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Multiparty Conferencing for Audio, Video and Web Collaboration using Cisco Meeting Server

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Barcelona | January 27-31, 2020



LTRCOL-2250

Agenda

- Cisco Meeting Server Overview
- Lab Overview
- Dial Plan and Call Control
- Microsoft Interoperability
- Lab Tips

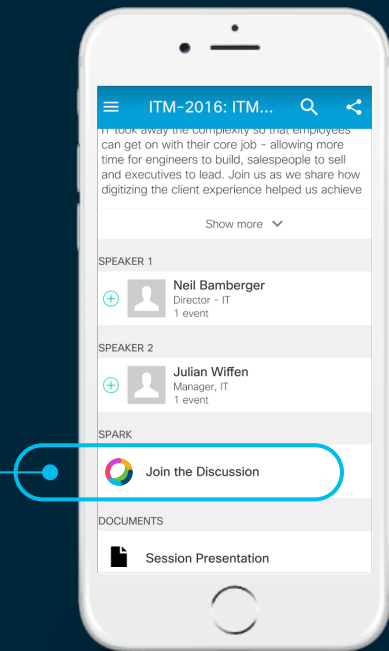
Cisco Webex Teams

Questions?

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

How

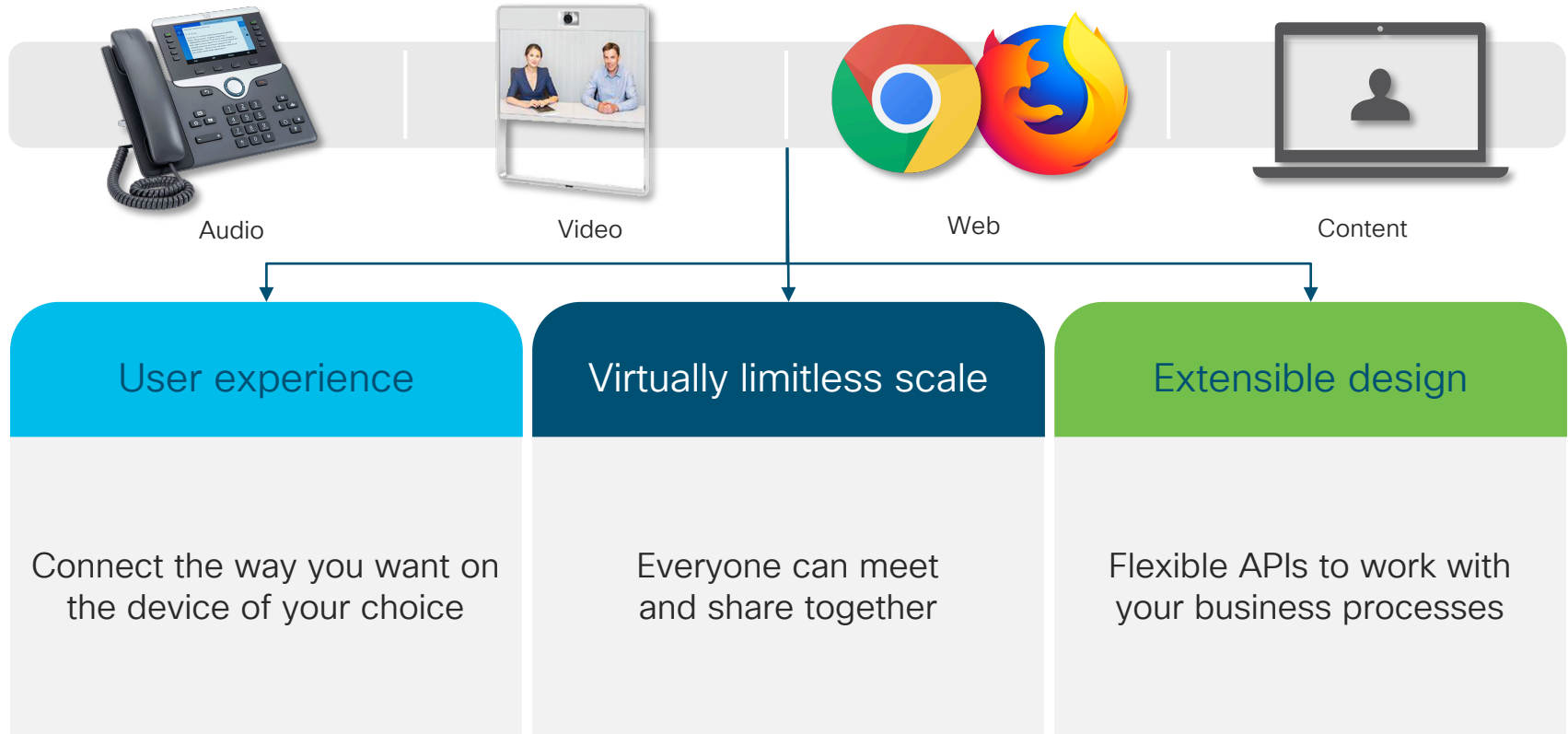
- 1 Find this session in the Cisco Events Mobile App
- 2 Click “Join the Discussion”
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- 4 Enter messages/questions in the team space



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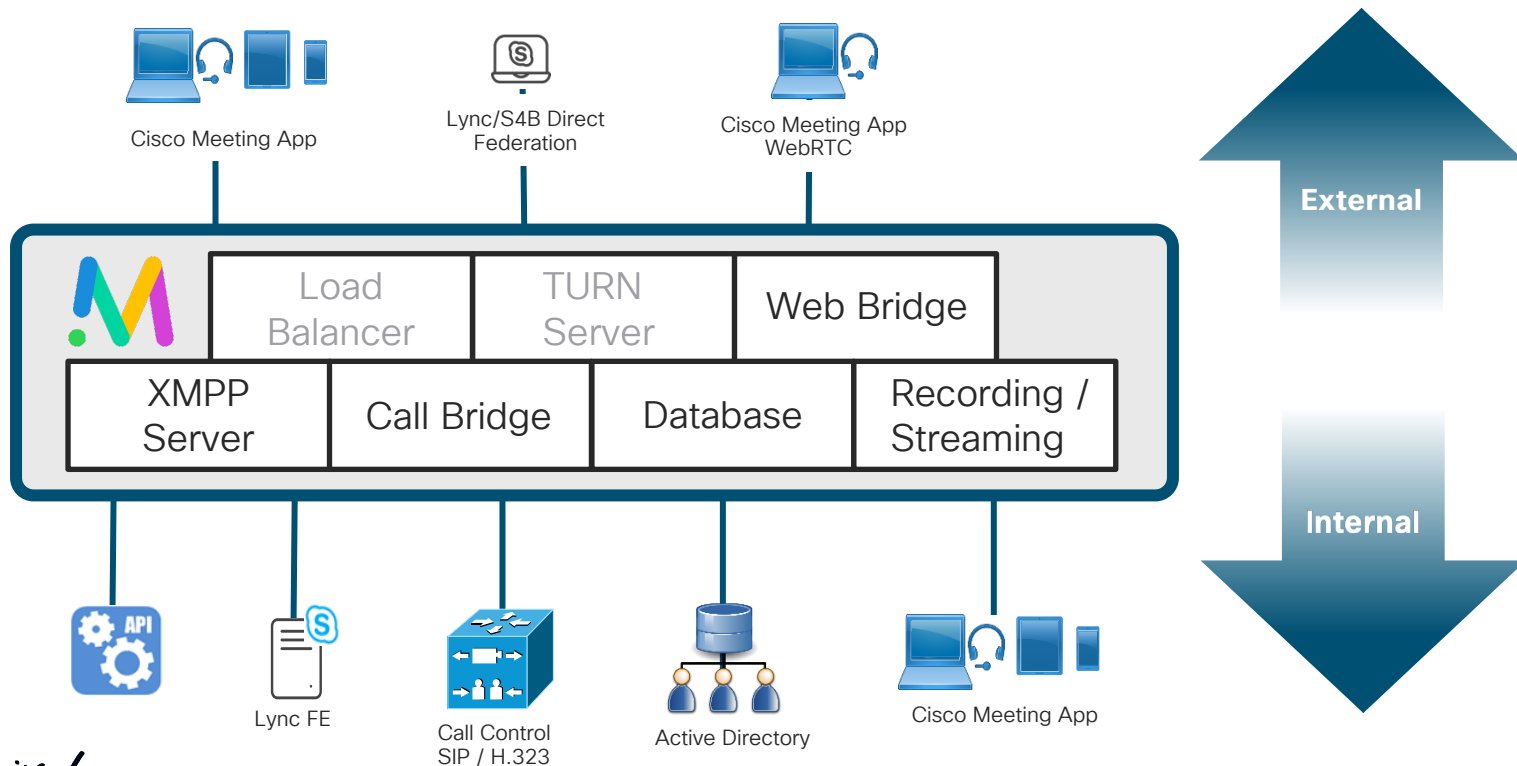
Cisco Meeting Server Overview

Cisco Meeting Server



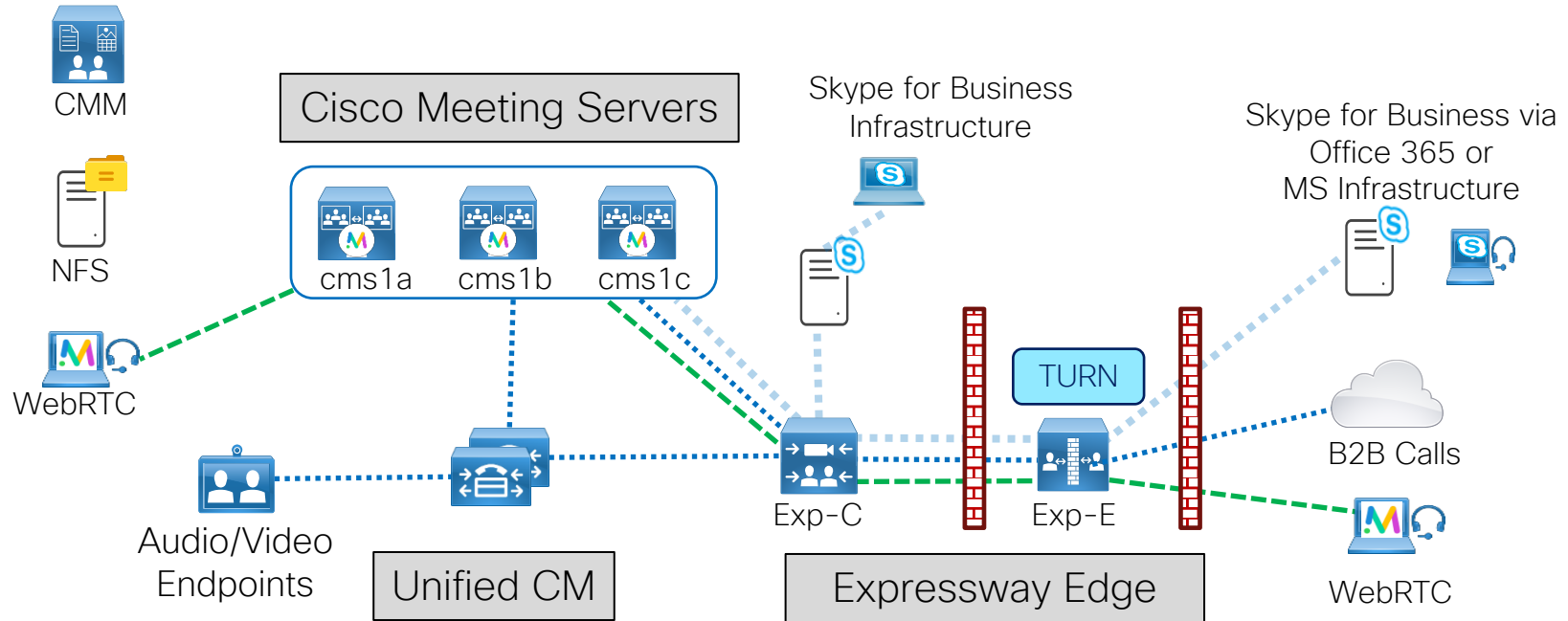
Cisco Meeting Server Architecture

- Platform Components

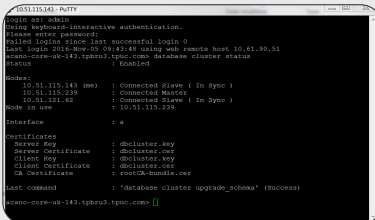


Lab Overview

Lab Topology

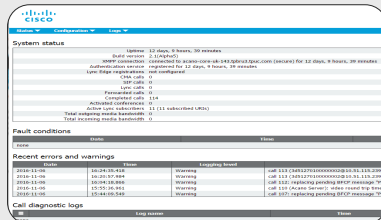


Management and Administration Tools



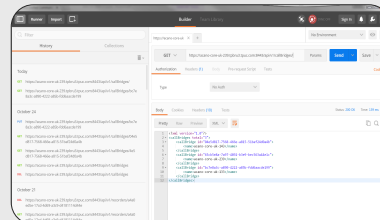
CLI / MMP

SSH, Serial Console, VM console



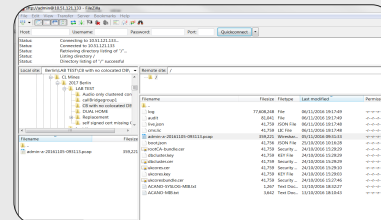
Web GUI

Dial Plan and Call Bridge admin



API

Most
configuration
that is not in
MMP



SFTP




Licenses,
Certificates,
Logs, Backups
Upgrades

Certificates



- Each service requires a certificate:
 - WebAdmin, XMPP, WebBridge, CallBridge, Loadbalancer, Trunk, Database Cluster, Recording Server, Streaming Server
- Encryption is mandatory!
- Can share certificates between services
- Database / Microsoft Interop present unique requirements

Certificate Types

-  Self-signed by CMS
-  Private CA Signed
-  Public CA Signed

Plan certificates in advance and combine where possible!

Redundancy and Scale

Benefits

- Increased capacity
- Resilience
- Geographic optimization

Other core components, such as Web Bridge, can be deployed on multiple servers for redundancy and load distribution

Cluster Options

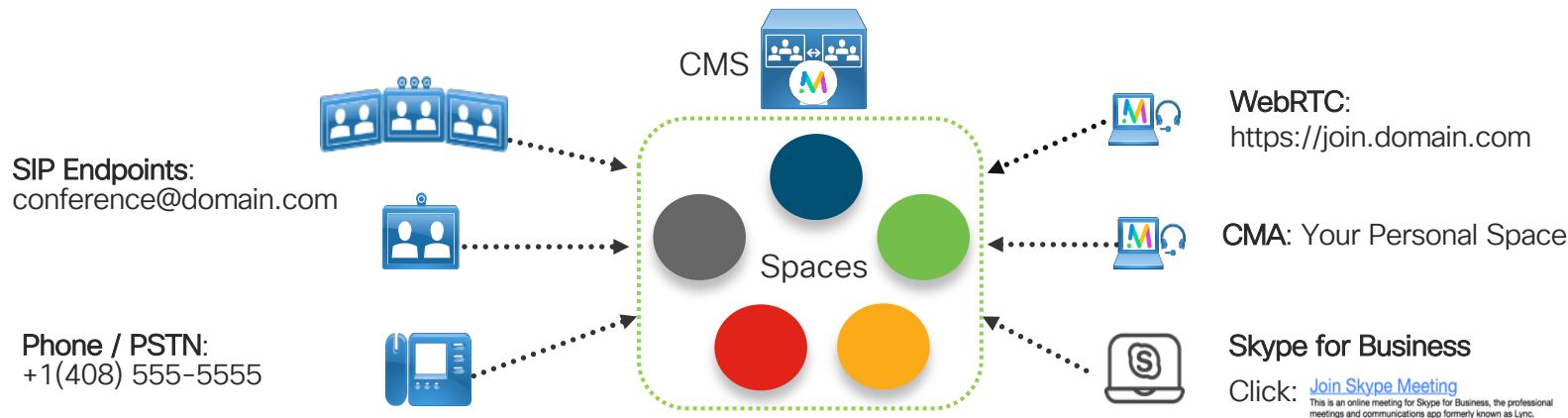
- Database Cluster
 - Spaces, Users, Dial Plan, Cluster-wide configuration
 - Provides Resiliency
- Call Bridge Cluster
 - Distributed calls for capacity & resiliency
- XMPP Cluster
 - Provides Resiliency

Dial Plan and Call Control

Cisco Meeting Server Spaces

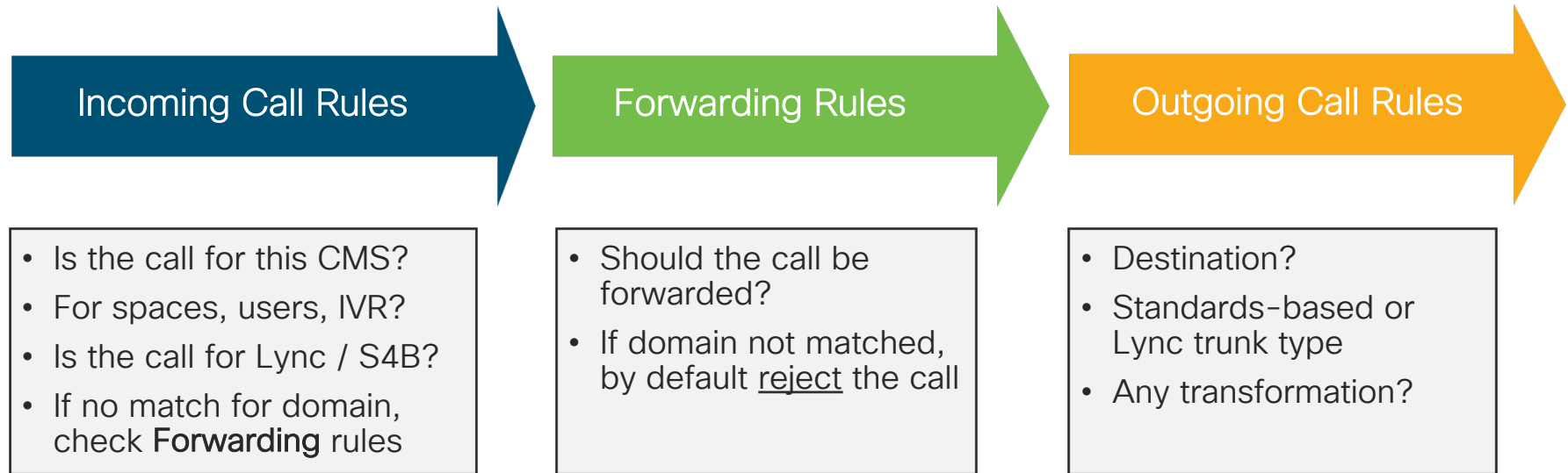
- **Personal meetings**
Invite others to your personal meeting using your own join details
- **Scheduled meetings**
Cisco TelePresence Management Suite (including Microsoft Outlook integration)
One-Button-to-Push support
- **Ad hoc Conference with Unified CM**
Escalate 1:1 calls to add participants

Spaces can be created using GUI, API, or LDAP Sync



CMS Dial plan: Call Processing

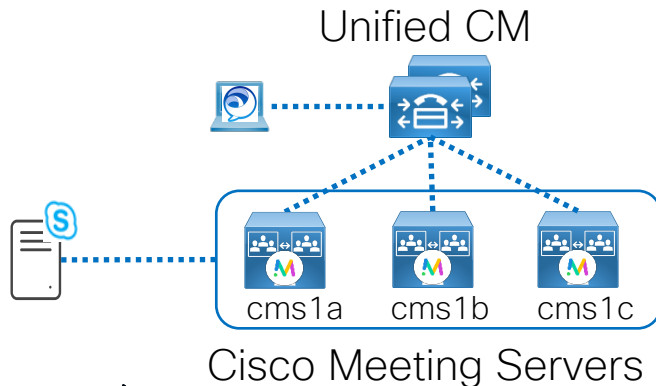
CMS ALWAYS uses domain-based routing to determine call treatment



Call Control for Clustered CMS

- **Unified CM**

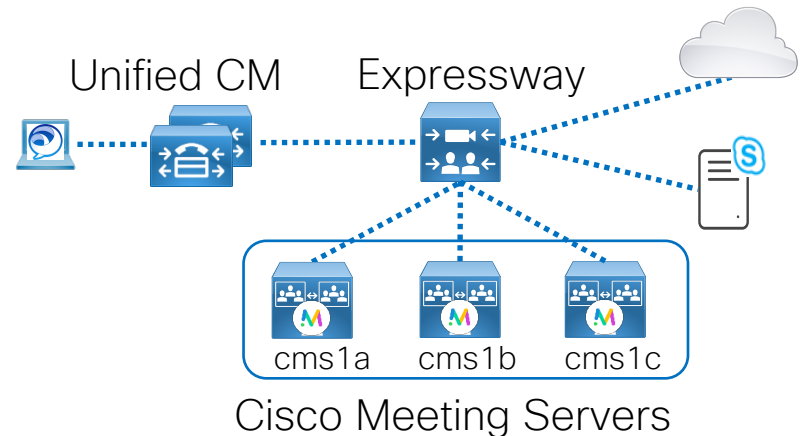
- One SIP trunk per node
- Combine Trunks in Route Group
- Always used for Ad-hoc



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- **Expressway**

- One Zone per node
- Search Rules for Load Balancing*
- Used in most Microsoft interop designs

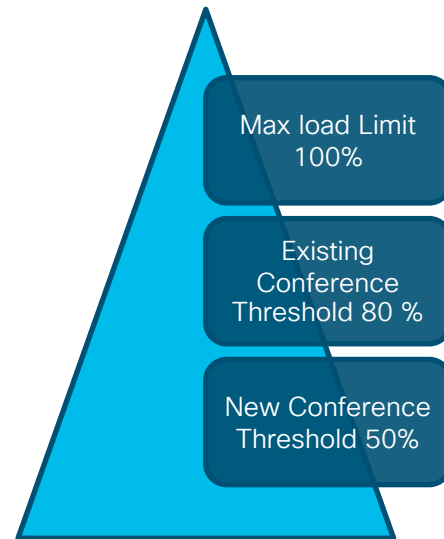


Call Bridge Groups

- When CallBridges are placed in the same CallBridge Group, participants in a single specific conference will be kept on a single server in the group
- Leverages SIP Replaces to force calls to the correct server
- Recommendation: One Call Bridge Group per Location (this could be a Data Center or a physical site)
- TURN Servers, Recorders, and Web Bridges can also be placed in Call Bridge Groups

Load Limiting

- By default, CMS accepts calls even when it is “full” by simply reducing call resolution for everyone
- Load limits ensure calls are distributed to other nodes if a node nears capacity
- When a limit exceeded, for a new call, CMS sends “SIP 488 Not acceptable here”; and Unified CM dial plan or Expressway search rules can route to next Call Bridge
 - NOTE: Distribution calls are never rejected
- Together, Call Bridge Groups and Load Limiting enable Load Balancing, In-region distributed call avoidance and per-CMS call limiting of inbound calls



Microsoft Interop

Skype for Business Integration Types

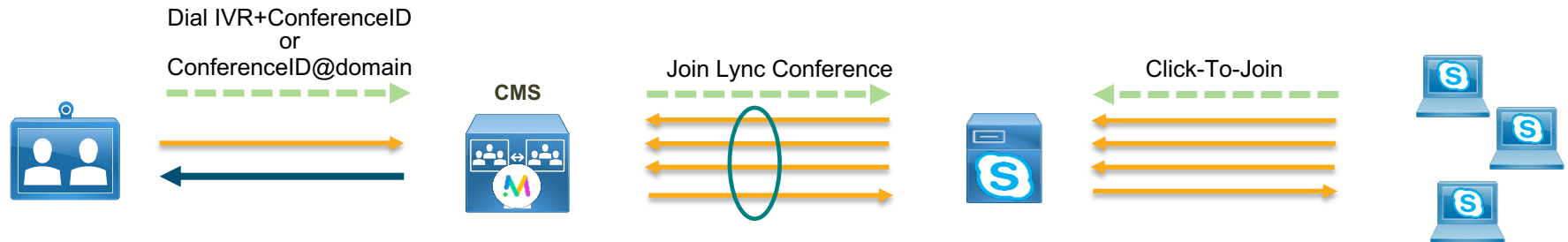
Rendezvous : Video and S4B Endpoints meet in a CMS space



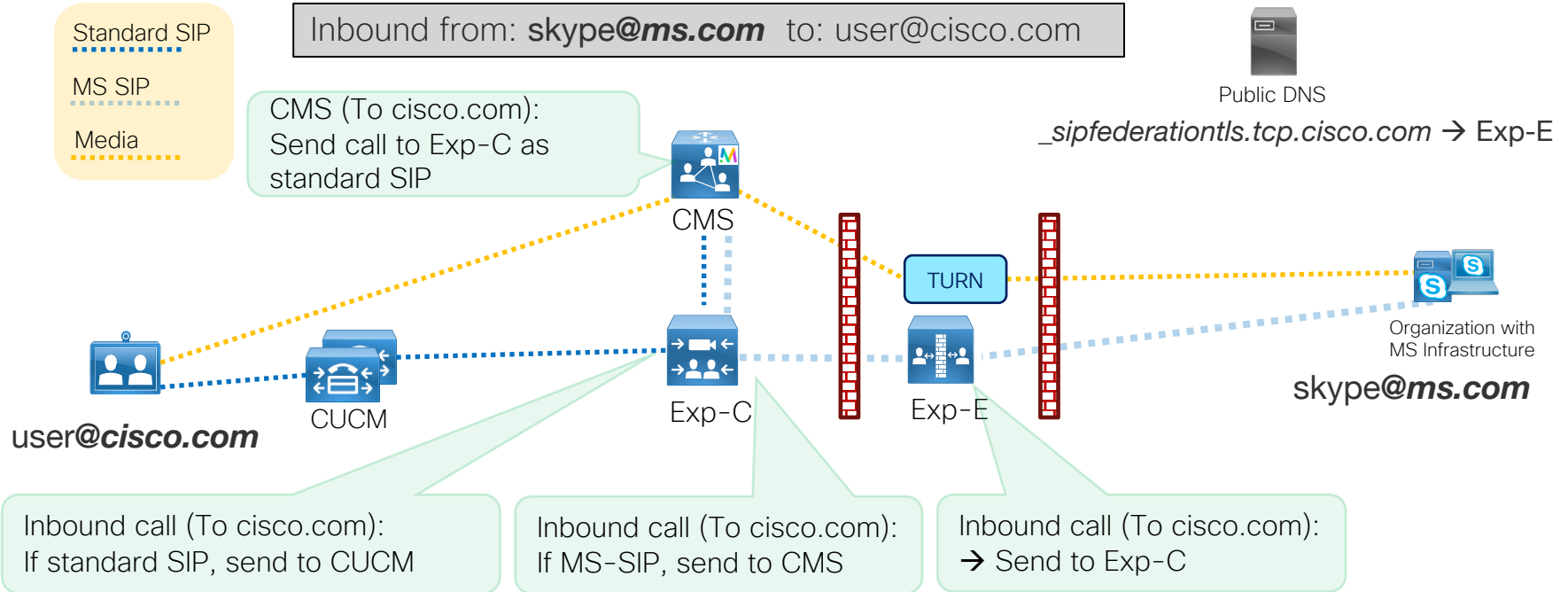
Gateway : Call goes across CMS for adaptation and transcoding



Dual Homed conferencing – Native experience for both Video and S4B users



Microsoft Interop with Expressway – Gateway Calls



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Lab Tips

Choose your Own Adventure

- CMS Server Configuration Basics

- Certificates
- Database Clustering
- Web Admin
- Call Bridge Clustering
- XMPP Clustering

- CMS API Introduction

- Web Bridge / CMA WebRTC
- LDAP Synchronization and Authentication

- Call Control and Dial Plan

- CMS Features

- Spaces
- Ad-hoc Conferencing
- Call Bridge Groups & Load Balancing
- Branding
- Recording

- External CMA WebRTC

- TURN

- Expressway Edge

- Open B2B Federation
- Skype for Business Gateway Calling

- Skype for Business On Prem

- Dual Homed Conference

- Troubleshooting

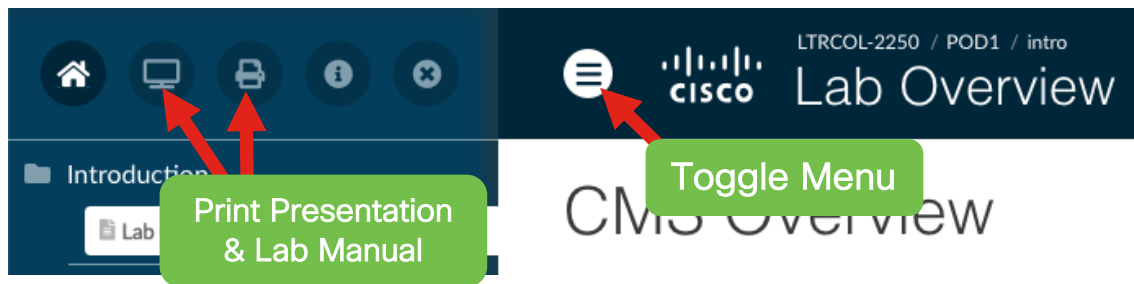
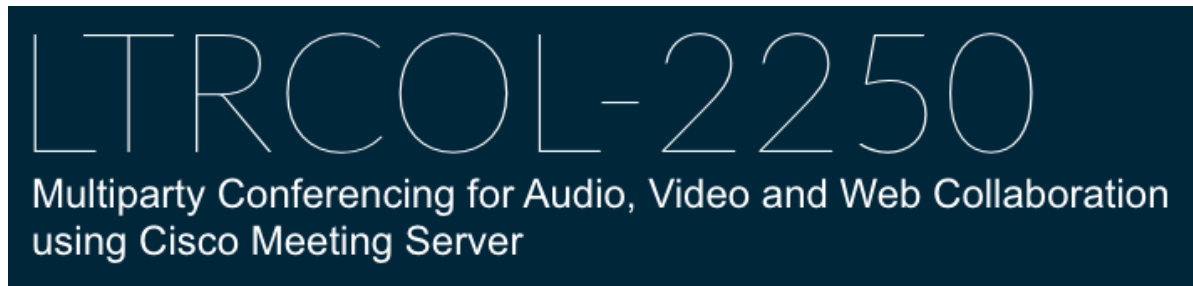
Lab Users

- There are 3 “Inside” clients
 - PC1 is Chuck with Jabber & Skype for Business (User 1)
 - PC2 is Amy with Jabber & Skype for Business (User 2)
 - **Your laptop is User4** with Jabber and Chrome
- One “Outside” client
 - PC3 is Ruba
 - Chrome for WebRTC
 - Skype for Business for B2B
- All are **Remote Desktop**
- Static Video Image & No Audio



Tips & Tricks

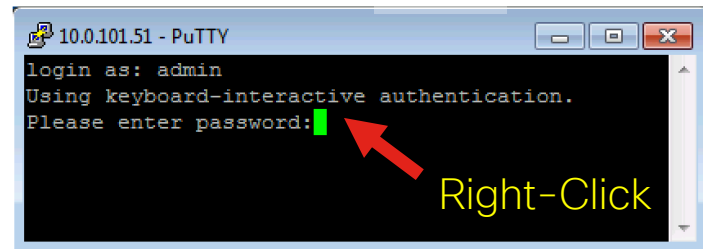
- Lab available at: <http://cmslab.ciscolive.com>



Tips & Tricks

Cisco Meeting Server	Password
<code>cms1a.pod1.cms.lab</code>	<code>c1sco123</code>

Click



- Use Copy / Paste!!!
- CMS CLI / Web pages time out FAST
- CLI / SSH sessions:
 - Click to open Putty/SSH session, then **right-click** to paste password
- All device credentials are: **admin** with password **c1sco123**

```
cms1a> dns add forwardzone . 10.0.224.140  
cms1a> dns add forwardzone . 10.0.224.141
```

Copy to Clipboard


Copied!

```
ntp server add 10.0.102.1  
ntp server add 64.102.244.57
```

```
ntp server add 10.0.102.1  
ntp server add 64.102.244.57
```

Tips & Tricks


- Redundant tasks often have shortcuts to configure automatically and allow you to skip ahead



Click [HERE](#) to configure the Search rule for CMS
the name, priority, and in the case of the last rule



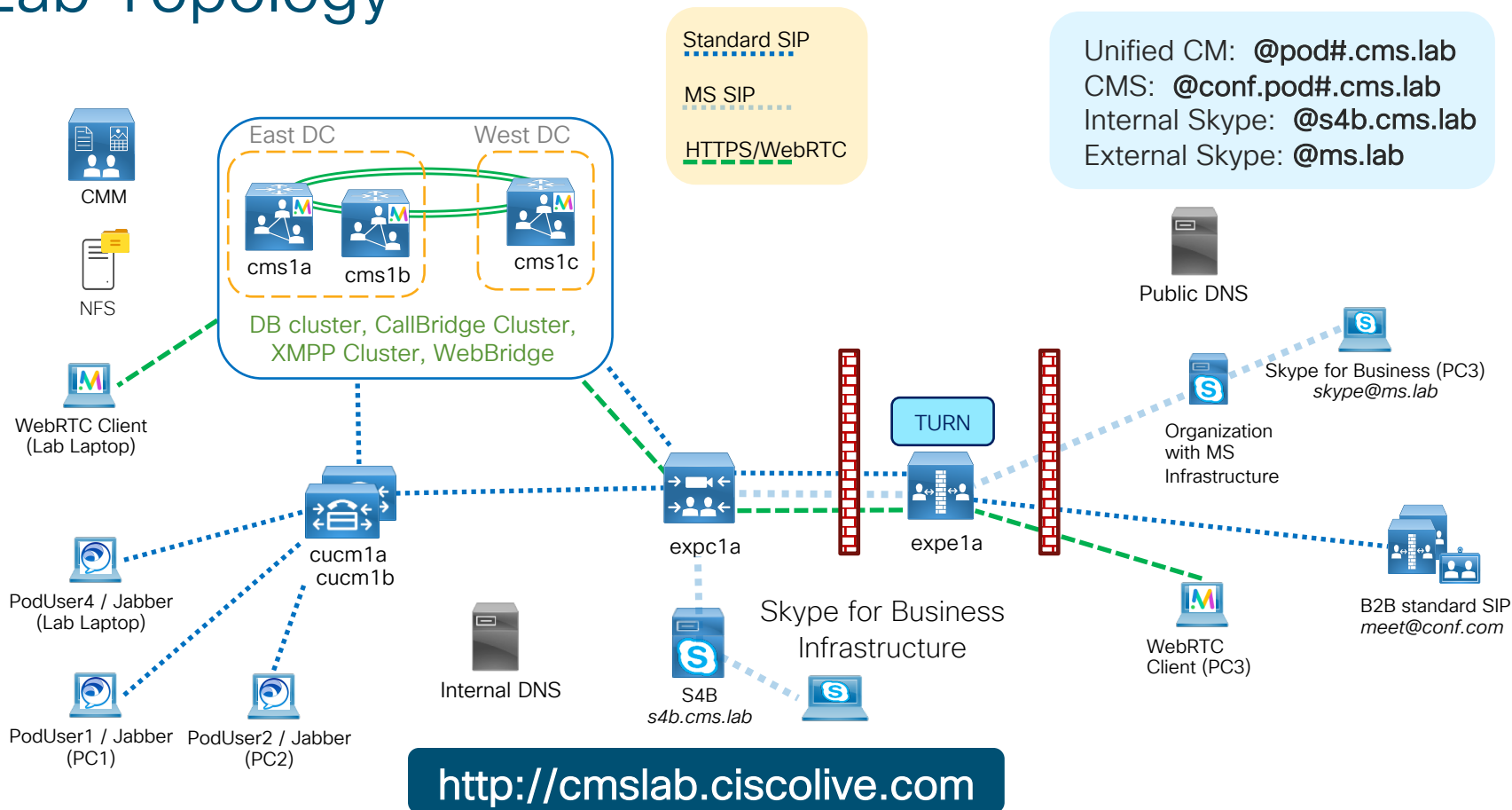
CMS1b and CMS1c Search Rules

- At the end of each section, check your work 
- **Click to call:** In most cases, you can click on a link to place the call via Jabber. Exceptions are when the call is to be placed from one of the Remote Desktop sessions. In those cases copy/paste can be used.



Check My Work

Lab Topology



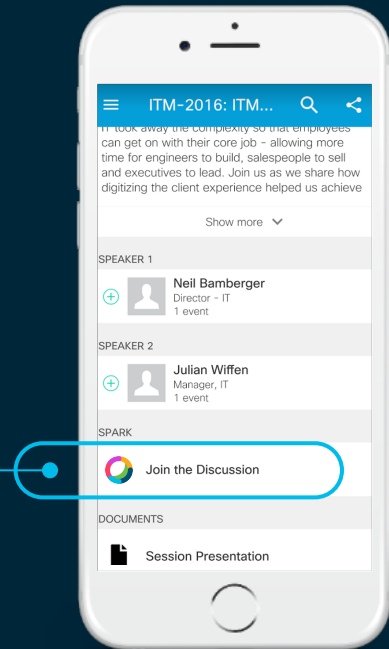
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1:1 meetings



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Thank you





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