

# TOMORROW starts here.



## Migrating from VCS to CUCM

BRKUCC-2676

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#clmel

### Abstract

CUCM 10.x - is a true Call control platform for Voice and Video Collaboration. This session discusses the migration of existing VCS video implementations to a CCUM environment, to deliver on Cisco's vision of true video collaboration anywhere in the organisation.

It creates a platform for a seamless end user experience across multiple video technologies, such as immersive TelePresence, multipurpose room systems, video telephony, and mobile video systems. We will delve into implementation and migration examples to give the audience a good grounding for their own migrations and deployments.

This breakout will cover the entire TelePresence solution including CUCM, VCS, TelePresence Server, Expressway, MCU, TMS and endpoints.



## Agenda

- Architecture and deployment overview
- Endpoint and Call Control Migration
- Conferencing on UCM
- Extending the border
- Interoperability
- Summary





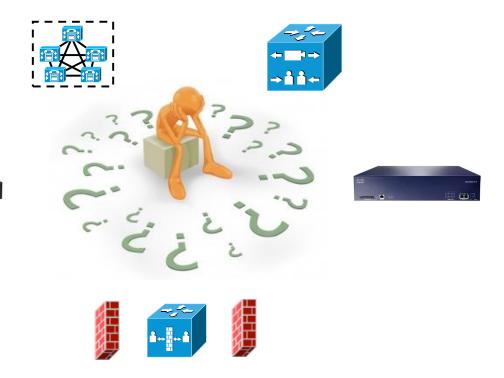
### Architecture and Deployment Overview

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### Why Do We Need A Preferred Architecture



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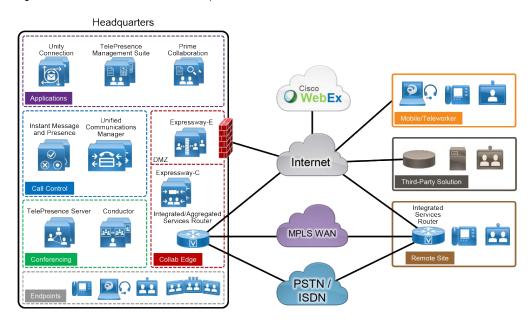


cisco.

# Collaboration Preferred Architecture (CPA)

http://www.cisco.com/c/en/us/solutions/enterprise/design-zone-collaboration/index.html

Figure 1. Cisco Preferred Architecture for Enterprise Collaboration







## **Design Guidance**

### **Cisco Preferred Architecture**

- Preferred Architectures provide prescriptive design guidance that simplifies and drives design consistency for Cisco Collaboration deployments.
- Preferred Architectures are targeted at the Commercial, Commercial Select and small Enterprise customers, but can be used as a design base for larger customers.





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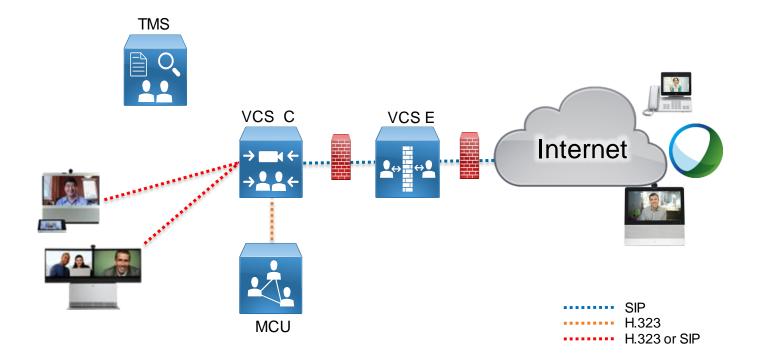
### Video Architecture



	Traditional VCS-Centric	Traditional UCM-Centric	Today	Strategic Direction	
Call Control	VCS-C	UCM	UCM	UCM	
SIP Registration	VCS-C	UCM	UCM	UCM	
H.323 Registration	VCS-C	UCM	VCS-C (for legacy only)	VCS-C (for legacy only)	
Conferencing Control	VCS-C	UCM	Conductor for Adhoc & Rendezvous	Conductor	
			VCS-C/CUCM for Scheduled		
Conferencing Bridge	MCU	CTMS	TS and MCU	TS	
Conference Scheduling	TMS	CTS Manager	TMS	TMS	
Remote Access	VCS-E	ASA	VCS-E and/or Expressw ay Series	Expressw ay Series	
Provisioning	TMS	UCM	TMS and Prime Collaboration	Prime Collaboration	
Management	TMS	UCM	Prime Collaboration	Prime Collaboration	



**Existing deployment** 





### Existing deployment

Typical existing VCS centric deployment:

- An instance of TMS 14.5 with some managed endpoints configured. Used for endpoint management, provisioning, phone books and scheduling
- An instance of TMS PE 1.3 installed with Movi users provisioned.
- VCS-C for call control. Configured in TMS for provisioning use (TMS agent). Also VCS-E for Collab Edge. Both version X.8.2.1.
- TelePresence MCU registered on VCS and added in TMS



Assumptions

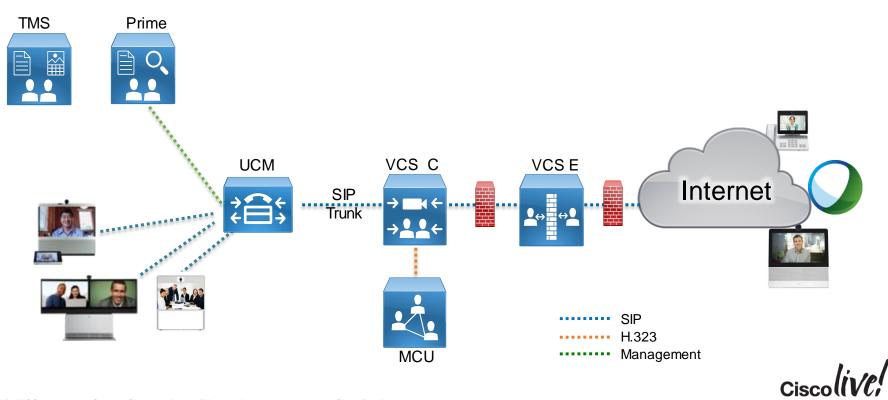
- Existing deployment is a basic VCS deployment.
- MCU are used for scheduled calls.
- Conductor and TelePresence Server is not part of the migration.
- Migration of endpoints only as first phase.



- TMS Provisioning users are being pulled from Active Directory.
- Jabber is replacing Jabber Video for TelePresence (Movi).
- EX devices are managed as systems not via provisioning.



### Post migration deployment



### Post migration deployment

Example of a typical Unified CM centric (post migration) deployment:

- Prime Collab Manager for endpoint management and user provisioning
- TMS for phone books for endpoints and scheduling
- CUC and IM&P for voicemail, instant messaging and presence
- Unified CM for Call Control
- Endpoints registered on Unified CM (SIP) or VCS-C for legacy H.323
- SIP Trunk between Unified CM and VCS-C
- VCS-E for Firewall Traversal/B2B breakout
- MCU registered on VCS-C



### Considerations



- For some customer deployments it will make sense to migrate now for some it might make sense to wait.
- Hybrid or combination of models might still be valid there is not necessarily one model that fits all customer scenarios.
- Strategic direction is UCM as Call Control platform.

 Customers are expected to approach migrating in steps – typically endpoints first and infrastructure later.



### **Endpoint and Call Control Migration**

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## **Overview of Process**

- Verify the Existing Deployment
- Collect data for Migration
- Prepare the Migration
- Pre-deploy New Components
- Add configuration to existing Components
- Migrate Systems
- Testing the Migration



## Verify Existing Deployment

- Understand current configuration and fix any outstanding issues.
- Verify the compatibility of various devices in your network (<u>Compatibility Matrix</u>) including software levels of endpoints (TC5 or newer).
- You may migrate endpoints to an existing or new UCM.



### Export of systems from TMS

- Discover and collect the required information from the endpoints
- For the endpoints the main information required is the DN/SIP URI, MAC address and system type.

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BRKUCC-2676 ©	2015 Cisco and/o	ritsaffiliates.	All rights reser	ved. Cis	sco Public	20						CISC	υα

### TMSPE – discovery of AD connection details

• Discover the AD settings and filters used to provision the Jabber Video clients (and for authentication) - assuming that email is the URI format for users.

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### **Discover License configuration**

• Discover TMS license configuration for license conversion.

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Available Provisioning Licenses:	25
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Option Keys	-



### **Discover License configuration**

### Migration program: http://www.cisco.com/go/cucmupgrade

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high	rate to latest Cisco Unified Communications Manager 9.1/10.5 or ner. Jucing VCS to Cisco Unified Communications Manager Program. arm More
	Illab is a comprehensive program designed to help Cisco customers upgrade their current Cisco Unified Communications Manager (UCM) or Virtual Communication S) to the latest System Release 9.1/10.5 or higher.
Overvie	ew Training and Resources
Drive to	Collab simplifies the process of upgrading and migrating to latest Cisco UCM version. It provides:



## "CUCM Upgrade Central" v4.0 includes VCS Assessment

### Readiness Assessment iPad App for VCS to UCM Migration :

- ✓ Live data mining on VCS & TMS
- Registered Endpoint types & count
- ✓ License Count Usage report
- Recommendation on Next Steps
- Customised Upgrade Procedure to migrate to Unified CM

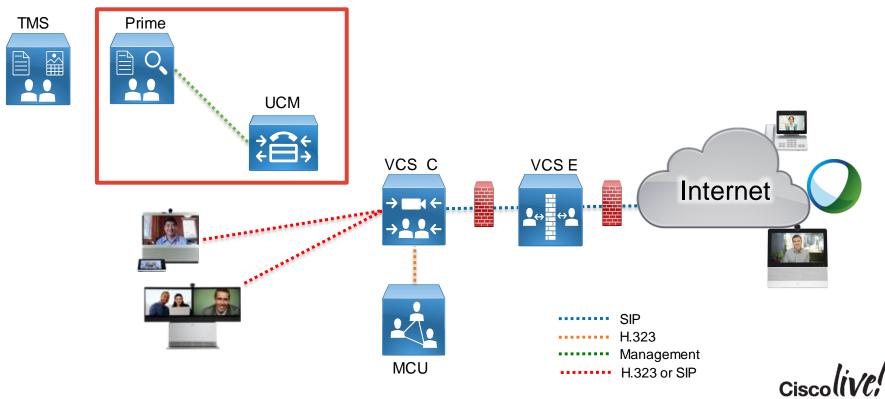
itunes.apple.com/us/app/id650114526





## Prepare and Pre-deploy New Components

#### **Overview**



## **Prepare the Migration**

### **Unified CM Preparation**

# Activate Services for Unified CM and IM & Presence in Unified Serviceability menu:

- Cisco Call Manager
- Cisco CTI Manager
- Cisco Extension Mobility
- Cisco Extended functions
- Cisco TFTP
- Cisco WebDialer Web Service
- Self-Provisioning IVR
- Cisco Bulk Provisioning Service
- Cisco AXL Web Service
- Cisco UXL Web Service
- Cisco Serviceability Reporter
- Cisco CallManager SNMP Service
- Cisco DirSync





Prime Collaboration Provisioning Configuration

 Use Prime Collaboration Provisioning Wizard to configure the Unified Communications Solution including Unified CM, Unity Connection and IM & Presence

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	* Username	administrator	
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	<ul> <li>Host / IP Address</li> </ul>		
	* Username		
	* Password		
	* OS Administrator Name		
	* OS Administrator Password		
	<ul> <li>Voicemail pilot Number</li> </ul>		
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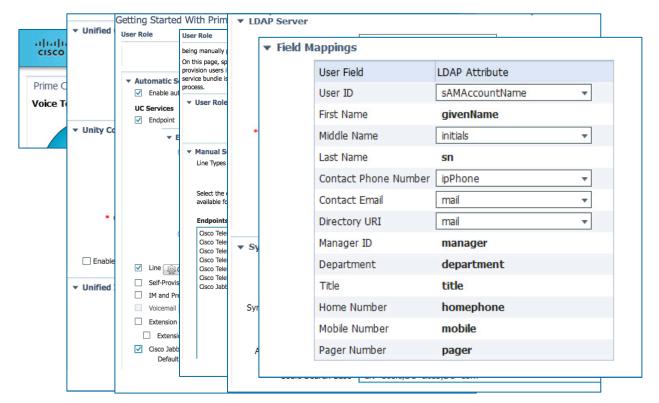
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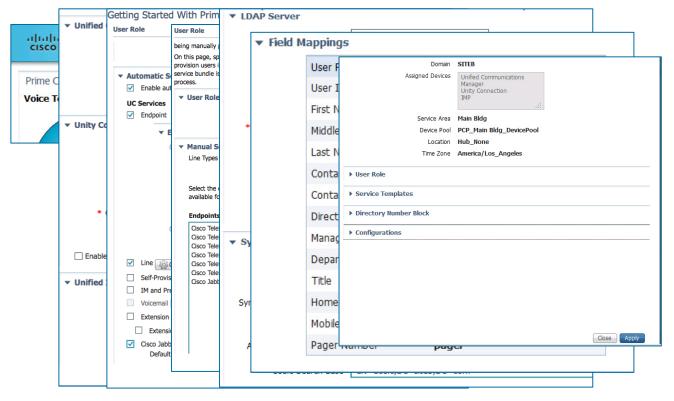
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### Prime Collaboration Provisioning Configuration



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### Convert collected data to Prime Template

### Convert discovered information from TMS into Prime Template to import devices.

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Create Cancel					



### Convert collected data to Prime Template

### Convert discovered information from TMS into Prime Template to import devices.

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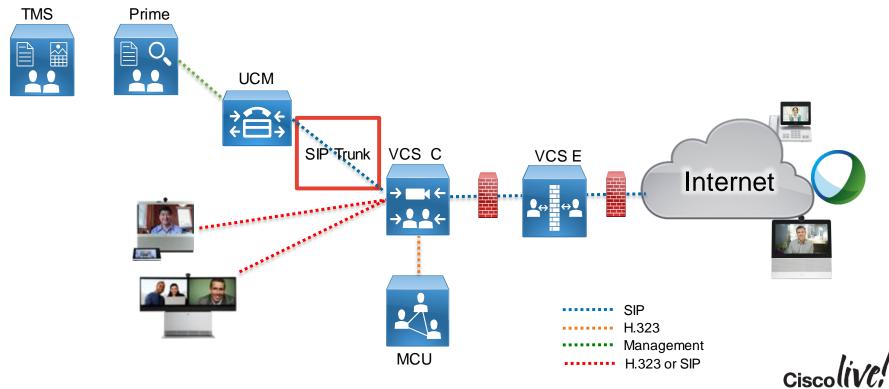
### Convert collected data to Prime Template

Convert discovered information from TMS into Prime Template to import devices.

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### Add Configuration to Existing Components Create SIP trunk



#### Add Configuration to Existing Components Create SIP trunk

- Add SIP trunk and route pattern for UCM to push calls to the VCS.
  - Routing of dial in MCU calls
  - Calls to Legacy H323 endpoints that cannot be migrated
  - B2B calls from UCM endpoints via VCS-C and VCS-E
- On VCS we configure a SIP trunk and Search Rules to route all calls for endpoints to UCM.
- On UCM we configure Route Pattern, SIP route Patterns and point them to a trunk.
- Mobile & Remote Access and VCS-E/Expressway (covered later)



#### Add Configuration to Existing Components Create Application User for TMS

Configure an application user in UCM for TMS access.

#### TMS User Roles:

- Standard CCM Admin Users
- Standard AXLAPI Access
- Standard Realtime And Trace Collection
- Standard Serviceability
- Standard CTI Enabled



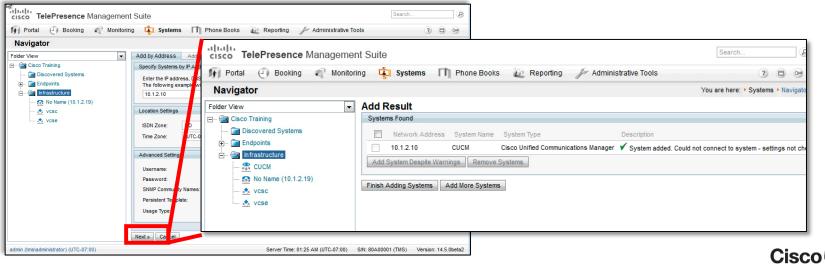


#### Add Configuration to Existing Components Add Unified CM to TMS

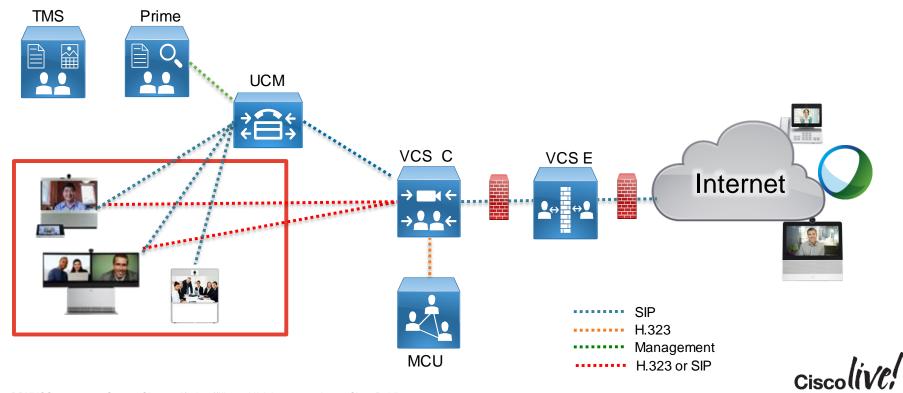
Add Unified CM to TMS as a device.

TMS will discover the Unified CM and IM&P servers during this process.

You will also be able to see the pre-configured endpoints.



#### Move endpoint registration from VCS to Unified CM



#### Move endpoint registration from VCS to Unified CM

- Change endpoint configuration to receive settings provisioned by Unified CM.
- There are multiple ways of doing this:
  - Initiate Factory Reset, automatically starting Configuration Wizard or option 150.
  - Directly start Configuration wizard from the Touch panel.
  - Push Configuration template from TMS changing provisioning details.

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# Important

- As the endpoints now are registered to Unified CM the TMS configuration is out of date. Re-adding endpoints to TMS will correct this.
- TMS will automatically update the database to Unified CM control for these devices keeping relevant settings.
  - TMS System ID, Scheduled conferences and admin information
- Devices now SIP only not H.323 or Dual registered.



Endpoints         Name △       Type	Add by Address Add from Unified CM or TMS Add Ur Unified CM TMS Select Systems System Name: Search	Status Wrong provisioning mode Wrong provisioning mode
	✓       System Name         ✓	
	ISDN Zone: Default	



Unified CM Select System	TMS		Network Address 10.47.49.136 10.47.49.152	Status Wrong provisioning mode Wrong provisioning mode		
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Location Se	10.47.49.152	VC Room1 Room1 6010	Cisco TelePresence Quick Set C20	System Already exists In Folder		
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C Move/Copy Delete New Folder Add Systems	



#### Run Diagnostic Tool

• TMS has a Diagnostic tool to help diagnose existing booked conferences and correct route changes for migrated endpoints.

			-						
Portal	0	Booking	<ul> <li>Monit</li> </ul>	oring 📑	Systems	Phone Bo	oks 🛛 🙋 Reporting	g 🥟 Administrative Tools	
Confer	ence D	iagnos	stics						
Click '	'Run Diagr	nostics' to id	dentify issues v	vith pending	conferences.				
No issues for	und.								
Run Diagno	ostics								



#### Run Diagnostic Tool

• TMS has a Diagnostic tool to help diagnose existing booked conferences and correct route changes for migrated endpoints.

(F)	Port	tal 🕘 Booking	R Mo	nitoring 🛓	System	s [T]	Phone Books	E F	Reporting	1	Section 🖌	istrative	Fools								
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i	Clic	k 'Run Diagnostics' to ide	entify issue	s with pending	conference	s.															
No	Co	nference Diagnostics														You an	e here: • Admi	nistrative Tools	<ul> <li>Diagnostics</li> </ul>	Conference D	iagnostics
Ru	(i)	Select conferences and click 'Autocorrect'	for Cisco TMS to a	automatically resolve the is	ssues or click the co	nference title to e	dit the conference manually.														
	Quer	у																			×
	Con	ference Title or ID:		<ul> <li>All Users</li> </ul>																	
100	State	us: All	•	administrator	2	Search															
1.0		D Conference Title		Start Tim	18 🛆		Owner	Statu	s Errors												
	2	Scheduled Meeting 9/5/2014 4:29 A	AM	9/11/2014	10:30 AM (UTC+0	1:00)	administrator	Report	ted VC BB	AD BBAD	6100 => No Name	(10.47.218.101):	The Connection	Settings are no lo	nger valid.						
0.00	1							Res	ults per Page 20											Displaying pa	ge 1 of 1
	Run E	Diagnostics Autocorrect Refresh																			
101																					



#### Run Diagnostic Tool

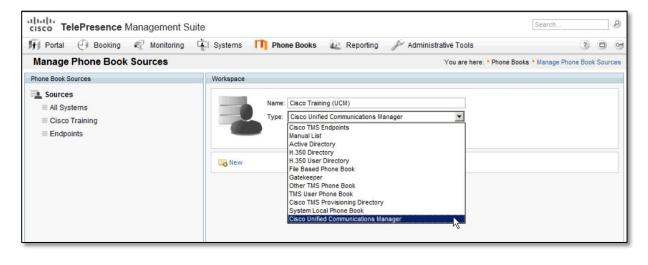
• TMS has a Diagnostic tool to help diagnose existing booked conferences and correct route changes for migrated endpoints.

5.8 P	Portal 🕘 Booking 🥡	Monitoring 🔄 Systems 🕅 Pho	ne Books 🛛 🙋 F	Reporting	Administrative Tools	
Ĵ	Click 'Run Diagnostics' to identify	issues with pending conferences.				
No	Conference Diagnostics					You are here:  Administrative Tools  Diagnostics  Conference Diagnostics
Ru	Conference Diagnostics					You are here:  Administrative Tools  Diagnostics  Conference Diagnostics
	Select conferences and click 'Autocorrect' for Cit	to TMS to automatically resolve the issues or click the conference title to edit the	e conference manually.			
	Query					×
AM PAR	Conference Title or ID: Status: All	All Users     administrator     Search				
1000	D Conference Title	Start Time 🛆	Owner	Status	Ērrors	
	2 Scheduled Meeting 9/5/2014 4:29 AM	9/11/2014 10:30 AM (UTC+01:00)	administrator		C BBAD BBAD 6100 => No Name (10.47.218.101): The Connection Settings are	-
10	1			Results per Page	20	Displaying page 1 of 1
$\mathcal{N}_{2}$	Run Diagnostics Autocorrect Refresh					



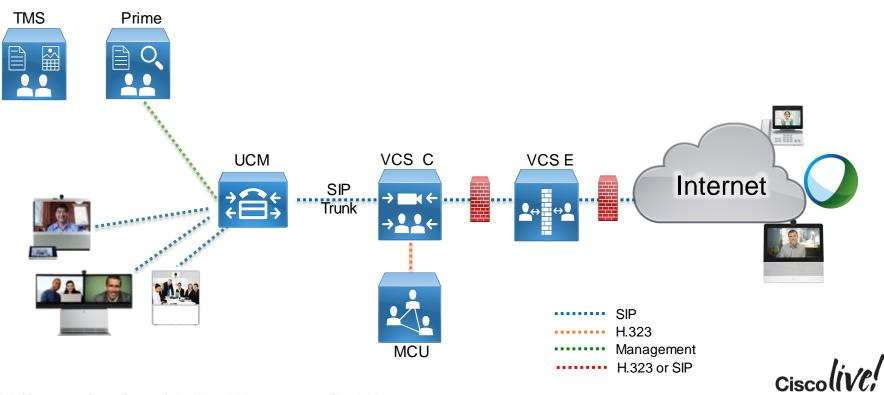
#### Phonebook sources

- Update phonebooks after endpoint migration.
- Add TMS phonebook source for UCM provisioned users.
- Jabber and Unified CM provisioned endpoints use UDS directly.



### **Testing the Migration**

#### **Migration completed**



### **Testing the Migration**

#### Suggested testing

- Install and sign in with Jabber to test it now being provisioned from Unified CM.
- Call to or between migrated endpoints.

- As we have not touched the MCU previously scheduled conferences still stay the same and can be dialed into.
- Try call into a conference scheduled before the endpoints were migrated.



### What About Trying This Out Yourself ?

The Cisco Demo Cloud

- http://dcloud.cisco.com
- Available for Cisco Partners

• Repeatable demonstrations and customised labs with complete administrative access.

	_	- ⊡ ☆ =
Cisco Preferred Architecture for Video 10.5 v1	x	-
Documentation Lab Guide – Preferred Architecture for Video 10.5		, 
Overview Cisco® Business Edition 6000 (BE6000) is designed for organizations with up to 1000 employees. The packaged collaboration solution offers premium voice, video, mobility, messaging, instant messaging and presence, contact center and more, including web conferencing as a service offer. The solution provides core communication capabilities that midsize businesses need for improved collaboration for employees, customers, and business partners.		
Cisco BE6000 is built on virtualized Cisco Unified Computing System™ (Cisco UCS®) products, which are designed for performance and density over a wide range of business workloads. The enterprise-class Cisco UCS C220 M3 Rack Server packages advanced performance and energy efficiency gains of the Intel Xeon processor E5-		ior

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### Overview

#### Conferencing on UCM

- Starting point same architecture as post migration
- Recommended deployment from Preferred Architectures
  - CMR Instant and CMR Personal
- Scheduling through Conductor
  - Dedicated and Shared bridge model

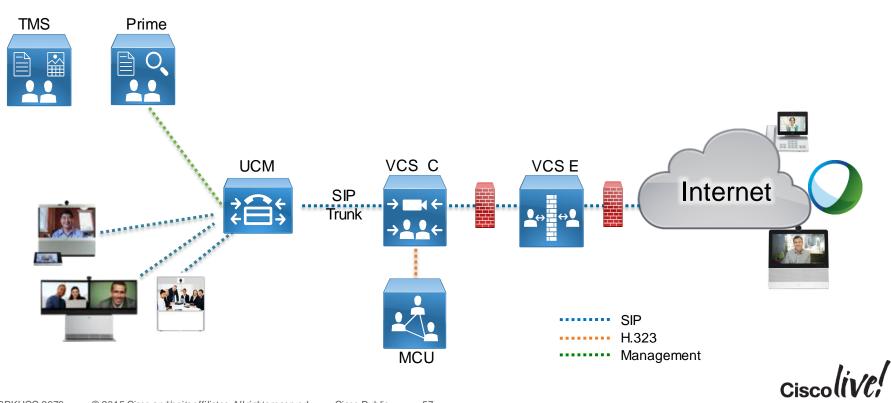
#### NOTE:

Leaving WebEx out of this session - however it is supported in the architecture



### Overview

#### Post migration deployment



#### Conferencing Components for Conferencing

Component	Description
<b>Cisco TelePresence Conductor</b>	Manages and allocates conferencing resources requested from Unified CM
Cisco TelePresence Server	Provides voice and video conferencing. Available on dedicated hardware platforms and on virtual machine.

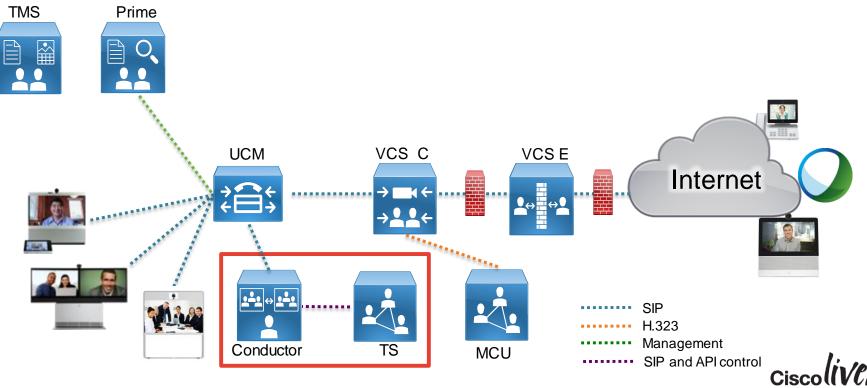


## Conferencing

Types of Conferences

	Description
CMR Instant (ad-hoc)	A conference that is not scheduled or organised in advance.
CMR Personal (rendezvous)	A conference that requires callers to dial a predetermined number or URI to reach a shared conferencing resource.
CMR Scheduled	A conference planned in advance with a predetermined start time.

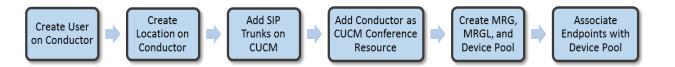
#### Adding Conductor and TS



#### Conferencing on UCM CMR Instant and CMR Personal

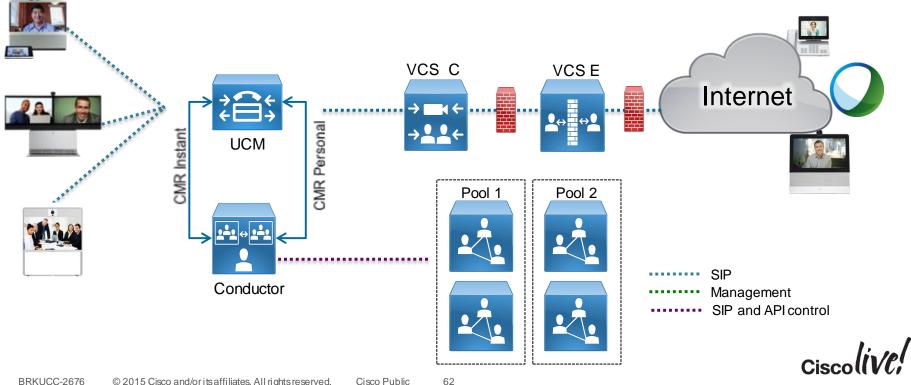
• Configuring SIP Trunks between Unified CM and Conductor for Instant and Personal conferences.

- CMR Instant and Personal conferences:
  - UCM routing calls to conferences that will be dynamically created by Conductor.
  - Conferences are not static but can be initiated at any time.
  - Not configured or tied to specific bridge resources.





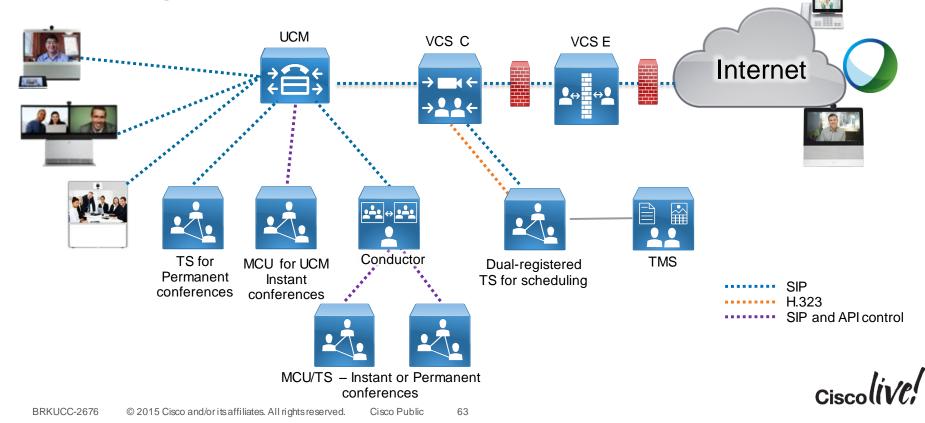
#### Conferencing on UCM CMR Instant and CMR Personal



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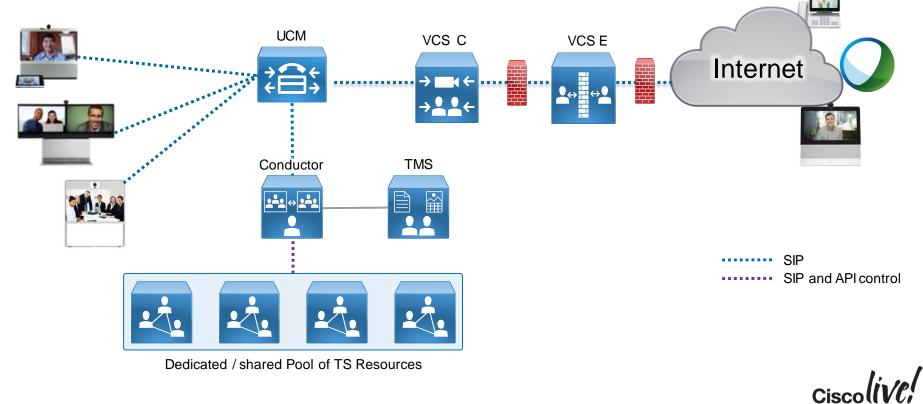
### **Typical Conferencing Deployment Options**

#### **Conferencing Architecture**



### New – Single Deployment Model

#### **Conferencing Architecture**



Scheduling through Conductor

- Historically scheduling has used dedicated resources to guarantee a certain number of ports would be available throughout the scheduled meeting.
- Previous versions of TMS and Conductor supported limited scheduling with several major caveats. New releases of TMS 14.6, Conductor XC3.0 and TS4.1 help alleviate many of the initial challenges with scheduling resources behind Conductor.
- Now MultiParty Media 310, 320 and TelePresence Server on Virtual Machine can be scheduled.
- Conference placement is done at conference start time.

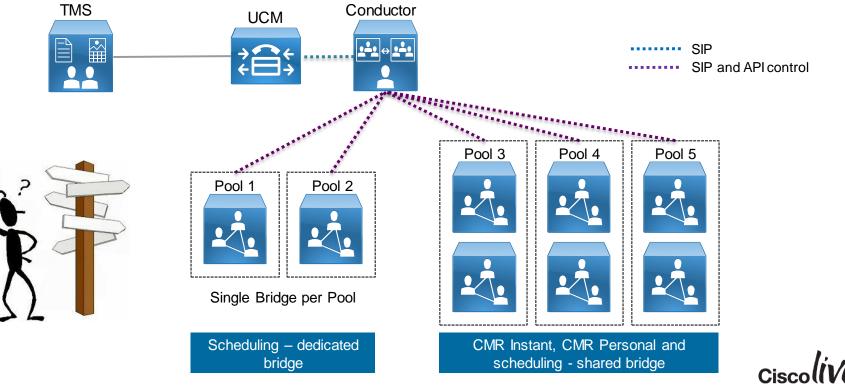


#### Scheduling through Conductor

Dedicated Resources	Shared Resources
<ul> <li>100% guaranteed resources for scheduled conferences.</li> <li>Similar to previous TMS deployment with directly managed TelePresence Servers.</li> <li>Single TS, in single Bridge Pool, in single Service Preference.</li> </ul>	<ul> <li>Scheduled conferences are best-effort service just as Instant and Permanent conferences are.</li> <li>Simplest deployment, TelePresence Servers are dynamically allocated for any type of conference.</li> <li>If utilisation is high, additional TelePresence Servers can be deployed.</li> </ul>



#### Scheduling through Conductor



#### Scheduling through Conductor - Limitations



- TMS only recognises one Conductor node in a clustered Conductor setup.
- If a dedicated bridge is used for scheduled conferences, TMS will **not** take advantage of Optimised Conferencing.
- TMS sees Conductor location not individual bridges.
- It is recommended to disable conference auto-extend setting on TMS.
- Limitation on CCC (TMS Conference Control Centre) features available.



### Extending The Border

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### Overview

- Terminology Introduction, Product Line Options, Scalability
- Firewall Traversal
- Mobile & Remote Access Solution Overview
- Business to Business Collaboration (B2B)
- Instant Messaging and Presence Federation
- Interoperability

### Terminology Introduction, Product Line Options, Scalability

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### Branding Terminology Decode

#### **Collaboration Edge**

umbrella term describing Cisco's entire collaboration architecture for edge

... features and services that help bridge islands to enable any to any collaboration...

...collaborate with anyone anywhere, on any device....

#### **Cisco VCS**

Existing product line option providing advanced video and TelePresence applications Includes VCS Control and VCS Expressway

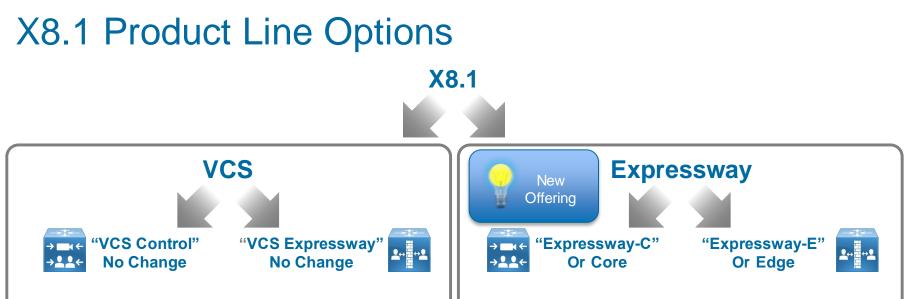
#### **Cisco Expressway**

**New** product line option for Unified CM and Business Edition customers, providing firewall traversal & video interworking. Includes Expressway Core and Expressway Edge

#### Mobile and Remote Access (MRA)

Feature available on **both** VCS and Expressway product lines with X8.1 s/w

Delivers VPN-less access to Jabber and Fixed Endpoints



- Specialised video applications for videoonly customer base and advanced video requirements
- Complete set of X8 features
- No changes to existing licensing model

- Solution designed for and sold exclusively with Unified CM 9.1 and above (including Business Edition)
- Subset of X8 features
- \$0 server software licenses

#### VCS and Cisco Expressway Feature Comparison

Feature Comparison	Cisco Expressway Series	Cisco VCS Family
Mobile and Remote Access	Y	Y
Business to Business Video	Y	Y
Business to Consumer / Public to Enterprise Access with Jabber Guest	Y	Y
Video Interworking (IPv4 to IPv6, H.323-SIP, MS H.264 SVC- AVC, Standards-based 3rd Party Video endpoints)	Y	Y
CMR Cloud/Hybrid (Webex)	Υ	Υ
XMPP Federation	Y	
Video Session Management & Call Control	Ν	Υ
Video / TelePresence Device Registration & Provisioning	Ν	Υ

### VCS and Expressway

#### Recap

- VCS Control, VCS Expressway, Expressway-C and Expressway-E share the same code.
- VCS platform is a **superset** of Expressway Series features.
- VCS is Expressway + Local Registrations (mainly)
- Expressway is VCS Local Registrations (mainly)
- MRA and B2B are available on both platforms.

## VCS and Expressway X8 Scalability



	Server		Cluster			
Platform	MRA Registrations	Video Calls	Audio Only Calls	MRA Registrations	Video Calls	Audio Only Calls
Large OVA, CE1000		VCS Appliance andberg)	1,000	10,000	2,000	4,000
Medium OVA, CE500	2,500	100	200	10,000	400	800
Small OVA (BE6000)	2,500	100	200	2,500	100	200

Note: Expressway C&E or VCS-C can be clustered across multiple BE6000s for redundancy purposes, but with no additional scale benefit

Small, medium, & CE500 can support Unified CM calls scaling up to 150 video or 300 audio per server Cisco

#### VCS: "Unified CM Calls"

 Calls from endpoints using the Mobile and Remote Access feature are classified as Unified CM calls —

 Unified CM calls do not consume Rich Media Sessions (Expressway) or Traversal Licenses (VCS)

 But Unified CM Calls do count against the overall system capacity

Resource usage (last updated: 21:08:2	20 PST)	
		Total
Unified CM calls	Current video	0
	Current audio (SIP)	0
	Peak video	4
	Peak audio (SIP)	1
Rich media session traversal calls	Current video	0
Rich media session traversar calls	Current audio (SIP)	0
	Peak video	0
	Peak audio (SIP)	0
	Feak addio (SiF)	Ŭ
Rich media session non-traversal calls	Current	0
	Peak	0
Monitored resource usage	Current	0
Rich media sessions	License usage current	0%
	License usage peak	0%



#### **Firewall Traversal**

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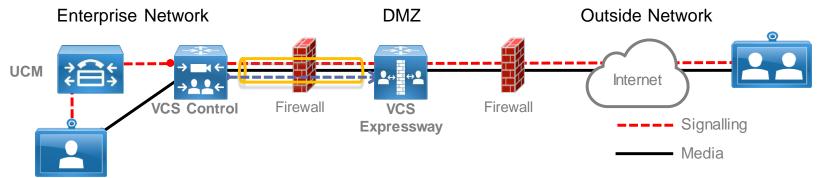
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#### How Expressway Firewall Traversal Works...



- 1. VCS Expressway is the traversal server installed in DMZ. VCS Control is the traversal client installed inside the enterprise network.
- 2. VCS Control initiates traversal connections outbound through the firewall to specific ports on VCS Expressway with secure login credentials.
- 3. VCS Control sends keep-alive packets to VCS Expressway to maintain the active connection
- 4. When VCS Expressway receives an incoming call, it issues an incoming call request to VCS Control.
- 5. VCS Control then routes the call to UCM to reach the called user or endpoint
- 6. The call is established and media traverses the firewall securely over an existing traversal connection

#### **Firewall Port Details**



- No inbound ports required to be opened on the internal firewall
- Internal firewall needs to allow the following outbound connections from VCS C to VCS E
  - SIP: TCP 7001
  - Traversal Media: UDP 2776-2777 or 36000 to 36011
  - XMPP: TCP 7400
  - HTTPS (tunneled over SSH between C and E): TCP 2222
- External firewall needs to allow the following inbound connections to VCS E
  - SIP: TCP 5061
  - HTTPS: TCP 8443
  - XMPP: TCP 5222
  - Media: UDP 36002 to 59999

http://www.cisco.com/c/dam/en/us/td/docs/telepresence/infrastructure/vcs/config\_guide/X8-5/Cisco-VCS-IP-Port-Usage-for-Firewall-Traversal-Deployment-Guide-X8-5.pdf

#### Mobile and Remote Access (MRA)

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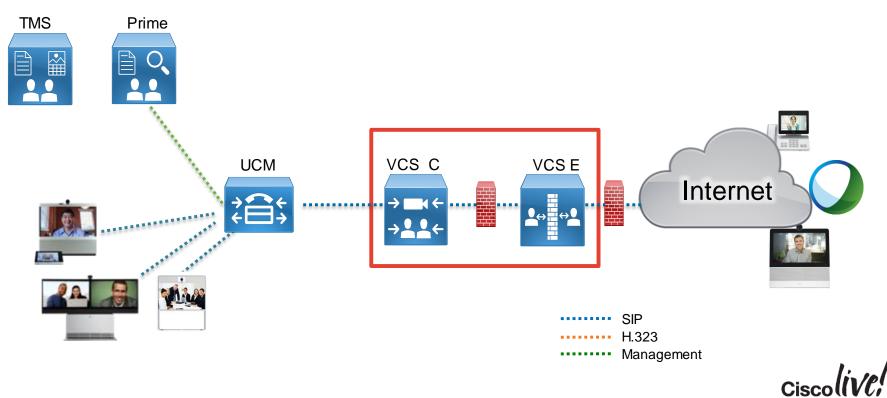
## Solution Components Software Requirements



Component	Min Software Version	Projected Availability
Cisco Expressway or Cisco VCS	X8.1.1	Available
Unified CM	9.1(2) SU1	Available
Unified CM IM&P	9.1	Available
Unity Connection	8.6(1)	Available
Jabber for Windows	9.7	Available
Jabber for iPhone and iPad	9.6.1	Available
Jabber for Mac	9.6	Available
Jabber for Android	9.6	Available
EX/MX/SX/C Series TelePresence Endpoints	TC 7.1	Available

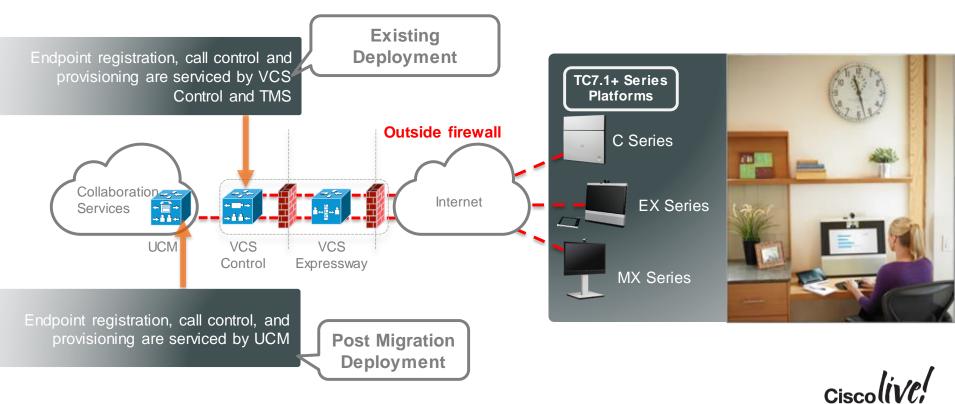
#### **Deployment Models**

Post migration deployment...Now with a focus on MRA and external communications



#### Moving External Endpoints to UCM

#### Mobile and Remote Access for fixed endpoints



#### Jabber Video for Telepresence (Movi) and IM&P Considerations

Jabber Video is a great video desktop client for Windows and Mac.

Few features, great quality: A/V + Content(BFCP), Presence and Directories. Nothing else.

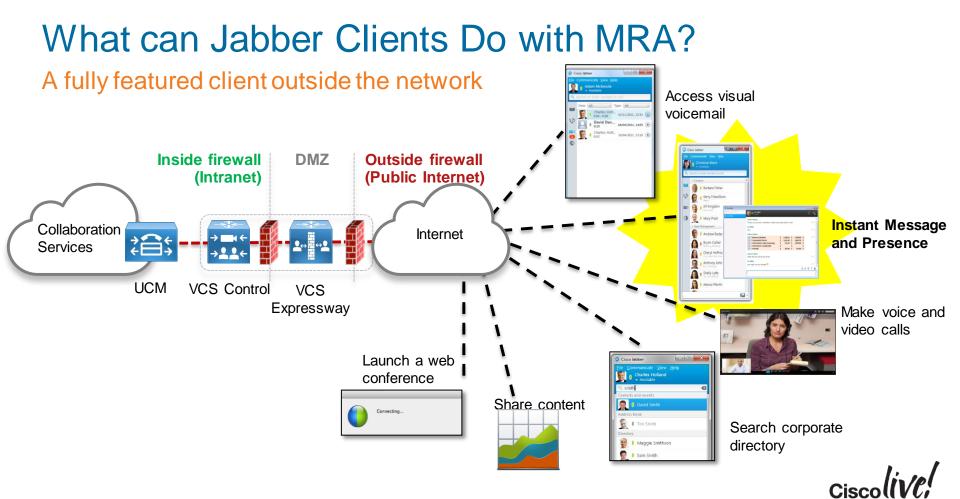
Jabber Video architecture is based on: VCS-E  $\rightarrow$  VCS-C  $\rightarrow$ TMS

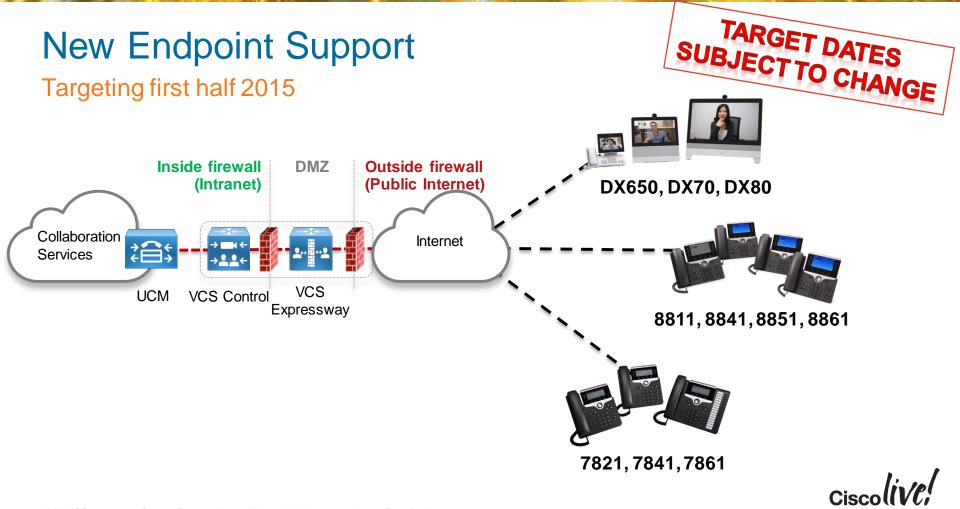
#### Jabber Video is not capable of IM. This is now available with Jabber at no cost

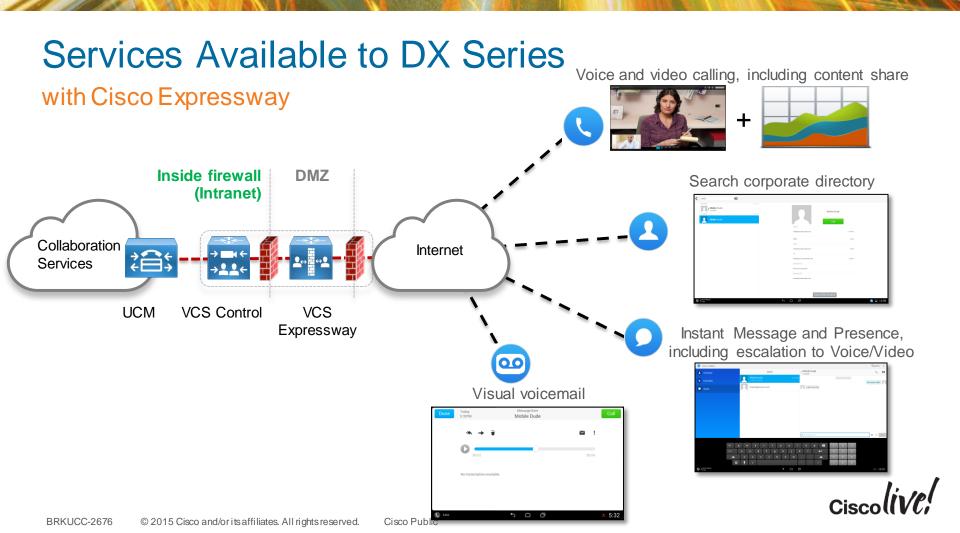
Jabber (Full UC Client) is available for Windows, Mac, Mobile (Android/Ios), Tablet and has tons of Phone/UCM features and services. (i.e. Voice Services, CTI Control, File transfer, bidirectional desktop sharing, etc)

Jabber Architecture is based on: VCS-E -> VCS-C -> CUCM

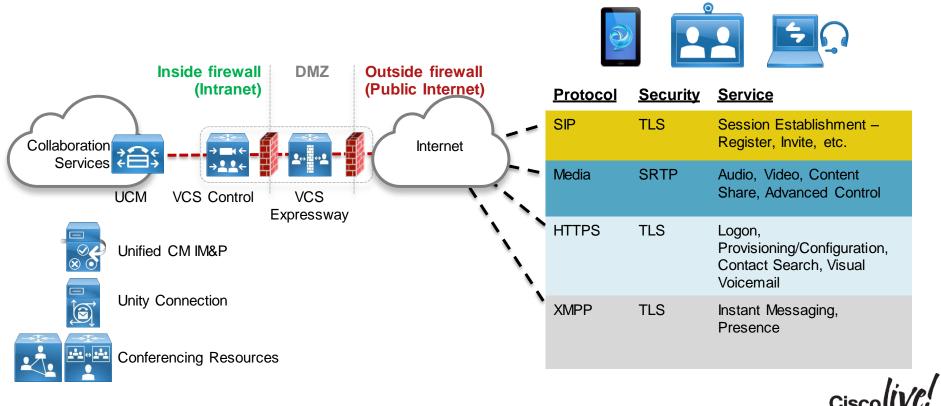
#### Jabber adds MORE to the Desktop Video experience. At no cost.

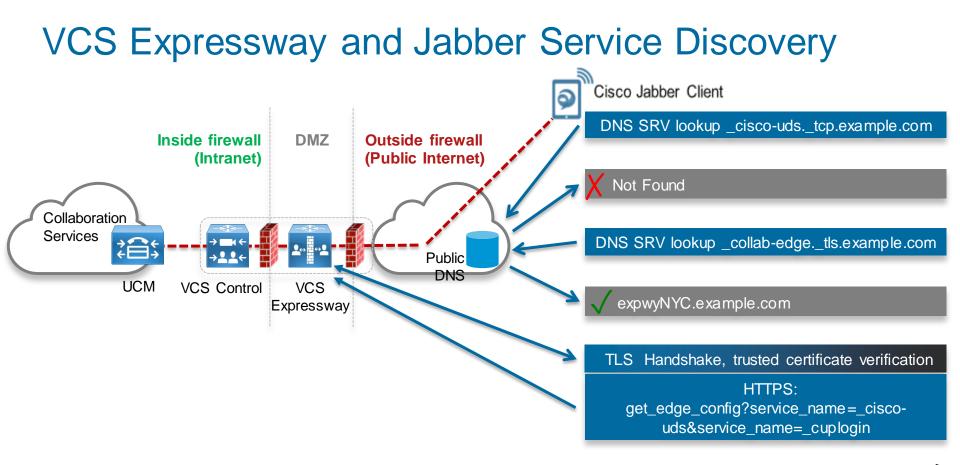






#### **Protocol Workload Summary**







#### Split DNS SRV Record Requirements

- \_collab-edge record needs to be available in public DNS
- Multiple SRV records (and VCS Expressway hosts) should be deployed for HA
- A GEO DNS service can be used to provide unique DNS responses by geographic region

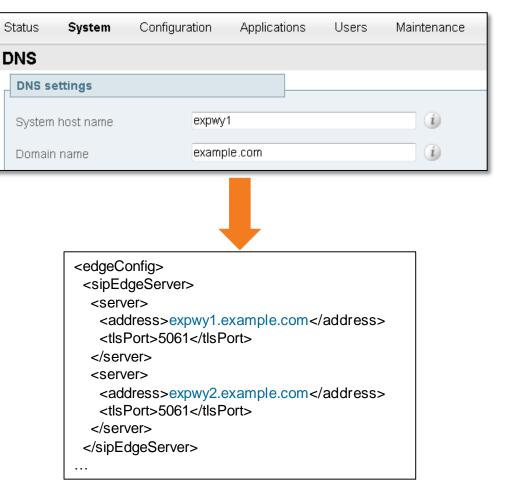
\_collab-edge.\_tls.example.com. SRV 10 10 8443 expwy1.example.com. \_collab-edge.\_tls.example.com. SRV 10 10 8443 expwy2.example.com.

\_cisco-uds record needs to be available <u>only</u> in internal DNS

\_cisco-uds.\_tcp.example.com. SRV 10 10 8443 ucm1.example.com. \_cisco-uds.\_tcp.example.com. SRV 10 10 8443 ucm2.example.com.

## VCS Expressway DNS

- Note: VCS Expressway servers will often have multiple DNS aliases, especially in dual-nic deployments
- The VCS Expressway system hostname and domain (defined under System > DNS) are combined to form the VCS Expressway FQDN
- VCS Expressway FQDN is embedded in the edge xml config served to remote clients, and needs to resolve in public DNS



## VCS Mobile and Remote Access

#### from Unified CM perspective

- Remote access provided by VCS is, for the most part, transparent to UCM
- No requirement to build a SIP trunk on Unified CM to VCS C or E
- No requirement to make dial plan changes
- Remote Jabber clients or TelePresence Endpoints registering to Unified CM through VCS will appear to Unified CM as VCS C IP address



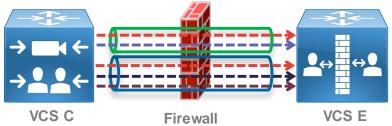
### **Unified Communications Traversal**

- X8.2 introduced new zone type, Unified Communications Traversal
- Similar to existing Traversal client and server zones, only simplified
- Unified Communications Traversal provides:
  - SIP only, Assent based traversal
  - Mutual TLS & TLS verify enabled
  - Media Encryption Mode = Forced encryption
  - Support for Unified Communications features (MRA, Jabber Guest, XMPP Federation)

Γ	Configuration	
	Name	* ExpresswayC_force_encryption
	Туре	Unified Communications traversal
	Hop count	* 35

#### **Parallel Traversal Zones**

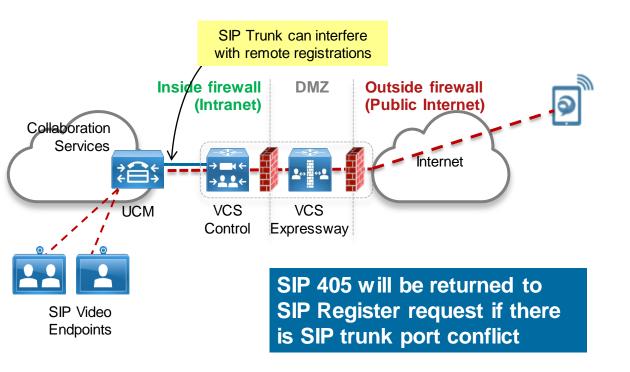
- One Traversal Zone used for Open Video Federation
- Provides SIP, and optionally H.323
- Media Encryption Mode = Auto



- Unified Communications Traversal Zone used for Mobile & Remote Access, Jabber Guest, XMPP Federation
- Provides SIP, XMPP, HTTP
- Media Encryption Mode = Forced

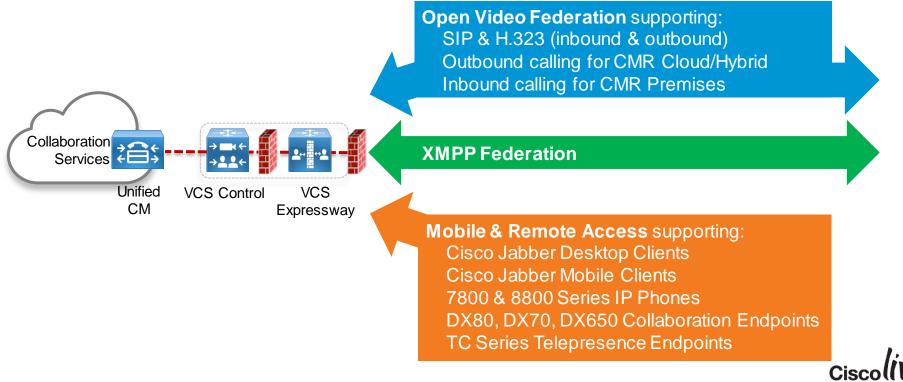
## MRA and B2B

#### Interaction with SIP trunk



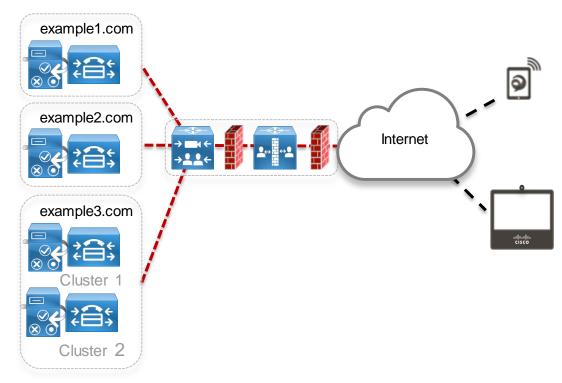
- An automatic discovery process replaces SIP trunk between VCS Control and Unified CM for Mobile & Remote Access.
- However, if Unified CM includes a SIP trunk for other integrations like B2B video federation, Unified CM will reject any SIP registration attempts from remote Jabber or TP endpoints, as the register method is not accepted on Unified CM SIP trunk interface
- Update Unified CM SIP trunk security profile to listen on ports other than TCP 5060 or 5061 (you could use 5560, 5561, etc.)
- Port change allows for SIP trunk integration AND mobile & remote access Ciscolive

#### Combining Features on a Single Cluster Pair B2B – MRA – XMPP Federation



## Multi-Deployment Support

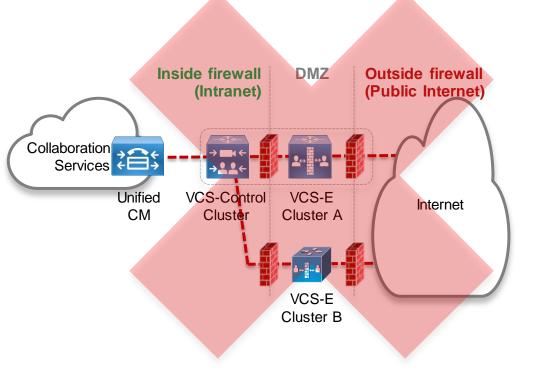
#### New feature in X8.5



- Single VCS pair can now serve multiple domains
- Not a multi-tenant architecture
- Single certificate presented by VCS E needs to contain multiple domain names

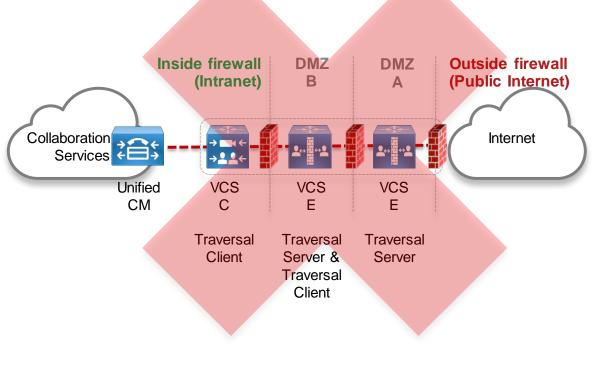


#### Unsupported: Unbalanced Expressway Deployments



- This model is still supported for traditional VCS Expressway deployments (B2B)
- But this is not supported for the new mobile and remote access functionality introduced in X8.1
- Mobile and remote access requires a VCS-C cluster for each VCS-E cluster
- Only one "Unified Communications services" Traversal zone per cluster

#### **Unsupported: Expressway Chained Traversal**



- Chained traversal is often used in environments with heightened security policies
- This option is still supported for VCS-E (B2B), but will not allow for Unified Communication Services
- Not supported for the new mobile and remote access functionality introduced in X8.1

### **Existing VCS Customers**

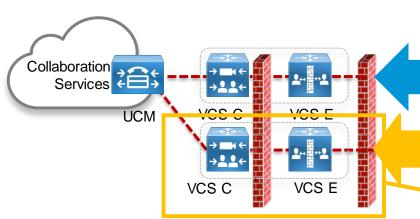
- Customers with VCS-C and VCS-E can add Mobile and Remote Access to an existing deployment
- Simply add a parallel traversal zone on existing VCSs to support mobile and remote access
- Concurrent session scale is the primary reason for adding Expressways dedicated to Mobile & Remote access

Will the number of remote Jabber users making calls over Expressway crush my existing TelePresence deployment?



## Parallel Deployments of VCS and Expressway

\_collab-edge SRV records don't conflict with existing B2B VCS SRV records



Open Video Federation (SIP & H.323) Cisco Jabber Video for TelePresence Registration Cisco TelePresence Endpoints (TC) Registration to VCS Outbound calling for CMR Cloud/Hybrid

Cisco Jabber Registration Cisco TelePresence Endpoints (TC) Registration to UCM

#### Add \_collab-edge SRV to Public DNS

NO Server licenses NO call licenses

## **Business to Business Collaboration (B2B)**

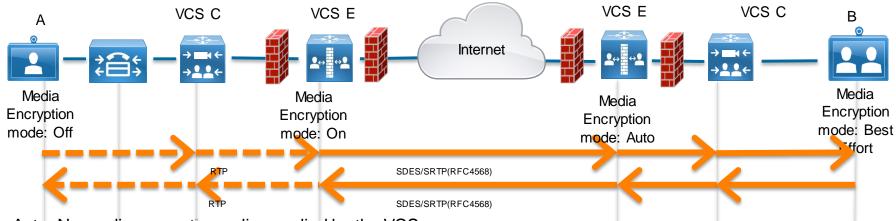
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## Secure Signalling and Media

#### VCS Media Encryption RTP to SRTP

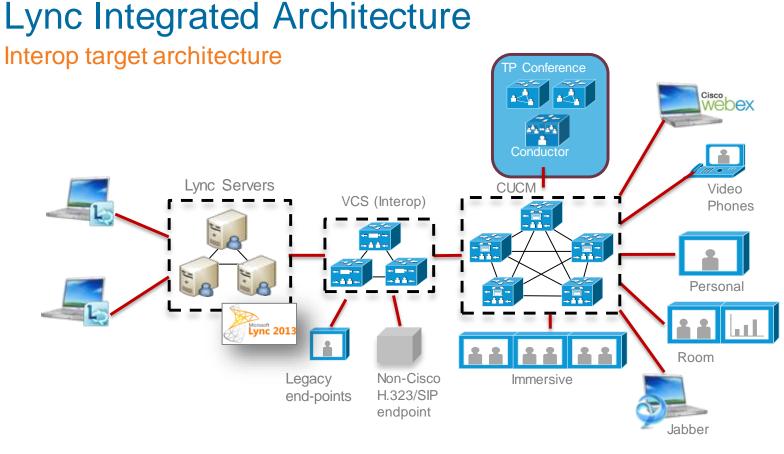


- Auto: No media encryption policy applied by the VCS
- Best Effort: Use encryption if available otherwise fallback to unencrypted
- Force Encrypted: All media must be encrypted
- Force Unencrypted: All outgoing media will be unencrypted
- Encryption Policy applies to SIP and H.323 calls interworked to SIP
- Encrpytion Policy does not apply to H.323 calls



## Interoperability





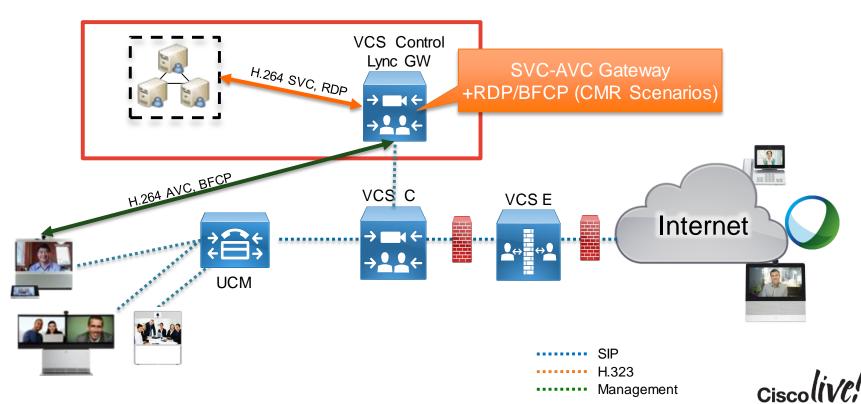
#### BRKUCC-2676 © 2015 Cisco and/or its affiliates. All rights reserved. Cisco Public

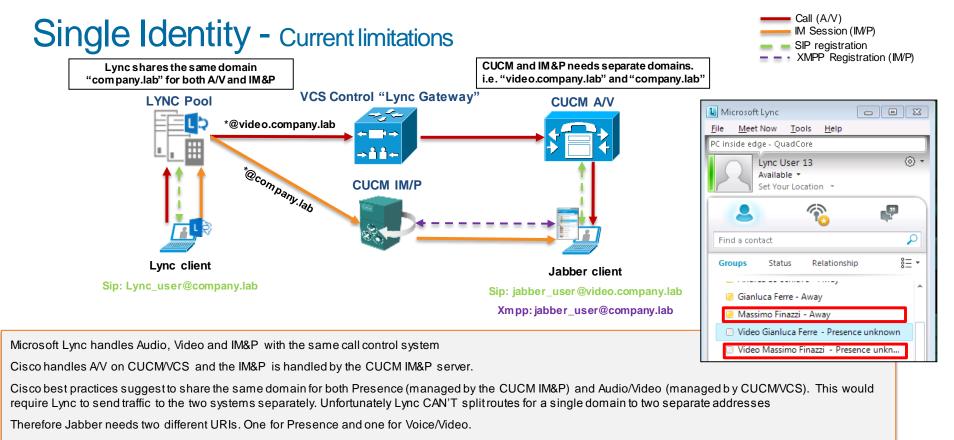
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#### **Deployment Models**

Conceptual diagram ROADMAP ITEM Subject to change

Post migration deployment...Now with a focus on 3<sup>rd</sup> party interop

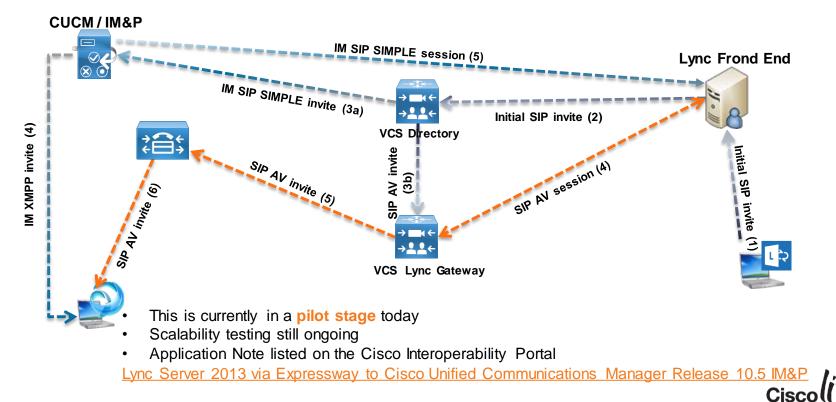




Cisco

Lync users will have to contact Jabber users using two different URI addresses (i.e. <u>Massimo\_Finazzi@video.company.lab</u> for video calls and <u>Massimo\_Finazzi@company.lab</u> for IM chat sessions). Jabber Users will be listed twice in the Lync buddy lists ince two different contacts are needed.

#### VCS IM&P Federation & Video Integration - Combined Lync to Jabber Migration - Directory VCS C



#### Summary

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#### Session Key Takeaway

- Cisco Preferred Architecture for Video recommended deployment models that are prescriptive, out-of-the-box, built to scale and tested by Cisco.
- VCS to UCM migration program and recommended process.
- Single deployment model for UCM conferencing with Conductor.
- MRA allows external endpoints registrations to UCM.
- B2B, Legacy Endpoints and Interoperability will continue to use VCS.
   We are now ready to encourage migrating to a UCM based video call control platform.





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