tkratzke.local>;tag=369648198
SipPacket[2]: Server: Cisco-CUCM11.5
SipPacket[2]: Date: Sun, 07 May 2019 15:35:26 GMT
SipPacket[2]: Warning: 399 cucm11-pub "Device type mismatch"
SipPacket[2]: Content-Length: 0
SipMedia I: SipmProfile::update, ix: 0, vendeo: 4, isFirst: true, isVcs8orLater: false
SipSubscriber I: [p=0] Registration Status: 'Failed', URI: '90010@tkratzke.local', Reason: '485 Ambiguous / Device type mismatch'

No LSC with Encrypted Config (Example 2)

[Home](#) [Call Control](#) [Setup](#) [Security](#) [Maintenance](#) [Integration](#)

System Information

There are 5 possible issues with your system. See [Diagnostics for](#)

General

Product:	Cisco Webex Room 70 Dual
System time:	07:07 AM
Browser time:	02:55 PM
Last boot:	today at 14:52
Serial number:	FOC2138NR3F
Software version:	ce 9.7.1 30bff6140aa 2019-04-02
Installed options:	Encryption MultiSite RemoteMonitoring
System name:	-
IPv4:	14.0.70.171
IPv6:	-
MAC address:	40:CE:24:59:F5:2F
Temperature:	Normal

H323

Status	Inactive
Gatekeeper	-
Number	-
ID	-

SIP

Status	Inactive
Proxy	-

No LSC with Encrypted Config (Example 2)

Select Setup → Status → Provisioning

Provisioning

Discovered	None
NextRetry	
Reason valid certificate is available	Invalid device configuration: Encrypted configuration required, but no
RoomType	Standard
Server	14.49.23.20
Status	Failed

No LSC with Encrypted Config (Example 2)

PROV[3]: [notify_http_done] http request URL=http://14.49.23.20:6970/SEP40ce2459f52f.cnf.xml.sgn, req status=success, state=Config (full or mini)
HandyIron I: signatureVerificationHelper: hashes match... authentication successful.
PROV[3]: verifyAndStripSignature: successfully verified/decrypted signature. Prov file changed sized 892 -> 456 bytes
PROV[1]: ConfigItem: parsing prov file from http://14.49.23.20:6970/SEP40ce2459f52f.cnf.xml.sgn: signed plaintext
PROV[3]: [notify_http_done] parsing successful, applying changes
PROV[3]: [make_provision_applier] Saving CUCM config
PROV[3]: [lsc_fingerprint] LSC file does not exist: /config/handyiron/lsc0/capf_cert.pvt
PROV[1]: ExtensionMobility: Will probe for EM status in 500ms
PROV ERROR: [handleFailedProvRequest] reqURL=http://14.49.23.20:6970/SEP40ce2459f52f.cnf.xml.sgn status=failed reason=Invalid device configuration: Encrypted configuration required, but no valid certificate is available

No LSC with Encrypted Config (Example 2)

Disable Encrypted Config

Device Security Mode Encrypted

Transport Type* TLS

☐ Enable Digest Authentication

☐ TFTP Encrypted Config

☐ Exclude Digest Credentials in Configuration File

Provisioning

Discovered	None
NextRetry	
Reason	Invalid device configuration: SIP+TLS is required, but no LSC/MIC is present and no CAPF operation is pending
RoomType	Standard
Server	14.49.23.20
Status	Failed

SIP Connection Rejected (Example 3)

Provisioning shows successful
but SIP registration has still failed

Provisioning

Discovered	None
NextRetry	
Reason	
RoomType	Standard
Server	14.49.23.20
Status	Provisioned

SIP

Status	Failed: SSL connection rejected
Proxy	14.49.23.20
URI	90006@tkratzke.local

SIP Connection Rejected (Example 3)

SipSubscriber I: [p=0] Registration Status: 'Registering', URI: '90006@tkratzke.local'

PROV[1]: Provfsn: SIP unregistered

socklib: SSL handshake (remote: 14.49.23.20:5061) failed: error:14094410:SSL

routines:ssl3_read_bytes:sslv3 alert handshake failure

SockHandler_PRIV::do_Ready_NETSocketAck: Invalid ACK socket handle: 9

SipStack W: [Transaction 31]: Got exception 10 (SSL reject) from transport for 'REGISTER' request (SeqNumber=81448)

SipReg I: All CUCM's are down!

SipReg W: Transport failed to send registration (sipexcept: 10 SSL reject)

Source	Destination	Protocol	Length	Info
14.80.79.2	14.49.23.20	TCP	74	36394 → 5061 [SYN] Seq=0 Win=29200 Len=0 MSS=1460 SACK_PERM=1 TSval=4294950442 TSecr=0 WS=
14.49.23.20	14.80.79.2	TCP	74	5061 → 36394 [SYN, ACK] Seq=0 Ack=1 Win=14480 Len=0 MSS=1460 SACK_PERM=1 TSval=2351179646 T
14.80.79.2	14.49.23.20	TCP	66	36394 → 5061 [ACK] Seq=1 Ack=1 Win=29312 Len=0 TSval=4294950443 TSecr=2351179646
14.80.79.2	14.49.23.20	TLSv1.2	276	Client Hello
14.49.23.20	14.80.79.2	TCP	66	5061 → 36394 [ACK] Seq=1 Ack=211 Win=15616 Len=0 TSval=2351179654 TSecr=4294950444
14.49.23.20	14.80.79.2	TLSv1.2	2953	Server Hello, Certificate, Server Key Exchange, Certificate Request, Server Hello Done
14.80.79.2	14.49.23.20	TCP	66	36394 → 5061 [ACK] Seq=211 Ack=2888 Win=35072 Len=0 TSval=4294950446 TSecr=2351179661
14.80.79.2	14.49.23.20	TLSv1.2	204	Certificate, Client Key Exchange, Change Cipher Spec, Encrypted Handshake Message
14.49.23.20	14.80.79.2	TLSv1.2	73	Alert (Level: Fatal, Description: Handshake Failure)
14.49.23.20	14.80.79.2	TCP	66	5061 → 36394 [RST, ACK] Seq=2895 Ack=349 Win=16640 Len=0 TSval=2351179667 TSecr=4294950448

SIP Connection Rejected (Example 3)

- > Frame 327: 204 bytes on wire (1632 bits), 204 bytes captured (1632 bits)
- > Ethernet II, Src: Cisco_d1:e2:59 (70:1f:53:d1:e2:59), Dst: Cisco_39:6d:80 (00:14:1c:39:6d:80)
- > Internet Protocol Version 4, Src: 14.80.79.2, Dst: 14.49.23.20
- > Transmission Control Protocol, Src Port: 36394, Dst Port: 5061, Seq: 211, Ack: 2888, Len: 138
- ▼ Transport Layer Security
 - ▼ TLSv1.2 Record Layer: Handshake Protocol: Certificate
 - Content Type: Handshake (22)
 - Version: TLS 1.2 (0x0303)
 - Length: 7
 - ▼ Handshake Protocol: Certificate
 - Handshake Type: Certificate (11)
 - Length: 3
 - Certificates Length: 0
 - > TLSv1.2 Record Layer: Handshake Protocol: Client Key Exchange
 - > TLSv1.2 Record Layer: Change Cipher Spec Protocol: Change Cipher Spec
 - > TLSv1.2 Record Layer: Handshake Protocol: Encrypted Handshake Message

SIP Connection Rejected (Example 3)

LSC has been removed from the system for SIP service but still remains for configuration check

Security → Service Certificates

Service Certificates

Certificate	Issuer	802.1X	Audit	HTTPS	SIP	
Self-signed Certificate	TemporaryDefaultCertificate	<input type="button" value="Off"/>	<input type="button" value="Off"/>	<input checked="" type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Delete"/> <input type="button" value="View Certificate"/>

CAPF

LSC	NotInstalled
Mode	IgnoreAuth
OperationResult	NotSet
OperationState	NonPending
ServerName	cucm11-pub.tkratzke.local
ServerPort	3804

SIP Connection Rejected (Example 3)

Configure CAPF to install a new LSC to the endpoint

Certification Authority Proxy Function (CAPF) Information

Certificate Operation*	Install/Upgrade
Authentication Mode*	No Pending Operation
Authentication String	Install/Upgrade
Generate String	Delete
Key Order*	Troubleshoot
RSA Key Size (Bits)*	2048
EC Key Size (Bits)	
Operation Completes By	2019 05 15 12 (YYYY:MM:DD:HH)
Certificate Operation Status: Operation Pending	
Note: Security Profile Contains Addition CAPF Settings.	

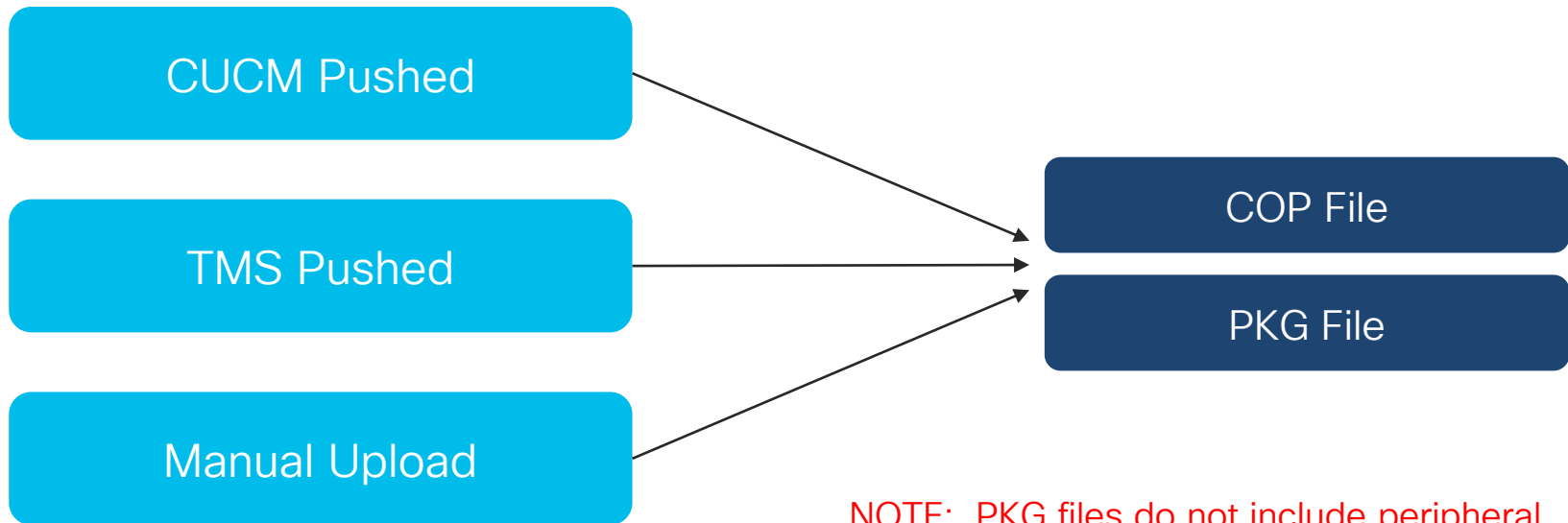
Service Certificates

Certificate	Issuer	802.1X	Audit	HTTPS	SIP		
Self-signed Certificate	TemporaryDefaultCertificate	Off	Off	On	Off	Delete	View Certificate
Spark-Room-SEP701F53D1E259	Cisco	On	Off	Off	On	Delete	View Certificate

Agenda

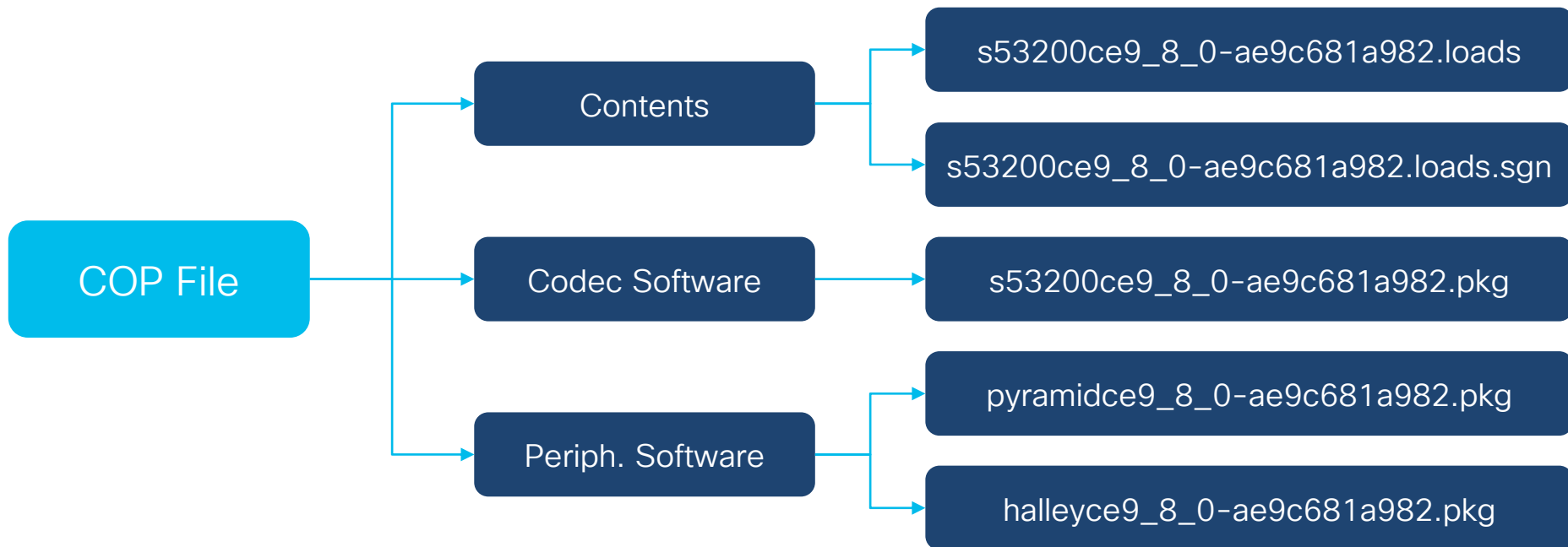
- Introduction
- Log and Diagnostic Overview
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- Upgrades and System Crashes
- Call Signaling and Quality
- API and Scheduling

Upgrade Methods



NOTE: PKG files do not include peripheral upgrades for Room Kit system due to size constraints thus are no longer supported for upgrades

COP File Contents



CUCM Upgrade

SoftwareUpgrade I: Cache initialized from /config/new.loads (R/W with prefix /upgrade/):

SoftwareUpgrade I: s53200 (<-- that's me!) @ ce9.7.1 30bff6140aa 2019-04-02

SoftwareUpgrade I: url: http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: package: s53200ce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: targets:

SoftwareUpgrade I: checksum: aabbccdd

SoftwareUpgrade I: Precision 60 Camera @ HC9.7.1 30bff6140aa 2019-04-02

SoftwareUpgrade I: url: http://14.49.23.20:6970/halleyce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: package: halleyce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: targets: 102110,102110-1,102110-2,102110-3

SoftwareUpgrade I: checksum: aabbccdd

SoftwareUpgrade I: Pyramid @ ce9.7.1 30bff6140aa 2019-04-02

SoftwareUpgrade I: url: http://14.49.23.20:6970/pyramidce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: package: pyramidce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: targets: 73-100746-0,73-100746-1

SoftwareUpgrade I: checksum: aabbccdd

Base Codec Software

P60 Camera Software

Quad Cam Software

Confirm Upgrade in GUI

Setup -> Status -> Provisioning

Software	
Current	
CompletedAt	2019-04-02T15:57:51Z
URL	http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg
VersionId	ce9.7.1 30bff6140aa 2019-04-02
PreviousUpgrade	
Changed	2019-04-02T15:55:57Z
Message	
Status	None
URL	http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg
VersionId	ce9.7.1 30bff6140aa 2019-04-02
UpgradeStatus	
LastChange	2019-04-02T15:57:59Z
Message	
URL	http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.loads
VersionId	s53200ce9_7_1-30bff6140aa.loads

Upgrade Common Issues

Camera Failure

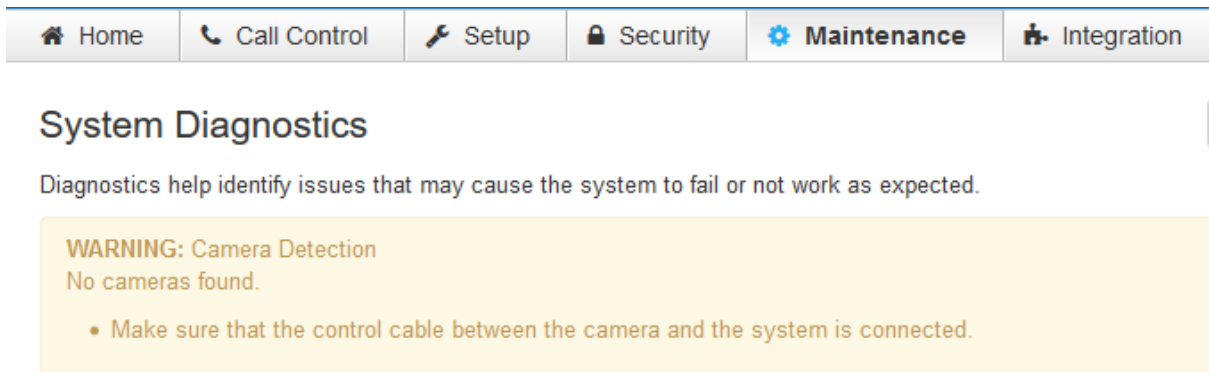
- For Room Kit Pro and Room Kit Plus systems the camera software is no longer included in the .pkg file to save on size
- Upgrading the system with only the .pkg file will upgrade the system software but not the cameras
- This will cause the cameras to fail to pair once the system boots back up
- Newer software (starting with CE9.7.1) is now smarter and will prevent this

Cameras

No cameras connected.

Camera Failure

Diagnostics suggest to check the control (ethernet) cable between the camera and codec



The screenshot displays a web-based maintenance interface. At the top, there is a navigation bar with six tabs: 'Home' (house icon), 'Call Control' (phone icon), 'Setup' (wrench icon), 'Security' (lock icon), 'Maintenance' (gear icon, which is highlighted in blue), and 'Integration' (two people icon). Below the navigation bar, the main heading is 'System Diagnostics'. A descriptive sentence follows: 'Diagnostics help identify issues that may cause the system to fail or not work as expected.' Below this, a yellow warning box contains the text 'WARNING: Camera Detection' and 'No cameras found.' followed by a bullet point: '• Make sure that the control cable between the camera and the system is connected.'

Home	Call Control	Setup	Security	Maintenance	Integration
------	--------------	-------	----------	--------------------	-------------

System Diagnostics

Diagnostics help identify issues that may cause the system to fail or not work as expected.

WARNING: Camera Detection
No cameras found.

- Make sure that the control cable between the camera and the system is connected.

Camera Failure

peripheral_pairing: [40:CE:24:36:4A:AE] pairing success with Camera

PeripheralPairing I: MacAddr: '40:CE:24:36:4A:AE' Type: Camera Connected: 1 Paired: 1 IPv4: '' Ipv6LL: 'fe80::42ce:24ff:fe36:4aae' ScopId: '9' SwVers: ''

...

SpeakerTrack W: Pyramid at 40:CE:24:36:4A:AE is running incompatible SW version. Awaiting automatic SW upgrade.

...

SoftwareUpgrade I: Farmer: Connected Pyramid peripheral 40:CE:24:36:4A:AE

...

SoftwareUpgrade ERROR: Missing Pyramid image to offer peripheral 40:CE:24:36:4A:AE!

SoftwareUpgrade I: === LoadsFileHandler status report ===

SoftwareUpgrade I: Identifying as codec: 's53200' (aka. 'Cisco Webex Codec Plus' or 'Svea') in release mode

SoftwareUpgrade I: Running S/W version: 'ce9.7.1 30bff6140aa 2019-04-02'

Camera Failure

In CE9.7.1 and later, upgrades with .pkg files will fail with the following in the logs

```
TMS I: provision(): ok ! heartbeat 0 ! 1 upgrade URLs ! 0 files ! 0 docs
SoftwareUpgrade[0]: [3995411056] SWUH::requestUpgrade()
{t0,s1,p0,afalse,h1,dfalse,pMtrue,tT0,iStrue,iDtrue} {sessionId='953862a5-91dc-46ca-bcf1-5afdc5f2ffb0',
loadsfile='', swVersionId='CE9.8.0', baseUrl=''}
```

SoftwareUpgrade **ERROR: PKG-only upgrade rejected! May break peripherals.**

```
SoftwareUpgrade[0]: [3995411056] SWUH::requestUpgrade()
{t0,s1,p0,afalse,h1,dfalse,pMtrue,tT0,iStrue,iDtrue} <- Reject PKG-only upgrade
```

TMS Reports Upgrade Stuck

- In some instances when a bulk upgrade operation is initiated from TMS, some systems will appear to be “frozen” in the upgrade process on the status page
- Generally in these cases connecting to the system will show that the upgrade has succeeded but TMS does not report it
- This is due to a failure on the endpoint when sending feedback to TMS and does not actually indicate an upgrade problem

Description	Progress
Initiate upgrade of system tkratzke Cube Room Kit Plus 1 with software s53200ce9_8_0-ae9c681a982.pkg	0% Executing
Initiate upgrade of system tkratzke Cube Room Kit Plus 1 with software s53200ce9_7_1-30bff6140aa.loads	100% Event successful

TMS Reports Upgrade Stuck

HTTPFB I: http feedback error: slot '3' (<https://tms-primary.tkratzke.local/tms/public/feedback/code.aspx>),
retrying in 1 seconds, error: Couldn't resolve host name

...

HTTPFB I: http feedback error: slot '3' (<https://tms-primary.tkratzke.local/tms/public/feedback/code.aspx>),
retrying in 3 seconds, error: Couldn't resolve host name

...

TMS I: provision(): http request url/[https://tms-
primary.tkratzke.local/tms/public/external/management/systemmanagementservice.asmx/771](https://tms-primary.tkratzke.local/tms/public/external/management/systemmanagementservice.asmx/771) bytes

...

TMS I: provision(): ok ! heartbeat 0 ! 1 upgrade URLs ! 0 files ! 0 docs

...

SoftwareUpgrade I: Requested codec upgrade is same as we're running. Skipping.

System Crashes

Crashes Overview

- There is no “one size fits all” approach to crash root cause, but there are best practices
- The most important factors are to gather logs asap and identify the trigger
- When possible, gracefully reboot the system rather than power cycling if hung
- This will allow for historical log generation to help gather crash signatures

Maintenance Mode Explained

- If a system crashes while booting, it will note this and trigger another reboot (preserving historical logs)
- If a second crash happens during the next boot, the system will go into “maintenance mode” to prevent repetitive boot looping so troubleshooting can take place
- In these situations, logs can provide some insight into the cause and help expedite troubleshooting with TAC if necessary

Maintenance Mode Explained

Maintenance **System Recovery** **Tools**

An error occurred when communicating with t

System Recovery

In order to recover the system when experiencing are Recovery Swap or a Factory Reset can be performed. These only be attempted by a system administrator or in contact with Cisco technical support. The preferred recovery method is to perform a Sof and Factory Reset as last resort.









[Backup](#) [Software Recovery Swap](#) [Factory Reset](#) [Remote Support User](#)

A Software Recovery Swap will change the running software to the previously used software image which is stored on an inactive partition. You are currently running ce9.7.1 30bff6140aa 2019-04-02.

Switch to software: ce9.6.2 5672d8aee2f 2019-01-31...

Maintenance Mode Example

EXAMPLE: A Room Kit is rebooting on its own then going to maintenance mode. A factory reset was tried but the issue has continued.









 log.0.tar.gz	3/19/2019 12:25 PM	WinRAR archive	147 KB
 log.1.tar.gz	3/19/2019 12:28 PM	WinRAR archive	177 KB
 log.tar.gz	3/19/2019 12:28 PM	WinRAR archive	177 KB
 free.log	3/19/2019 12:28 PM	Text Document	1 KB
 hwmon.log	3/19/2019 12:26 PM	Text Document	1 KB
 journal.log	3/19/2019 12:28 PM	Text Document	295 KB
 kern.log	3/19/2019 12:28 PM	Text Document	176 KB
 kernerr.log	3/19/2019 12:28 PM	Text Document	65 KB

Maintenance Mode Example (journal.log)

```
systemd[1]: main.service: Main process exited, code=dumped, status=11/SEGV
systemd[1]: Stopping Cisco Application - Video...
kernel: SELinux: Context sys.id:sys.role:files.generic_commands.cmd_file:s0 is not valid (left unmapped).
video[3267]: tshell: Failed to connect to system software
video[3267]: /share/installimage/earlyhooks.d/01-stopmain.hook: line 3: echo: write error: Broken pipe
systemd[1]: Stopped Cisco Application - Video.
main[3279]: Application not in ready state on crash (state: BOOTING).
main[3279]: Not going to maintenance mode on first crash
main[3311]: Rebooting system (Tue Mar 19 16:25:44 UTC 2019)
```

Maintenance Mode Example

EXAMPLE: A Room Kit is rebooting on its own then going to maintenance mode. A factory reset was tried but the issue has continued.

 log.0.tar.gz	3/19/2019 12:25 PM	WinRAR archive	147 KB
 log.1.tar.gz	3/19/2019 12:28 PM	WinRAR archive	177 KB
 log.tar.gz	3/19/2019 12:28 PM	WinRAR archive	177 KB
 free.log	3/19/2019 12:28 PM	Text Document	1 KB
 hwmon.log	3/19/2019 12:26 PM	Text Document	1 KB
 journal.log	3/19/2019 12:28 PM	Text Document	295 KB
 kern.log	3/19/2019 12:28 PM	Text Document	176 KB
 kernerr.log	3/19/2019 12:28 PM	Text Document	65 KB

Maintenance Mode Example (journal.log)

```
systemd[1]: main.service: Main process exited, code=dumped, status=11/SEGV
main[2987]: Application not in ready state on crash (state: BOOTING).
main[2987]: Previous run was a crash, going to maintenance mode
main[2987]: Going to maintenance mode.
main[2987]: /share/diehooks.d/maintenance-mode-or-not: line 119: 2999 Aborted ....
systemd[1]: main.service: Failed with result 'core-dump'.
...
...
...
thermal_control[3714]: bad sensor: T_FPGA
thermal_control[3714]: Thermal shutdown due to bad sensor: T_FPGA
thermal_control[3714]: Use 'thermal_control_util set_thermal_shutdown' to disable thermal shutdown
thermal_control[3714]: thermal_control: Shutdown system
```

Maintenance Mode Example (main.log)

What caused the crash in the first place?

eventlog[2313]: Reset cause hwmon: POWER_ON

eventlog[2313]: Reset cause host: Host requested reboot

eventlog[2313]: main: camera pcb_version 3, led_version 1, lens_id 1

eventlog[2313]: main: focus winding voltage: 2503, 2530, 2527, 2266, 2521, 2533, 2242, 2545, 2533

eventlog[2313]: main: iris winding voltage: -1843, -1996, -1699, -1699, -1930, -1918, -1684, -1795, -1948

eventlog[2313]: **Error: camera focus motor not operative**

eventlog[2313]: **Received signal SIGABRT (6) in thread 0xe7da6010, TID 2313 (main)**

Maintenance Mode Example (main.log)

Another example...

```
eventlog[1334]: ce9.0.0.e8027dd  
eventlog[1334]: SW Release Date: 2017-02-27  
eventlog[1334]: Product ID: Cisco Spark Room Kit  
eventlog[1334]: Product ID (short): Room Kit  
eventlog[1334]: ttnet: Failed to obtain mac address on wlan0: No such device  
eventlog[1334]: Received signal SIGABRT (6) in thread 0xf50da000, TID 1334 (main)
```

Steps to Resolve Crashes

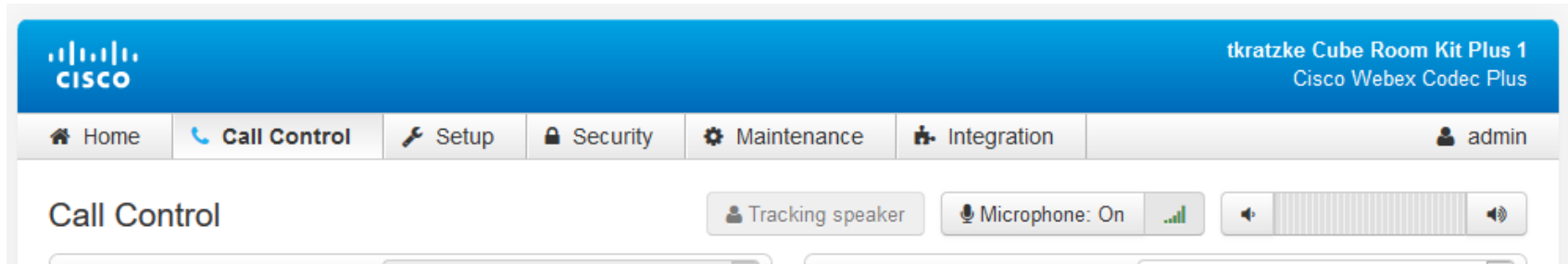
- If any new components were recently connected, remove and reboot
- Try reverting to the previous version/partition
- Factory reset the system
- Open a case with TAC including the log files

Agenda

- Introduction
- Log and Diagnostic Overview
- Registrations and Provisioning
- Upgrades and System Crashes
- [Call Signaling and Quality](#)
- API and Scheduling

Web Based Call Troubleshooting

- Web interface provides three basic places to check for call info
 - Call Control page
 - Status
 - Call Logs
- Perfect for quick understanding of call negotiation, basic media statistics, or to augment additional troubleshooting
- Call control and Status pages available while a call is active
- Call logs available for previous calls



Call Control Statistics

The screenshot shows the Cisco Webex interface for a 'tkratzke Cube Room Kit Plus 1' running 'Cisco Webex Codec Plus'. The 'Call Control' tab is selected and highlighted with a red box. The interface includes a top navigation bar with 'Home', 'Call Control', 'Setup', 'Security', 'Maintenance', and 'Integration'. The 'Call Control' section shows 'Tracking speaker' and 'Microphone: On' status.

Call Details

Protocol	SIP	Transmit call rate	6000 kbps
Encryption	None	Receive call rate	6000 kbps

Outgoing Audio

Protocol	AACLD	Total packet loss	0.0%
Channel rate	128 kbps	Current packet loss	0.0%
		Jitter	3 ms

Incoming Audio

Protocol	AACLD	Total packet loss	0.0%
Channel rate	128 kbps	Current packet loss	0.0%
		Jitter	1 ms

Outgoing Video

Protocol	H264	Total packet loss	0.0%
Resolution	1920x1080	Current packet loss	0.0%
Frame rate	60 fps	Jitter	2 ms
Channel rate	5866 kbps		

Incoming Video

Protocol	H264	Total packet loss	0.0%
Resolution	1920x1080	Current packet loss	0.0%
Frame rate	60 fps	Jitter	2 ms
Channel rate	5841 kbps		

Status Pages

Setup → Status → MediaChannels

RTP

Local

IpAddress	14.80.79.11
Port	17788
Protocol	UDP

Remote

IpAddress	14.80.79.4
Port	17090
Protocol	UDP

cisco *Live!*

Bookings

Call

CallDiagnostics

Cameras

Capabilities

Conference

Diagnostics

H320

H323

HttpFeedback

ICE

Logging

MediaChannels

Network

NetworkServices

Peripherals

Phonebook

Provisioning

Proximity

RoomAnalytics

RoomPreset

Security

Call 5

Channel 155

Direction Incoming

Encryption Off

MsctrlId 78

Type Audio

Audio

ChannelRole Main

Channels 1

Mute True

Protocol AACLD

Netstat

Bytes 7452800

ChannelRate 128000

Jitter 1

LastIntervalLost 0

LastIntervalReceived 185

Loss 0

MaxJitter 1

Packets 23289

Transport

Call Logs

Call Logs

[Clear History](#)

Start time	Duration	Direction	Display name	Disconnect cause type	
2019-04-08T14:08:03	12 hours	➔ Outgoing	tkratzke Cube SX20	RemoteDisconnect	
2019-04-08T11:24:46	23 minutes	➔ Incoming	tkratzke Cube SX20	RemoteDisconnect	
2019-04-08T11:20:24	4 minutes	➔ Outgoing	20001	LocalDisconnect	
2019-04-08T11:17:46	3 minutes	➔ Outgoing	20001	LocalDisconnect	
2019-03-29T12:39:15	0 seconds	➔ Outgoing	95001	NetworkRejected	
2019-03-29T12:33:04	26 seconds	➔ Incoming	tkratzke Cube DX70	RemoteDisconnect	
2019-03-29T12:31:16	2 minutes	➔ Incoming	tkratzke Cube DX70	RemoteDisconnect	
2019-03-29T12:27:12	a minute	➔ Incoming	tkratzke Cube DX70	RemoteDisconnect	
2019-03-29T12:25:44	37 seconds	➔ Outgoing	tkratzke Cube DX70	LocalDisconnect	
2019-03-29T12:25:33	20 seconds	➔ Outgoing	tkratzke Cube SX20	RemoteDisconnect	
2019-03-29T12:17:58	2 minutes	➔ Outgoing	tkratzke Cube SX20	LocalDisconnect	
2019-03-29T12:17:48	15 seconds	➔ Outgoing	tkratzke Cube DX70	RemoteDisconnect	

Call Logs

Call details	
Call ID	4
Remote number	sip:cubesx20@tkratzke.local
Callback number	sip:cubesx20@tkratzke.local
Display name	tkratzke Cube SX20
Direction	Incoming
Protocol	Sip
Call rate	6000 kbps
Encryption type	None
Duration	23 minutes
Start time	2019-04-08 11:24:46
End time	2019-04-08 11:48:02
Disconnect cause	Normal

Call details		
Disconnect cause	Normal	
Disconnect cause code	16 (SIP)	
Disconnect cause type	RemoteDisconnect	
Occurrence type	Received	
Is acknowledged	Acknowledged	
Audio	Transmit	Receive
Packet loss	0/69740 (0 %)	0/69754 (0 %)
Max jitter	4	3
Video	Transmit	Receive
Packet loss	0/819050 (0 %)	0/838275 (0 %)
Max jitter	2	4

Signaling and Media Detailed Capture

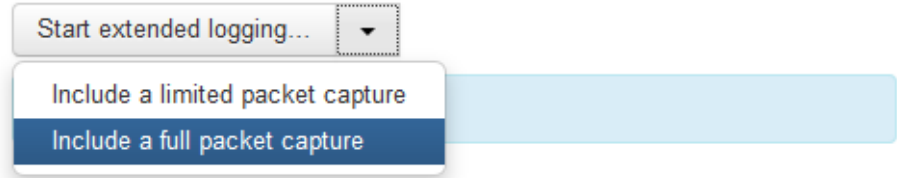
Necessary Debugs for Detail

- “Extended logging” or SIP debug 9 must be enabled to see SIP message contents and SDP
- “Full packet capture” must be enabled to capture RTP media for analysis
 - This is limited to 3 minutes of capture
 - For anything longer, a remote monitoring session should be configured on the directly connected switchport

Extended logging

To help diagnose network issues and problems during call setup, the system can enter a timed extended logging mode. This mode is resource intensive, and populates the existing logs with more detailed information.

The extended logging mode can optionally include a full or partial capture of all network traffic.



Detailed Capture

SipPacket 1: SIP Msg: Outgoing => INVITE, CSeq: 100 INVITE, Remote: 14.49.23.20:5060, CallId: 88b866e5f94fdfb3e0214208bd6a34fe, SessionId: 0eaf314a5f335bdbb6823e427b119680;remote=00000000000000000000000000000000

SipPacket[2]: INVITE sip:20001@tkratzke.local SIP/2.0

SipPacket[2]: Via: SIP/2.0/TCP 14.0.70.171:39293;branch=xxxx;rport

SipPacket[2]: Call-ID: 88b866e5f94fdfb3e0214208bd6a34fe

SipPacket[2]: CSeq: 100 INVITE

...

SipPacket[2]: m=video 21008 RTP/AVP 99 97 126 123

SipPacket[2]: b=TIAS:6000000

SipPacket[2]: a=rtpmap:99 H265/90000

SipPacket[2]: a=fmtp:99 level-id=90;max-lsr=125337600;max-lps=2088960;max-tr=22;max-tc=20;max-fps=6000;x-cisco-hevc=529

SipPacket[2]: a=rtpmap:97 H264/90000

SipPacket[2]: a=fmtp:97 packetization-mode=0;profile-level-id=428016;max-br=5000;max-mbps=490000;max-fs=8160;max-smbps=490000;max-fps=6000

Detailed Capture

Packet capture is included in the log bundle under the “pcap” folder

This includes a single file “extendedlogging.pcap”

Name	Date modified	Type	Size
current	3/28/2019 2:19 PM	File folder	
old	4/17/2019 11:44 AM	File folder	
pcap	3/28/2019 2:19 PM	File folder	

Name	Date modified	Type	Size
extendedlogging.pcap	3/27/2019 4:43 PM	Wireshark capture...	113,239 KB

Detailed Capture

Apply a display filter ... <Ctrl-/>				
Source	Destination	Protocol	Length	Info
14.49.23.51	14.0.70.171	H264	1442	PT=H264, SSRC=0x5ED63A0D, Seq=39378, Time=2673498660 FU-A
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32666, Time=896425858 FU-A
14.49.23.51	14.0.70.171	RTP	214	PT=opus, SSRC=0x67BD26F4, Seq=61626, Time=3971709243
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32667, Time=896425858 FU-A
14.49.23.51	14.0.70.171	H264	1442	PT=H264, SSRC=0x5ED63A0D, Seq=39379, Time=2673498660 FU-A
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32668, Time=896425858 FU-A
14.49.23.51	14.0.70.171	H264	1442	PT=H264, SSRC=0x5ED63A0D, Seq=39380, Time=2673498660 FU-A
14.0.70.171	14.49.23.51	RTP	207	PT=MP4A-LATM, SSRC=0xD9FCA453, Seq=29655, Time=1764984639
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32669, Time=896425858 FU-A
14.49.23.51	14.0.70.171	H264	1442	PT=H264, SSRC=0x5ED63A0D, Seq=39381, Time=2673498660 FU-A
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32670, Time=896425858 FU-A
14.49.23.51	14.0.70.171	H264	1442	PT=H264, SSRC=0x5ED63A0D, Seq=39382, Time=2673498660 FU-A
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32671, Time=896425858 FU-A
14.49.23.51	14.0.70.171	H264	1380	PT=H264, SSRC=0x5ED63A0D, Seq=39383, Time=2673498660, Mark FU-A End
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32672, Time=896425858 FU-A
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32673, Time=896425858 FU-A
14.49.23.51	14.0.70.171	RTP	214	PT=opus, SSRC=0x67BD26F4, Seq=61627, Time=3971710203
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32674, Time=896425858 FU-A
14.49.23.51	14.0.70.171	H264	1242	PT=H264, SSRC=0x618FF321, Seq=32675, Time=896425858 FU-A
14.0.70.171	14.49.23.51	RTP	208	PT=MP4A-LATM, SSRC=0xD9FCA453, Seq=29656, Time=1764984639
<				
> Frame 834: 214 bytes on wire (1712 bits), 214 bytes captured (1712 bits) > Ethernet II, Src: Cisco_4d:ef:3f (00:c8:8b:4d:ef:3f), Dst: Cisco_59:f5:2f (40:ce:24:59:f5:2f) > Internet Protocol Version 4, Src: 14.49.23.51, Dst: 14.0.70.171 > User Datagram Protocol, Src Port: 40338, Dst Port: 16730 > Real-Time Transport Protocol				

Detailed Capture

SipPacket 1: SIP Msg: Outgoing => INVITE, CSeq: 100 INVITE, Remote: 14.49.23.20:5060, CallId: 88b866e5f94fdfb3e0214208bd6a34fe, SessionId:

0eaf314a5f335bdbb6823e427b119680;remote=00000000000000000000000000000000

SipPacket[2]: INVITE sip:20001@tkratzke.local SIP/2.0

SipPacket[2]: Via: SIP/2.0/TCP 14.0.70.171:39293;branch=xxxx;rport

SipPacket[2]: Call-ID: 88b866e5f94fdfb3e0214208bd6a34fe

SipPacket[2]: CSeq: 100 INVITE

...

SipPacket[2]: m=video 21008 RTP/AVP 99 97 126 123

SipPacket[2]: b=TIAS:6000000

SipPacket[2]: a=rtpmap:99 H265/90000

SipPacket[2]: a=fmtp:99 level-id=90;max-lsr=125337600;max-lps=2088960;max-tr=22;max-tc=20;max-fps=6000;x-cisco-hevc=529

SipPacket[2]: a=rtpmap:97 H264/90000

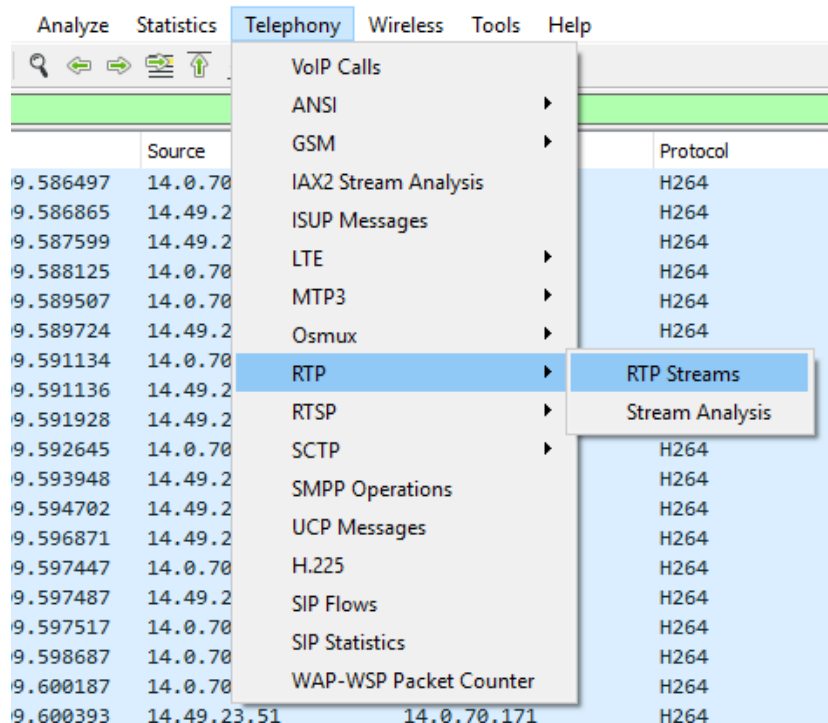
SipPacket[2]: a=fmtp:97 packetization-mode=0;profile-level-id=428016;max-br=5000;max-mbps=490000;max-fs=8160;max-smbps=490000;max-fps=6000

Detailed Capture

udp.port eq 21008

udp.port eq 21008								Expression
No.	Time	Source	Destination	Protocol	Length	Info		
88026	2019-03-27 20:42:09.586497	14.0.70.171	14.49.23.51	H264	1354	PT=H264, SSRC=0x7F367914, Seq=53228, Time=2492856908 non-IDR-Slice		
88027	2019-03-27 20:42:09.586865	14.49.23.51	14.0.70.171	H264	1345	PT=H264, SSRC=0x5ED63A0D, Seq=58573, Time=2681766660 non-IDR-Slice		
88028	2019-03-27 20:42:09.587599	14.49.23.51	14.0.70.171	H264	1462	PT=H264, SSRC=0x618FF321, Seq=37150, Time=904693858 FU-A		
88030	2019-03-27 20:42:09.588125	14.0.70.171	14.49.23.51	H264	1350	PT=H264, SSRC=0x7F367914, Seq=53229, Time=2492856908 non-IDR-Slice		
88031	2019-03-27 20:42:09.589507	14.0.70.171	14.49.23.51	H264	1355	PT=H264, SSRC=0x7F367914, Seq=53230, Time=2492856908 non-IDR-Slice		
88032	2019-03-27 20:42:09.589724	14.49.23.51	14.0.70.171	H264	1350	PT=H264, SSRC=0x5ED63A0D, Seq=58574, Time=2681766660 non-IDR-Slice		
88033	2019-03-27 20:42:09.591134	14.0.70.171	14.49.23.51	H264	1358	PT=H264, SSRC=0x7F367914, Seq=53231, Time=2492856908 non-IDR-Slice		
88034	2019-03-27 20:42:09.591136	14.49.23.51	14.0.70.171	H264	1462	PT=H264, SSRC=0x618FF321, Seq=37151, Time=904693858 FU-A		
88035	2019-03-27 20:42:09.591928	14.49.23.51	14.0.70.171	H264	1342	PT=H264, SSRC=0x5ED63A0D, Seq=58575, Time=2681766660 non-IDR-Slice		
88036	2019-03-27 20:42:09.592645	14.0.70.171	14.49.23.51	H264	619	PT=H264, SSRC=0x7F367914, Seq=53232, Time=2492856908, Mark non-IDR-Slice		
88037	2019-03-27 20:42:09.593948	14.49.23.51	14.0.70.171	H264	1462	PT=H264, SSRC=0x618FF321, Seq=37152, Time=904693858 FU-A		
88038	2019-03-27 20:42:09.594702	14.49.23.51	14.0.70.171	H264	1347	PT=H264, SSRC=0x5ED63A0D, Seq=58576, Time=2681766660 non-IDR-Slice		
88039	2019-03-27 20:42:09.596871	14.49.23.51	14.0.70.171	H264	1462	PT=H264, SSRC=0x618FF321, Seq=37153, Time=904693858 FU-A		
88040	2019-03-27 20:42:09.597447	14.0.70.171	14.49.23.51	H264	1358	PT=H264, SSRC=0x7F367914, Seq=53233, Time=2492858408 non-IDR-Slice		
88041	2019-03-27 20:42:09.597487	14.49.23.51	14.0.70.171	H264	1345	PT=H264, SSRC=0x5ED63A0D, Seq=58577, Time=2681766660 non-IDR-Slice		
88042	2019-03-27 20:42:09.597517	14.0.70.171	14.49.23.51	H264	1353	PT=H264, SSRC=0x7F367914, Seq=53234, Time=2492858408 non-IDR-Slice		
88043	2019-03-27 20:42:09.598687	14.0.70.171	14.49.23.51	H264	1355	PT=H264, SSRC=0x7F367914, Seq=53235, Time=2492858408 non-IDR-Slice		
88044	2019-03-27 20:42:09.600187	14.0.70.171	14.49.23.51	H264	1352	PT=H264, SSRC=0x7F367914, Seq=53236, Time=2492858408 non-IDR-Slice		
88045	2019-03-27 20:42:09.600393	14.49.23.51	14.0.70.171	H264	1348	PT=H264, SSRC=0x5ED63A0D, Seq=58578, Time=2681766660 non-IDR-Slice		
88046	2019-03-27 20:42:09.600563	14.49.23.51	14.0.70.171	H264	1462	PT=H264, SSRC=0x618FF321, Seq=37154, Time=904693858 FU-A		

Detailed Capture



Telephony → RTP → RTP Streams

Detailed Capture

Wireshark · RTP Streams · extendedlogging.pcap

Source Address	Source Port	Destination Address	Destination Port	SSRC	Payload	Packets	Lost	Max Delta (ms)	Max Jitter	Mean Jitter	Status
14.0.70.171	21008	14.49.23.51	40340	0x7f367914	H264	4047	0 (0.0%)	15.003	4.734	2.465	
14.0.70.171	16730	14.49.23.51	40338	0xd9fca453	MP4A-LATM	479	0 (0.0%)	21.988	0.777	0.347	
14.49.23.51	40340	14.0.70.171	21008	0x61bff321	H264	560	0 (0.0%)	284.905	11.235	5.315	
14.49.23.51	40340	14.0.70.171	21008	0x5ed63a0d	H264	558	0 (0.0%)	295.449	13.538	5.707	
14.49.23.51	40338	14.0.70.171	16730	0x67bd26f4	opus	445	0 (0.0%)	40.519	7.207	4.887	

5 streams. Right-click for more options.

Close Find Reverse Prepare Filter Export... Copy Analyze Help

Outbound traffic

Inbound traffic

Call Quality Example

Poor Quality Call



Poor Quality Call

Participants

Layout Keypad Disconnect all

Protocol	AAC-LD	Total packet loss	0.0%
Channel rate	64 kbps	Current packet loss	0.0%
		Jitter	0 ms
Outgoing Video			
Protocol	H264	Total packet loss	0.0%
Resolution	768x448	Current packet loss	0.0%
Frame rate	30 fps	Jitter	1 ms
Channel rate	371 kbps		
Incoming Video			
Protocol	H264	Total packet loss	0.0%
Resolution	768x448	Current packet loss	0.0%
Frame rate	30 fps	Jitter	1 ms
Channel rate	373 kbps		

Poor Quality Call (Room Kit INVITE)

SipPacket 1: SIP Msg: Outgoing => INVITE, CSeq: 100 INVITE, Remote: 14.49.23.20:5061

SipPacket[2]: INVITE sip:cubesx20@tkratzke.local SIP/2.0

SipPacket[2]: Via: SIP/2.0/TLS 14.80.79.2:44461;branch=xxxxxxx

SipPacket[2]: Call-ID: 708be98e0e1b60db1a0d7c477245bcdd

...

SipPacket[2]: Content-Length: 4944

SipPacket[2]: v=0

SipPacket[2]: o=tandberg 3 1 IN IP4 14.80.79.2

SipPacket[2]: s=-

SipPacket[2]: c=IN IP4 14.80.79.2

SipPacket[2]: b=AS:6000

...

SipPacket[2]: m=audio 17536 RTP/SAVP 107 108 114 104 105 9 18 8 0 101 123

SipPacket[2]: b=TIAS:128000

...

SipPacket[2]: m=video 21920 RTP/SAVP 99 97 126 123

SipPacket[2]: b=TIAS:6000000

Poor Quality Call (SX20 200 OK)

SipPacket 1: SIP Msg: Outgoing => 200 OK, CSeq: 101 INVITE, Remote: 14.49.23.20:5060

SipPacket[2]: SIP/2.0 200 OK

SipPacket[2]: Via: SIP/2.0/TCP 14.49.23.20:5060;branch=xxxxxxx

SipPacket[2]: Call-ID: d54d6b00-cf61da57-47e36-1417310e@14.49.23.20

...

SipPacket[2]: Content-Length: 3276

SipPacket[2]: v=0

SipPacket[2]: o=tandberg 17 1 IN IP4 14.80.79.51

SipPacket[2]: s=-

SipPacket[2]: c=IN IP4 14.80.79.51

SipPacket[2]: b=AS:6000

...

SipPacket[2]: m=audio 18062 RTP/AVP 107 108 114 104 105 9 15 18 8 0 101 123

SipPacket[2]: b=TIAS:128000

...

SipPacket[2]: m=video 20374 RTP/AVP 97 126 96 34 123

SipPacket[2]: b=TIAS:6000000

Poor Quality Call (Room Kit 200 OK)

SipPacket 1: SIP Msg: Incoming <= 200 OK, CSeq: 100 INVITE, Remote: 14.49.23.20:5061

SipPacket[2]: SIP/2.0 200 OK

SipPacket[2]: Via: SIP/2.0/TLS 14.80.79.2:44461;branch=xxxxxxxxx

SipPacket[2]: Call-ID: 708be98e0e1b60db1a0d7c477245bcdd

...

SipPacket[2]: Content-Length: 2755

SipPacket[2]: v=0

SipPacket[2]: o=CiscoSystemsCCM-SIP 520227 1 IN IP4 14.49.23.20

SipPacket[2]: s=SIP Call

SipPacket[2]: c=IN IP4 14.80.79.51

SipPacket[2]: b=AS:500

...

SipPacket[2]: m=audio 18062 RTP/AVP 107 108 114 9 104 105 0 8 18 123 101

SipPacket[2]: b=TIAS:128000

...

SipPacket[2]: m=video 20374 RTP/AVP 97 126 123

SipPacket[2]: b=TIAS:372000

Poor Quality Call

- Isolate the issue to a specific call leg
- In this case, region video bandwidth has been set too low

Region Relationships

Region	Audio Codec Preference List	Maximum Audio Bit Rate	Maximum Session Bit Rate for Video Calls	Maximum Session Bit Rate for Immersive Video Calls
Default	Use System Default (Factory Default low loss)	256 kbps (L16, AAC-LD)	500 kbps	32000 kbps
NOTE: Regions not displayed	Use System Default	Use System Default	Use System Default	Use System Default

Agenda

- Introduction
- Log and Diagnostic Overview
- Registrations and Provisioning
- Upgrades and System Crashes
- Call Signaling and Quality
- [API and Scheduling](#)

General API / Web Debugging

- Normally, all web/API queries made by the endpoint to another server will be present in the main logs
- Inbound requests to the endpoint that modify configuration will be present in the audit logs
- Inbound API requests that request or provide data are only visible in the Vega access logs (nginx → access.log)
- This access log functionality was fixed in CE9.8.

Conference Booking Process (Inbound API)



Conference Booking Troubleshooting

14.49.23.30: "GET /getxml?location=/Configuration/&internal=true HTTP/1.1" 200 "TMS Http User Agent (compatible; MSIE 5.5; Windows NT 5.0)"

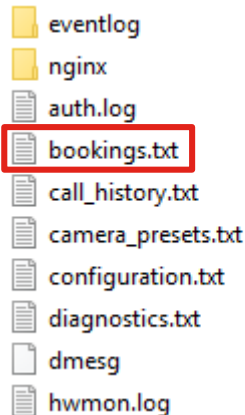
14.0.25.169: "GET /web/api/feedback/dec8230c HTTP/1.1" 204 "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:66.0) Gecko/20100101 Firefox/66.0"

14.49.23.30: "POST /bookingsputxml HTTP/1.1" 200 "TMS Http User Agent (compatible; MSIE 5.5; Windows NT 5.0)"



NOTE: Access logs available starting in CE9.8

Conference Booking Troubleshooting



```
*r BookingsListResult (status=OK):
*r BookingsListResult ResultInfo TotalRows: 2
*r BookingsListResult LastUpdated: "2019-05-14T20:11:00Z"
*r BookingsListResult Booking 1 Id: "11981"
*r BookingsListResult Booking 1 Title: "Test Meeting 1"
*r BookingsListResult Booking 1 Agenda: ""
*r BookingsListResult Booking 1 Privacy: Public
*r BookingsListResult Booking 1 Organizer FirstName: "Tim"
*r BookingsListResult Booking 1 Organizer LastName: "Kratzke"
*r BookingsListResult Booking 1 Organizer Email: "admin@tkratzke.local"
*r BookingsListResult Booking 1 Organizer Id: ""
*r BookingsListResult Booking 1 Time StartTime: "2019-05-14T19:45:00Z"
*r BookingsListResult Booking 1 Time StartTimeBuffer: 0
*r BookingsListResult Booking 1 Time EndTime: "2019-05-14T20:15:00Z"
*r BookingsListResult Booking 1 Time EndTimeBuffer: 0
*r BookingsListResult Booking 1 MaximumMeetingExtension: 0
*r BookingsListResult Booking 1 MeetingExtensionAvailability:
*r BookingsListResult Booking 1 BookingStatus: OK
*r BookingsListResult Booking 1 BookingStatusMessage: ""
*r BookingsListResult Booking 1 Webex Enabled: False
*r BookingsListResult Booking 1 Webex Url: ""
*r BookingsListResult Booking 1 Webex MeetingNumber: ""
*r BookingsListResult Booking 1 Webex Password: ""
*r BookingsListResult Booking 1 Webex HostKey: ""
*r BookingsListResult Booking 1 Encryption: BestEffort
*r BookingsListResult Booking 1 Role: Slave
*r BookingsListResult Booking 1 Recording: Disabled
*r BookingsListResult Booking 1 DialInfo Calls Call 1 Number: "95001"
*r BookingsListResult Booking 1 DialInfo Calls Call 1 Protocol: SIP
*r BookingsListResult Booking 1 DialInfo Calls Call 1 CallRate: 512
*r BookingsListResult Booking 1 DialInfo Calls Call 1 CallType: Video
*r BookingsListResult Booking 1 DialInfo ConnectMode: OBTP
```

Phonebook Searches

- Phonebook searches (either UDS or TMS based) will send queries for each character entered on the touch panel
- System logs will show when these searches occur along with the string searched
- In order to see the payload and respond back from the phonebook server (TMS or UDS) additional logging must be enabled manually
- Do this by connecting to the CLI and running “log ctx HttpClient debug 9”
- With just “extended logging” you will see searches but not responses

Phonebook Searches

CE Endpoint

Phonebook Server

POST .../phonebookservice.asmx SearchString: "b" MaxResult: "20"

200 OK XML with results id s_1 through s_20

POST .../phonebookservice.asmx SearchString: "b" MaxResult: "20" StartFrom: "s_20"

200 OK XML with results id s_21 through s_28

POST .../phonebookservice.asmx SearchString: "b" MaxResult: "20" StartFrom: "s_28"

200 OK XML with empty results

Phonebook Searches (General)

CuilApp[1]: User root/peripheral about to execute command '/Phonebook/Search Limit: 20 Offset: 0
PhonebookType: Corporate Recursive: True SearchField: Name SearchFilter: All SearchString: b' from
localhost.

CuilApp[1]: User root/peripheral about to execute command '/Phonebook/Search Limit: 20 Offset: 20
PhonebookType: Corporate Recursive: True SearchField: Name SearchFilter: All SearchString: b' from
localhost.

CuilApp[1]: User root/peripheral about to execute command '/Phonebook/Search Limit: 20 Offset: 28
PhonebookType: Corporate Recursive: True SearchField: Name SearchFilter: All SearchString: b' from
localhost.

Phonebook Searches (TMS)

```
[data OUT] <SystemName>tkratzke Cube Room Kit Plus 1</SystemName>
[data OUT] <MACAddress>70:1f:53:d1:e2:59</MACAddress>
[data OUT] <IPAddress>14.80.79.2</IPAddress>
[data OUT] <ProductType>Cisco Codec</ProductType>
[data OUT] <ProductID>Cisco Webex Codec Plus</ProductID>
[data OUT] <SWVersion>ce9.7.1.30bff6140aa</SWVersion>
[data OUT] <SerialNumber>xxxxxxxxxxx</SerialNumber>
[data OUT] </Identification>
[data OUT] <CaseSensitiveSearch>>false</CaseSensitiveSearch>
[data OUT] <SearchPath/>
[data OUT] <SearchString>b</SearchString>
[data OUT] <SearchType>Free</SearchType>
[data OUT] <Scope>SubTree</Scope>
[data OUT] <StartFromId>s_20</StartFromId>
[data OUT] <MaxResult>20</MaxResult>
[data OUT] <RangeInclusive>>false</RangeInclusive>
[data OUT] </Search>
```

Phonebook Searches (UDS)

Outgoing => GET https://cucm11-pub.tkratzke.local:8443/cucm-uds/users?name=t&max=20

Outgoing => GET https://cucm11-pub.tkratzke.local:8443/cucm-uds/users?name=t&max=20&start=1

Outgoing => GET https://cucm11-pub.tkratzke.local:8443/cucm-uds/users?name=ti&max=20

Outgoing => GET https://cucm11-pub.tkratzke.local:8443/cucm-uds/users?name=ti&max=20&start=1

Outgoing => GET https://cucm11-pub.tkratzke.local:8443/cucm-uds/users?name=tim&max=20

Outgoing => GET https://cucm11-pub.tkratzke.local:8443/cucm-uds/users?name=tim&max=20&start=1

...

...

HttpClient[9]: (139) [data IN] <?xml version="1.0".....<id>0edc5d4f-1433-10f2-f634-6b932b30b8b3</id>....<displayName>Tim Kratzke</displayName><phoneNumber>10100</phoneNumber>

Things to Remember

Things to Remember

- Always collect logs as soon as possible after an issue
- Remember to turn on extended logging before re-creating an issue
- Do not hard power cycle the systems if possible
- When in doubt, check all.log at the timestamp of the problem reported
- If you cant find something in the logs, ask!

Virtual Space via Webex Teams

New Contact Preference in Support Case Manager



New contact preference

Available in Support Case Manager for S3 and S4 TAC cases.



Conversation Transcripts

Customer can view the way a specific issue was solved at any time.

"Fast response time, easy interface and quick resolution. Simple and effective".

Customer feedback

cisco *Live!*



[Demo video](#)

Faster Resolution

Customer and engineer have real-time conversations. Easier to share files and engage experts.



Better Customer Satisfaction

Removes the back and forth nature of email communication.



Available for the following services:

- Solution Support
- SP Advantage
- TS Advantage
- High Touch Expert Care
- Collaboration Software Support (SWSS)

Complete your online session survey



- Please complete your session survey after each session. Your feedback is very important.
- Complete a minimum of 4 session surveys and the Overall Conference survey (starting on Thursday) to receive your Cisco Live t-shirt.
- All surveys can be taken in the Cisco Events Mobile App or by logging in to the Content Catalog on ciscolive.com/emea.

Cisco Live sessions will be available for viewing on demand after the event at ciscolive.com.

Continue your education



Demos in the
Cisco campus



Walk-in labs



Meet the engineer
1:1 meetings



Related sessions



Thank you

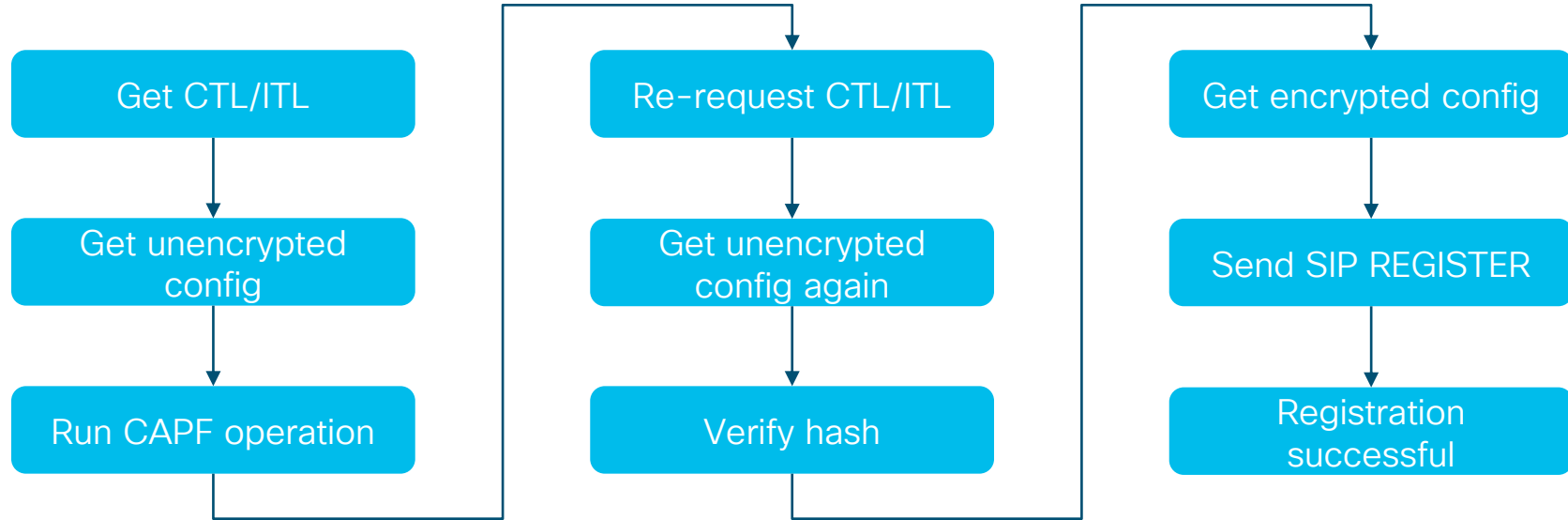




You make **possible**

Registration Walkthrough

CUCM Registration Process



Registration Walkthrough

Provisioning

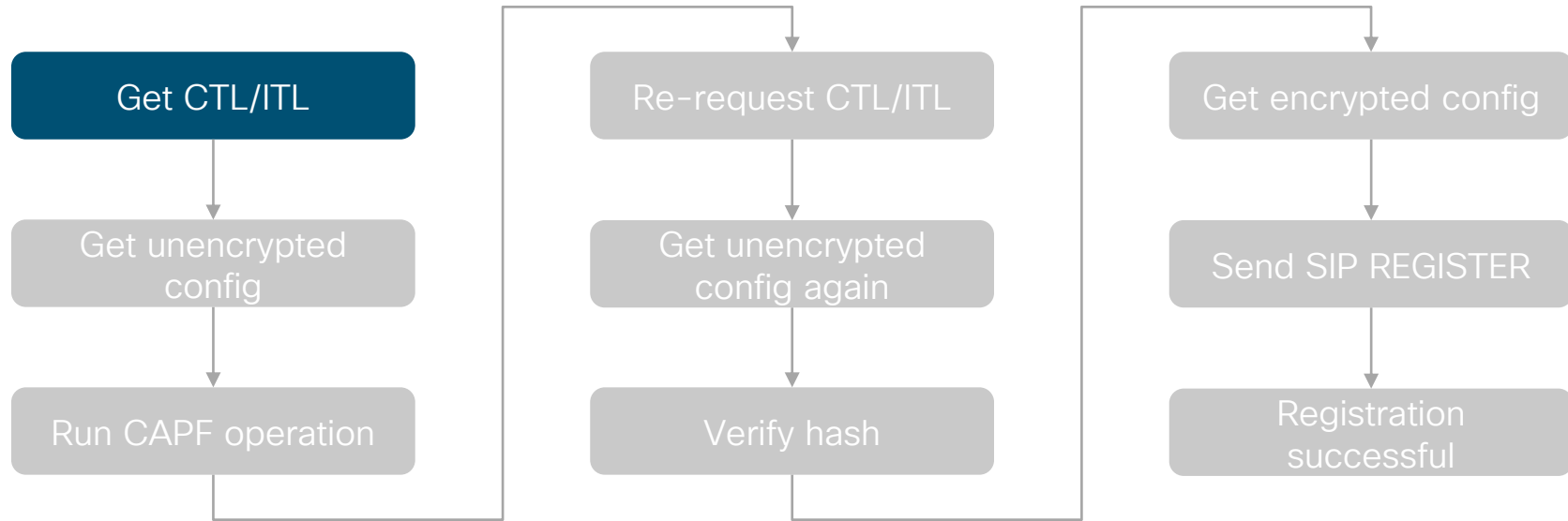
Connectivity	Auto	▼
LoginName	<input type="text"/>	(0 to 80 characters)
Mode	CUCM	▼
Password	<input type="password"/>	Undo (0 to 64 characters)

ExternalManager		
Address	14.49.23.20	(0 to 64 characters)

Certification Authority Proxy Function (CAPF) Information	
Certificate Operation*	Install/Upgrade ▼
Authentication Mode*	By Null String ▼
Authentication String	<input type="text"/>
<input type="button" value="Generate String"/>	
Key Order*	RSA Only ▼
RSA Key Size (Bits)*	2048 ▼
EC Key Size (Bits)	<input type="text"/> ▼
Operation Completes By	2019 03 15 12 (YYYY:MM:DD:HH)
Certificate Operation Status: None	
Note: Security Profile Contains Addition CAPF Settings.	

- Add CUCM as provisioning device in configuration
- Prep CAPF operation to install/update LSC
- Extended logging enabled

CUCM Registration Process



Registration

CuilApp[1]: Successfully changed configuration 'Configuration/Provisioning/Mode' to 'CUCM' by admin from 14.0.25.114.

...

PROV[2]: ProvisionRequest: url='http://14.49.23.20:6970/CTLSEP701f53d1e259.tlv'

PROV[1]: Provisioning Status=Provisioning, Server="", Reason=""

HttpClient[1]: HTTP: Outgoing => GET http://14.49.23.20:6970/CTLSEP701f53d1e259.tlv

...

HttpClient[3]: [header OUT] GET /CTLSEP701f53d1e259.tlv HTTP/1.1

HttpClient[3]: [header OUT] Host: 14.49.23.20:6970

HttpClient[3]: [header OUT] Accept: text/xml

HttpClient[3]: [header OUT] Content-Type: application/x-www-form-urlencoded

HttpClient[3]: [header OUT] User-Agent: Cisco/CE

HttpClient[3]: [header OUT] Accept-Charset: ISO-8859-1,utf-8

HttpClient[3]: [header OUT] ----

HttpClient[3]: [header IN] HTTP/1.1 200 OK

Set Provisioning

Request CTL File

Registration

PROV[3]: [notify_http_done] http request URL=http://14.49.23.20:6970/CTLSEP701f53d1e259.tlv, req status=success, state=CTL

CTL Downloaded

...
Handylron I: validate_signed_buffer: Validation succeeded, loaded TL into memory
Handylron I: secProcessTrustBuffer: TL updated

Local Trust Updated

...
PROV I: [requestItem] Requesting http://14.49.23.20:6970/ITLSEP701f53d1e259.tlv, state=ITL
PROV[2]: ProvisionRequest: url='http://14.49.23.20:6970/ITLSEP701f53d1e259.tlv'
HttpClient[1]: HTTP: Outgoing => GET http://14.49.23.20:6970/ITLSEP701f53d1e259.tlv

Request ITL File

...
HttpClient[3]: [header OUT] GET /ITLSEP701f53d1e259.tlv HTTP/1.1
HttpClient[3]: [header OUT] Host: 14.49.23.20:6970
HttpClient[3]: [header OUT] Accept: text/xml
HttpClient[3]: [header OUT] Content-Type: application/x-www-form-urlencoded
HttpClient[3]: [header OUT] User-Agent: Cisco/CE
HttpClient[3]: [header OUT] Accept-Charset: ISO-8859-1,utf-8

Registration

PROV[3]: [notify_http_done] http request URL=http://14.49.23.20:6970/ITLSEP701f53d1e259.tlv, req status=success, state=ITL

ITL Downloaded

...

Handylron I: validate_signed_buffer: Validation succeeded, loaded TL into memory

Handylron I: secProcessTrustBuffer: TL updated

PROV I: [requestItem] Requesting http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn, state=Config (full or mini)

PROV[2]: ProvisionRequest: url='http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn'

HttpClient[1]: HTTP: Outgoing => GET http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn

...

HttpClient[3]: [header OUT] GET /SEP701f53d1e259.cnf.xml.sgn HTTP/1.1

HttpClient[3]: [header OUT] Host: 14.49.23.20:6970

HttpClient[3]: [header OUT] Accept: text/xml

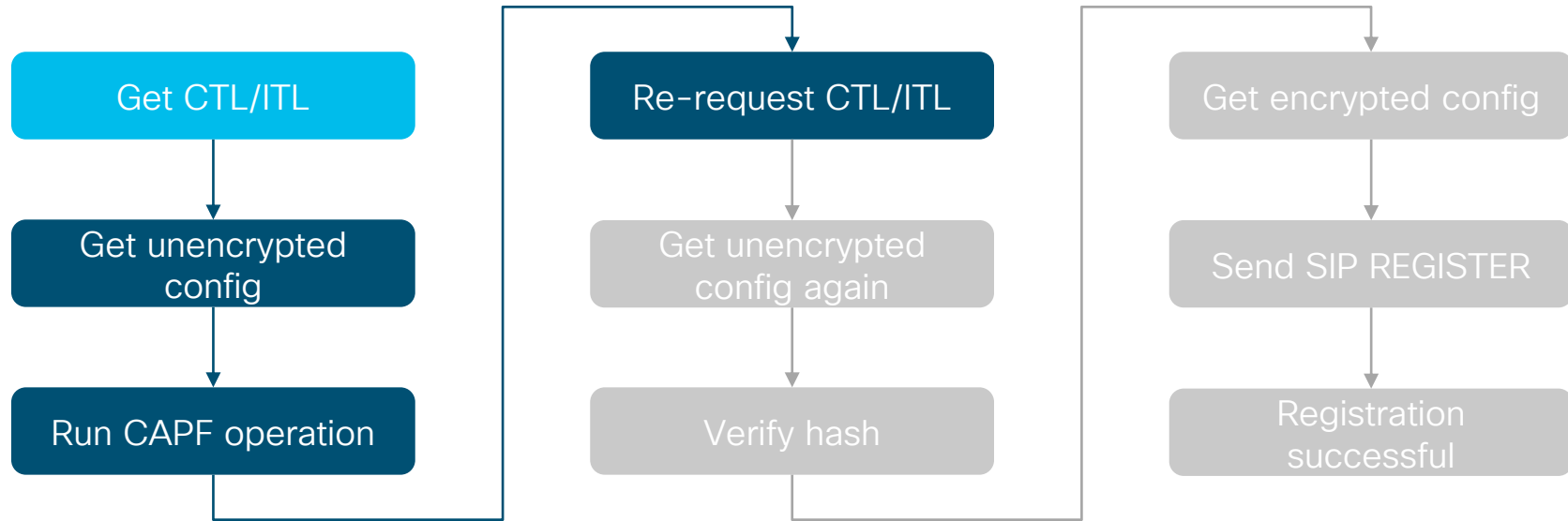
HttpClient[3]: [header OUT] Content-Type: application/x-www-form-urlencoded

HttpClient[3]: [header OUT] User-Agent: Cisco/CE

HttpClient[3]: [header OUT] Accept-Charset: ISO-8859-1,utf-8

Req Unencrypted Config

CUCM Registration Process



Registration

PROV[3]: [notify_http_done] http request URL=http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn, req status=success, state=Config (full or mini)

Config Downloaded

...

PROV[1]: ConfigItem: parsing prov file from http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn: signed plaintext

...

PROV[3]: <fullConfig>False</fullConfig>

Notes Mini Config

PROV[3]: <loadInformation>ce9_6_2-5672d8aee2f.loads</loadInformation>

PROV[3]: <ipAddressMode>0</ipAddressMode>

PROV[3]: <capfAuthMode>2</capfAuthMode>

Pending CAPF Operation

PROV[3]: <capfList>

PROV[3]: <capf>

CAPF Server List

PROV[3]: <phonePort>3804</phonePort>

PROV[3]: <processNodeName>cucm11-pub.tkratzke.local</processNodeName>

PROV[3]: </capf>

PROV[3]: </capfList>

Encrypted Config Hash

PROV[3]: <certHash>c202d037705d5ca3430b82fdcf09e23b</certHash>

Registration

PROV[3]: [handleMiniConfig] parsed mini config. encryptedConfig=true,
certHash=**C202D037705D5CA3430B82FDCF09E23B**, our LSC's
hash=**C202D037705D5CA3430B82FDCF09E23B**

Compare Hashes

Ack CAPF Operation

PROV[3]: [handleCAPFFromMiniConfig] CUCM ordered us to start a CAPF session

PROV[3]: [handleCAPFFromMiniConfig] Must start a new CAPF exchange to update LSC

...

Handylron I: LSC Update: Successfully renamed new LSC

LSC Update Successful

Handylron I: CAPF CInt:Session ended

Handylron I: CAPF_SESS_DONE:CAPF session finished

Handylron I: Return status of Capf Session is <1>

CAPF I: start: CAPF completed successfully and will restart the SIP stack

Restart SIP Stack

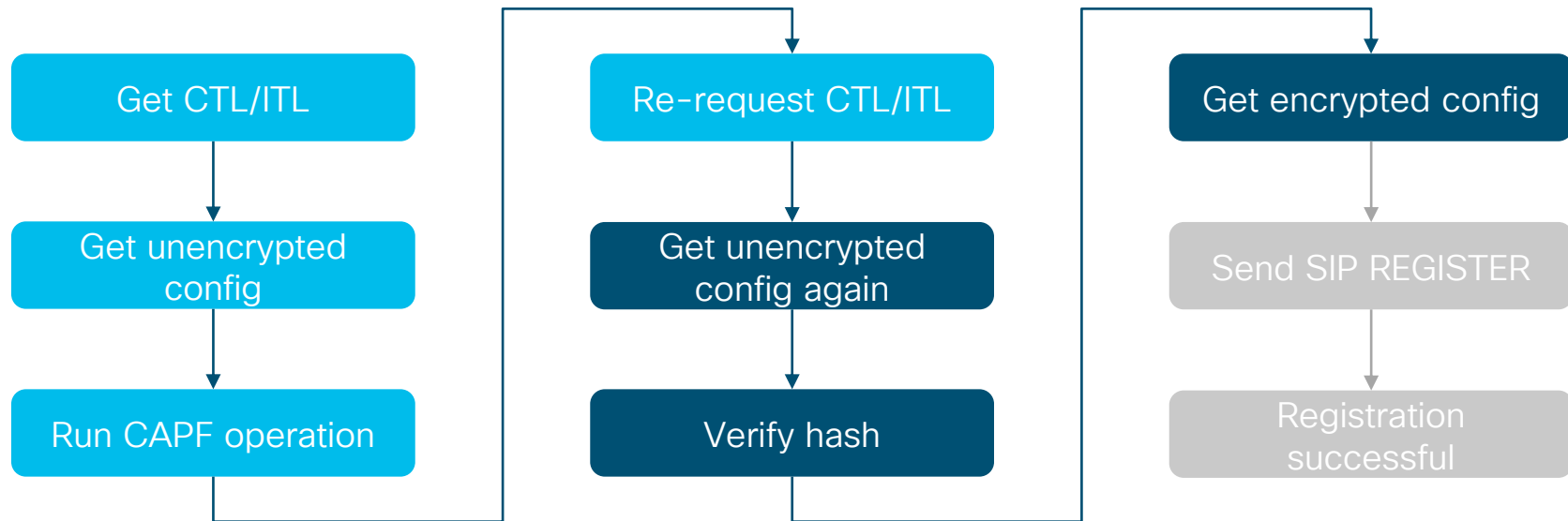
PROV[1]: ProvfsM: do_Idle_ProvCAPFOperationSucceeded: initiating de/re-registration of the SIP stack!

PROV I: CUCMProvHandler: capfOperationSucceeded: doing re-provision

PROV I: [requestItem] Requesting http://14.49.23.20:6970/CTLSEP701f53d1e259.tlv, state=CTL

Re-request CTL

CUCM Registration Process



Registration

PROV[3]: [notify_http_done] http request URL=http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.sgn, req status=success, state=Config (full or mini)

Config Re-Downloaded

...

PROV[3]: <fullConfig>False</fullConfig>

PROV[3]: <loadInformation>ce9_6_2-5672d8aee2f.loads</loadInformation>

PROV[3]: <ipAddressMode>0</ipAddressMode>

PROV[3]: <capfAuthMode>0</capfAuthMode>

No Pending Operation

PROV[3]: <capfList>

PROV[3]: <capf>

PROV[3]: <phonePort>3804</phonePort>

PROV[3]: <processNodeName>cucm11-pub.tkratzke.local</processNodeName>

PROV[3]: </capf>

Updated Hash

PROV[3]: </capfList>

PROV[3]: <certHash>7b240d2644538142095aaff257d2f71f</certHash>

PROV[3]: <encrConfig>true</encrConfig>

PROV[3]: </device>

Registration

PROV[3]: [handleMiniConfig] parsed mini config. encryptedConfig=true,
certHash=**7B240D2644538142095AAFF257D2F71F**, our LSC's
hash=**7B240D2644538142095AAFF257D2F71F**

PROV[3]: [handleMiniConfig] (local) LSC matches CUCM's
(certHash=**7B240D2644538142095AAFF257D2F71F**)

PROV I: [requestItem] Requesting http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.enc.sgn,
state=FullConfig

Confirm New Hashes

Request Encrypted Config

...
PROV[3]: [notify_http_done] http request

URL=http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.enc.sgn, req status=success, state=FullConfig

Config Downloaded

...
PROV[1]: ConfigItem: parsing prov file from http://14.49.23.20:6970/SEP701f53d1e259.cnf.xml.enc.sgn:
signed encrypted

PROV[3]: [notify_http_done] parsing successful, applying changes

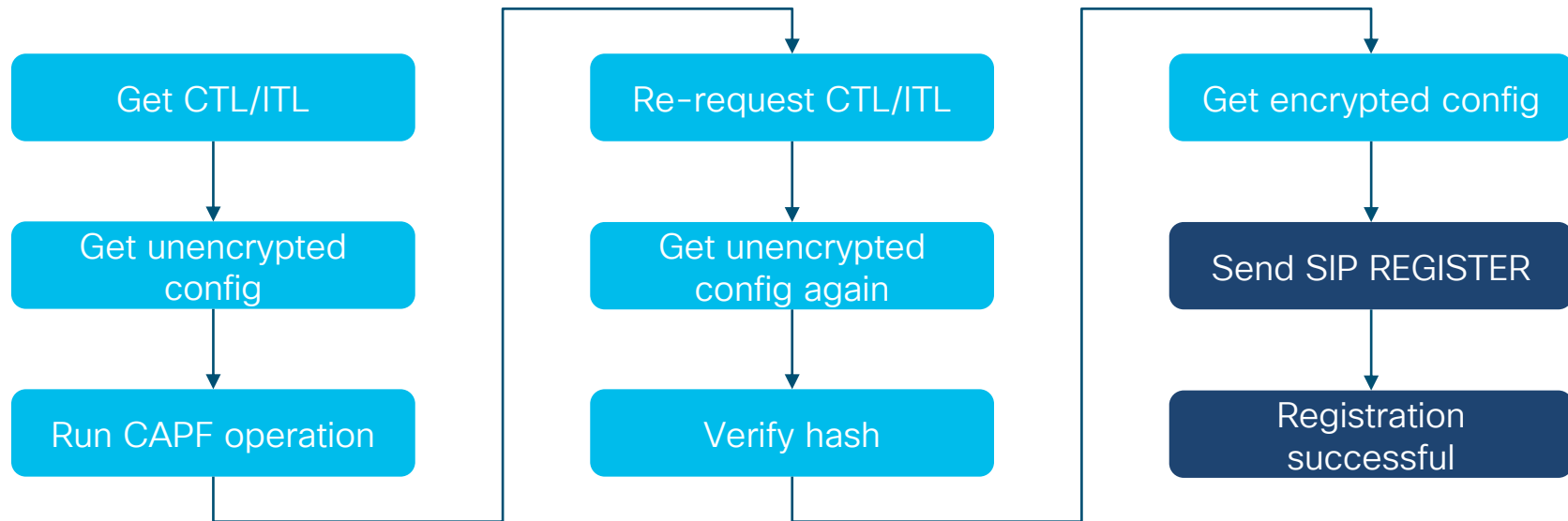
PROV[3]: [make_provision_applier] Saving CUCM config

Parsing Complete

Registration (Notes)

- Full config xml can be seen in logs but not pictured
- Next the system will download the .loads file specified (discussed in upgrade section)
- In a normal registration the system will note it is running the same version and continue on

CUCM Registration Process



Registration

SipPacket[1]: SIP Msg: Outgoing => REGISTER, CSeq: 7682 REGISTER, Remote: 14.49.23.20:5061, CallId: 37eab5533495b2749173600075a9c84e, SessionId: (none)

Outbound REGISTER

SipPacket[2]: REGISTER sip:tkratzke.local SIP/2.0

SipPacket[2]: Via: SIP/2.0/TLS

14.80.79.2:39749;branch=z9hG4bK201bd7199f227a9b53d1df52eabd5f54;rport

SipPacket[2]: Call-ID: 37eab5533495b2749173600075a9c84e

...

SipPacket[1]: SIP Msg: Incoming <= 100 Trying, CSeq: 7682 REGISTER, Remote: 14.49.23.20:5061, CallId: 37eab5533495b2749173600075a9c84e, SessionId: (none)

Inbound 100 TRYING

...

SipPacket[1]: SIP Msg: Incoming <= 200 OK, CSeq: 7682 REGISTER, Remote: 14.49.23.20:5061, CallId: 37eab5533495b2749173600075a9c84e, SessionId: (none)

Inbound 200 OK

...

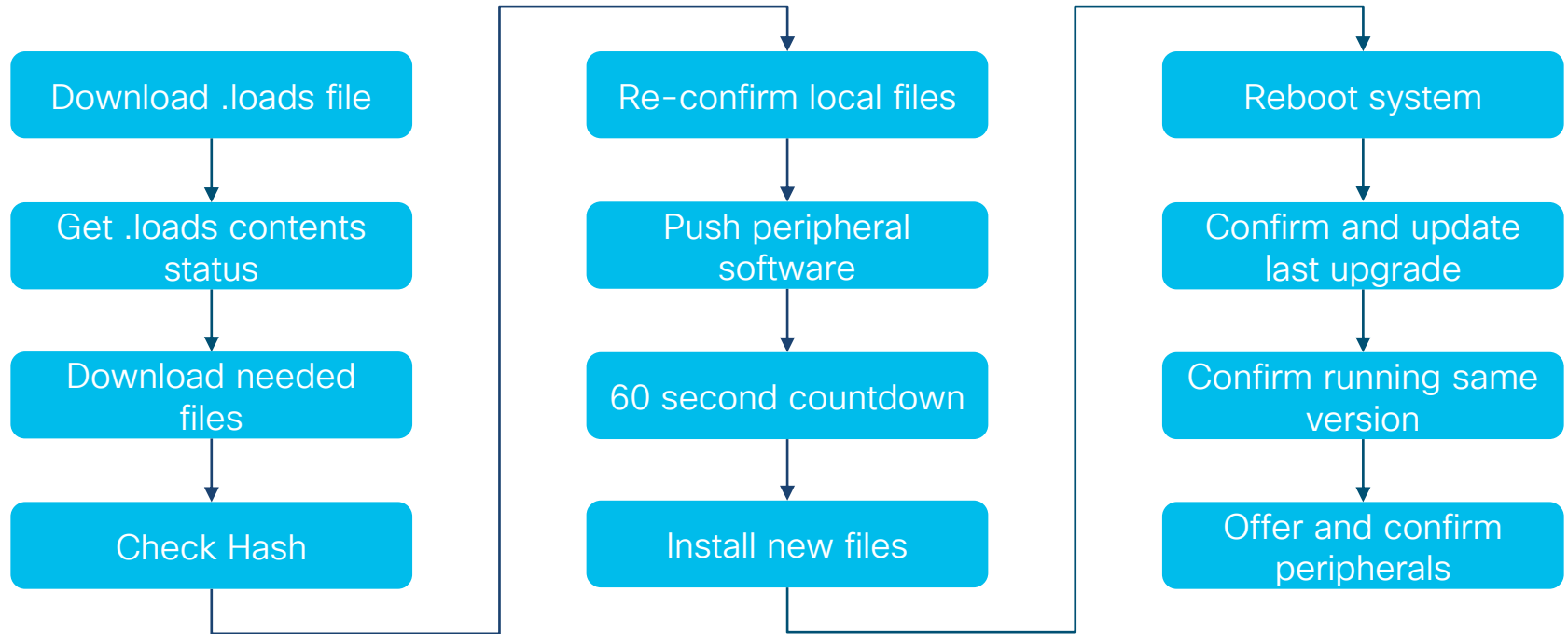
SipReg I: Registered as '90006@tkratzke.local' to '14.49.23.20'

SipStack I: Setting 'cucm11-pub.tkratzke.local'/14.49.23.20 as new default proxy

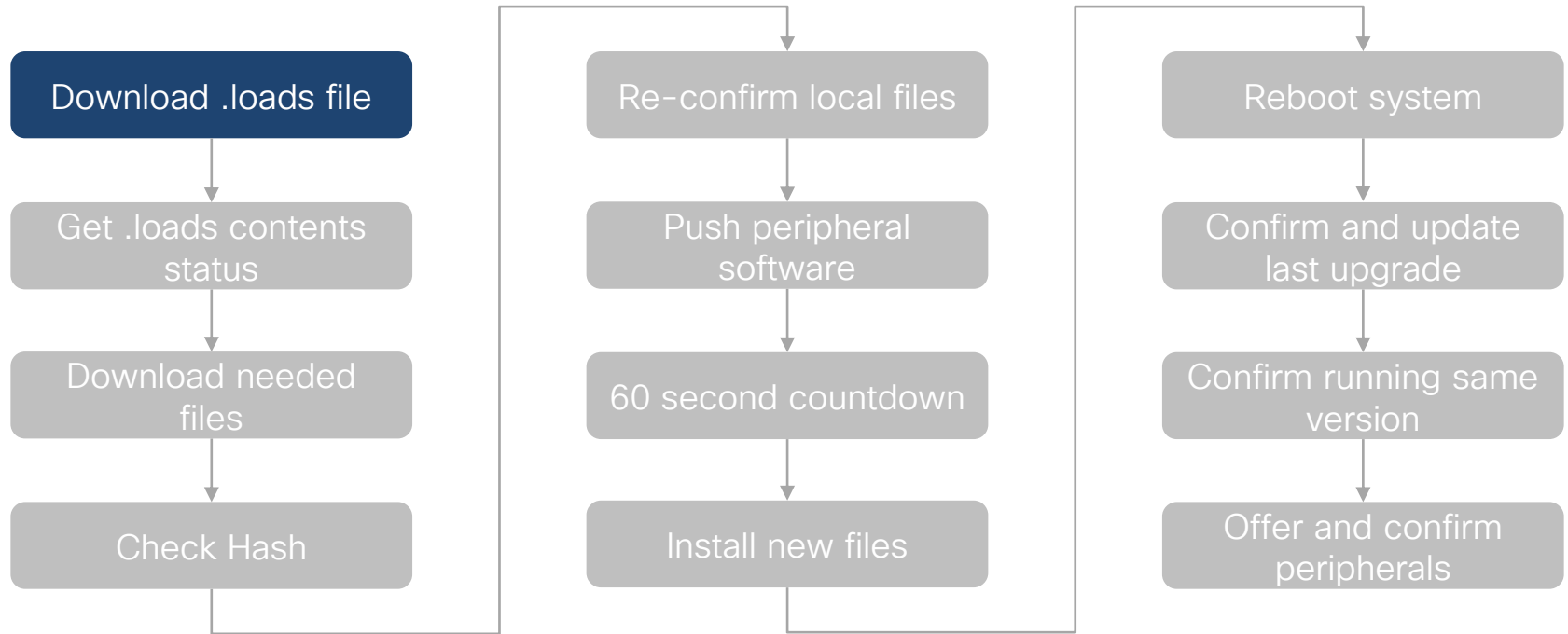
Registration Complete

CUCM Upgrade Walkthrough

CUCM Upgrade Process



CUCM Upgrade Process



CUCM Upgrade

SIP NOTIFY from CUCM

SipPacket I: SIP Msg: Incoming <= NOTIFY, CSeq: 101 NOTIFY, Remote: 14.49.23.20:5061, CallId: 2f302080-cbf15a4e-63bf-1417310e@14.49.23.20, SessionId: (none)

SipApps I: Incoming 'service-control' event (transaction id=2, subscription state='active', reason='')

ServiceControl I: 'apply-config' request received

PROV I: Provfsm: initiating apply-config triggered by CUCM service-control request!

PROV I: Initializing TVS providers before startProvRequests

PROV I: [requestItem] Requesting http://14.49.23.20:6970/CTLSEP701f53d1e259.tlv, state=CTL

...

...

PROV I: createSoftwareUrls: Ready to upgrade:

PROV I: createSoftwareUrls: #0 'http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.loads'

...

SoftwareUpgrade I: provision(): software upgrade url='http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.loads' release-key=''

Start REG Process

CUCM Upgrade

SoftwareUpgrade I: Download #3 starting: http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.loads -> /upgrade/upgrade.loads

SoftwareUpgrade[0]: Download #3 progress: 0/0 bytes from

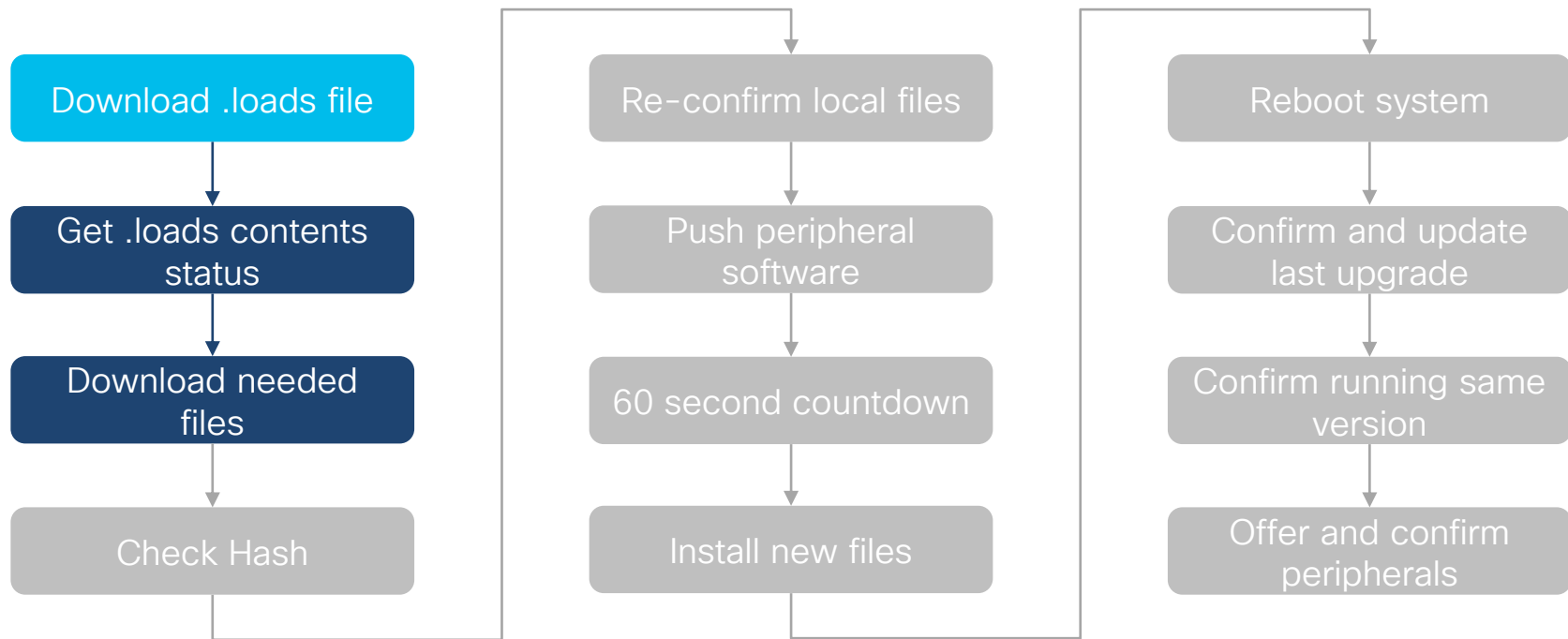
Start .loads download

...

SoftwareUpgrade[0]: Download #3 progress: 1192/1192 bytes from 14.49.23.20:6970

SoftwareUpgrade I: Download #3 complete (HTTP 200)

CUCM Upgrade Process



CUCM Upgrade

SoftwareUpgrade I: Cache initialized from /config/new.loads (R/W with prefix /upgrade/):

SoftwareUpgrade I: s53200 (<-- that's me!) @ ce9.7.1 30bff6140aa 2019-04-02

SoftwareUpgrade I: url: http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: package: s53200ce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: targets:

SoftwareUpgrade I: checksum: aabbccdd

SoftwareUpgrade I: Precision 60 Camera @ HC9.7.1 30bff6140aa 2019-04-02

SoftwareUpgrade I: url: http://14.49.23.20:6970/halleyce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: package: halleyce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: targets: 102110,102110-1,102110-2,102110-3

SoftwareUpgrade I: checksum: aabbccdd

SoftwareUpgrade I: Pyramid @ ce9.7.1 30bff6140aa 2019-04-02

SoftwareUpgrade I: url: http://14.49.23.20:6970/pyramidce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: package: pyramidce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: targets: 73-100746-0,73-100746-1

SoftwareUpgrade I: checksum: aabbccdd

Base Codec Software

P60 Camera Software

Quad Cam Software

CUCM Upgrade

SoftwareUpgrade I: Cache(/config/new.loads): Downloading s53200 image:

http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg -> /upgrade/s53200ce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: Download #5 starting: http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg -> /upgrade/s53200ce9_7_1-30bff6140aa.pkg

...

SoftwareUpgrade I: Cache(/config/new.loads): Downloading Pyramid image:

http://14.49.23.20:6970/pyramidce9_7_1-30bff6140aa.pkg -> /upgrade/pyramidce9_7_1-30bff6140aa.pkg

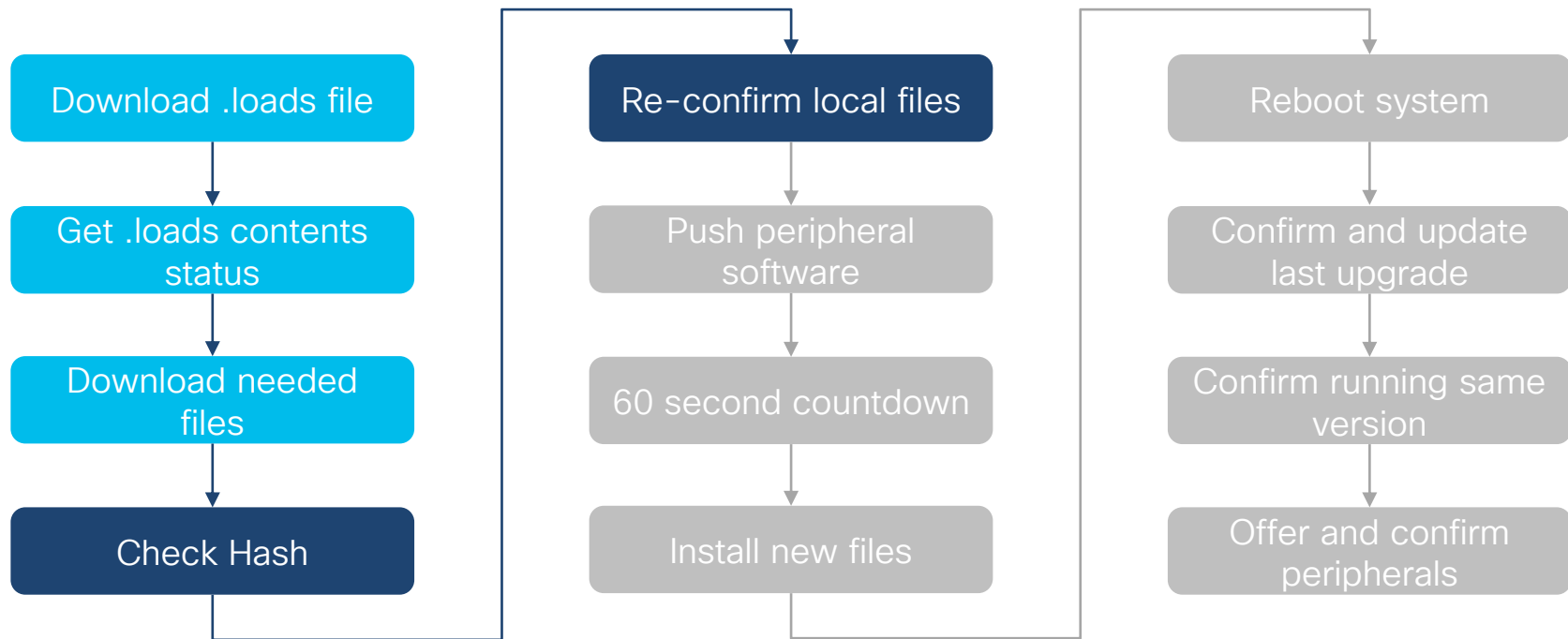
SoftwareUpgrade I: Download #6 starting: http://14.49.23.20:6970/pyramidce9_7_1-30bff6140aa.pkg -> /upgrade/pyramidce9_7_1-30bff6140aa.pkg

...

SoftwareUpgrade[0]: Download #5 progress: 2896/785427765 bytes from 14.49.23.20:6970

SoftwareUpgrade[0]: Download #6 progress: 16320/70424068 bytes from 14.49.23.20:6970

CUCM Upgrade Process



CUCM Upgrade

SoftwareUpgrade I: Download #6 complete (HTTP 200)

SoftwareUpgrade I: Cache(/config/new.loads): Downloaded Pyramid image:

http://14.49.23.20:6970/pyramidce9_7_1-30bff6140aa.pkg -> /upgrade/pyramidce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: Expect checksum on /upgrade/pyramidce9_7_1-30bff6140aa.pkg:

059f8dbf407029890a347d2a27181ed278005f73371d8c087876038c2140b9e193e235c25cc0416551a077ead2ed97282081191f98179f6de03f6d04e26330b2

Compare Hash

SoftwareUpgrade I: Actual checksum on /upgrade/pyramidce9_7_1-30bff6140aa.pkg:

059f8dbf407029890a347d2a27181ed278005f73371d8c087876038c2140b9e193e235c25cc0416551a077ead2ed97282081191f98179f6de03f6d04e26330b2

Validated Download

SoftwareUpgrade I: Cache(/config/new.loads): Verified Pyramid image at /upgrade/pyramidce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: LoadsFileHandler: Finished preparing http://14.49.23.20:6970/pyramidce9_7_1-30bff6140aa.pkg. Can now upgrade Pyramid peripherals.

CUCM Upgrade

SoftwareUpgrade I: Download #5 complete (HTTP 200)

SoftwareUpgrade I: Cache(/config/new.loads): Downloaded s53200 image:

http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg -> /upgrade/s53200ce9_7_1-30bff6140aa.pkg

SoftwareUpgrade I: Expect checksum on /upgrade/s53200ce9_7_1-30bff6140aa.pkg:

04f271bcea440d67615dc9ea636aed5fe241110745a4b44a22b92483ca71576a26f7de4b152e481f62518bf27f926d1d7d9b6a7e5d2234852e82f8bf495617de

SoftwareUpgrade I: Actual checksum on /upgrade/s53200ce9_7_1-30bff6140aa.pkg:

04f271bcea440d67615dc9ea636aed5fe241110745a4b44a22b92483ca71576a26f7de4b152e481f62518bf27f926d1d7d9b6a7e5d2234852e82f8bf495617de

Validated Download

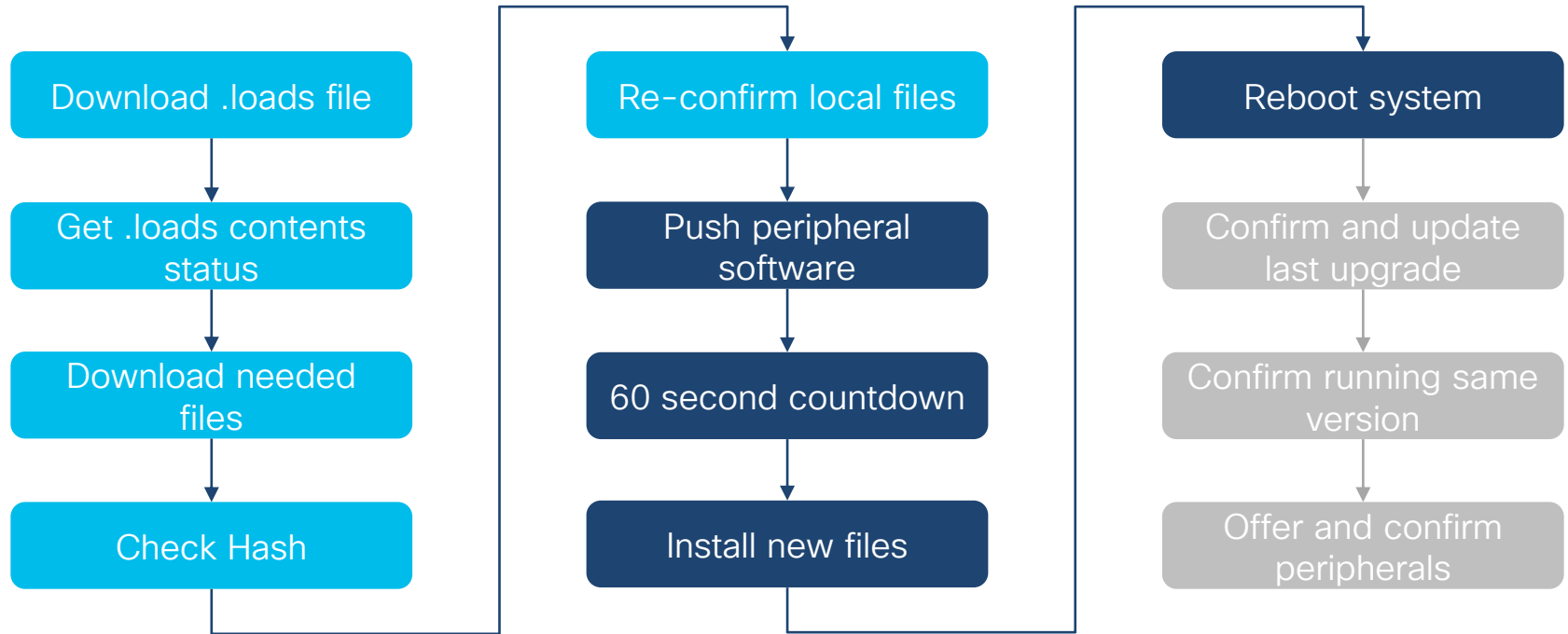
SoftwareUpgrade I: Cache(/config/new.loads): Verified s53200 image at /upgrade/s53200ce9_7_1-30bff6140aa.pkg

CUCM Upgrade

```
SoftwareUpgrade I: === Farmer status report ===
SoftwareUpgrade I: 1 connected peripherals:
SoftwareUpgrade I: 40:CE:24:36:4A:AE (Pyramid) requested
SoftwareUpgrade I: 2 S/W image caches:
SoftwareUpgrade I: Cache initialized from /config/new.loads (R/W with prefix /upgrade/):
SoftwareUpgrade I: s53200 (<-- that's me!) @ ce9.7.1 30bff6140aa 2019-04-02
SoftwareUpgrade I: url: /upgrade/s53200ce9_7_1-30bff6140aa.pkg (exists)
SoftwareUpgrade I: package: s53200ce9_7_1-30bff6140aa.pkg
SoftwareUpgrade I: targets:
SoftwareUpgrade I: checksum: aabbccdd
SoftwareUpgrade I: Pyramid @ ce9.7.1 30bff6140aa 2019-04-02
SoftwareUpgrade I: url: /upgrade/pyramidce9_7_1-30bff6140aa.pkg (exists)
SoftwareUpgrade I: package: pyramidce9_7_1-30bff6140aa.pkg
SoftwareUpgrade I: targets: 73-100746-0,73-100746-1
SoftwareUpgrade I: checksum: aabbccdd
```

Local Address

CUCM Upgrade Process



CUCM Upgrade

SoftwareUpgrade I: Codec starting upgrade to version ce9.7.1 30bff6140aa 2019-04-02 from /upgrade/s53200ce9_7_1-30bff6140aa.pkg.

...

SoftwareUpgrade I: LoadsFileHandler: Codec finished downloading

SoftwareUpgrade I: LoadsFileHandler: Farmer not ready for full-system upgrade

...

SoftwareUpgrade I: Farmer: Peripheral 40:CE:24:36:4A:AE wants to upgrade

Codec Software Ready

...

SoftwareUpgrade I: Farmer: Retrieving Pyramid image for peripheral 40:CE:24:36:4A:AE

SoftwareUpgrade I: Cache(/config/new.loads): Found local Pyramid image at /upgrade/pyramidce9_7_1-30bff6140aa.pkg.

SoftwareUpgrade I: Farmer: Retrieved Pyramid image for peripheral 40:CE:24:36:4A:AE

SoftwareUpgrade I: Farmer: Start transferring /upgrade/pyramidce9_7_1-30bff6140aa.pkg to peripheral 40:CE:24:36:4A:AE

CUCM Upgrade

SoftwareUpgrade I: Farmer: Transfer to peripheral 40:CE:24:36:4A:AE completed!

SoftwareUpgrade I: Farmer: Peripherals ready for commit (1 ready/0 failed).

SoftwareUpgrade I: LoadsFileHandler: Continuing towards full-system upgrade

...

SoftwareUpgrade[0]: [4045132512] XAPI::installationTimeout() int64(60),

...

SoftwareUpgrade[0]: [4045132512] XAPI::installationTimeout() int64(59),

...

SoftwareUpgrade[0]: [4045132512] XAPI::installationTimeout() int64(58),

...

SoftwareUpgrade I: LoadsFileHandler: Completing full-system upgrade

SoftwareUpgrade I: Farmer: Committing peripherals to upgrade

SoftwareUpgrade I: Codec starting installation

SpeakerTrack I: install_software installing version 'ce9.7.1 30bff6140aa 2019-04-02' on '40:CE:24:36:4A:AE'!

...

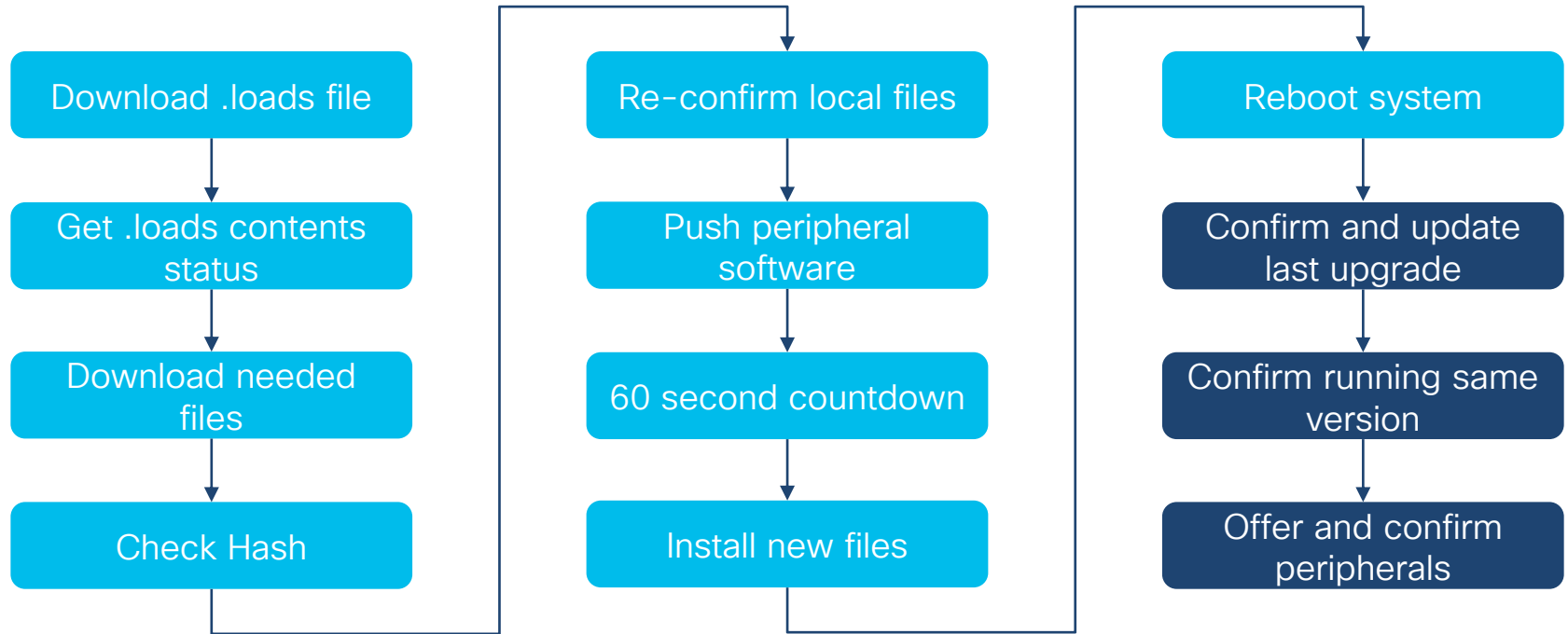
CuilApp[1]: User root/shell about to execute command '/systemunit/boot' from .

Camera Software Ready

Upgrade Countdown

Installing Software

CUCM Upgrade Process



CUCM Upgrade

appl[1493]: SoftwareUpgrade I: Last upgrade: sessionId '', versionId 'ce9.7.1 30bff6140aa 2019-04-02'
SoftwareUpgrade I: Last upgrade was successful

Upgrade Confirmation

...

CuilApp[1]: Successfully changed configuration
'/Sys[1]/Status[1]/Provision[1]/Software[1]/PreviousUpgrade[1]/VersionID[1]' to 'ce9.7.1 30bff6140aa 2019-04-02' by provisioning

CuilApp[1]: Successfully changed configuration
'/Sys[1]/Status[1]/Provision[1]/Software[1]/PreviousUpgrade[1]/Message[1]' to '' by provisioning

CuilApp[1]: Successfully changed configuration
'/Sys[1]/Status[1]/Provision[1]/Software[1]/PreviousUpgrade[1]/Status[1]' to 'None' by provisioning

CuilApp[1]: Successfully changed configuration
'/Sys[1]/Status[1]/Provision[1]/Software[1]/PreviousUpgrade[1]/Changed[1]' to '2019-04-02T15:55:57Z' by provisioning

CuilApp[1]: Successfully changed configuration
'/Sys[1]/Status[1]/Provision[1]/Software[1]/UpgradeStatus[1]/LastChange[1]' to '2019-04-02T15:57:51Z' by provisioning

Last Upgrade Update

CUCM Upgrade

eventlog[1969]: peripheral_pairing: [40:CE:24:36:4A:AE] pairing with peripheral

...

SoftwareUpgrade I: Starting download from http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.loads to /upgrade/upgrade.tmp

Re-download .loads

...

SoftwareUpgrade I: Requested codec version (ce9.7.1 30bff6140aa 2019-04-02) same as we're running.

SoftwareUpgrade I: LoadsFileHandler: Continuing with peripheral-only upgrade.

Check Codec Software

...

...

...

SoftwareUpgrade I: Farmer: Offering Pyramid image version ce9.7.1 30bff6140aa 2019-04-02 to peripheral 40:CE:24:36:4A:AE

...

SpeakerTrack I: Peripheral 40:CE:24:36:4A:AE does not need SW upgrade

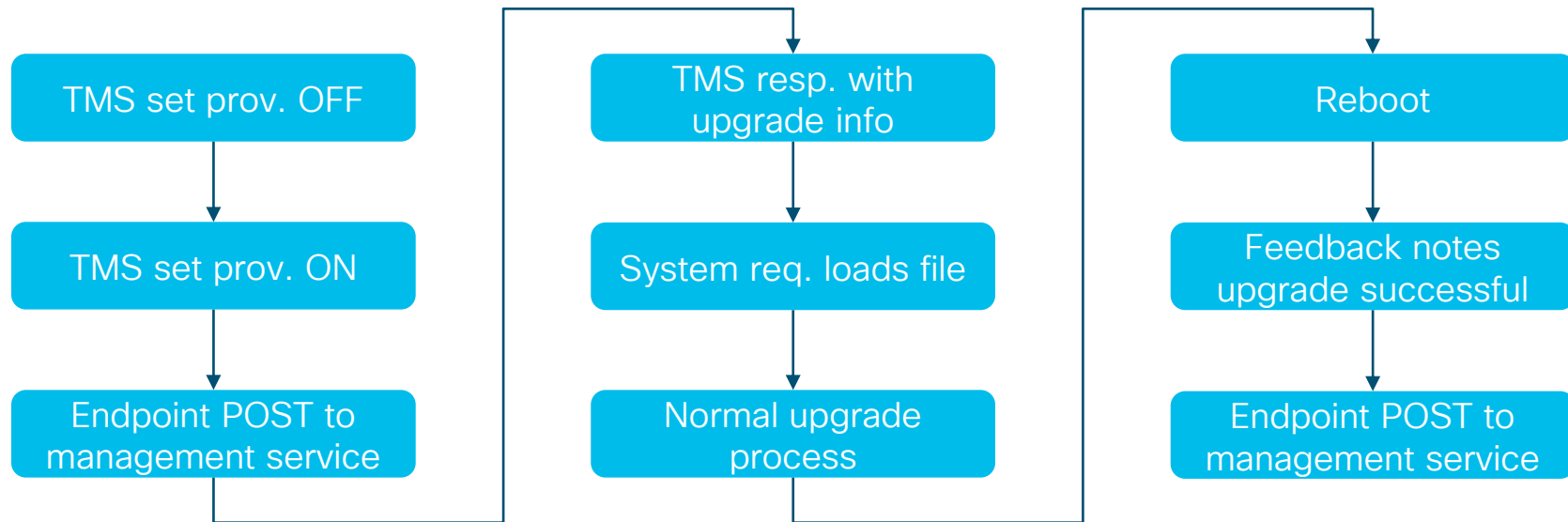
Confirm Upgrade in GUI

Setup -> Status -> Provisioning

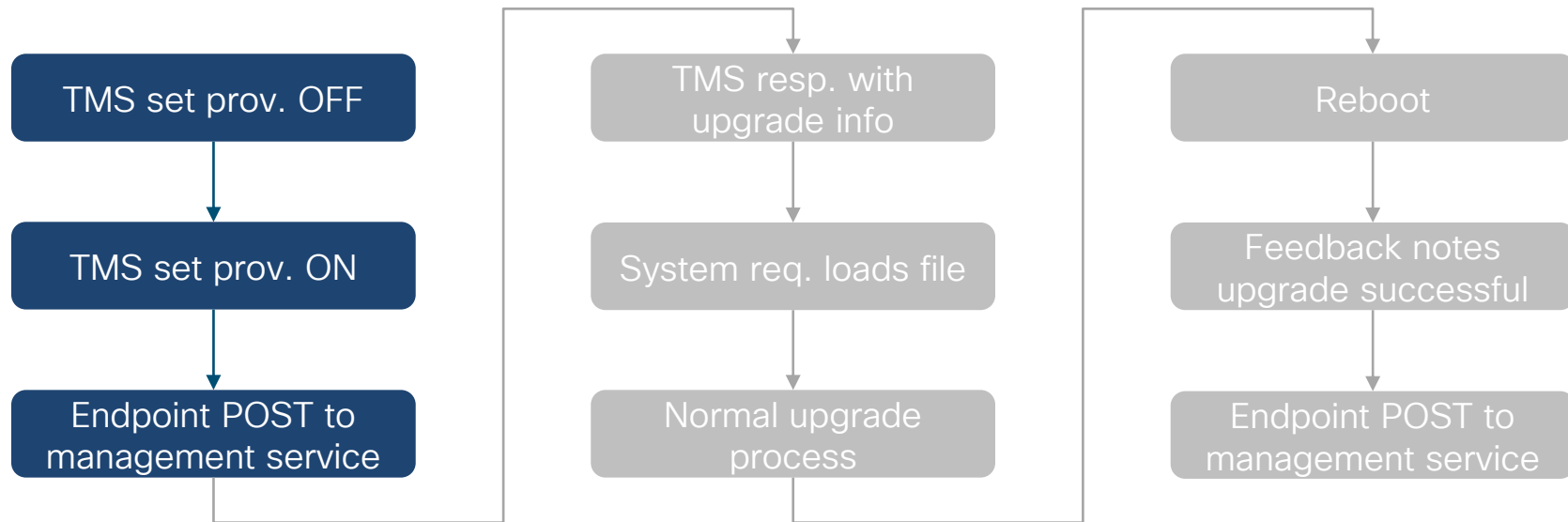
Software	
Current	
CompletedAt	2019-04-02T15:57:51Z
URL	http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg
VersionId	ce9.7.1 30bff6140aa 2019-04-02
PreviousUpgrade	
Changed	2019-04-02T15:55:57Z
Message	
Status	None
URL	http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.pkg
VersionId	ce9.7.1 30bff6140aa 2019-04-02
UpgradeStatus	
LastChange	2019-04-02T15:57:59Z
Message	
URL	http://14.49.23.20:6970/s53200ce9_7_1-30bff6140aa.loads
VersionId	s53200ce9_7_1-30bff6140aa.loads

TMS Upgrade

TMS Upgrade Process



TMS Upgrade Process



TMS Upgrade

CuilApp[1]: Successfully changed configuration 'Configuration/Provisioning/Mode' to 'Off' by admin from 14.49.23.30.

...

Successfully changed configuration 'Configuration/Provisioning/Mode' to 'Tms' by admin from 14.49.23.30.

...

...

...

TMS I: provision(): http request

url/https://14.49.23.30/tms/public/external/management/systemmanagementservice.asmx/771 bytes

HttpClient[1]: HTTP: Outgoing => POST

<https://14.49.23.30/tms/public/external/management/systemmanagementservice.asmx>



Toggle Prov. Mode

TMS Upgrade

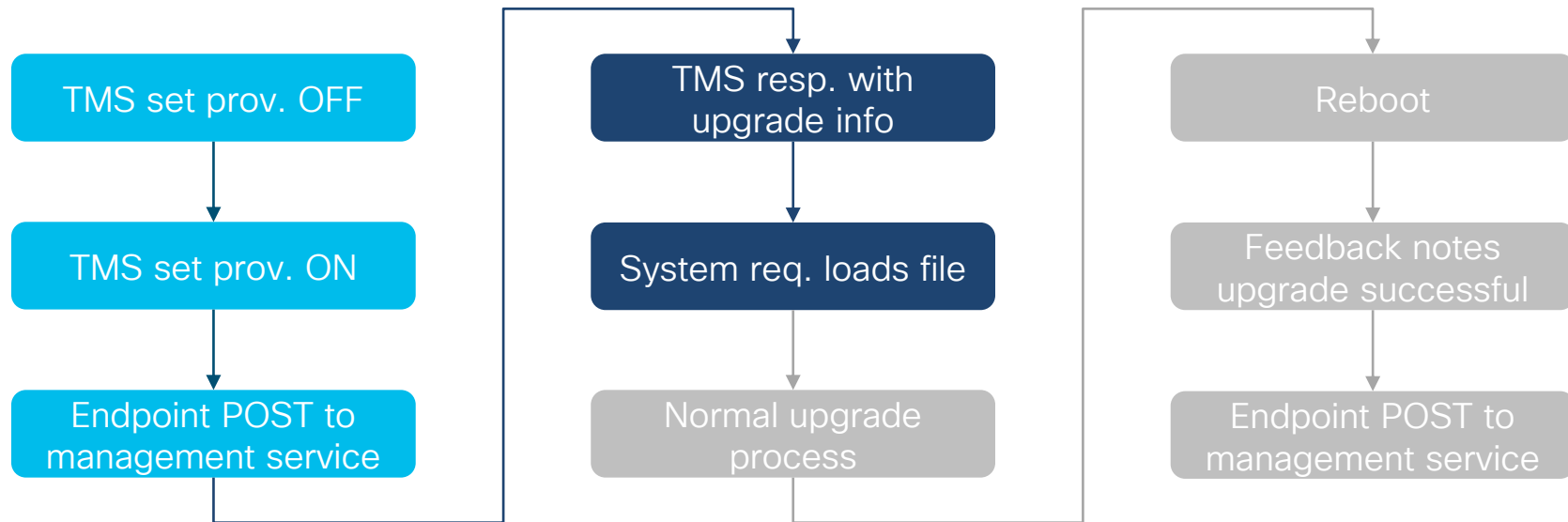
HttpClient[9]: [data OUT] <?xml version="1.0" encoding="utf-8"?>

...

```
HttpClient[9]: [data OUT]    <PostEvent>
HttpClient[9]: [data OUT]    <Identification>
HttpClient[9]: [data OUT]        <SystemName>tkratzke Cube Room Kit Plus 1</SystemName>
HttpClient[9]: [data OUT]        <MACAddress>70:1F:53:D1:E2:59</MACAddress>
HttpClient[9]: [data OUT]        <IPAddress>14.80.79.2</IPAddress>
HttpClient[9]: [data OUT]        <ProductType>TANDBERG Codec</ProductType>
HttpClient[9]: [data OUT]        <ProductID>Cisco Codec</ProductID>
HttpClient[9]: [data OUT]        <SWVersion>ce9.6.2.5672d8aee2f</SWVersion>
HttpClient[9]: [data OUT]        <HWBoard></HWBoard>
HttpClient[9]: [data OUT]        <SerialNumber>FOC2131N33L</SerialNumber>
HttpClient[9]: [data OUT]    </Identification>
HttpClient[9]: [data OUT]    <Event>Boot</Event>
HttpClient[9]: [data OUT]    </PostEvent>
```

Data in POST Message

TMS Upgrade Process



TMS Upgrade

TMS I: provision(): ok ! heartbeat 0 ! 1 upgrade URLs ! 0 files ! 0 docs

...

<HttpFeedback>

<Register command="True">

<FeedbackSlot>3</FeedbackSlot>

<ServerUrl>https://14.49.23.30/tms/public/feedback/code.aspx</ServerUrl>

<Expression item="1">/Status/Call[Status='Connected']</Expression>

<Expression item="2">/Status/H323/Gatekeeper</Expression>

<Expression item="3">/Status/SIP/Registration</Expression>

<Expression item="4">/Status/Network/Ethernet/Speed</Expression>

<Expression item="5">/Event/CallSuccessful</Expression>

<Expression item="6">/Event/UserInterface/Message/Prompt/Response</Expression>

<Expression item="7">/Event/CallDisconnect</Expression>

<Expression item="8">/Status/Provisioning/Software/UpgradeStatus</Expression>

</Register>

</HttpFeedback>

Notes Pending Upgrade

Feedback Configuration

TMS Upgrade

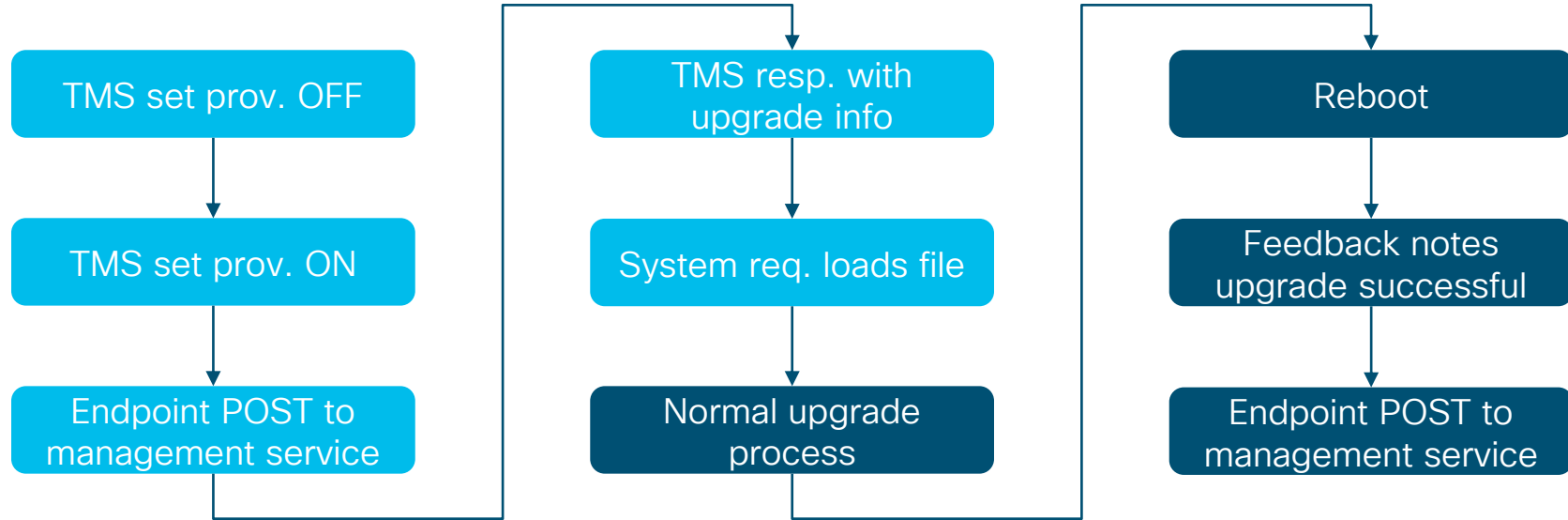
```
<Software>  
  <ReleaseKey />  
  <SessionId>a913c2af-a094-493d-a5d2-18db39899496</SessionId>  
  <Package>  
    <VersionId>CE9.7.1</VersionId>  
    <URL>https://14.49.23.30/tms/public/data/SystemSoftware/s53200ce9_7_1-30bff6140aa.loads</URL>  
  </Package>  
  <Feedback>  
    <URL>https://14.49.23.30/tms/public/feedback/code.aspx</URL>  
  </Feedback>  
</Software>
```

Software Upgrade Info

```
...  
...  
...  
HttpClient[1]: HTTP: Outgoing => GET  
https://14.49.23.30/tms/public/data/SystemSoftware/s53200ce9_7_1-30bff6140aa.loads
```

GET Software .loads

TMS Upgrade Process



TMS Upgrade

TMS I: provision(): http request
url/https://14.49.23.30/tms/public/external/management/systemmanagementservice.asmx/771 bytes
...
TMS I: provision(): tms query succeeded, length 1174TMS I: executor(): cuil-processed buffer of 704 bytes
TMS I: provision(): ok ! heartbeat 0 ! 0 upgrade URLs ! 0 files ! 0 docs

Notes No Upgrade Pending



You make **possible**