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Migrating from VCS to CUCM

BRKUCC-2676

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#clmel

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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.

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Agenda

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

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Architecture and Deployment Overview

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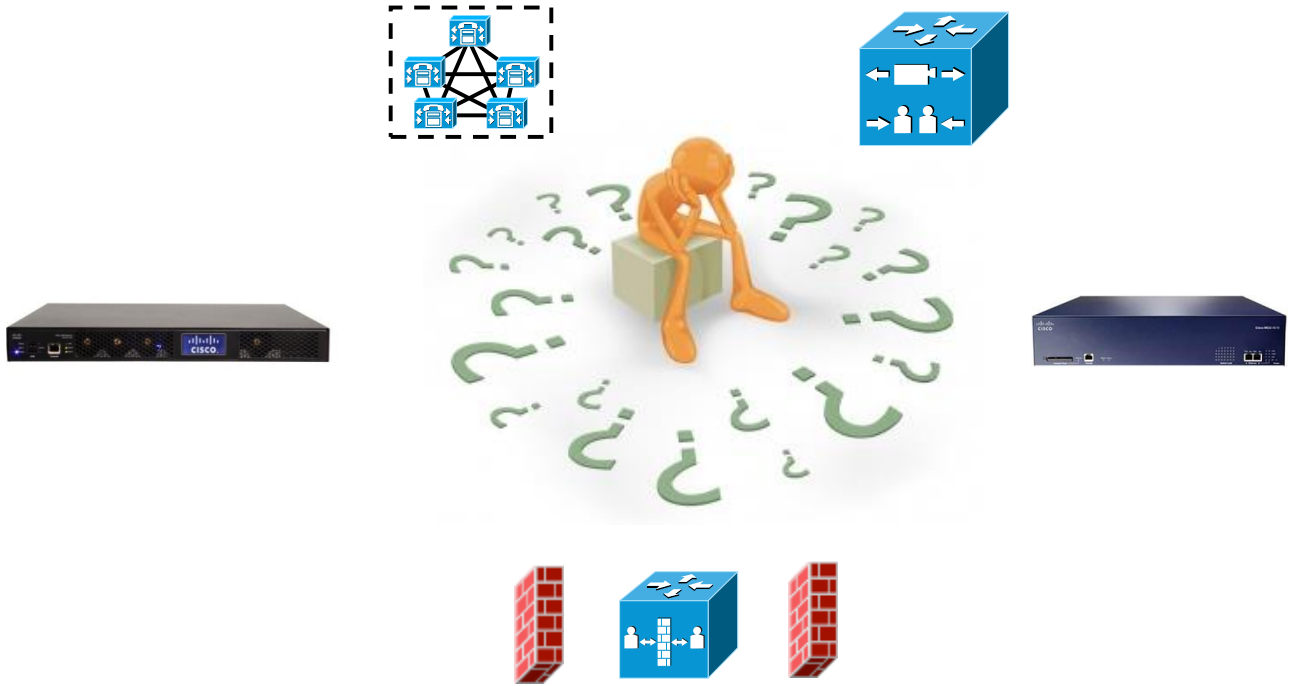
Why Do We Need A Preferred Architecture



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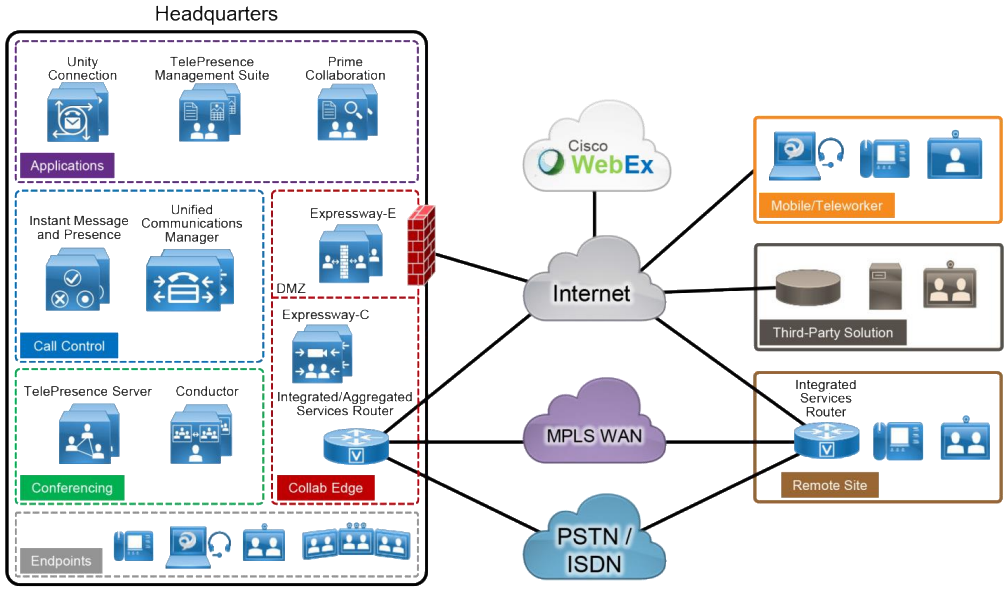
Collaboration Preferred Architecture (CPA)

For Your Reference

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

Figure 1. Cisco Preferred Architecture for Enterprise Collaboration



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Design Guidance

Cisco Preferred Architecture

For Your Reference

- 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 VCS-C/CUCM for Scheduled	Conductor
Conferencing Bridge	MCU	CTMS	TS and MCU	TS
Conference Scheduling	TMS	CTS Manager	TMS	TMS
Remote Access	VCS-E	ASA	VCS-E and/or Expressway Series	Expressway Series
Provisioning	TMS	UCM	TMS and Prime Collaboration	Prime Collaboration
Management	TMS	UCM	Prime Collaboration	Prime Collaboration

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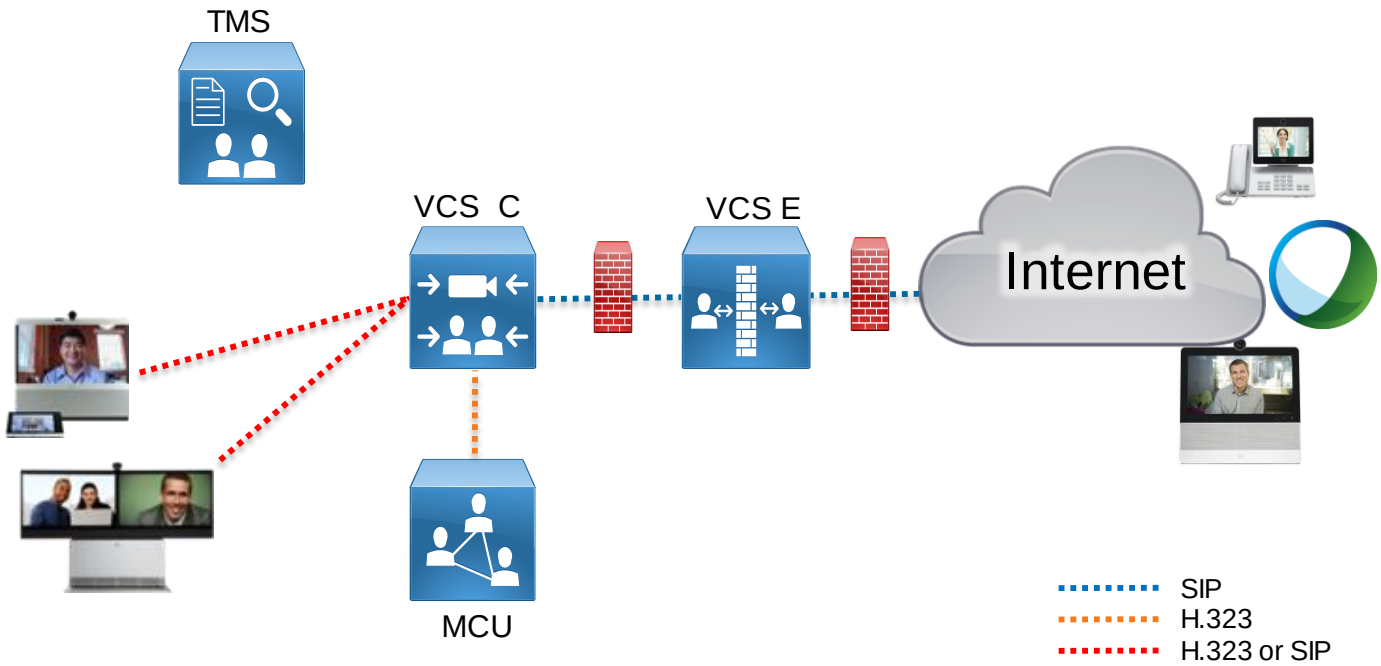
Deployment Models

Existing deployment



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Deployment Models

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

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Deployment Models

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.

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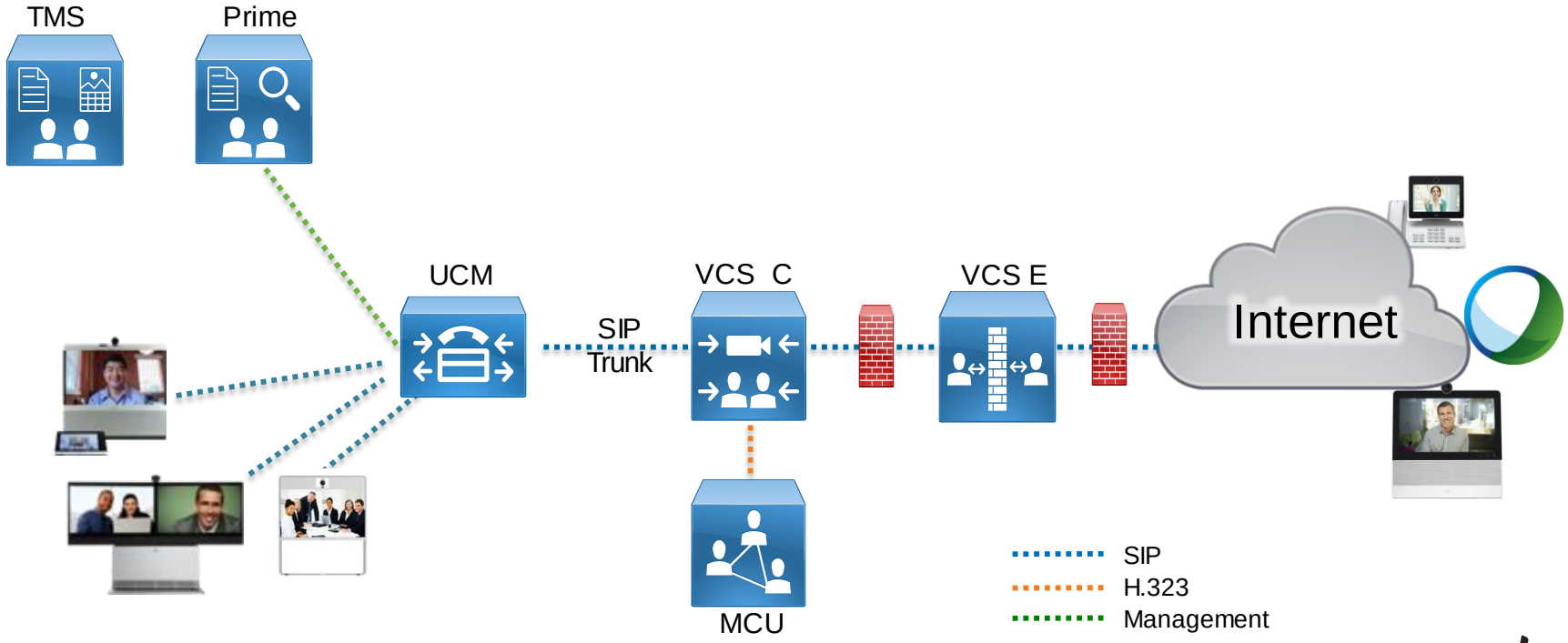
Deployment Models

Post migration deployment



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Deployment Models

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

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Deployment Models

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.

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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

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Verify Existing Deployment

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

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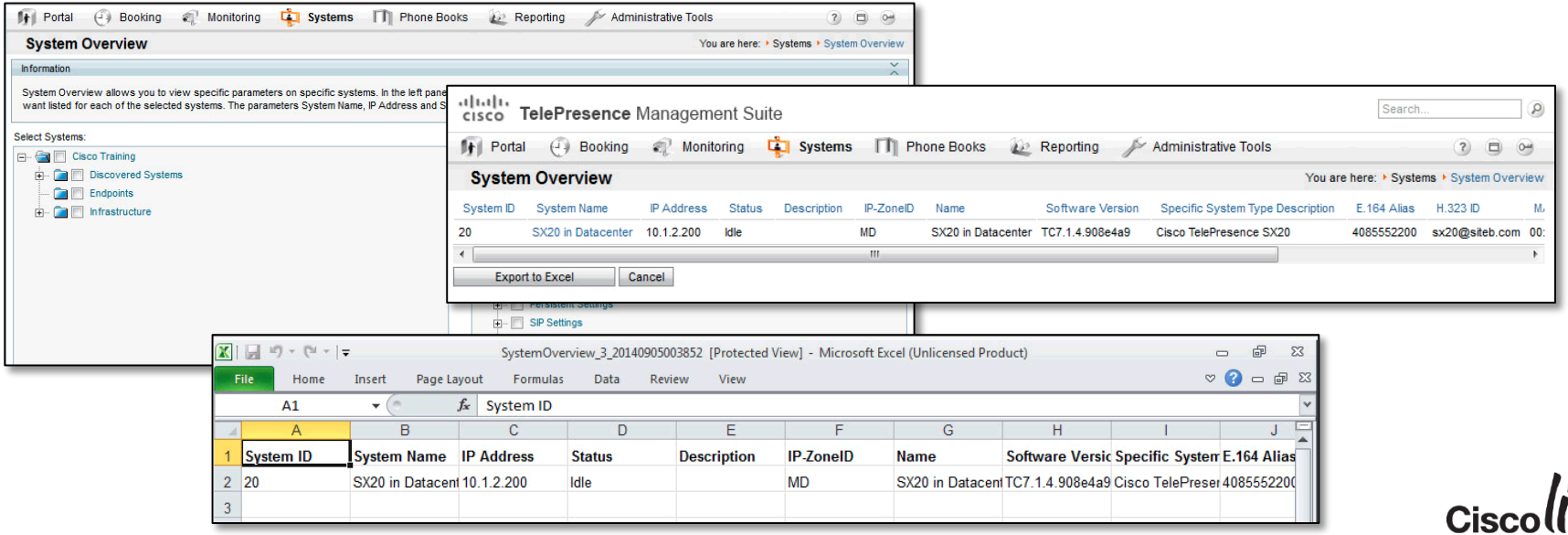
Collect Data for Migration

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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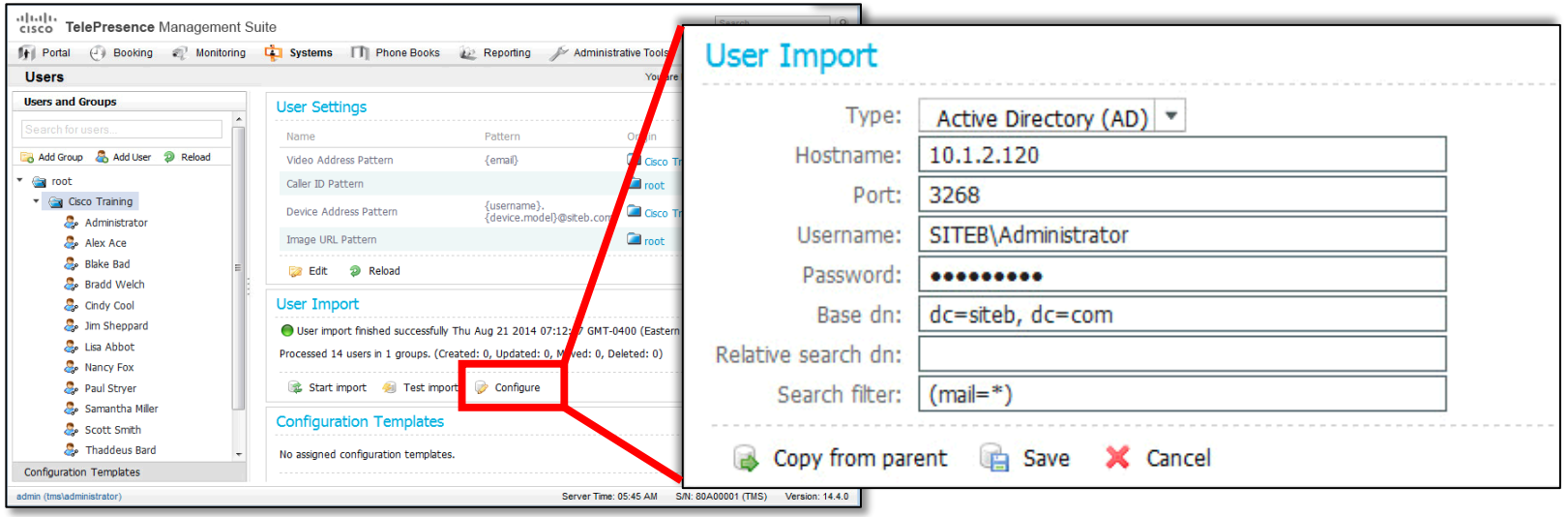
Collect Data for Migration

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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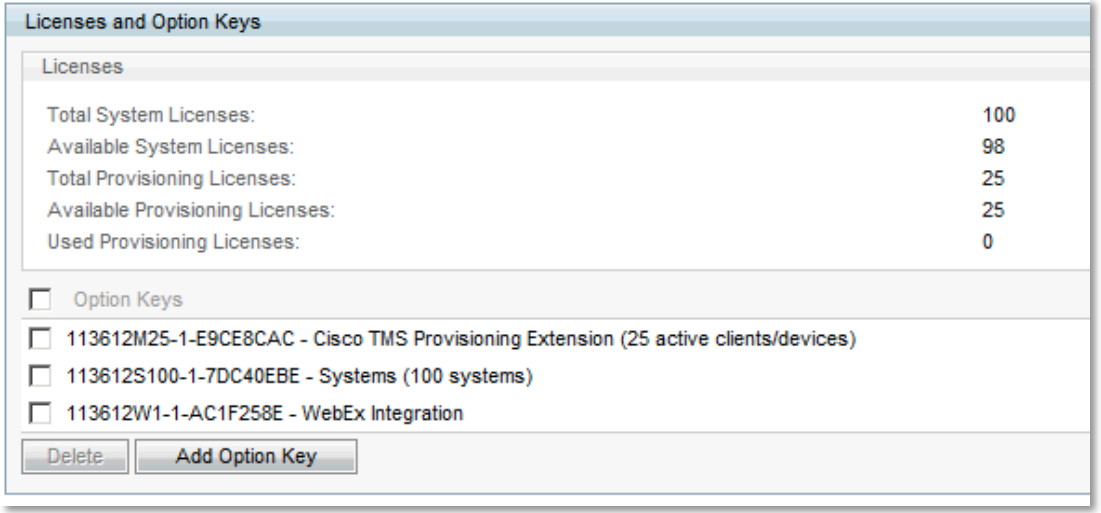
Collect Data for Migration

Discover License configuration

- Discover TMS license configuration for license conversion.



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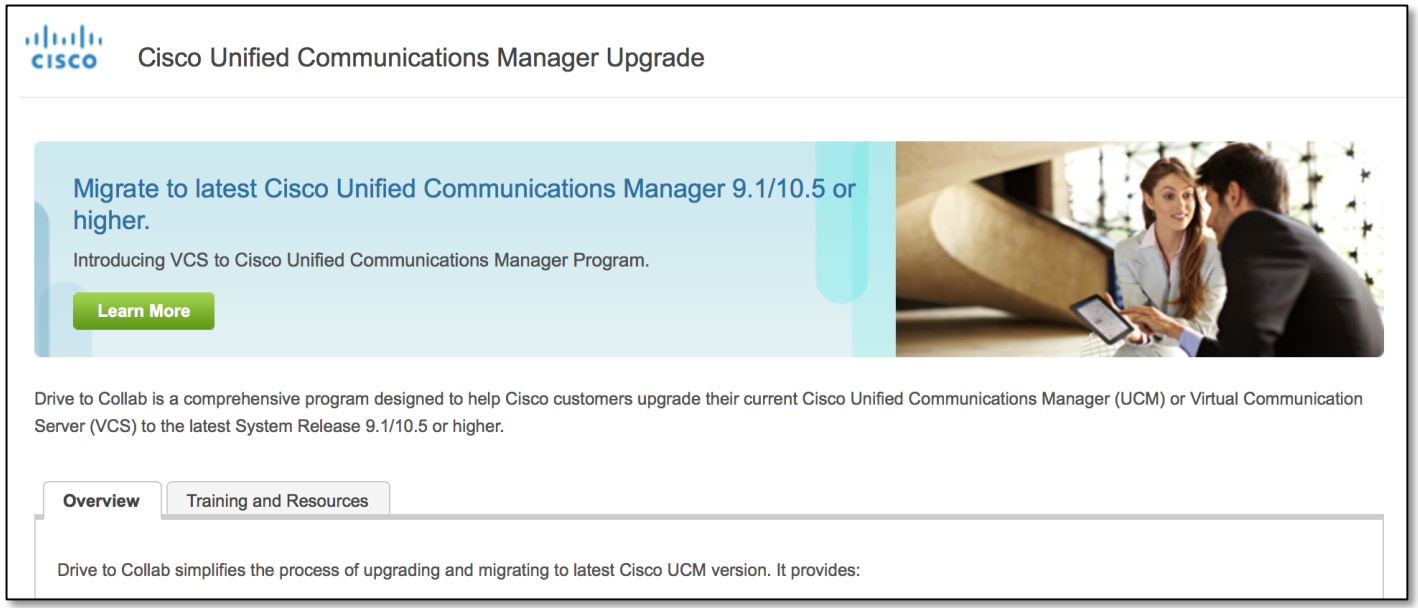
Collect Data for Migration

Discover License configuration

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



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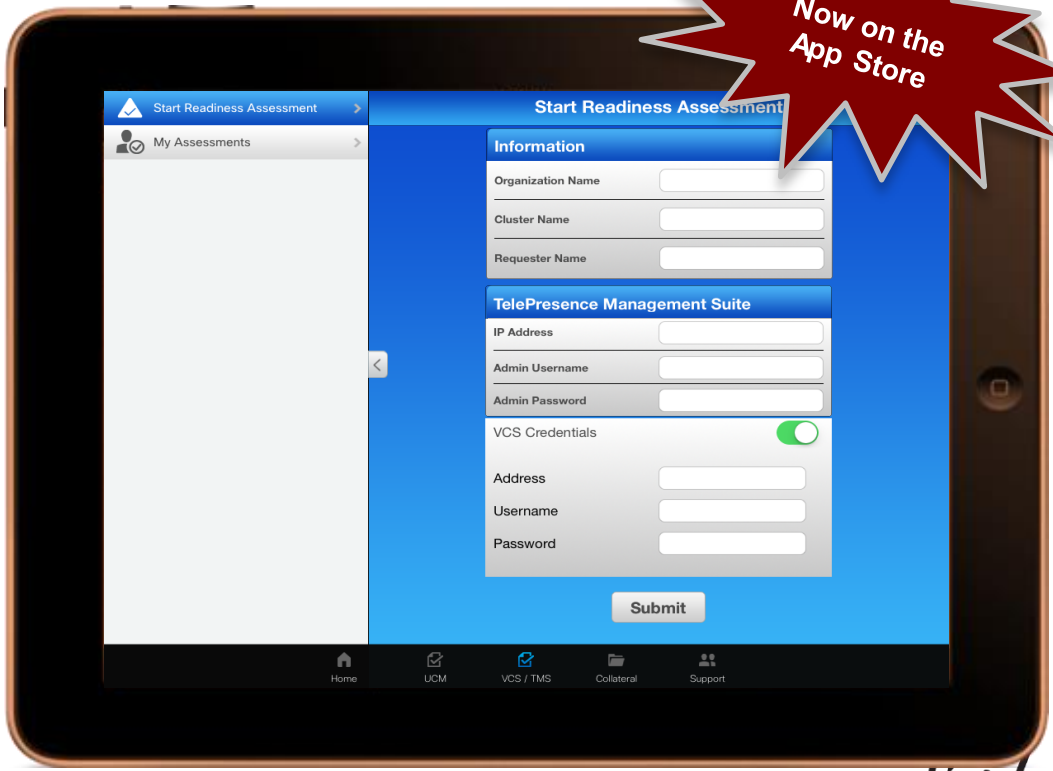
“CUCM Upgrade Central” v4.0 includes VCS Assessment

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



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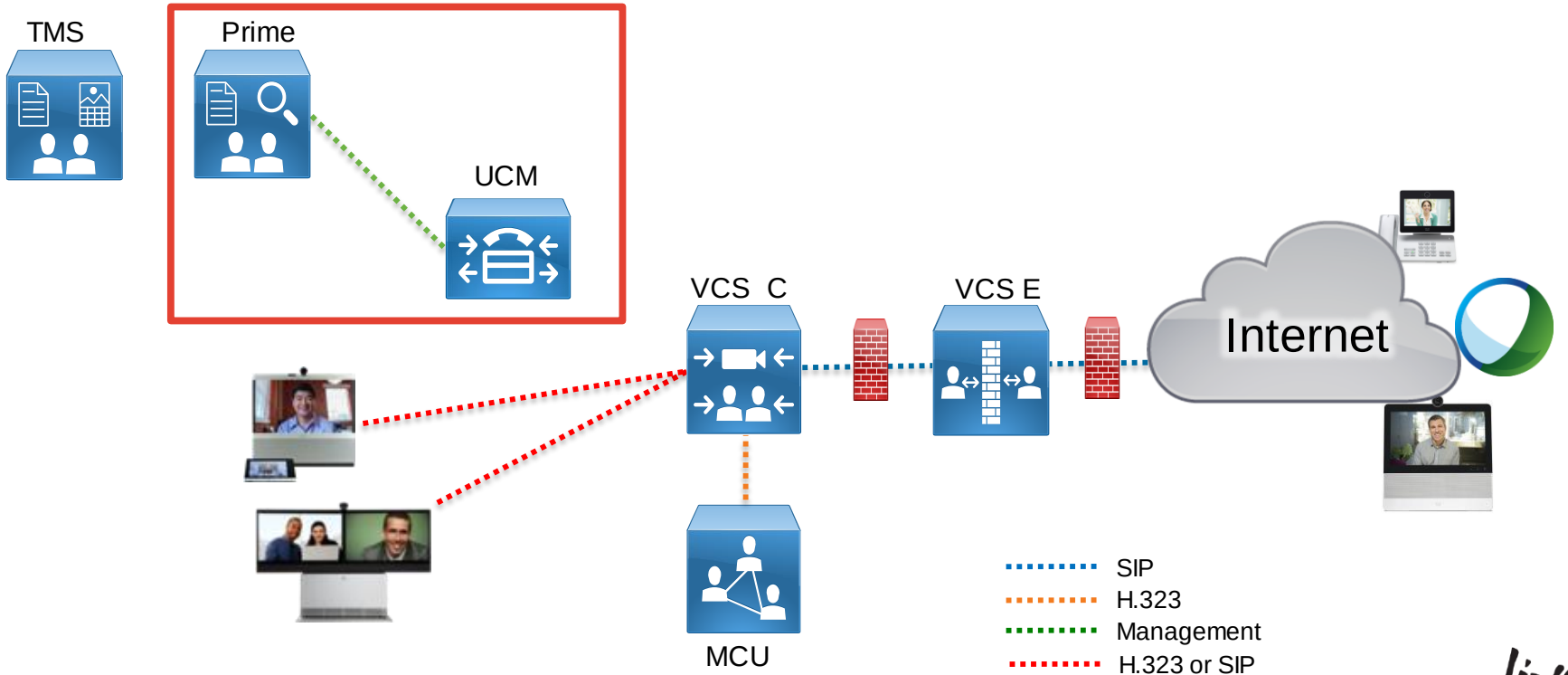
Prepare and Pre-deploy New Components

Overview



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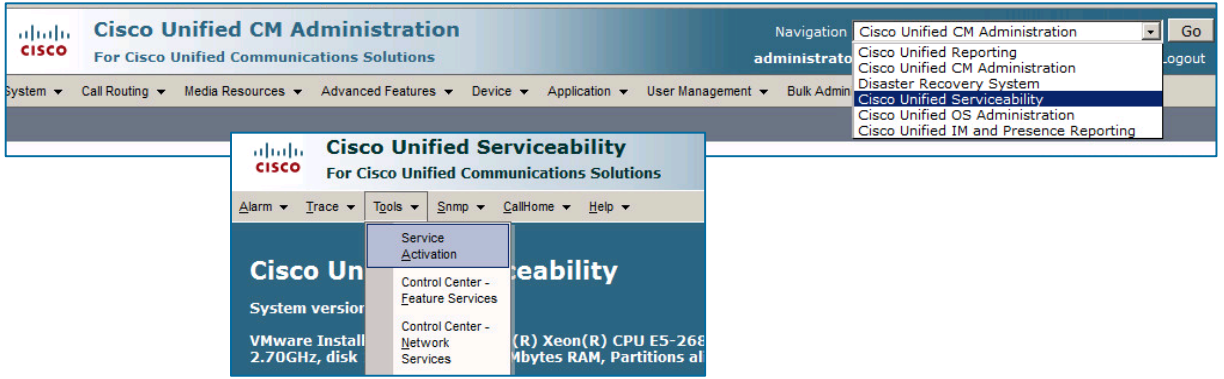
Prepare the Migration

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



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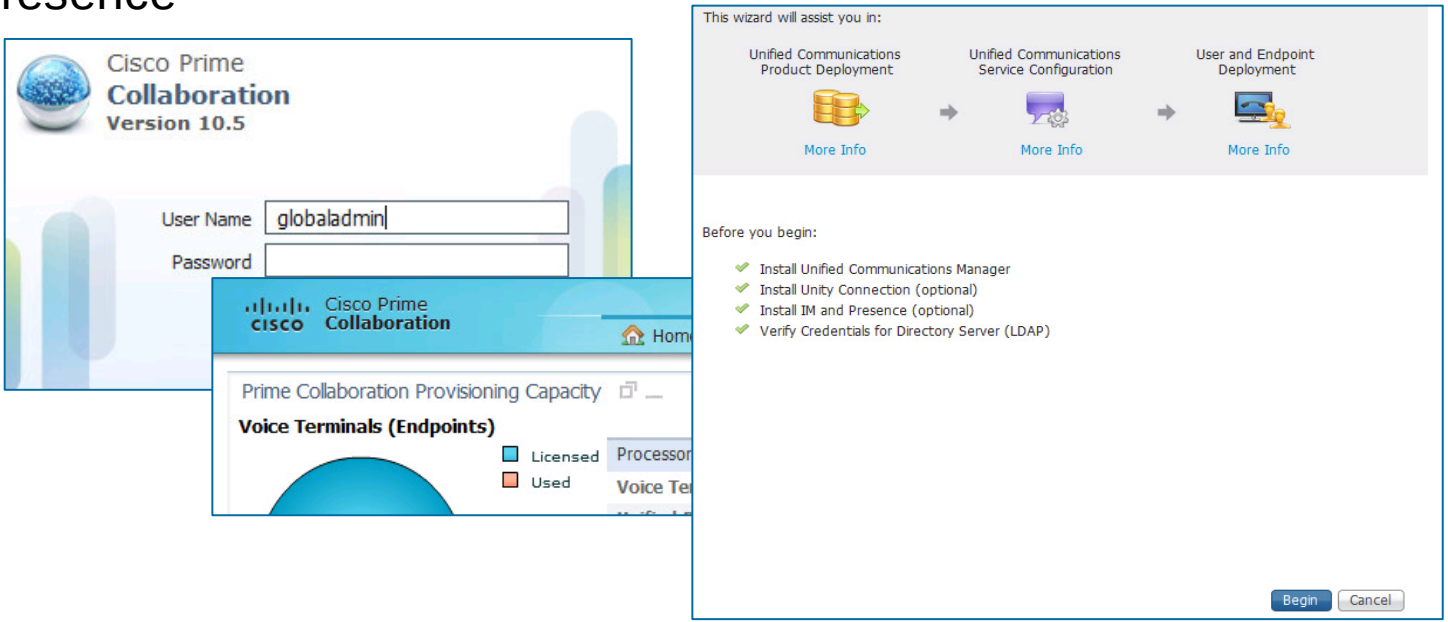
Pre-deploy New Components

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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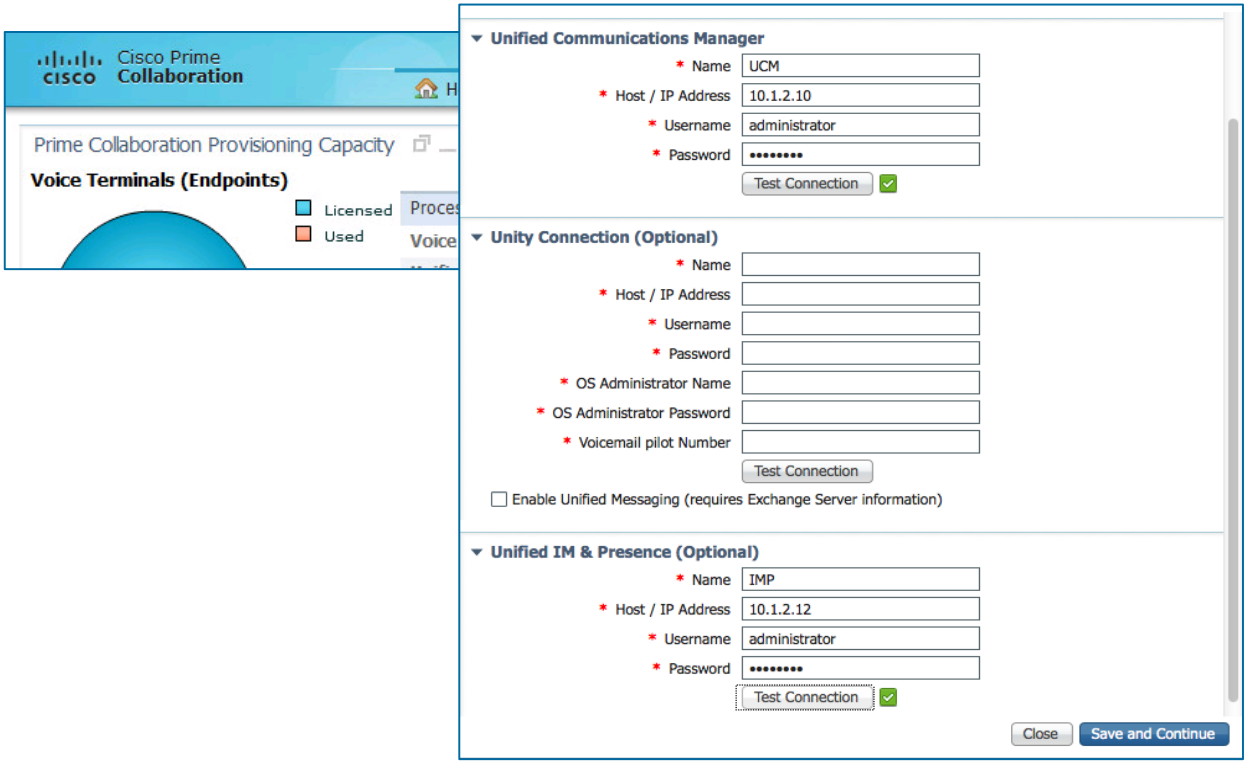

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Pre-deploy New Components

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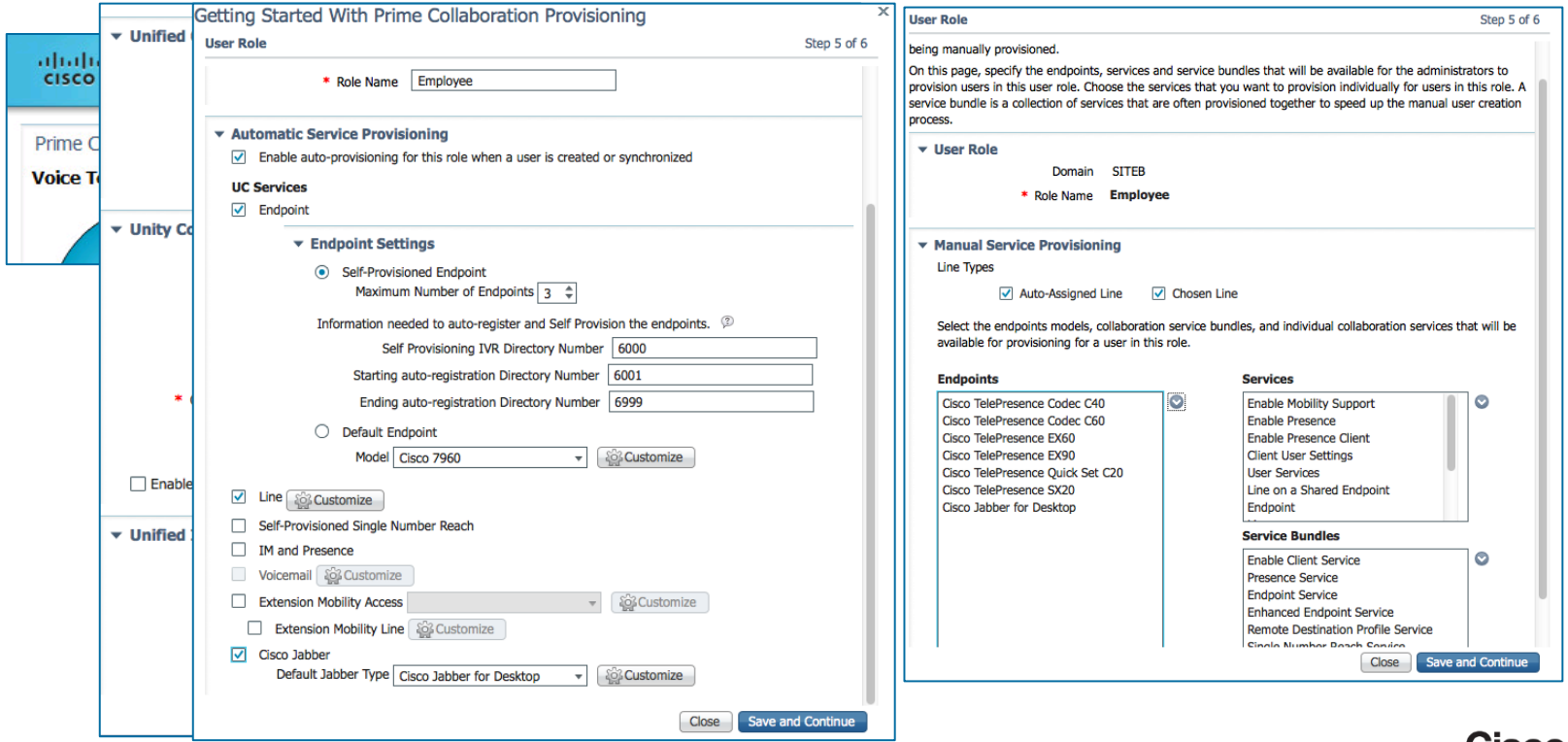

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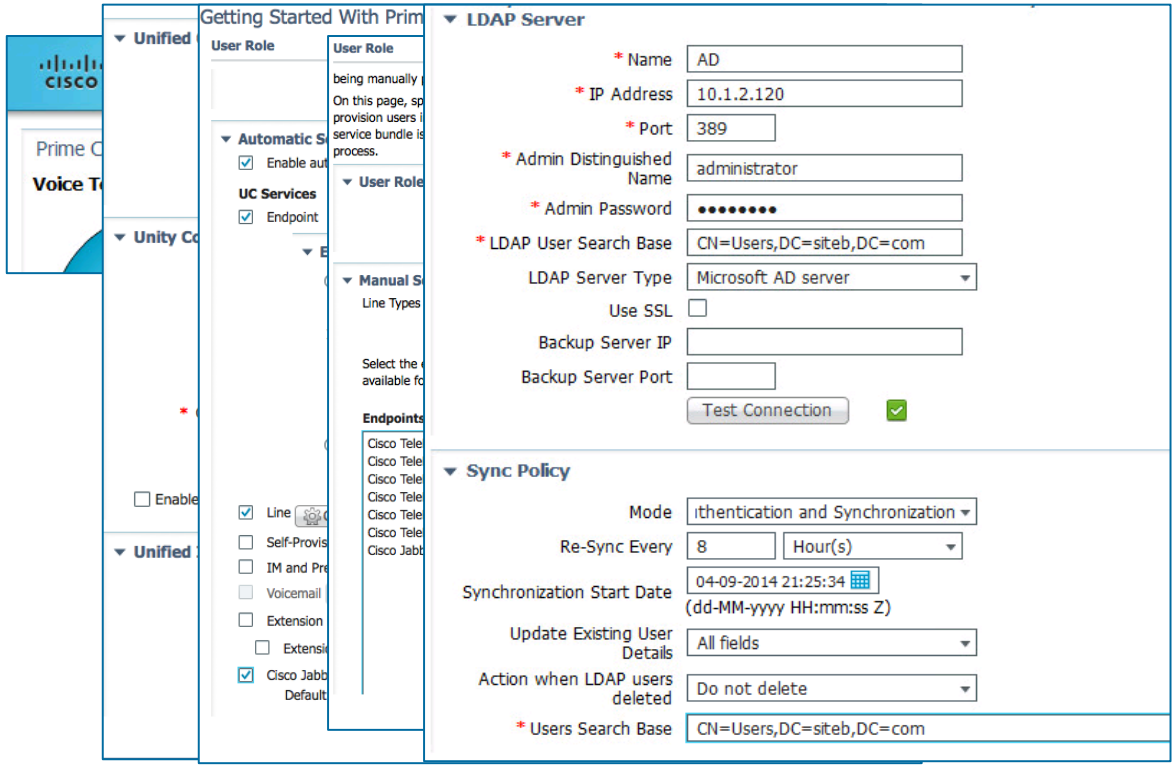

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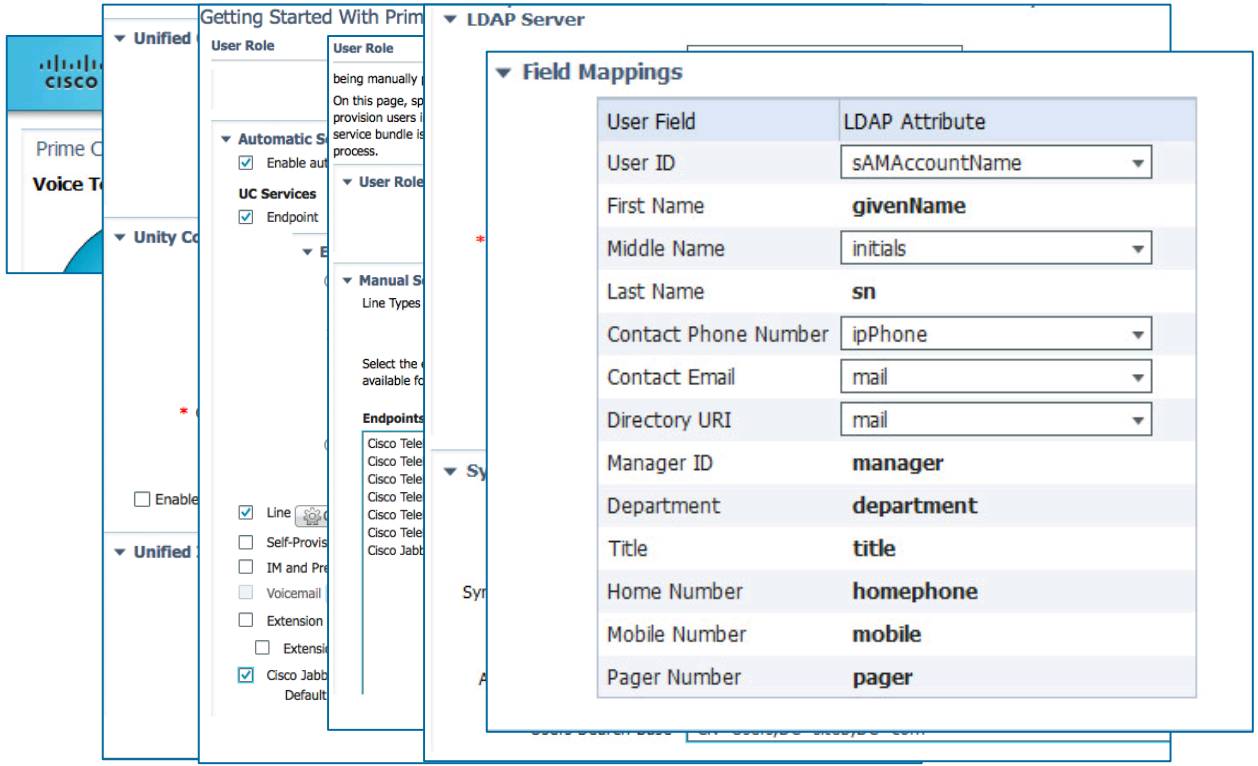
Pre-deploy New Components

Prime Collaboration Provisioning Configuration



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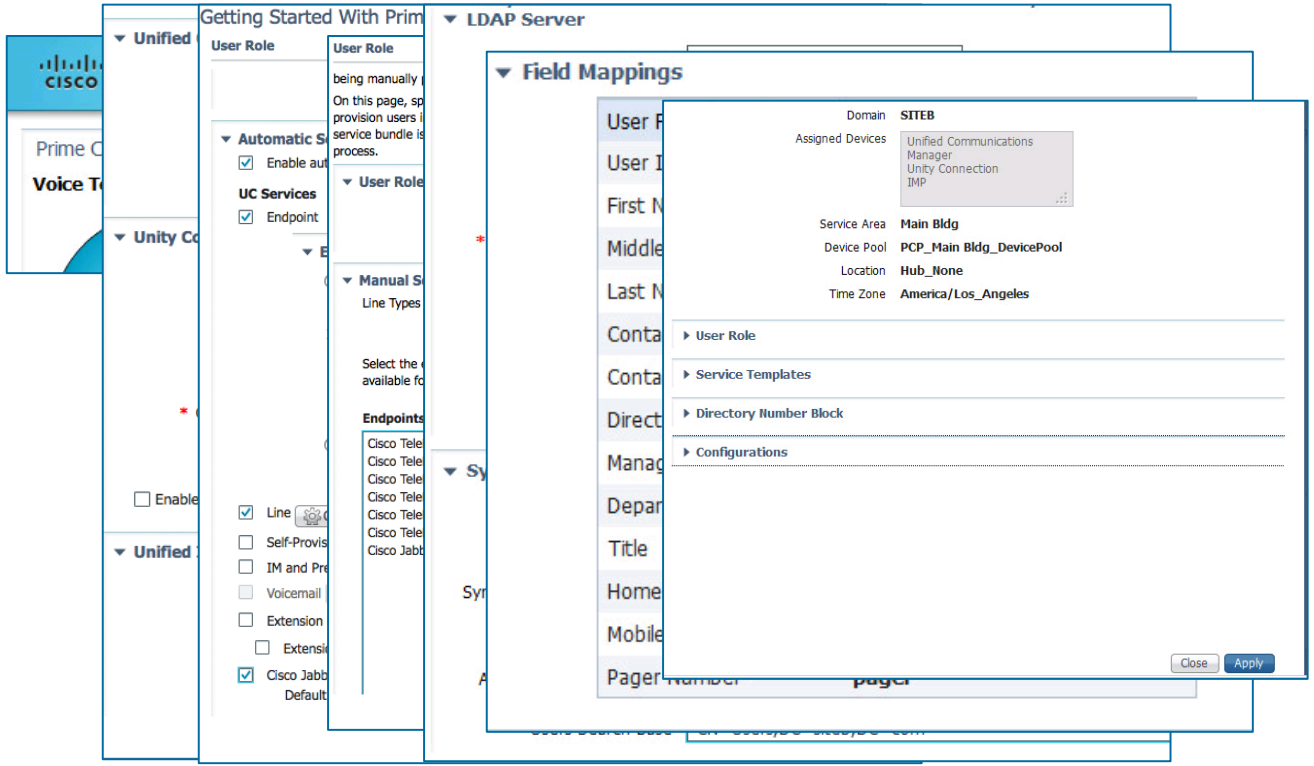

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Pre-deploy New Components

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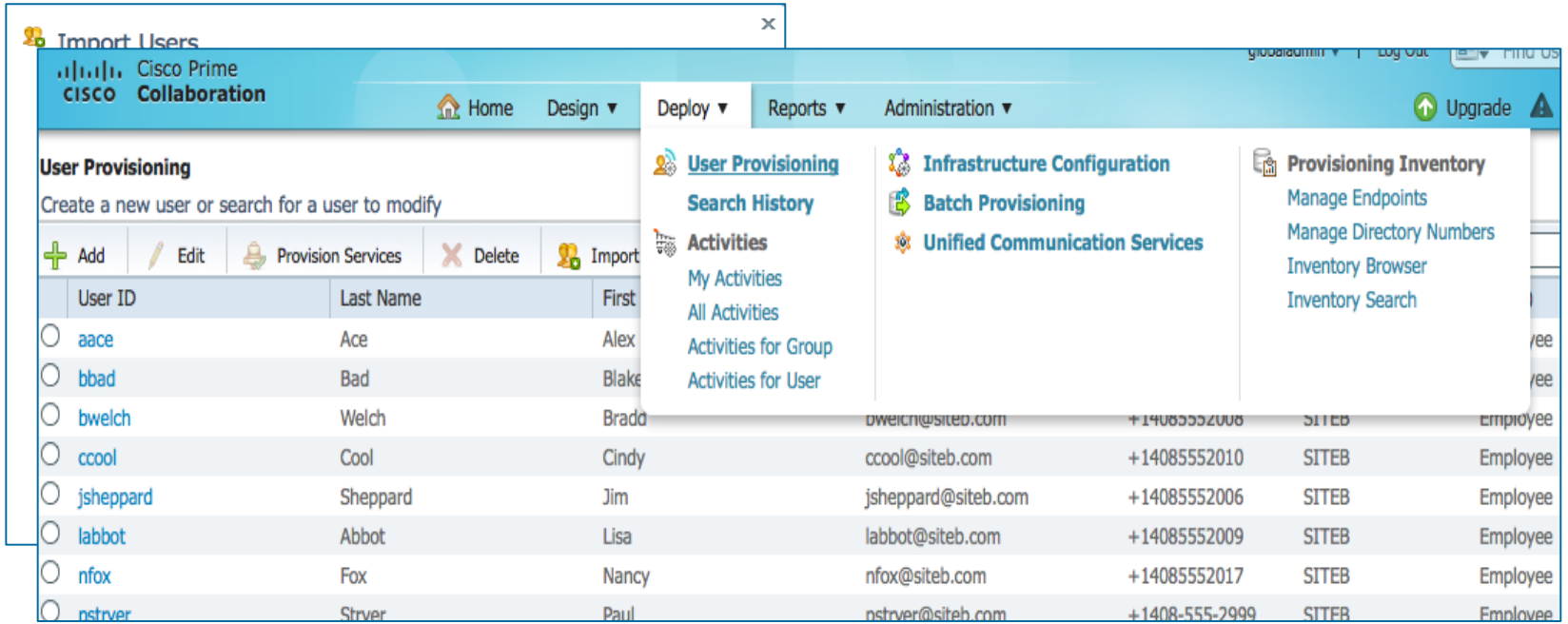

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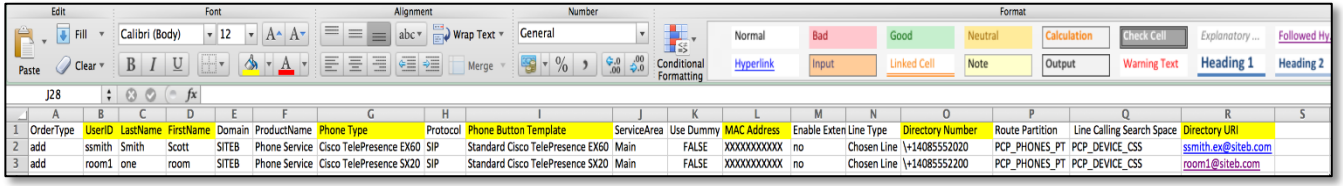
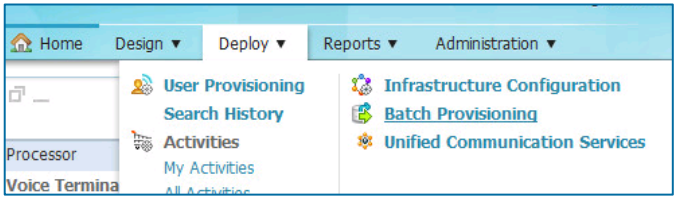
Pre-deploy New Components

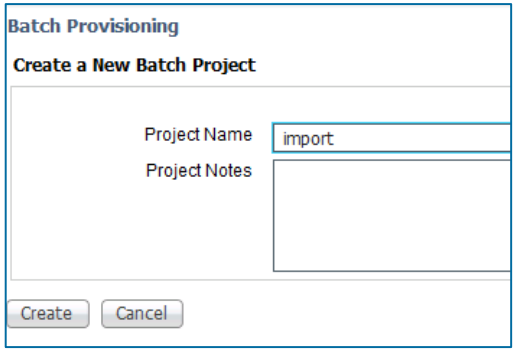
Convert collected data to Prime Template

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



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	OrderType	UserID	LastName	FirstName	Domain	ProductName	Phone Type	Protocol	Phone Button Template	ServiceArea	Use Dummy	MAC Address	Enable Exten	Line Type	Directory Number	Route Partition	Line Calling Search Space	Directory URI
2	add	ssmith	Smith	Scott	SITEB	Phone Service	Cisco TelePresence EX60	SIP	Standard Cisco TelePresence EX60	Main	FALSE	XXXXXXXXXX	no	Chosen Line	\+14085552020	PCP_PHONES_PT	PCP_DEVICE_CSS	ssmith.ex@siteb.com
3	add	room1	one	room	SITEB	Phone Service	Cisco TelePresence SX20	SIP	Standard Cisco TelePresence SX20	Main	FALSE	XXXXXXXXXX	no	Chosen Line	\+14085552200	PCP_PHONES_PT	PCP_DEVICE_CSS	room1@siteb.com





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Pre-deploy New Components

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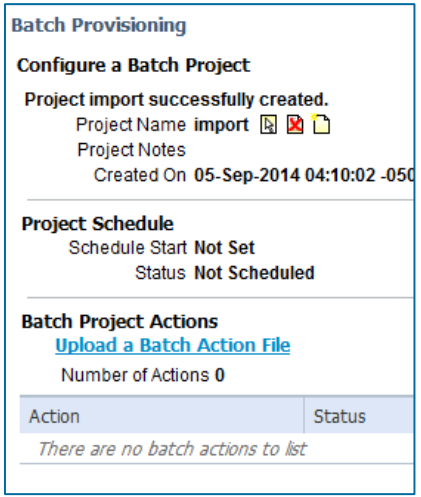

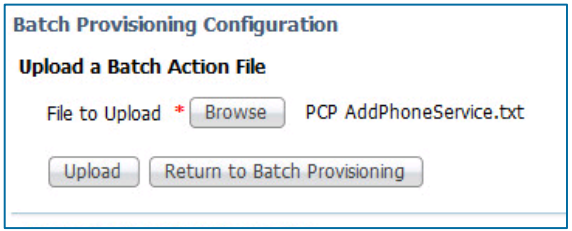

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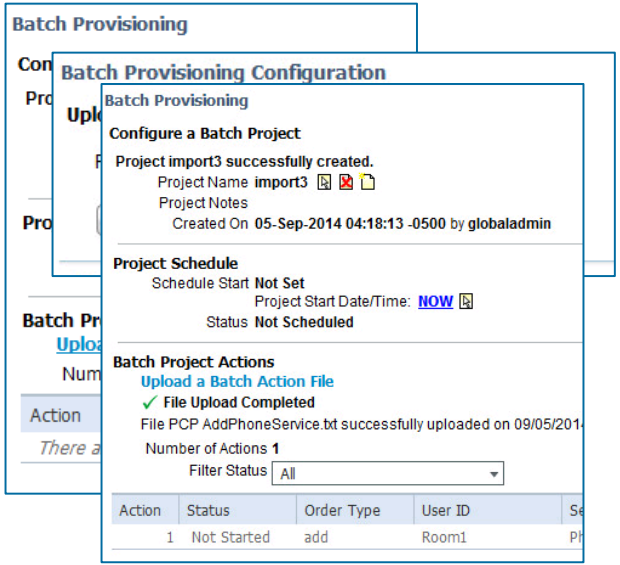

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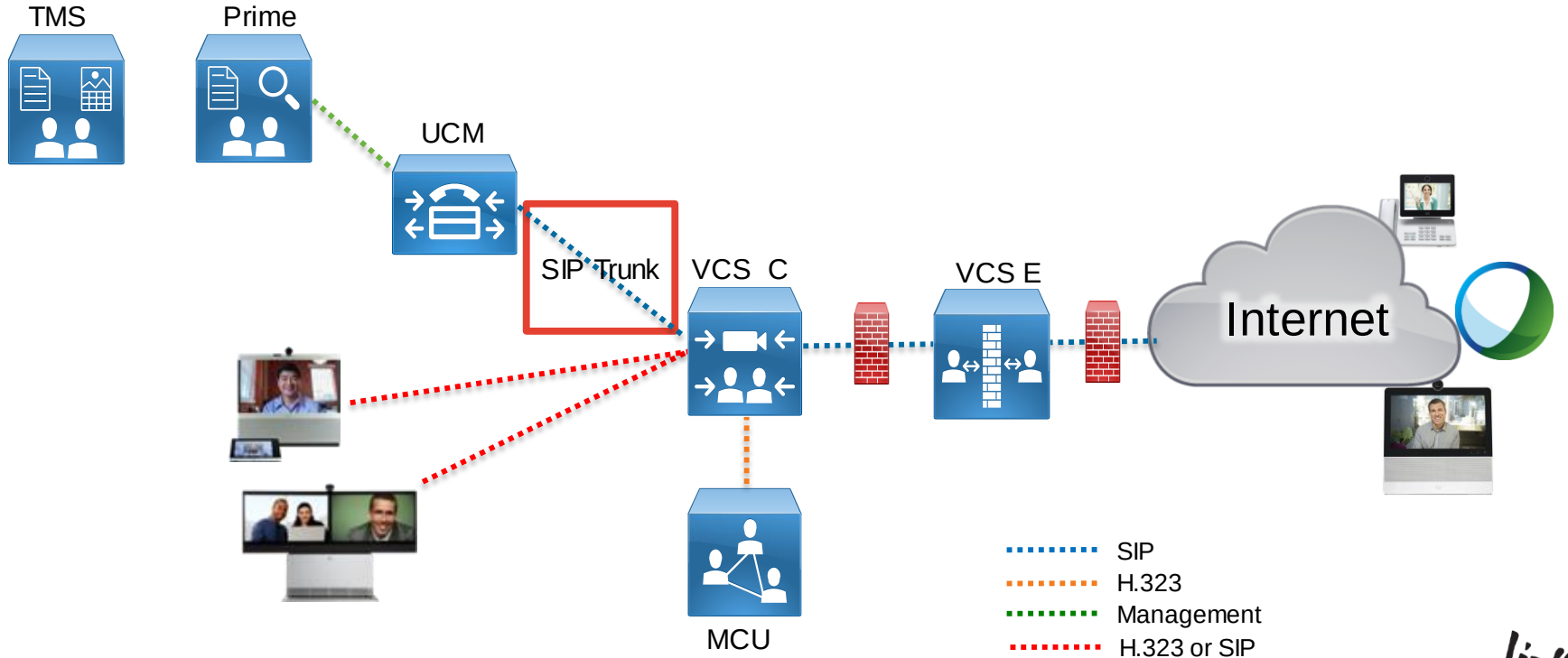
Add Configuration to Existing Components

Create SIP trunk



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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)

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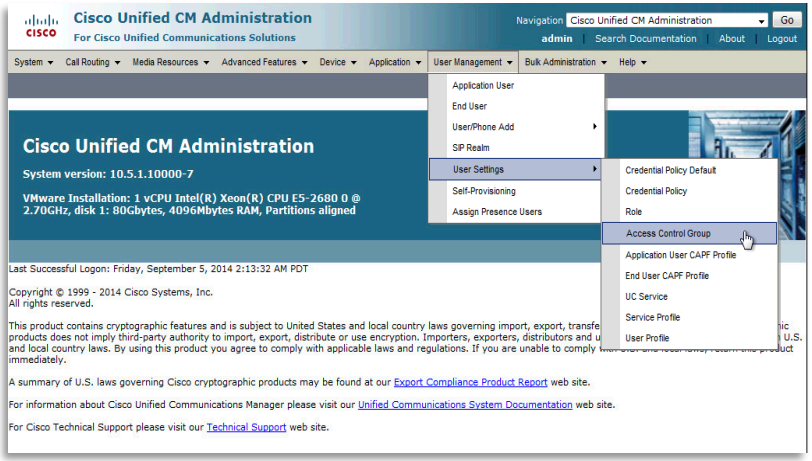
Add Configuration to Existing Components

Create Application User for TMS

- Configure an application user in UCM for TMS access.

TMS User Roles:
- Standard CCM Admin Users
- Standard AXL API Access
- Standard Realtime And Trace Collection
- Standard Serviceability
- Standard CTI Enabled



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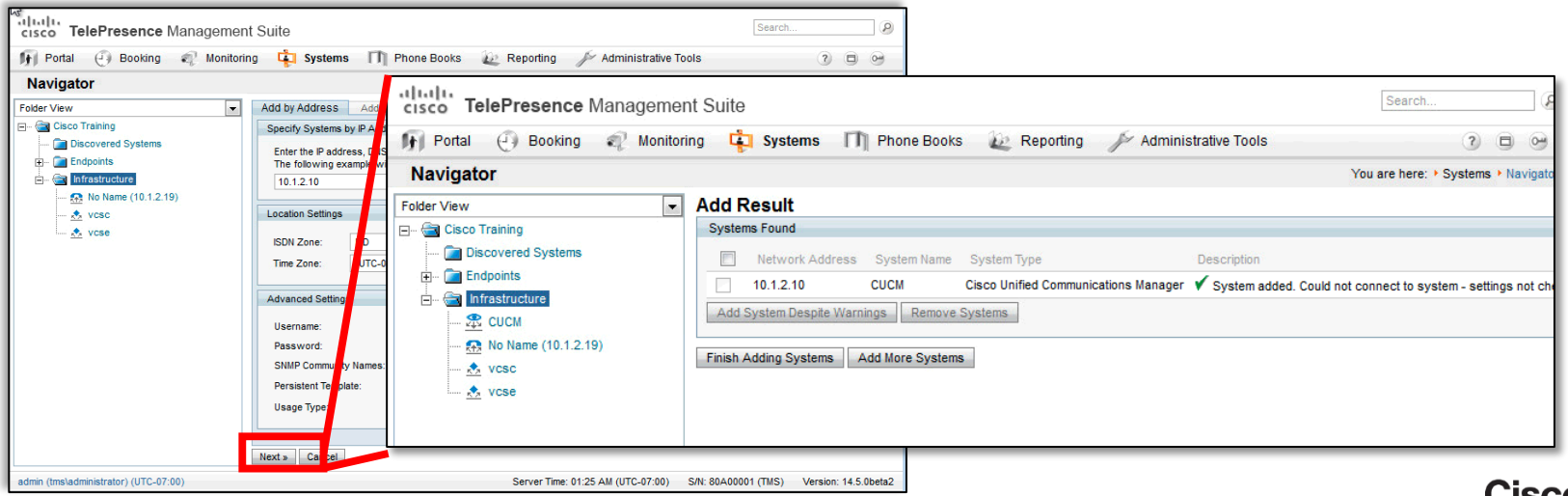
Add Configuration to Existing Components

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.



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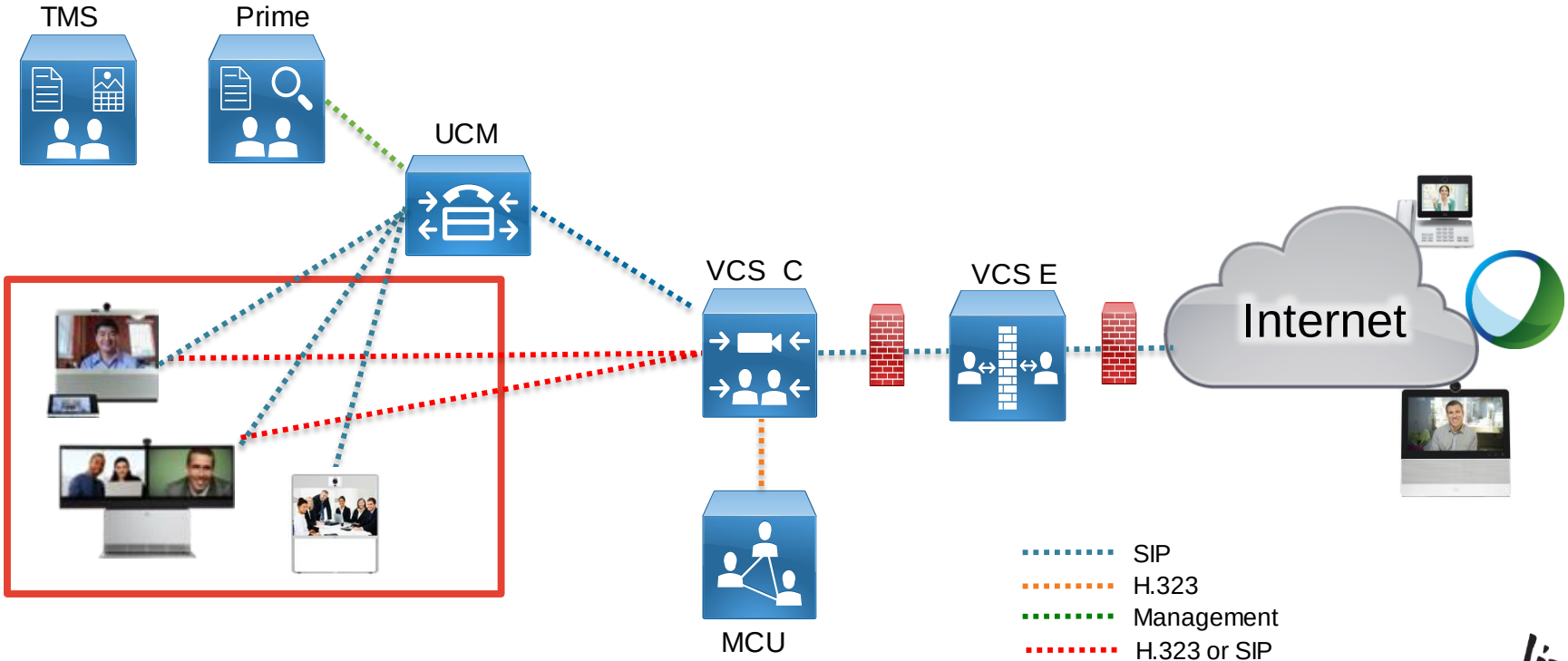
Migrate Systems

Move endpoint registration from VCS to Unified CM



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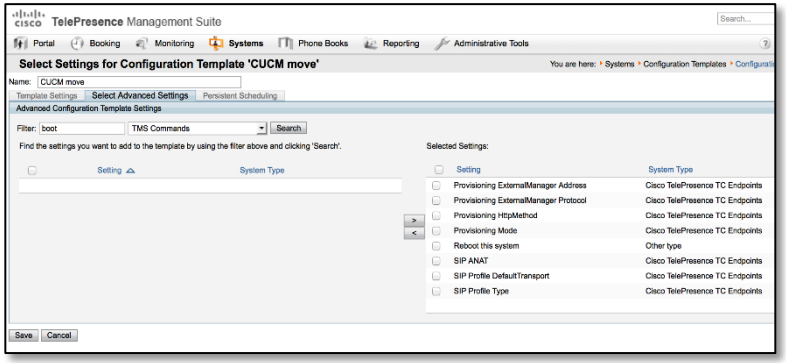
Migrate Systems

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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Migrate Systems

Re-add and update endpoints back in TMS

- 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.

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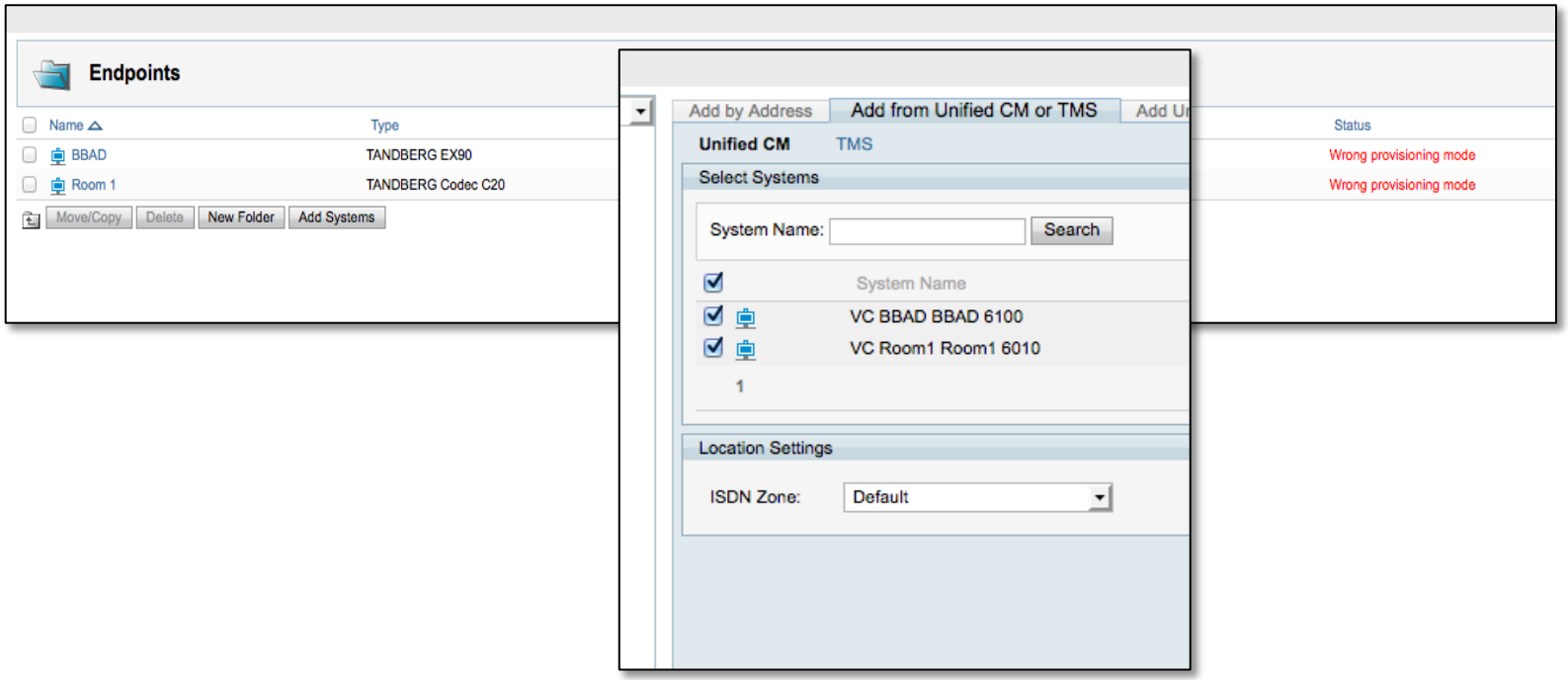
Migrate Systems

Re-add and update endpoints back in TMS



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Migrate Systems

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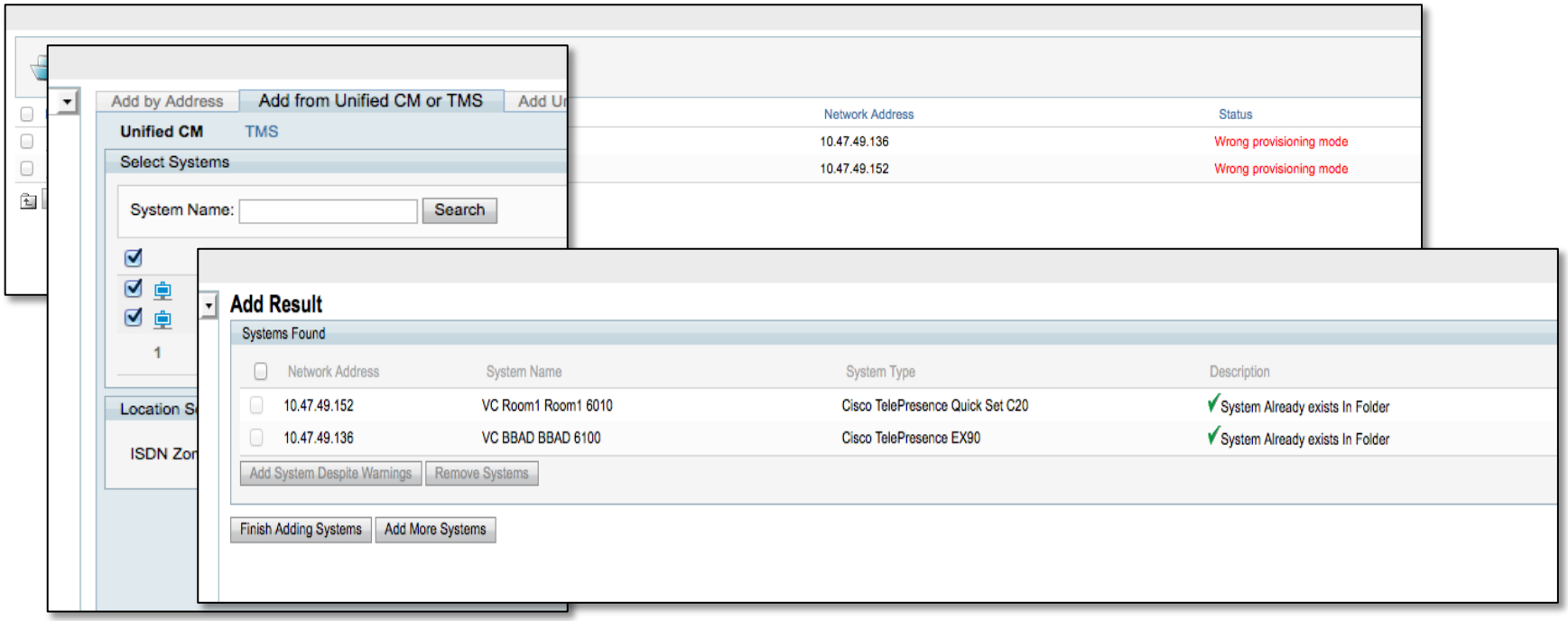

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Migrate Systems

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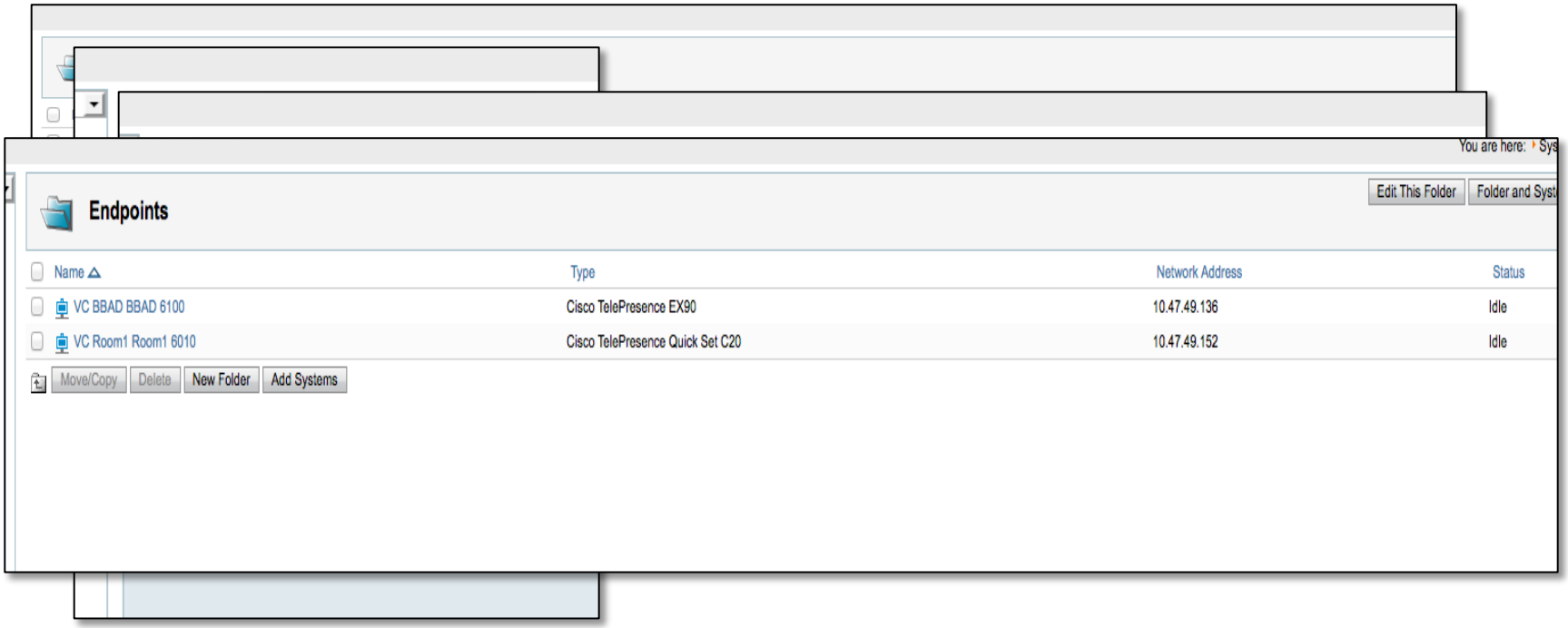

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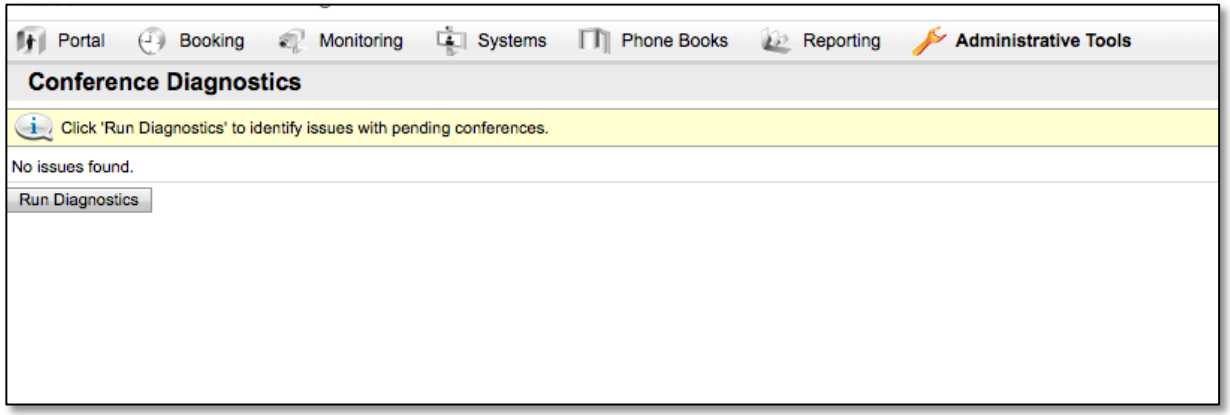
Migrate Systems

Run Diagnostic Tool

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



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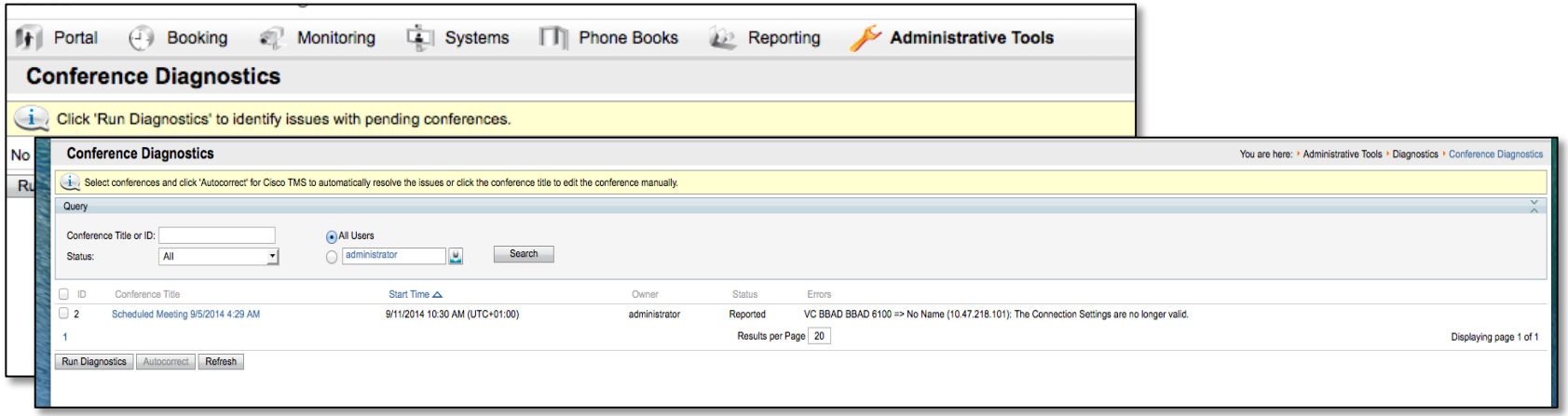
Migrate Systems

Run Diagnostic Tool

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



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Migrate Systems

Run Diagnostic Tool

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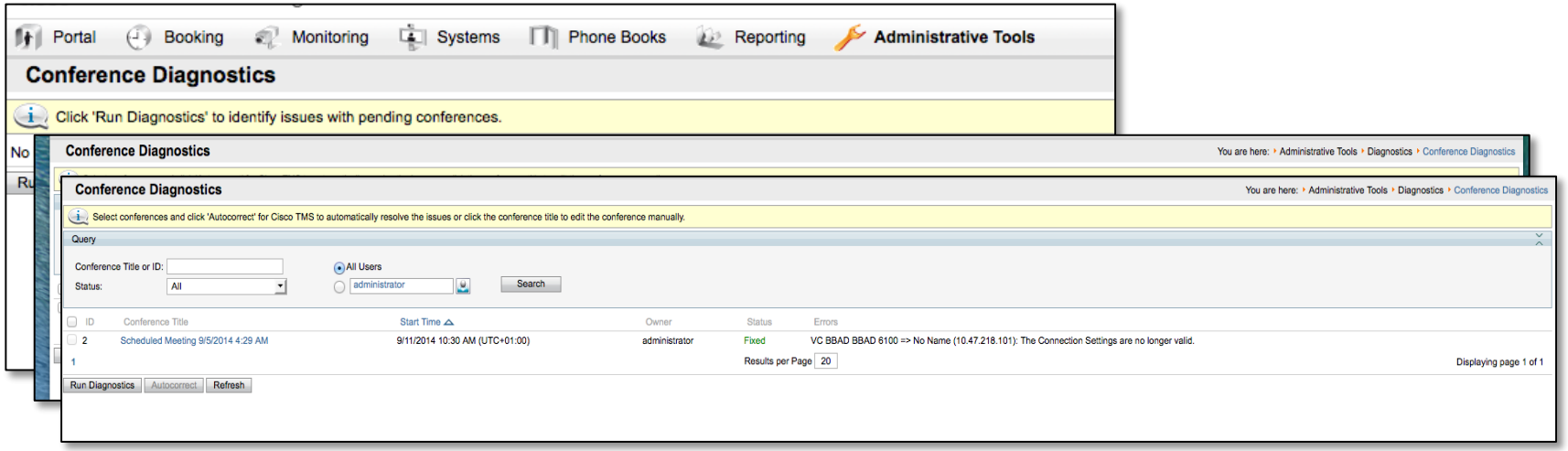

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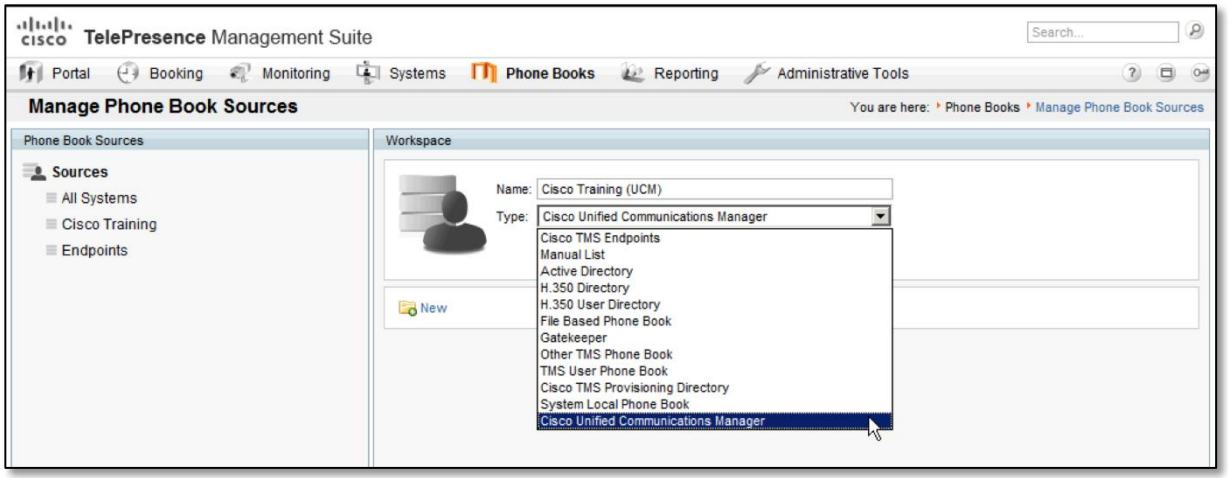
Migrate Systems

Phonebook sources

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



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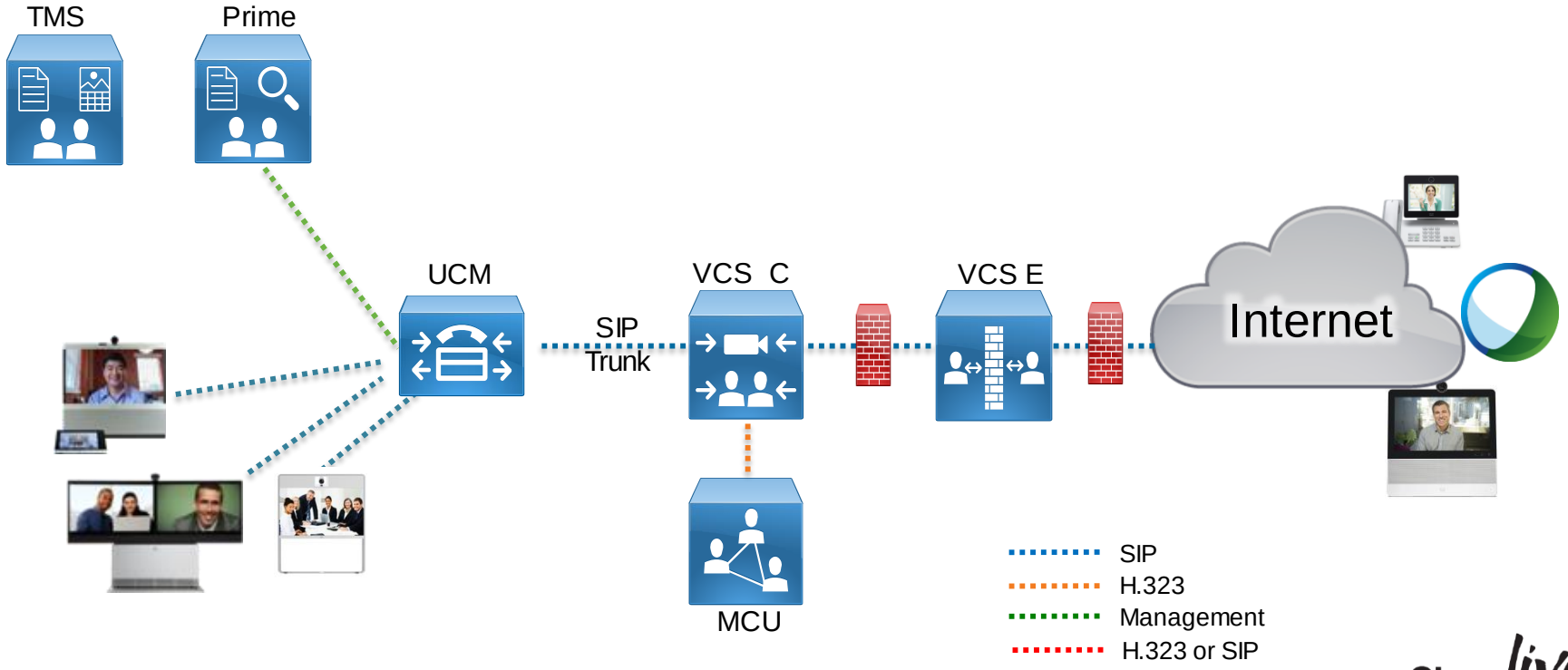
Testing the Migration

Migration completed



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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.

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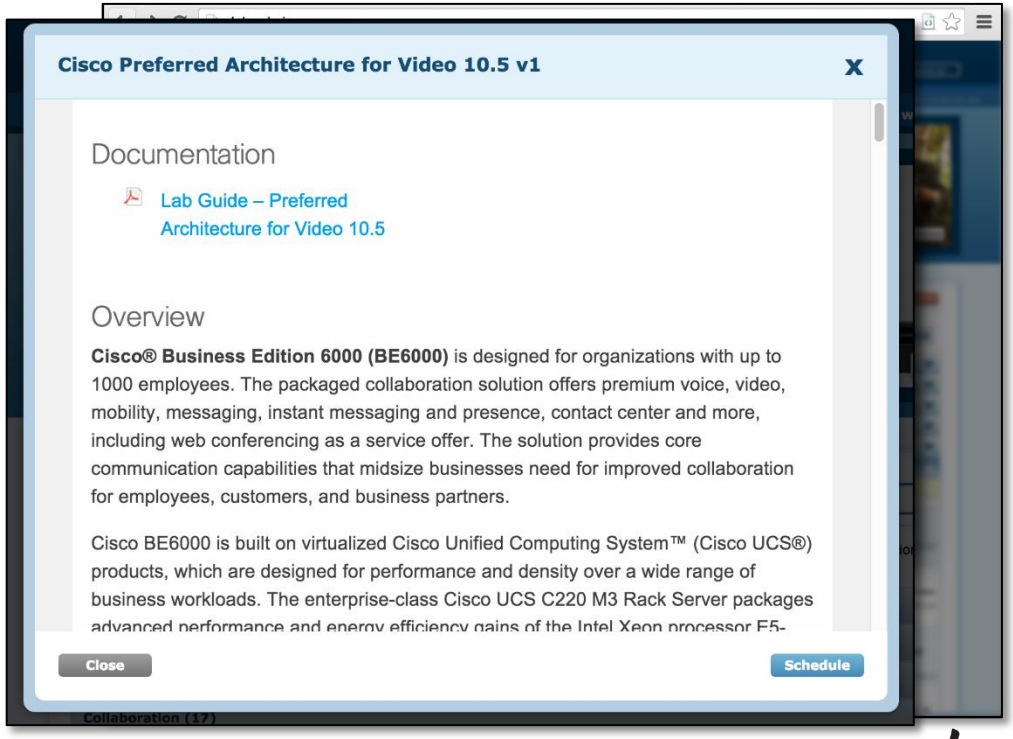
What About Trying This Out Yourself ?

The Cisco Demo Cloud

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

- Repeatable demonstrations and customised labs with complete administrative access.



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Conferencing on UCM

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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

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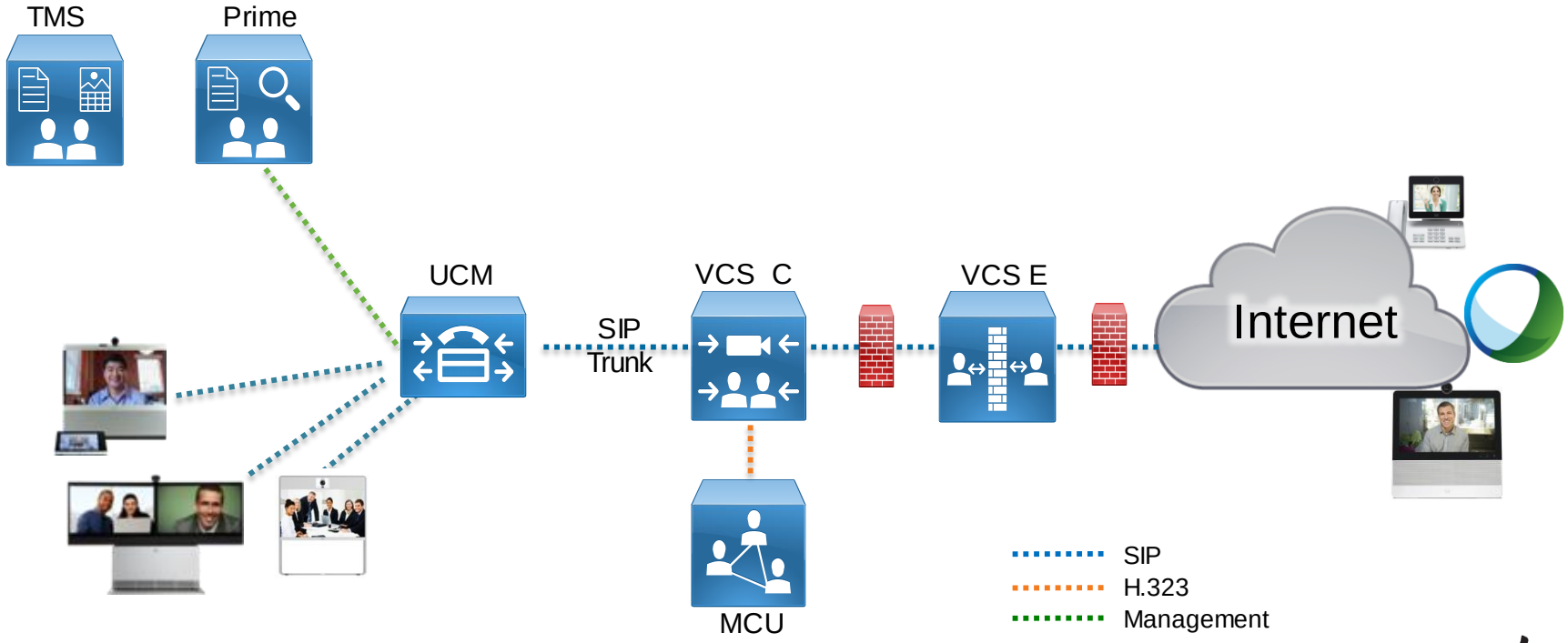
Cisco live!

Overview

Post migration deployment



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Conferencing

Components for Conferencing

Component	Description
Cisco TelePresence Conductor	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.

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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.

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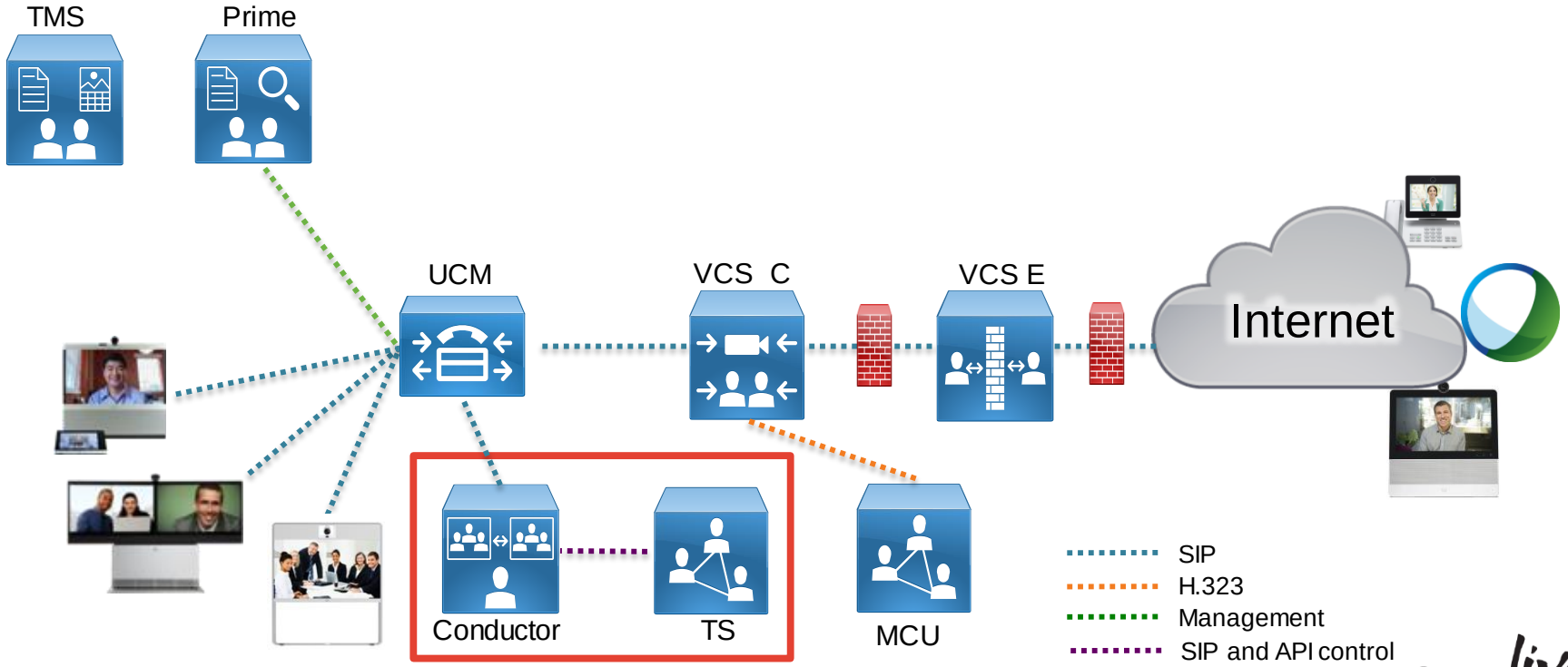
Conferencing on UCM

Adding Conductor and TS



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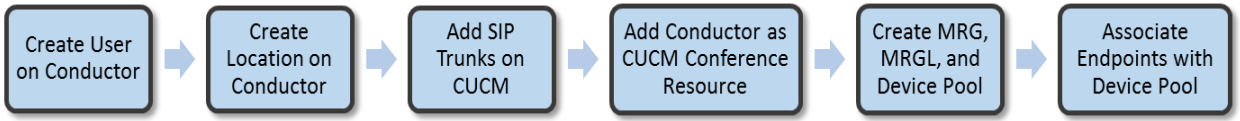
Conferencing on UCM

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.



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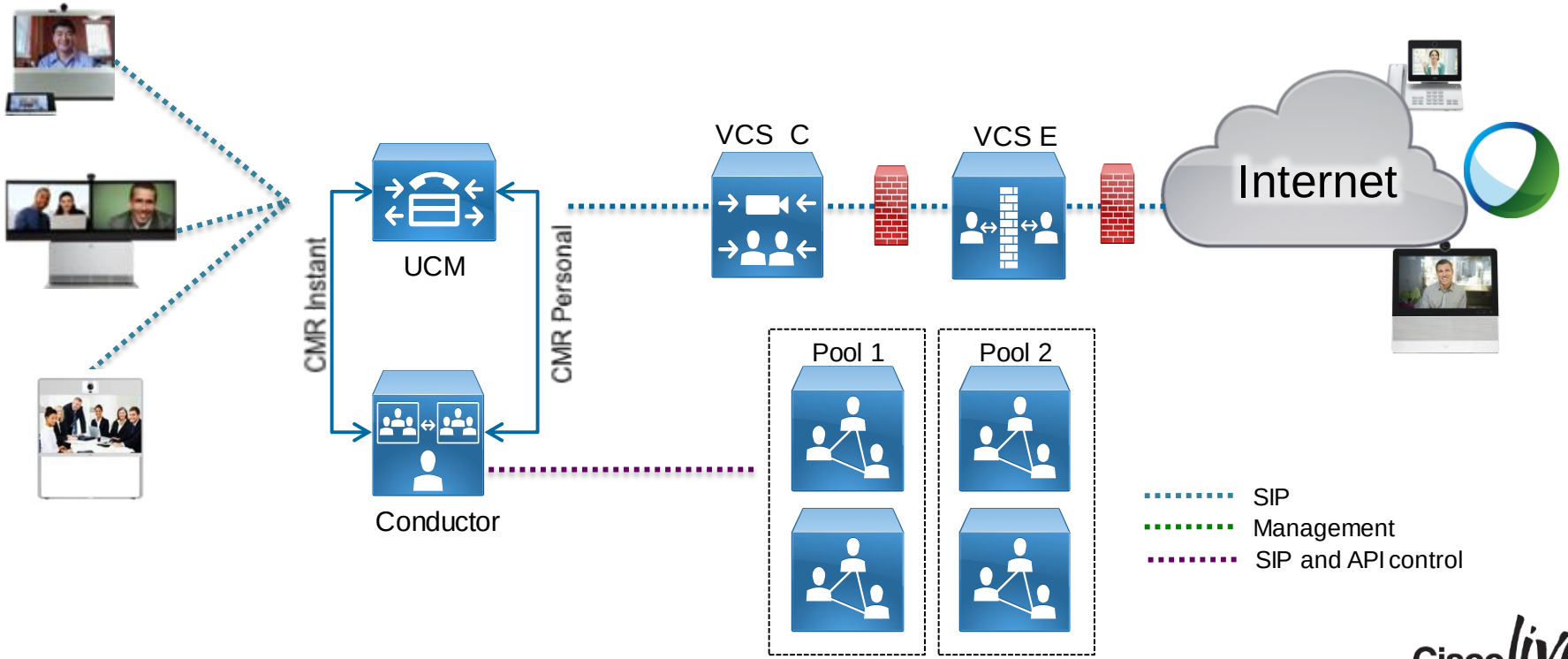
Conferencing on UCM

CMR Instant and CMR Personal



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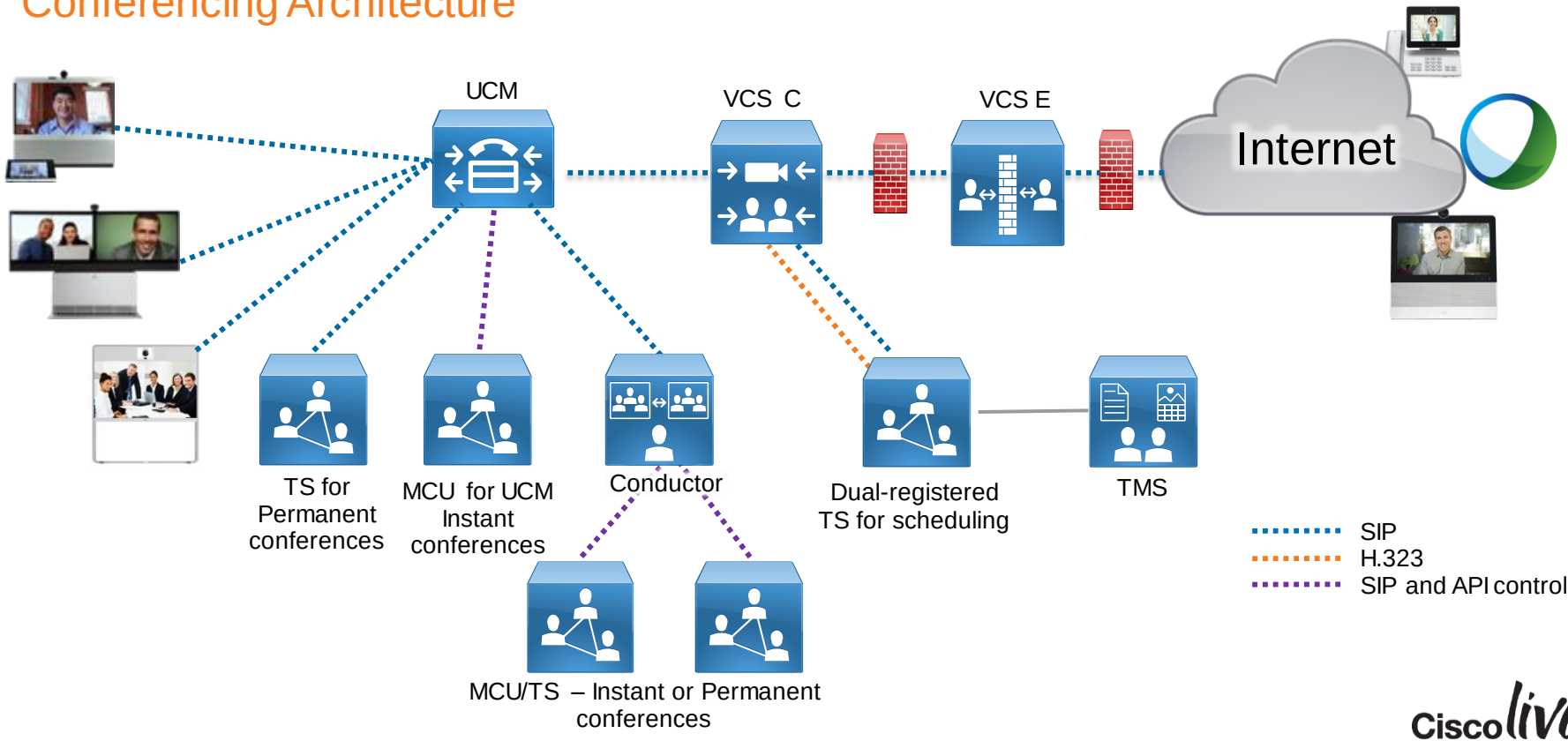
Typical Conferencing Deployment Options

Conferencing Architecture



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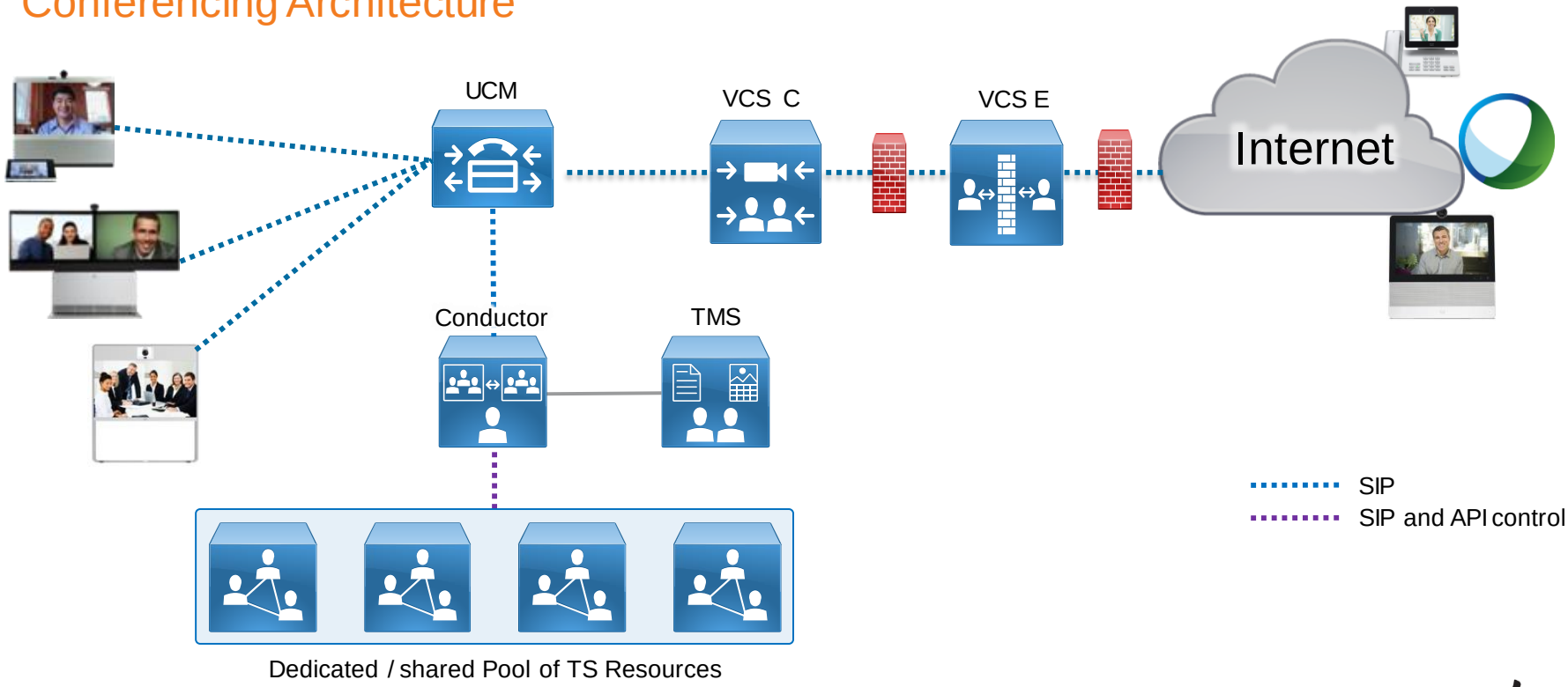
New – Single Deployment Model

Conferencing Architecture



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Conferencing on UCM

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.

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Conferencing on UCM

Scheduling through Conductor

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

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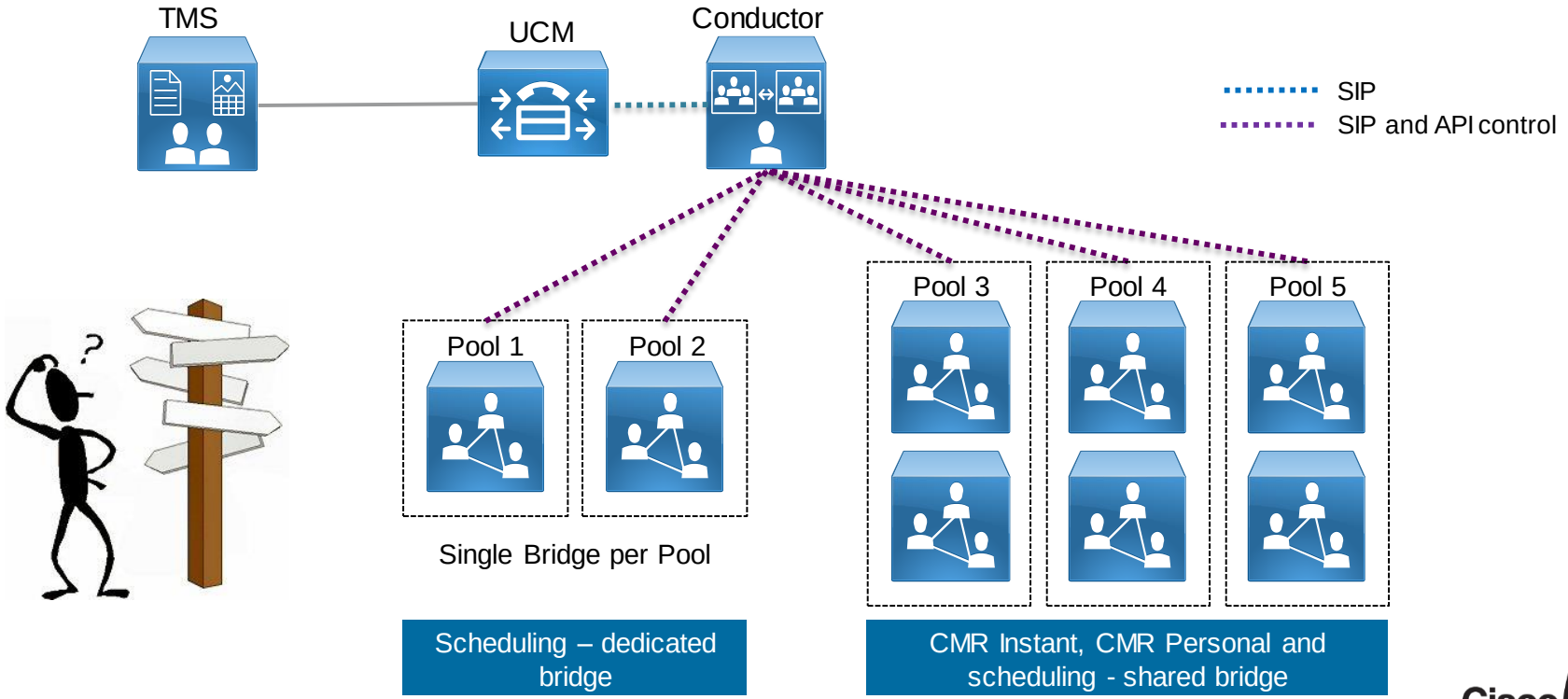
Conferencing on UCM

Scheduling through Conductor



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Conferencing on UCM

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.

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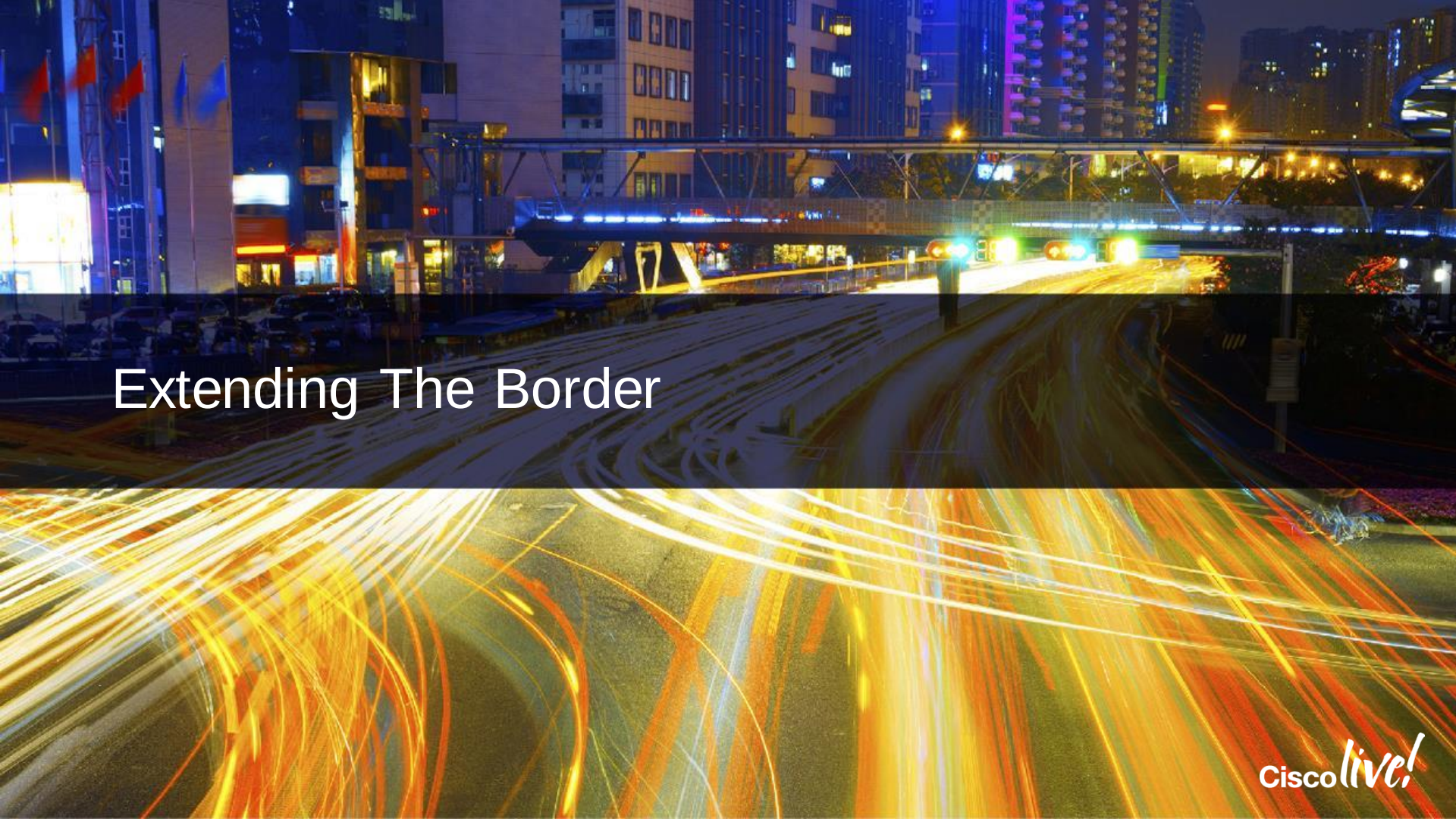

Extending The Border

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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

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Terminology Introduction, Product Line Options, Scalability

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 C**ontrol and **VCS E**xpressway

Cisco Expressway

New product line option for Unified CM and Business Edition customers, providing firewall traversal & video interworking. Includes **Expressway C**ore and **Expressway E**dge

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

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X8.1 Product Line Options

X8.1

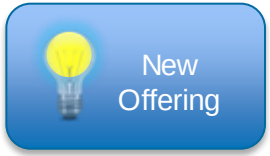
VCS

"VCS Control"
No Change

"VCS Expressway"
No Change

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

Expressway



"Expressway-C"
Or Core

"Expressway-E"
Or Edge

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

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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)	Y	Y
XMPP Federation	Y	
Video Session Management & Call Control	N	Y
Video / TelePresence Device Registration & Provisioning	N	Y

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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.**

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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			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

1st Gen VCS Appliance (Tandberg)

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

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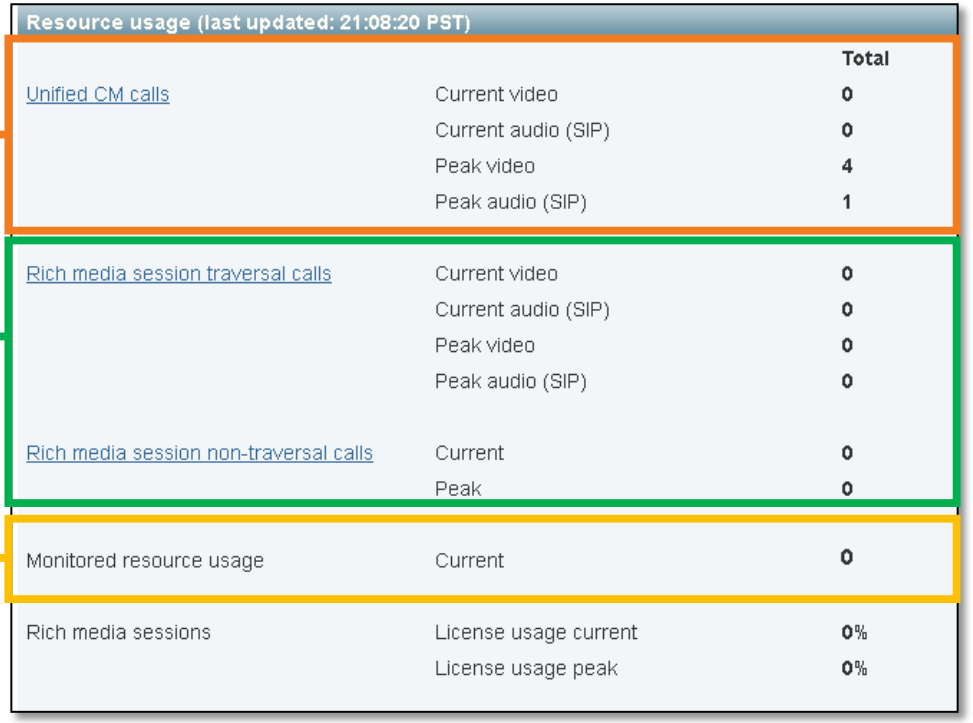
VCS: “Unified CM Calls”

- 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



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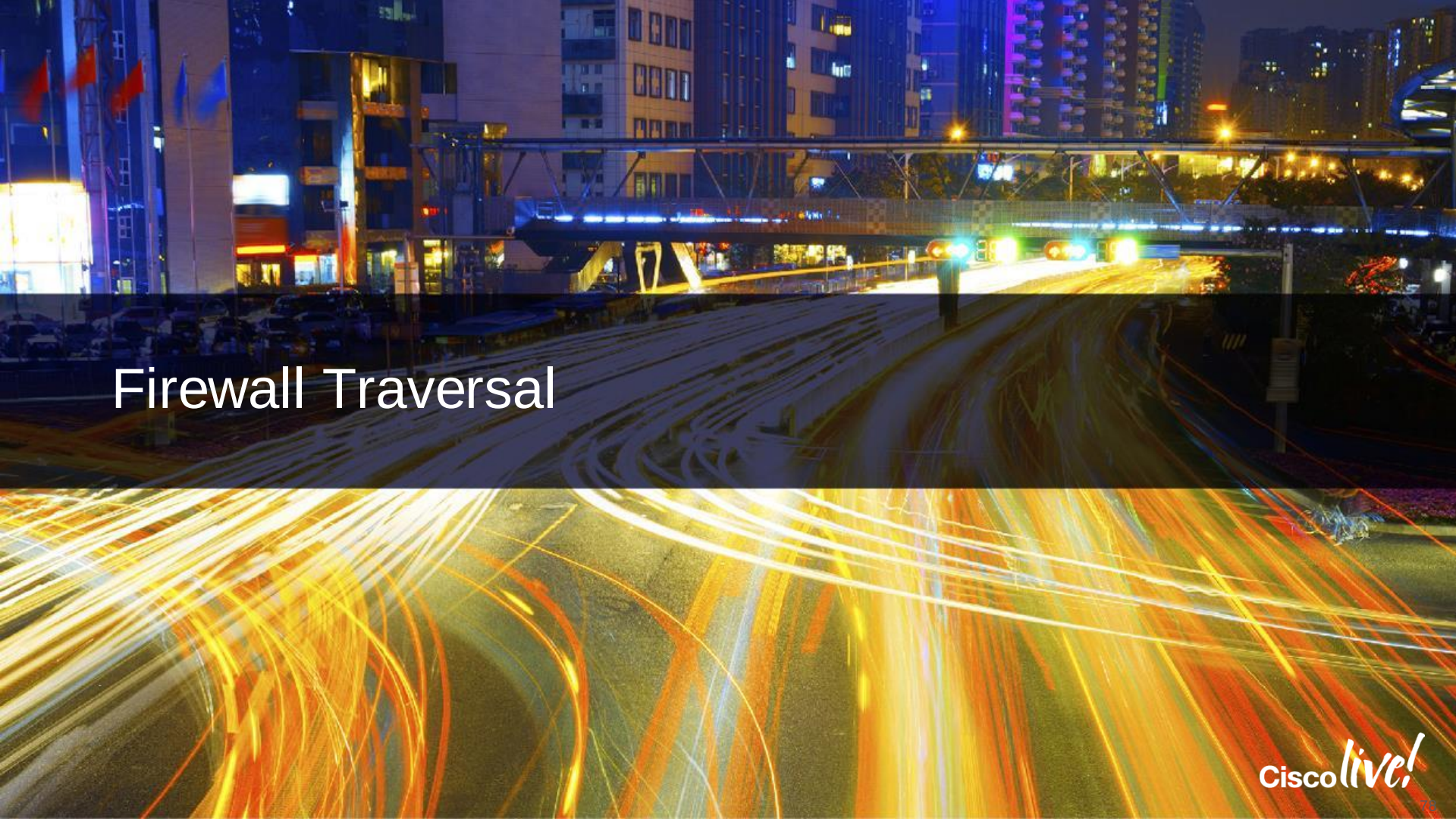
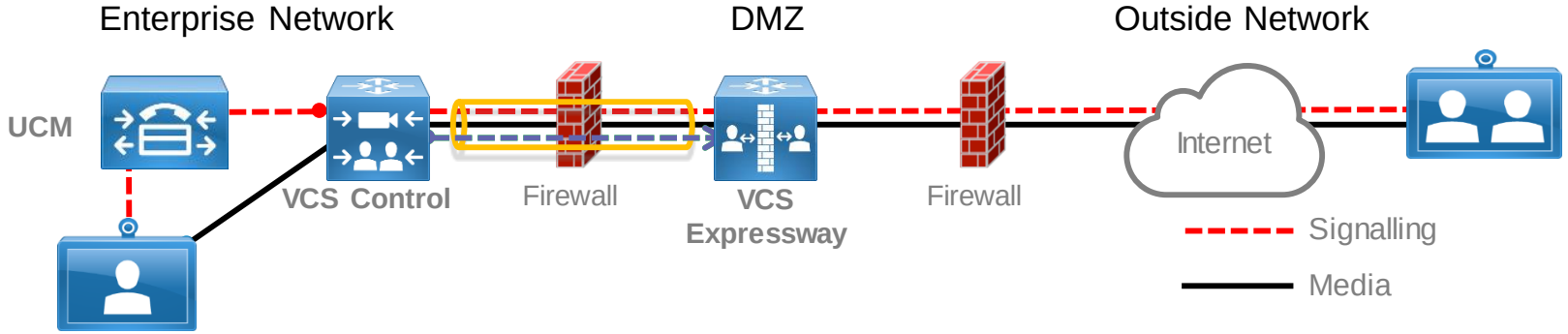

Firewall Traversal

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

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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

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Mobile and Remote Access (MRA)

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

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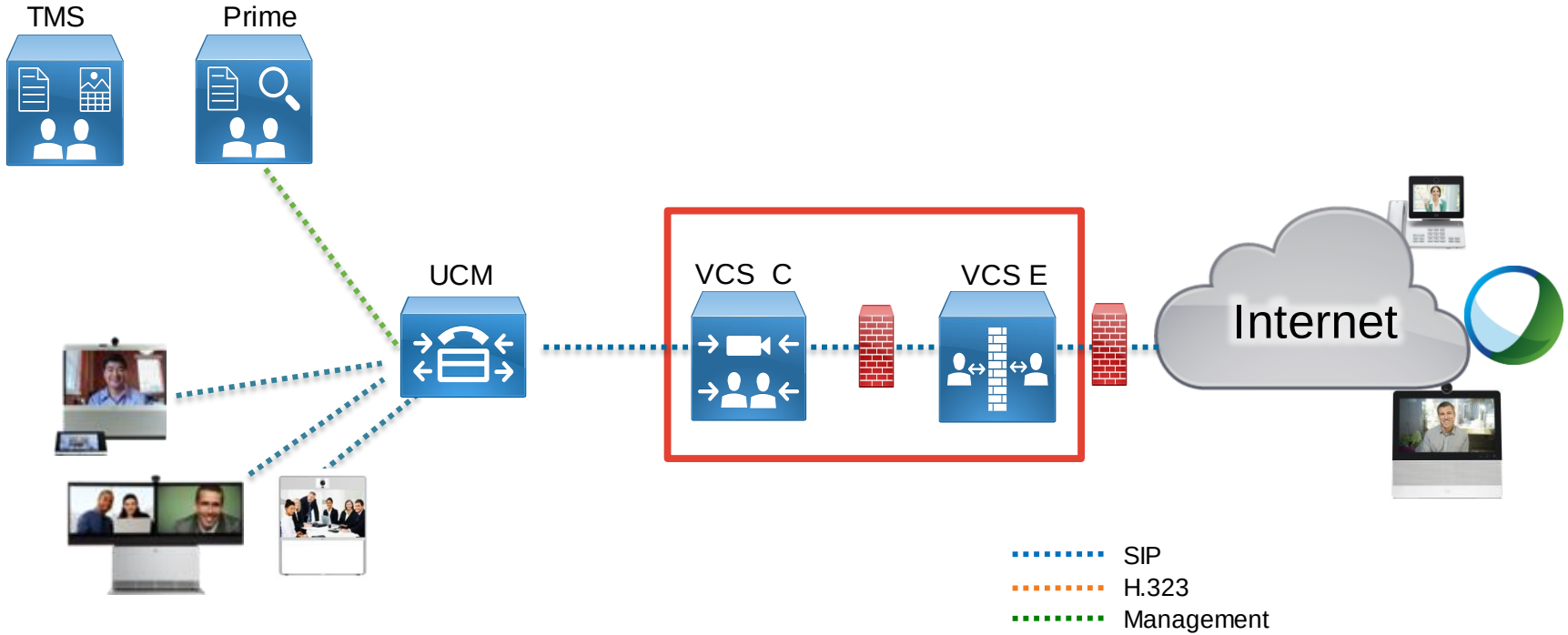
Deployment Models

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



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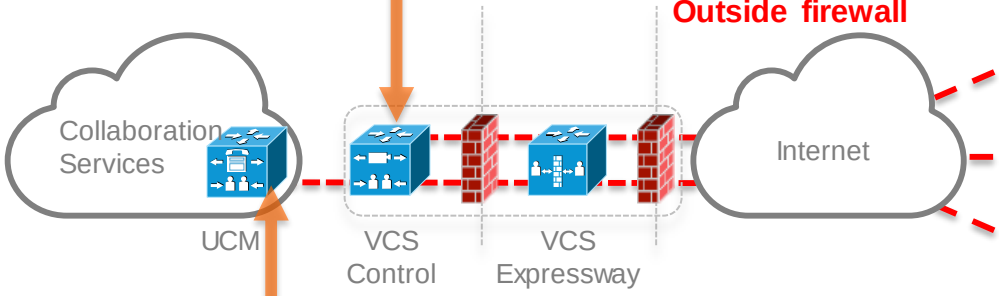
Moving External Endpoints to UCM

Mobile and Remote Access for fixed endpoints

Endpoint registration, call control and provisioning are serviced by VCS Control and TMS

Existing Deployment

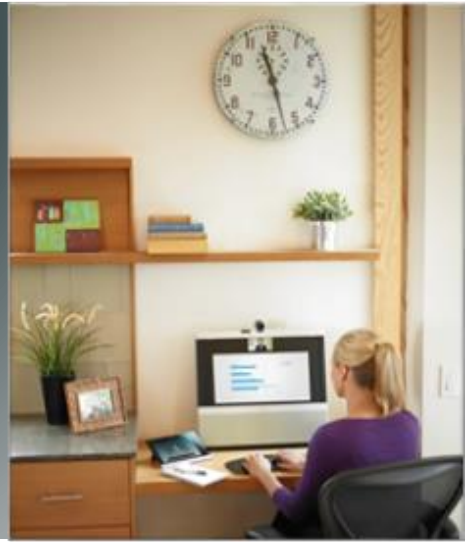


TC7.1+ Series Platforms

C Series

EX Series

MX Series



Endpoint registration, call control, and provisioning are serviced by UCM

Post Migration Deployment

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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 → VCS-C →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.

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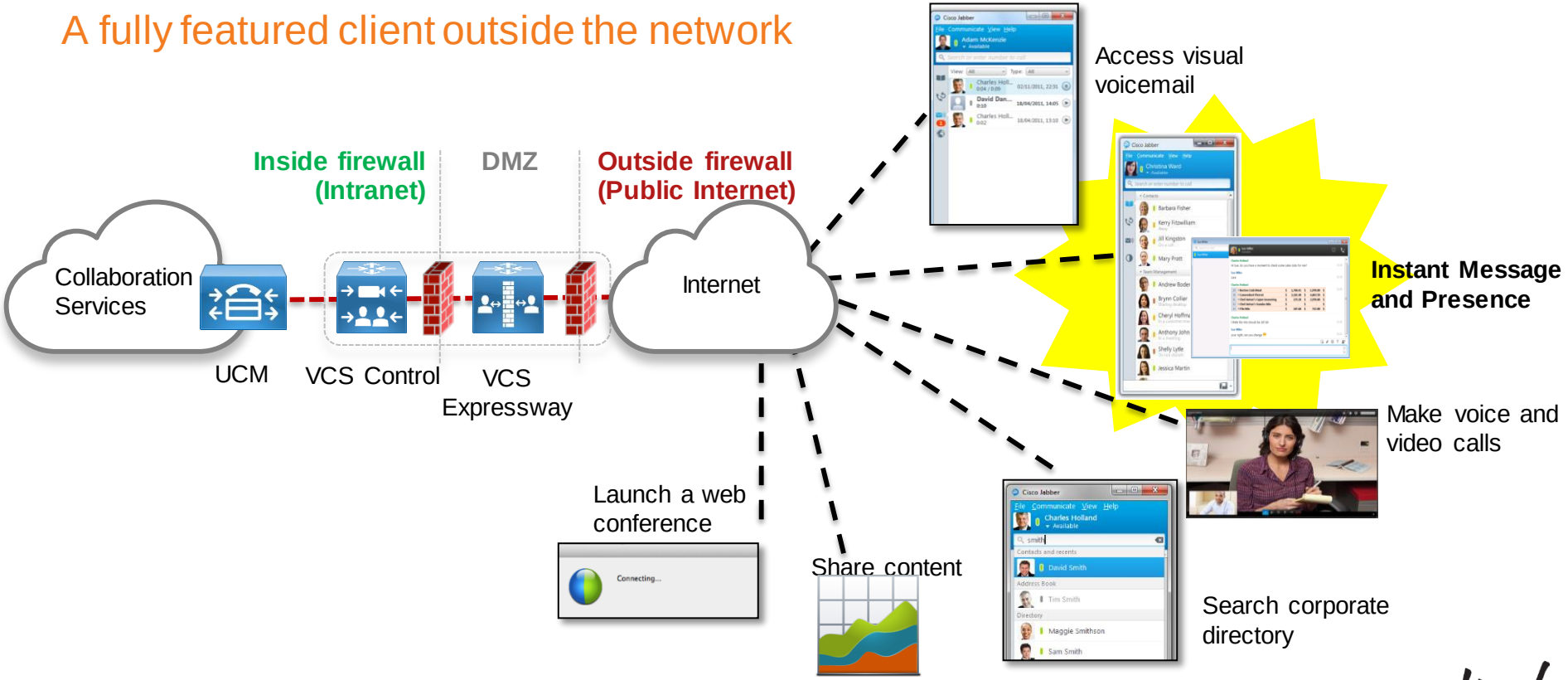
What can Jabber Clients Do with MRA?

A fully featured client outside the network



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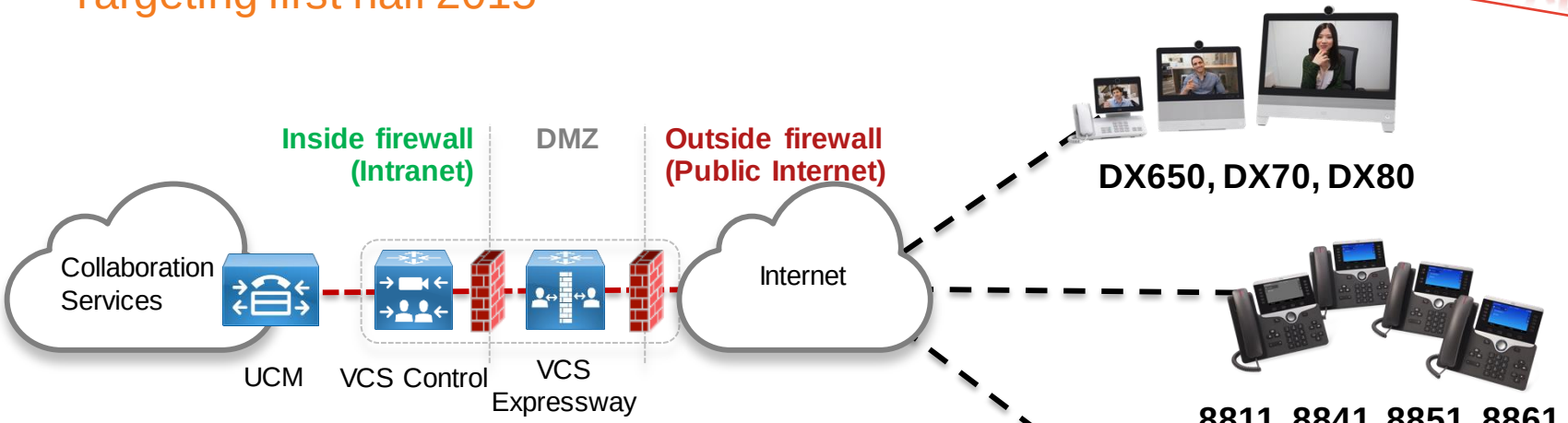
New Endpoint Support

Targeting first half 2015

TARGET DATES SUBJECT TO CHANGE



DX650, DX70, DX80

8811, 8841, 8851, 8861

7821, 7841, 7861

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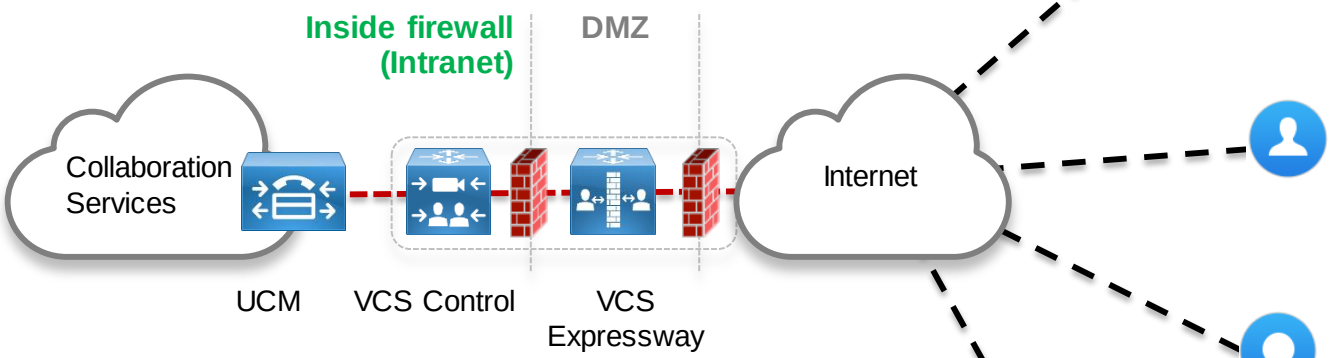
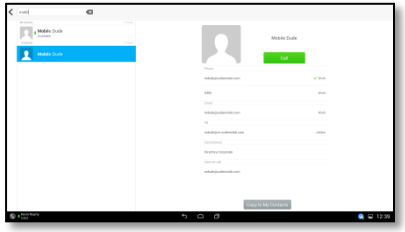
Services Available to DX Series

with Cisco Expressway

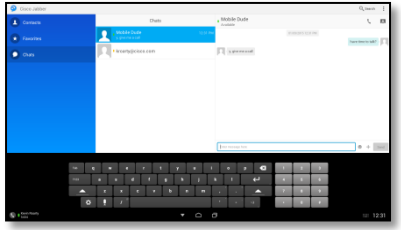


Voice and video calling, including content share

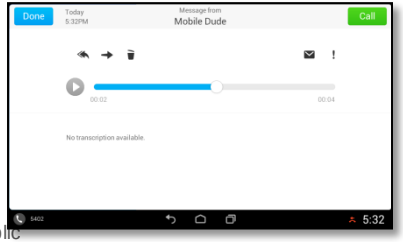
Search corporate directory



Instant Message and Presence, including escalation to Voice/Video



Visual voicemail



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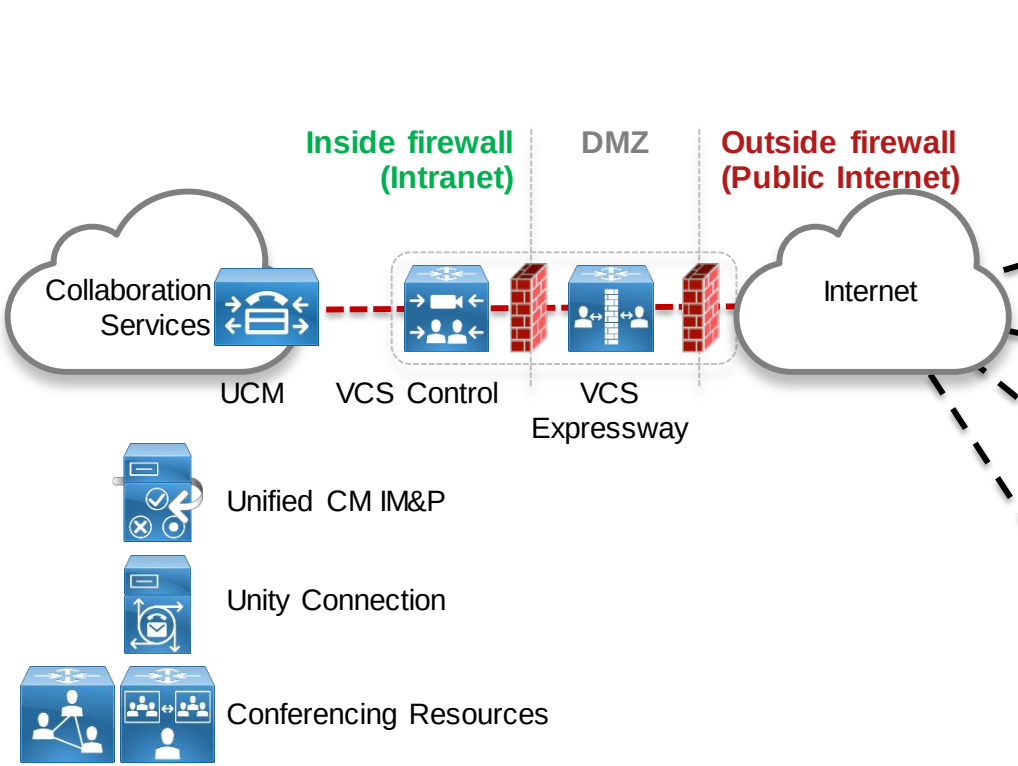
Protocol Workload Summary



Protocol	Security	Service
SIP	TLS	Session Establishment – Register, Invite, etc.
Media	SRTP	Audio, Video, Content Share, Advanced Control
HTTPS	TLS	Logon, Provisioning/Configuration, Contact Search, Visual Voicemail
XMPP	TLS	Instant Messaging, Presence

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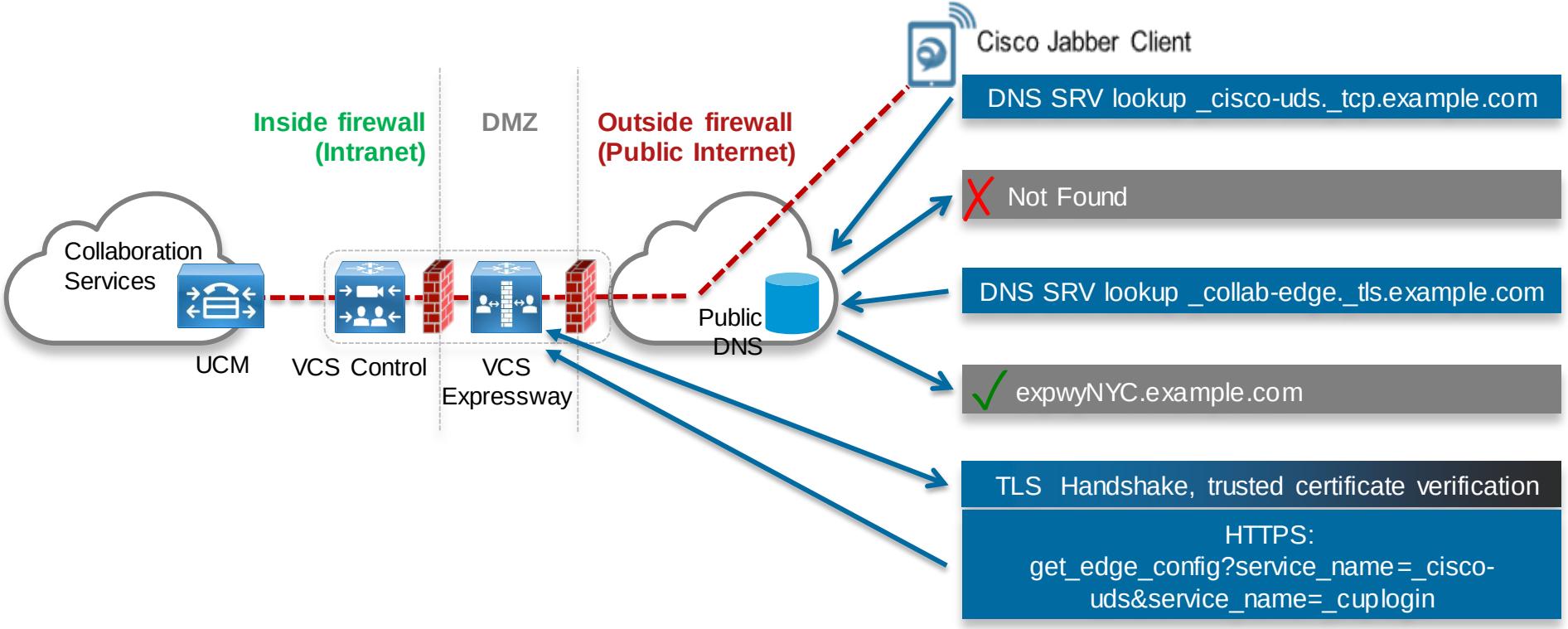
VCS Expressway and Jabber Service Discovery



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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 **only** 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.
```


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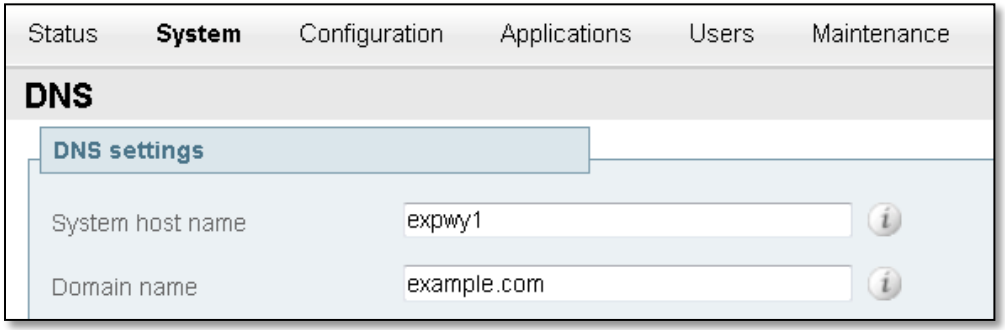
VCS Expressway DNS

- 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




```
<edgeConfig>
  <sipEdgeServer>
    <server>
      <address>expwy1.example.com</address>
      <tlsPort>5061</tlsPort>
    </server>
    <server>
      <address>expwy2.example.com</address>
      <tlsPort>5061</tlsPort>
    </server>
  </sipEdgeServer>
…
```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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

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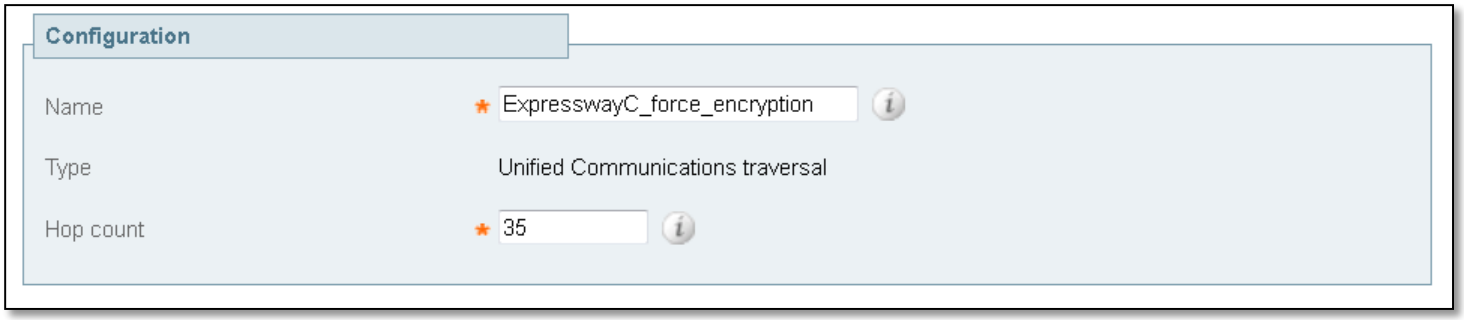
Unified Communications Traversal

- 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)



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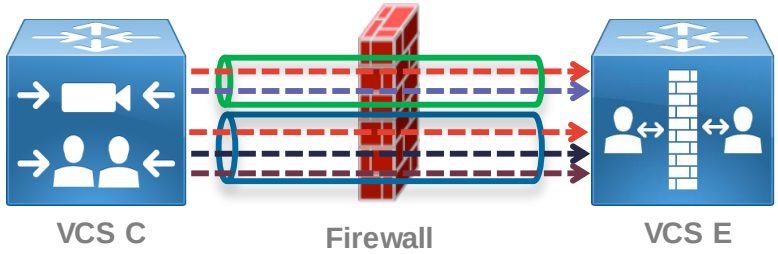
Parallel Traversal Zones

- 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

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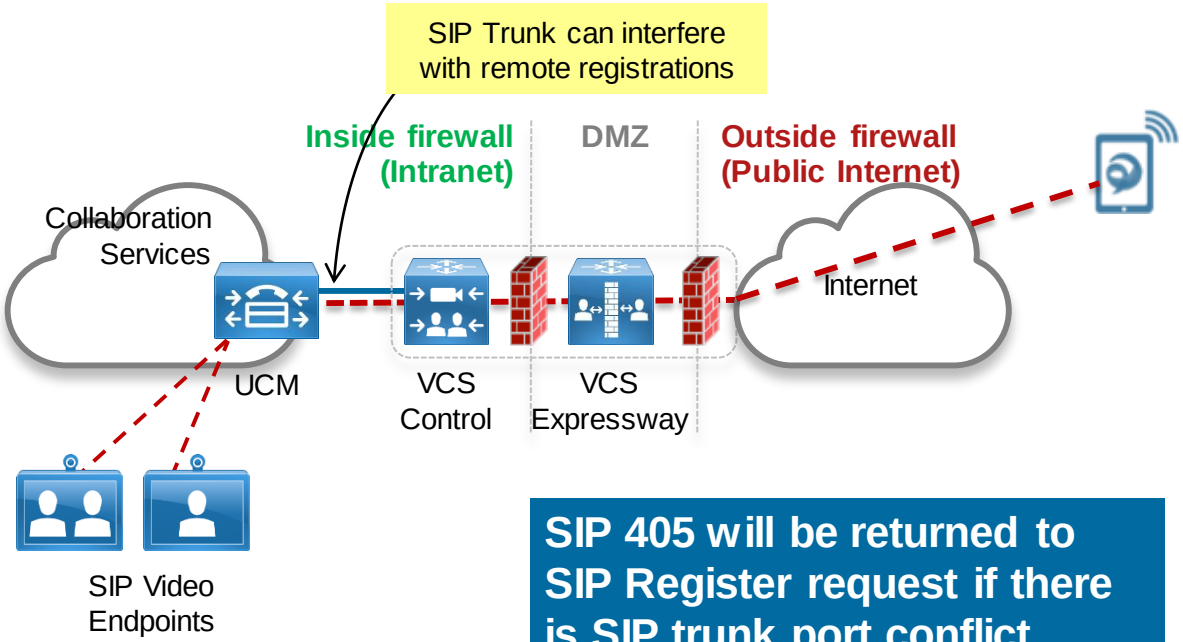
MRA and B2B

Interaction with SIP trunk



SIP 405 will be returned to SIP Register request if there is SIP trunk port conflict

- 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**

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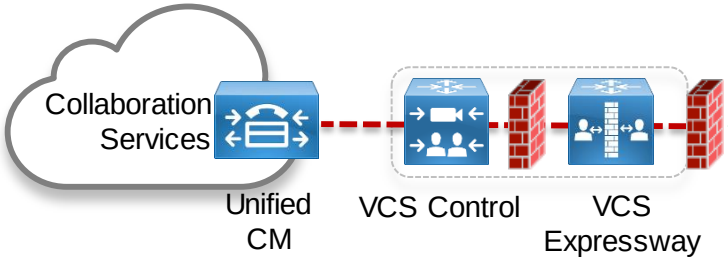
Combining Features on a Single Cluster Pair

B2B – MRA – XMPP Federation



Open Video Federation supporting:
- SIP & H.323 (inbound & outbound)
- Outbound calling for CMR Cloud/Hybrid
- Inbound calling for CMR Premises

XMPP Federation

Mobile & Remote Access supporting:
- Cisco Jabber Desktop Clients
- Cisco Jabber Mobile Clients
- 7800 & 8800 Series IP Phones
- DX80, DX70, DX650 Collaboration Endpoints
- TC Series Telepresence Endpoints

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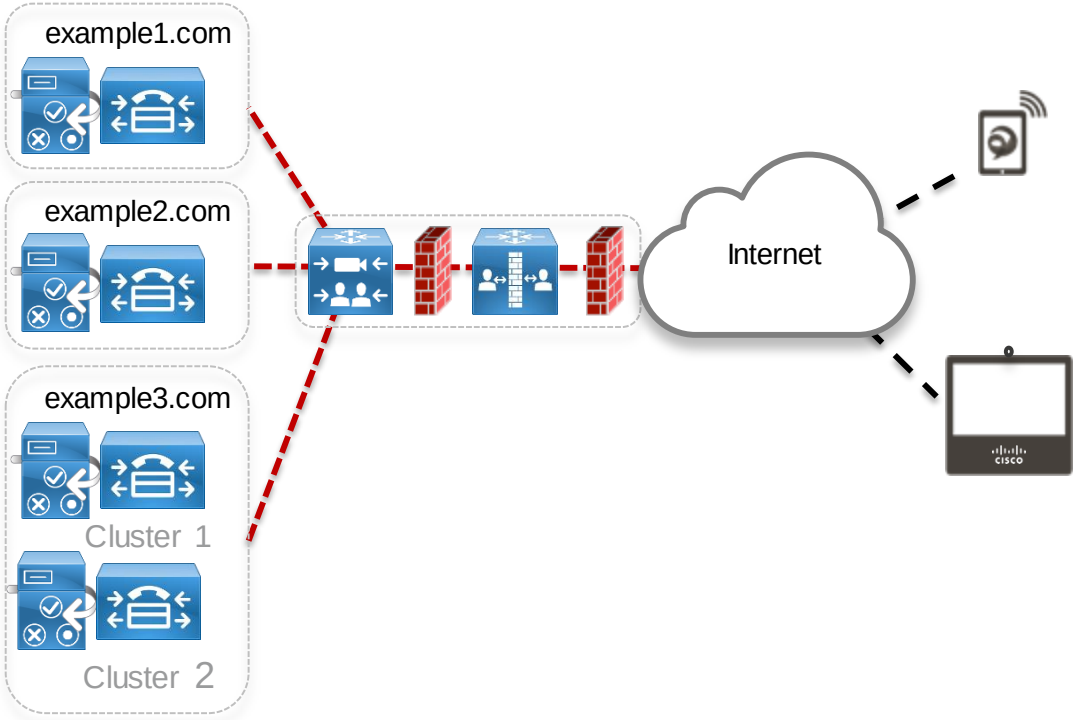
Multi-Deployment Support

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

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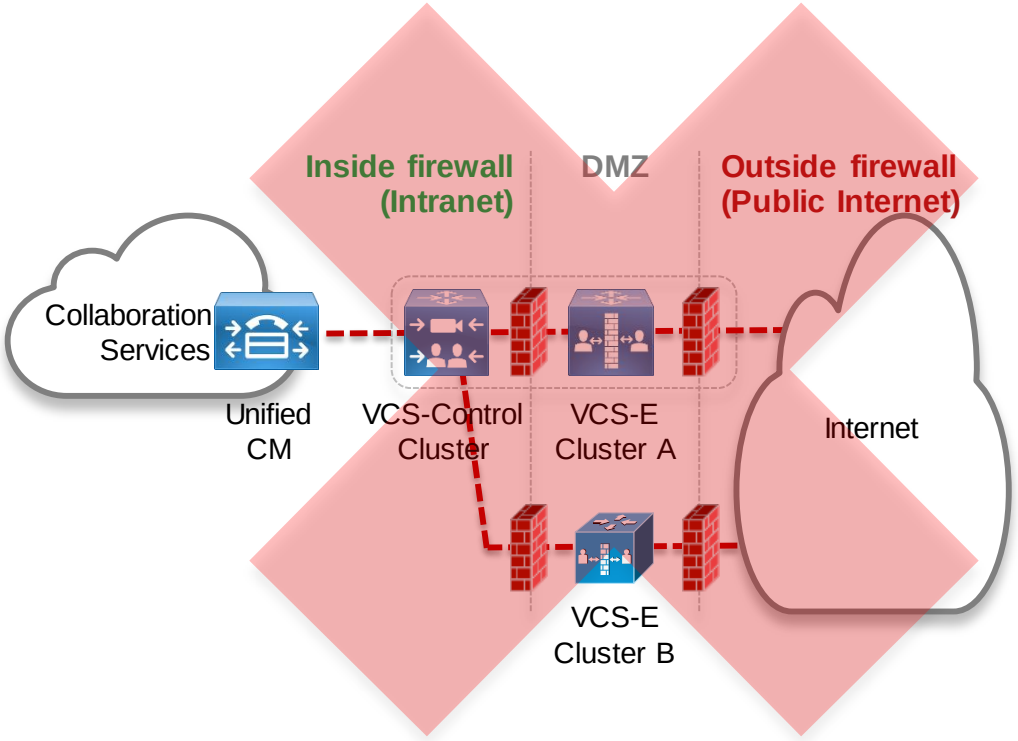
Unsupported: Unbalanced Expressway Deployments



- 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**

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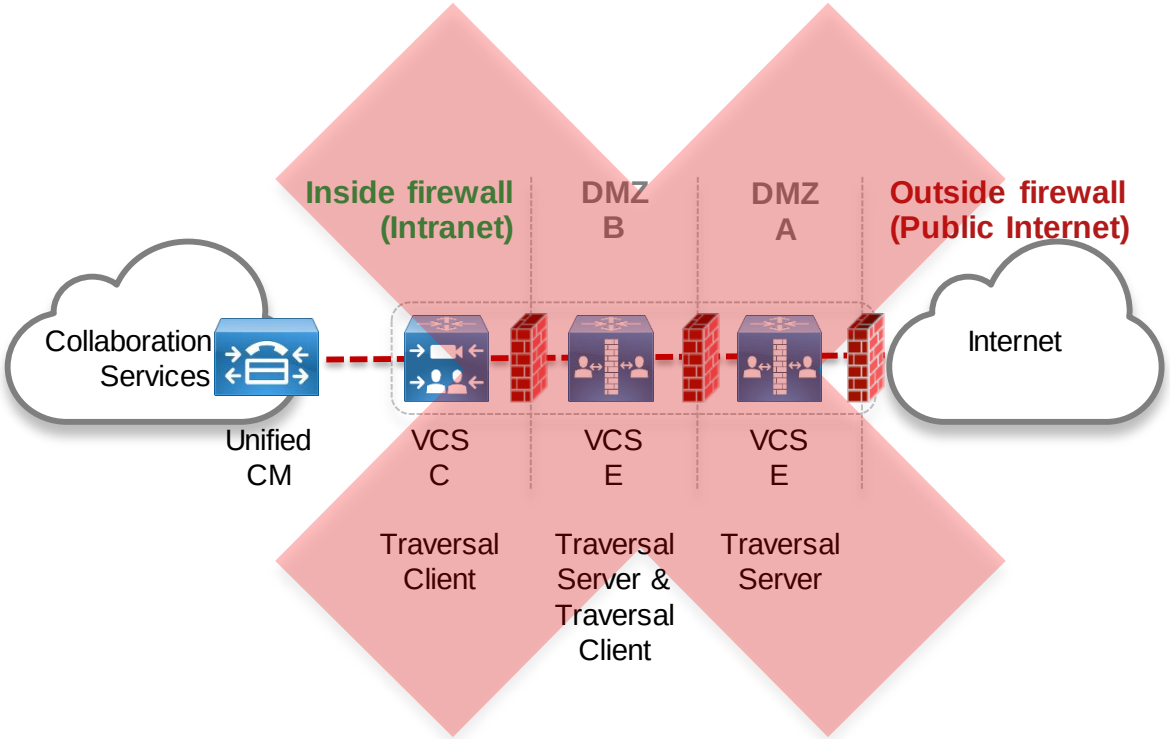
Unsupported: Expressway Chained Traversal



- 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

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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?

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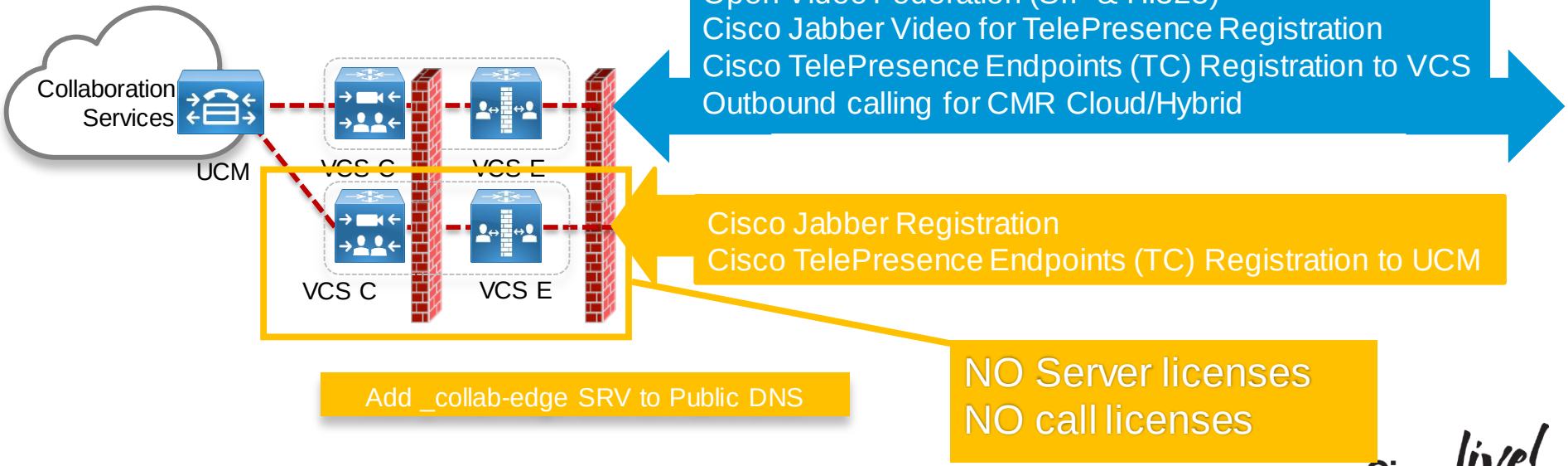
Parallel Deployments of VCS and Expressway

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



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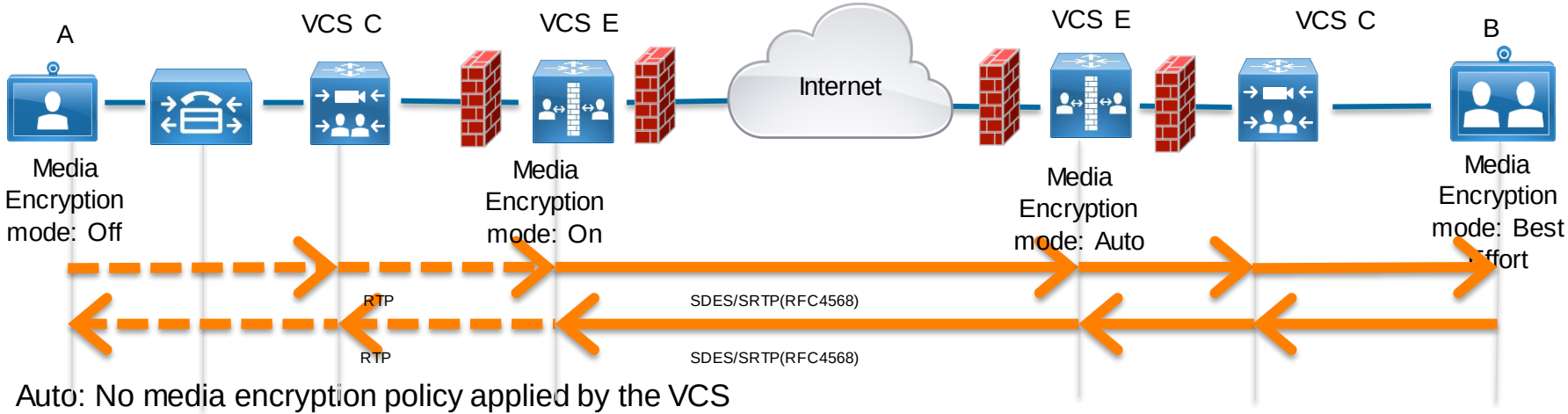
Business to Business Collaboration (B2B)

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

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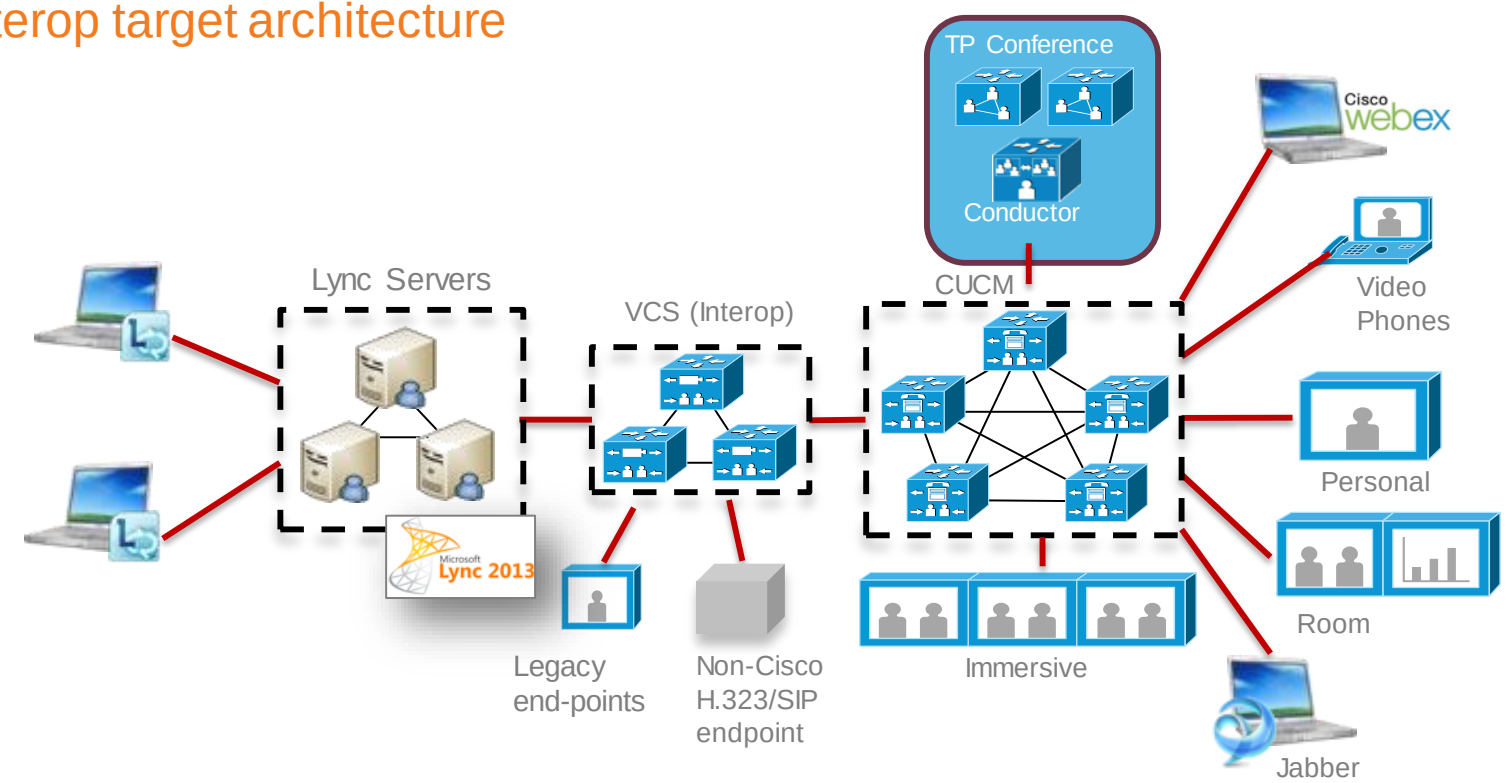
Interoperability

Lync Integrated Architecture

Interop target architecture



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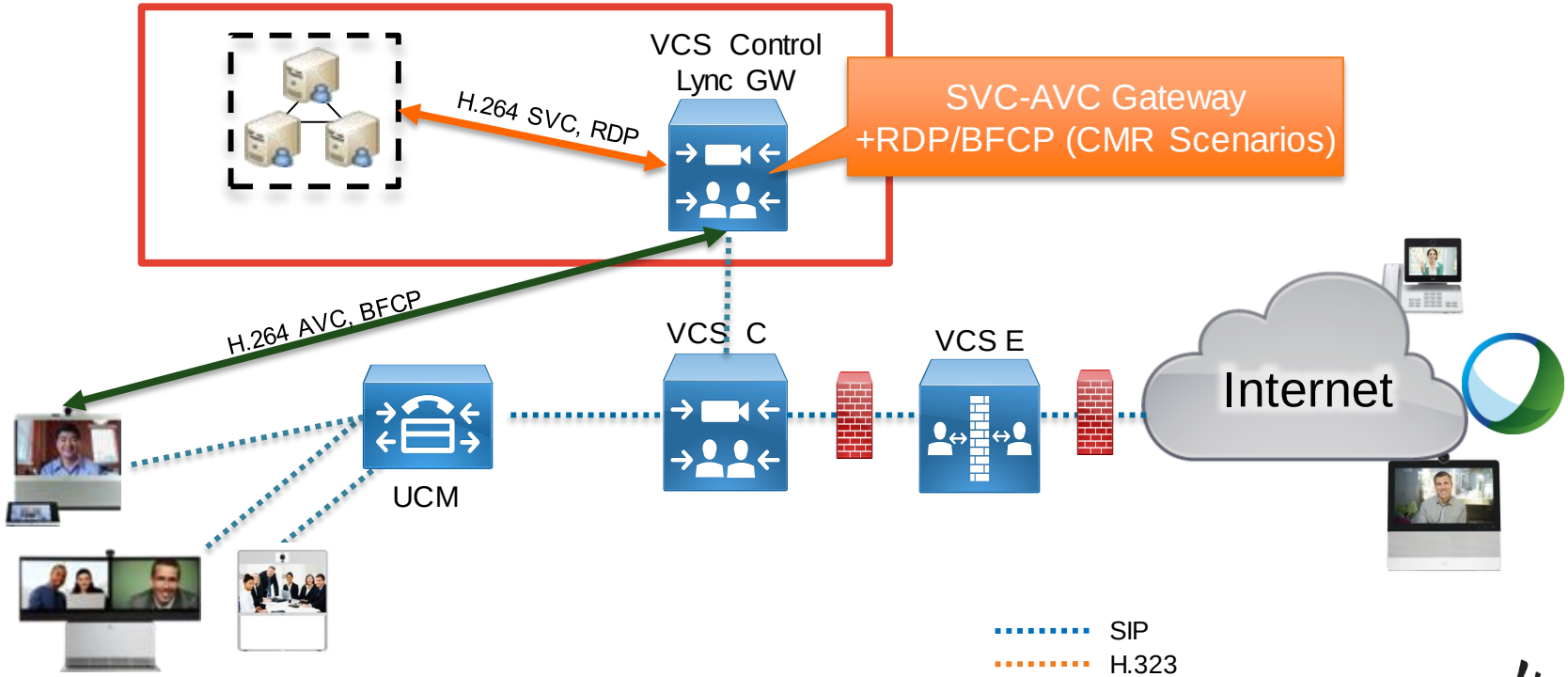
Deployment Models

Conceptual diagram
ROADMAP ITEM
Subject to change

Post migration deployment…Now with a focus on 3rd party interop



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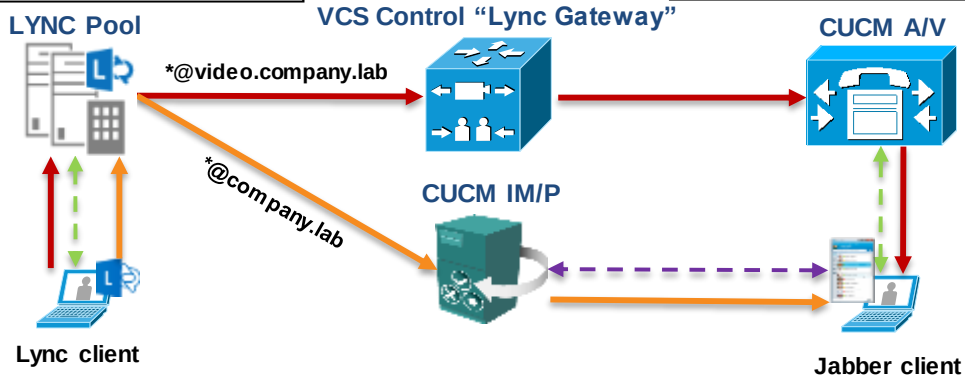
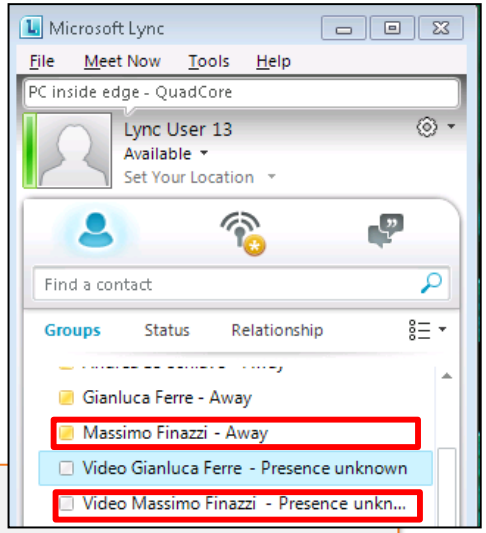
Single Identity - Current limitations

Call (A/V)
IM Session (IM/P)
SIP registration
XMPP Registration (IM/P)

Lync shares the same domain "company.lab" for both A/V and IM&P

CUCM and IM&P needs separate domains. i.e. "video.company.lab" and "company.lab"





Microsoft Lync handles Audio, Video and IM&P with the same call control system

Cisco handles A/V on CUCM/VCS and the IM&P is handled by the CUCM IM&P server.

Cisco best practices suggest to share the same domain for both Presence (managed by the CUCM IM&P) and Audio/Video (managed by CUCM/VCS). This would require Lync to send traffic to the two systems separately. Unfortunately Lync CAN'T split routes for a single domain to two separate addresses

Therefore Jabber needs two different URIs. One for Presence and one for Voice/Video.

Lync users will have to contact Jabber users using two different URI addresses (i.e. Massimo_Finazzi@video.company.lab for video calls and Massimo_Finazzi@company.lab for IM chat sessions). Jabber Users will be listed twice in the Lync buddy list since two different contacts are needed.

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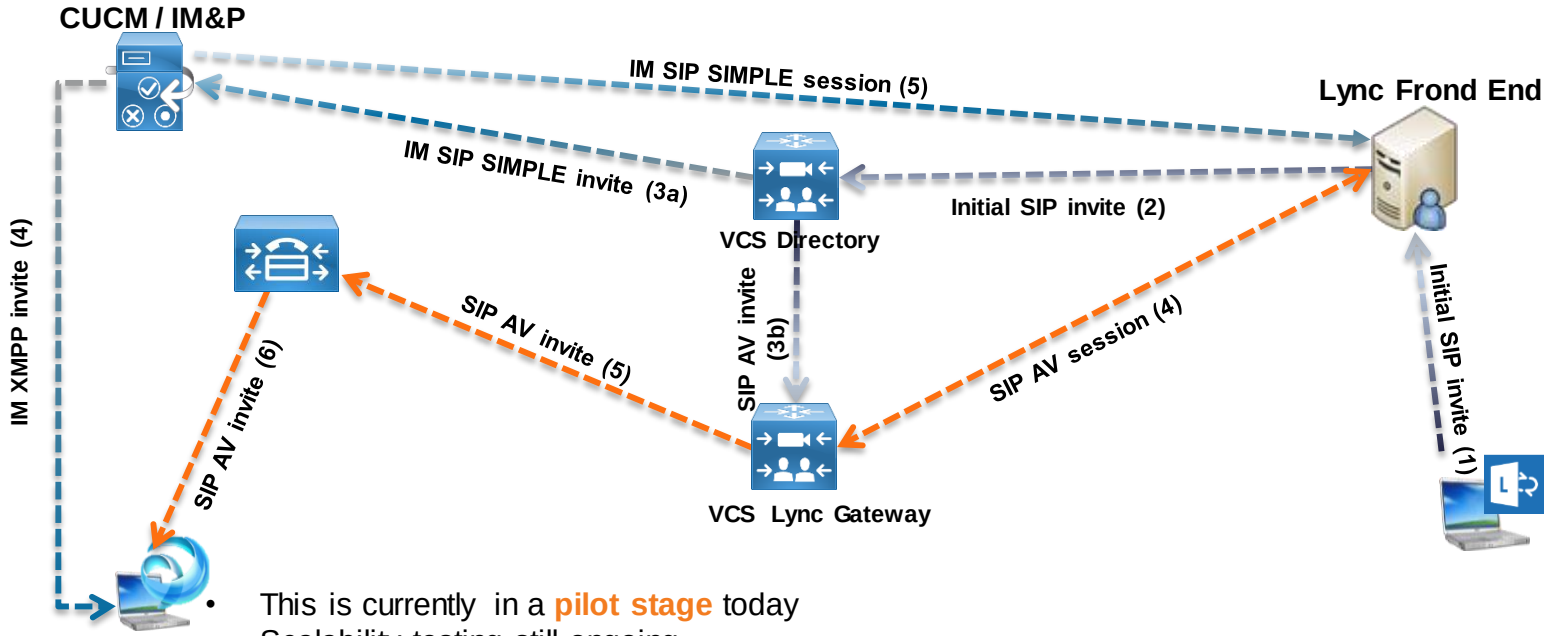
VCS IM&P Federation & Video Integration - Combined

Lync to Jabber Migration - Directory VCS C



- This is currently in a **pilot stage** today
- Scalability testing still ongoing
- Application Note listed on the Cisco Interoperability Portal

Lync Server 2013 via Expressway to Cisco Unified Communications Manager Release 10.5 IM&P

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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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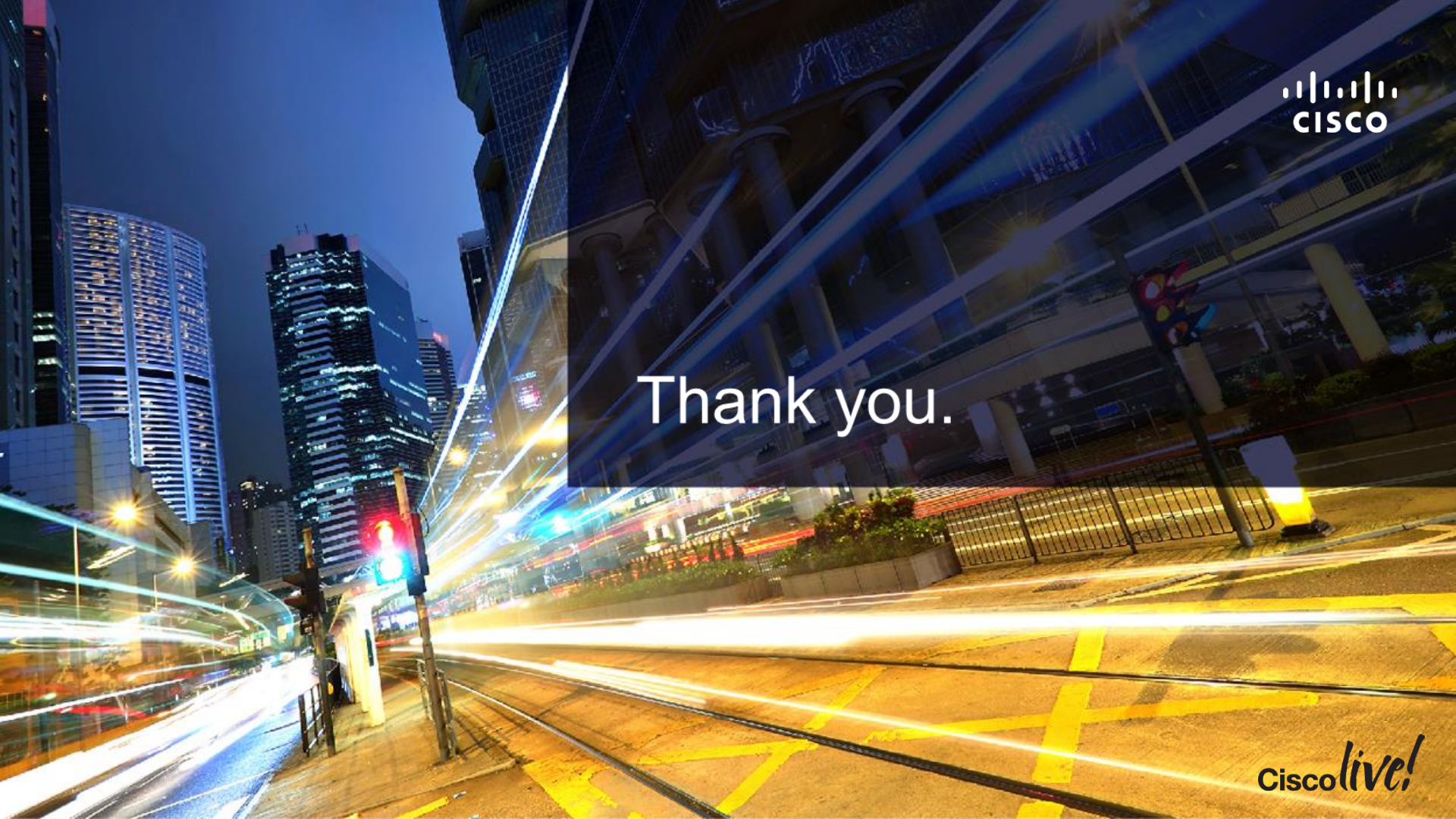
Thank you.

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