What You Make Possible
Understanding Cisco TelePresence Conductor
BRKEVT-2809
A Story of Evolution
Large Customer
Customer Contacts The Vendor
How Many?
MCU and VCS
Design Time
Could be one... could be one thousand
def query_conferences_on_mcus():
    """Query configured MCUs for conferences and participants.
    For each configured MCU, query the MCU for conferences and participants
    by calling L{mcuapi.query_mcu_conferences()}. The arguments to the method are
    bundled into an L{MCUConnectParams}. The call is performed in a thread from
    the twisted thread pool. When the call has finished, the results are processed
    in L{handle_results()}. That means the results are serialised in the one function.
    """
    Logger().logger.debug("Querying conferences on all MCUs.")
    for mcu_id in Config().get_mcu_ids():
        if ConferenceStore().has_mcu(mcu_id):
            mcu = ConferenceStore().get_mcu(mcu_id)
            if not mcu.is_broken():
                mcu_config = Config().get_mcu(mcu_id)
                params = mcuapi.MCUConnectParams(mcu_config['protocol'], mcu_config['ip'],
                mcu_config['user'], mcu_config['password'])
                d = threads.deferToThread(mcuapi.query_mcu_conferences, params)
                d.addCallback(handle_results)
                d.addErrback(handle_error,
                        src='query_conferences_on_mcus',
                        mcu_id=mcu_id)
            else:
                Logger().logger.info("Not polling unreachable MCU %s" % mcu_id)
        else:
            Logger().logger.info("MCU %s not (yet) in ConferenceStore" % (mcu_id))
Engage R&D

Develop a new product
The Conductor is here
Agenda

- Types of Conferences
- What is Conductor
- Network Topology
- Design Best Practice
- Configuration Overview
- Troubleshooting
Multipoint Conference Types

- Rendezvous Conference
  - Meetme
  - Static VMR

- ADHOC
  - CUCM Adhoc escalation
  - VCS Multiway

- Scheduled conference
  - Web UI
  - Calendaring (Exchange/Notes)
Conferencing Challenges
Traditional considerations for multipoint conferencing

- Scale
- Differentiation
- Consistency
- Operational Mode

Resources
What does TelePresence Conductor do?

- Simple Administration
- Intelligent Resource Orchestration
- Scheduled, Adhoc & Rendezvous
- Geographic Cascading
- Service Differentiation
- Scale
Simple Administration
Consolidate Configuration

Without Conductor
Need to configure resources individually

With Conductor
Simplified configuration in one place
Administration Benefits
Simple Conference Administration

Without Conductor
Configure conferences on individual MCUs

With Conductor
Simplified configuration in one place – Shared resources
Intelligent Resource Allocation

- Simple Conference Administration

Call Control
- CUCM and/or VCS

Cisco TelePresence Conductor
- Cluster

Resource Pool
- MCU 5310 HD MCU
- MCU 5320 HD MCU
- MCU 4200 Series
- MCU 4500 Series
- MSE 8420 SD MCU
- MSE 8510 HD MCU
- TelePresence Server (TS 7010 & MSE 8710)
Support Multiple Conference Types
Maximise conferencing resources

- Support for TMS scheduled conference
- ADHOC conference escalation for both CUCM and VCS registered users
- Rendezvous/VMR/Static conferences
Geographical Cascading
Efficient Conference Distribution

Conductor Cluster

us.allhands

hk.allhands

au.allhands
AdHoc Conferencing

Three way call established on an MCU, intelligently selected by Conductor

Better MCU-based experience for mobile workers

Two way call in progress

An incoming call from a third person

Original call on hold

Activate Multiway
## Scale

### Single Conductor

<table>
<thead>
<tr>
<th>Services/Configuration</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilised MCUs</td>
<td>30 MCUs</td>
</tr>
<tr>
<td>Concurrent Active Conferences</td>
<td>1,200 Conferences</td>
</tr>
<tr>
<td>Preconfigured Conference Template</td>
<td>500 Conferences</td>
</tr>
<tr>
<td>Preconfigured Conference Aliases</td>
<td>1,000 Aliases</td>
</tr>
<tr>
<td>Preconfigured Auto-dialed Participants</td>
<td>20,000 Users</td>
</tr>
<tr>
<td>Preconfigured Auto-Dialed Participants per Conference Template</td>
<td>5,000 participants per conference template</td>
</tr>
</tbody>
</table>
Design to Scale
Simple Conference Administration

VCS Cluster

Up to 20 TelePresence Conductor Clusters
Up to 300 MCUs
Clustering

- Resilient
- Active/Active design
- 3 Conductors in a cluster
- Uses IPSEC communications between peers.
- NTP needs to be configured
- Low latency connections between peers
- Failover does not impact on going calls

**Note:** Reference the deployment guide for step by step instructions to configure clustering:

Simple Rendezvous Conferencing
User initiates conference

meet.bob@test.com
or
1234

MCU Pool

MCU 1

MCU 2

VCS Cluster

Conductor Cluster
TelePresence Conductor orchestrates the conference

VCS Cluster

MCU Pool

meet.bob@test.com or 1234

Bob

VCS request to TelePresence Conductor to transform the alias to the correct URI

Conductor Cluster

MCU 1

MCU 2
Intelligent conference creation

TelePresence Conductor creates the conference on the most appropriate MCU and returns the URI to VCS.

Bob

meet.bob@test.com or 1234

MCU Pool

MCU 1

MCU 2

VCS Cluster

Conductor Cluster

MCU1 New Conference ID
User connected to conference

VCS Cluster

Bob's Conference

meet.bob@test.com
or
1234

Bob

Conductor Cluster

MCU Pool

MCU 1

MCU 2
Next user calls into the conference

meet.bob@test.com
or
1234

Mary
TelePresence Conductor directs the call

VCS Cluster

meet.bob@test.com or 1234

VCS requests URI

MCU Pool

MCU 1

MCU 2

Mary

Bob's Conference ID

MCU1

Conductor Cluster
User connected to the conference

meet.bob@test.com or 1234

Bob’s Conference

VCS Cluster

Conductor Cluster

MCU Pool

MCU 1

MCU 2

Mary
Lecture Mode Conferences
Problem: Simplicity

• The scenario

Your user wants a conference for 20 **people** but with various **levels of access** based on user profile

Your user also wants the conference to be **recorded** for participants who cannot join the event
Working Example: Simplicity

• Let us consider a university lecture
  • We define a conference template for lectures
  • We define two conference aliases
    • Matching “learn.(.*)”
    • and “teach.(.*)”
    • Each forwarding to the same conference
    • Each with different roles
  • Add a recording device (eg. TCS) as an auto-dialed participant
Lecturer initiates conference

VCS Cluster

Teach.lecture@test.com or 12345

Conductor Cluster

MCU Pool

Bill

MCU 1

MCU 2
TelePresence Conductor orchestrates the conference

VCS request to TelePresence Conductor to transform the alias to the correct URI

Teach.lecture@test.com or 12345
Intelligent conference creation

TelePresence Conductor creates the conference on the most appropriate MCU and returns the URI to VCS.

Teach.lecture@test.com or 12345

Bill

Conductor Cluster

VCS Cluster

MCU Pool

MCU 1

MCU 2

New Conference ID
Lecturer connected to conference

Teach.lecture@test.com or 12345

PIN = 9999

Bill

VCS Cluster

Lecture Conference

Conductor Cluster

MCU Pool

MCU 1

MCU 2

Cisco Public
TelePresence Conductor adds recording

- Teach.lecture@test.com
  or
  12345

- Conductor Cluster

- API request for dial out to recording device at recordlecture.tcs1@test.com

- VCS Cluster

- MCU 1

- MCU 2

- MCU Pool

- MCU dials out to recordlecture.tcs1@test.com

Bill
Student calls into the conference

Learn.lecture@test.com
or
12346

Ben
TelePresence Conductor directs the call

Learn.lecture@test.com or 12346

Ben

VCS Cluster

VCS requests URI

Conductor Cluster

MCU Pool

MCU 2

MCU 1

MCU Pool

MCU 2

MCU 1

MCU 2

MCU 1
User connected to the conference

Learn.lecture@test.com or 12346

Ben

VCS Cluster

Conductor Cluster

Lecture Conference

MCU Pool

MCU 1

MCU 2
Scaling Conferences
Problem: Scalability

- Cisco MCU’s support up to 80 participants on a single device (depending on device type)

- As conferences increase in size we are outgrowing the capacity of a single MCU

- As scale increases we need to add more MCU capacity without increasing the administrative overhead
User calls into a conference – MCU full

meetbill@test.com
or
1234

Ben

VCS Cluster

Conductor Cluster

MCU Pool

MCU 1

MCU 2
TelePresence Conductor polls MCU Pool

VCS Cluster

meetbill@test.com or 1234

Ben

VCS requests URI

Conductor Cluster

MCU Pool

MCU 1

MCU 2
TelePresence Conductor starts new conference

TelePresence Conductor creates a new conference on the most appropriate MCU and returns the URI to VCS.
User connected to the conference

meetbill@test.com or 1234

Ben

VCS Cluster

Bill’s Conference On MCU2

Conductor Cluster

MCU Pool

MCU 1

MCU 2

MCU Pool

MCU 1

MCU 2
Supported Topology
Conductor Deployment Models
VCS – ADHOC and Rendezvous Conferencing Scenario
Conductor Deployment Models

VCS – Rendezvous Conferencing Call Flow

1. Endpoint dials a conference alias
2. Alias matched a search rule on the VCS pointing at the Conductor Policy Service
3. The VCS makes a policy request to the Conductor
4. The Conductor policy service returns instructions to the VCS to route the call to a new alias
5. New alias matched a search rule pointing to MCU selected Conductor to host the conference
Conductor Deployment Models

VCS – Scheduled Conferencing Scenario

SIP/H.323 Endpoints

TMS (v14.1 or later)

VCS-C

Service Request/ACK/CPL

Neighbour Zone

API Control

MCU Pool

SIP
H.323
HTTPS
Conductor Deployment Models
CUCM ADHOC and Rendezvous Conference Scenario
Conductor Deployment Models

CUCM AdHoc Conferencing Call Flow

- Endpoint creates and ADHOC conference by joining 3 participants
- CUCM initiates an ADHOC conference
- CUCM routes the call to Conductor
- Conductor accepts the call and creates a conference
- Conductor routes the call to the conference bridge
Conductor Deployment Models

VCS and CUCM Conferencing Scenario
TelePresence Server
Dynamic Resource Allocation
# TelePresence Server Resource Optimisation

<table>
<thead>
<tr>
<th>Main Video</th>
<th>Audio</th>
<th>Content</th>
<th>Screen Licenses Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>360p30</td>
<td>Mono</td>
<td>720p5</td>
<td>1/4</td>
</tr>
<tr>
<td>480p30</td>
<td>Mono</td>
<td>In main video</td>
<td>1/4</td>
</tr>
<tr>
<td>480p30</td>
<td>Stereo</td>
<td>720p5</td>
<td>1/3</td>
</tr>
<tr>
<td>720p30</td>
<td>Stereo</td>
<td>720p5</td>
<td>1/2</td>
</tr>
<tr>
<td>1080p30</td>
<td>Stereo</td>
<td>720p15</td>
<td>1</td>
</tr>
<tr>
<td>720p30</td>
<td>Stereo</td>
<td>720p15</td>
<td>1</td>
</tr>
<tr>
<td>1080p30</td>
<td>Stereo</td>
<td>720p30</td>
<td>1 1/2</td>
</tr>
<tr>
<td>1080p30</td>
<td>Stereo</td>
<td>1080p30</td>
<td>2</td>
</tr>
<tr>
<td>Dual-screen 1080p30</td>
<td>Stereo</td>
<td>720p30</td>
<td>2</td>
</tr>
<tr>
<td>Three-screen 1080p</td>
<td>Multichannel</td>
<td>720p30</td>
<td>3</td>
</tr>
<tr>
<td>Three-screen 1080p</td>
<td>Multichannel</td>
<td>1080p30</td>
<td>4</td>
</tr>
<tr>
<td>Four-screen 1080p</td>
<td>Stereo</td>
<td>1080p30</td>
<td>4</td>
</tr>
</tbody>
</table>
TelePresence Server Resource Optimisation

• Example with TPS8710 with 12 screen license
TelePresence Server Resource Optimisation

- Example with TPS8710 with 12 screen license
- Conference with 6 x SD Endpoints/UA
TelePresence Server Resource Optimisation

- Example with TPS8710 with 12 screen license
  - Conference with 6 x SD Endpoints/UA
  - Conference with 4 x HD Endpoints/UA
TelePresence Server Resource Optimisation

- Example with TPS8710 with 12 screen license
  - Conference with 6 x SD Endpoints/UA
  - Conference with 4 x HD Endpoints/UA
  - Conference with 3 x Full HD Endpoints/UA

![Diagram of TelePresence Server Resource Optimisation](Image)
Configuration
Configuration Methods

Video Communications Server
- Conductor Conference Configuration Wizard
- VCS Configuration
- MCU Configuration

Unified Communications Server
- Conductor Configuration
- CUCM Configuration
- MCU Configuration
Conductor and VCS
VCS Rendezvous Model Configuration
Conference creation process

Conference Alias
• Regex
• Exact match

Conference Template
• Conference Parameters
• Auto Dial Participants

Service Preference
• Service Differentiation
• Geographic Preferences

Conference Bridge Pool
• HD/SD/TP pools
• Geographic pools

Conference Bridge
• Selected based on Preference, Pool Availability
Conductor Conference Wizard
Login and Start the Wizard

[Image: Login screen with Username: admin and Password masked]

[Image: Conductor Conference Wizard overview with options such as Creating conferences, Conference bridges, Conference templates, etc.]

- Basic conference configuration wizard
- Creating conferences
- Conference bridges
- Conference templates
- Conference aliases
- Auto-dialed participants
- Unified CM locations
- Pre-configured endpoints
- Call Policy

Status: System configuration
Conference configuration: Users, Maintenance

Overview:
System information:
- System host name
- IPv4 address
- Hardware uptime
- Product
- Serial number
- Software version
- Software build
- Software release date
- Software ID
- Number of conference bridges: 4
- Number of active conferences: 0
Conductor Conference Wizard
Wizard explains what is about to happen

This wizard takes you through the steps that are required to set up a basic conference configuration on your TelePresence Conductor when used in a VCS-based deployment. It results in users being able to dial into a meeting-type conference using a specified alias.

The wizard assumes that you have already configured a password, an IP address and the correct NTP settings on your TelePresence Conductor and that you have already configured your Cisco VCS and your conference bridge in accordance with the information in Cisco TelePresence Conductor with Cisco TelePresence Video Communication Server Deployment Guide.

You will need the following information to complete the wizard:

- Conference bridge IP address
- Protocol used to communicate with the conference bridge (HTTP or HTTPS)
- Conference bridge username and password
- Dial plan prefix configured on the Cisco VCS
Conductor Conference Wizard
Create Bridge Pool

Define the pool of conference bridges

- Pool name: Sydney HD Pool
- Description: Non-Immersive HD MCU Pool
- Conference bridge type: TelePresence MCU, TelePresence MCU, TelePresence Server
Conductor Conference Wizard
Create Bridge to add to new pool
Conductor Conference Wizard
Create a Service Preference and Conference Template

Define a Service Preference (used for ranking the priority of conference bridge pools)

- Service Preference name: Sydney HD SP
- Description: Sydney HD Service Preference

Define a conference template (only meeting-type conferences are supported by the wizard)

- Name: meet.
- Description: Standard Rendezvous Meeting 5 + 1 HD
Conductor Conference Wizard
Create a Conference Alias to assign to the Template

Configure the conference alias

- **Alias name**: *meet.*
- **Description**: Standard Meet Dot
- **Incoming alias (must use regex)**: *meet\.(.*)*
- **Conference name**: \1
- **Priority**: 1000

[Back] [Save configuration] [Cancel]
Conductor Conference Wizard
Done – Wizard explains what is required on VCS

Basic conference configuration completed.

If you have already configured your conference bridge and Cisco VCS, you are now able to dial into a meeting-type conference using a conference address that is based on alias ‘meet\(\cdot\)\(\cdot\)\(\cdot\)’.

If you still need to configure your conference bridge, access it at ‘10.66.127.60’ and configure it appropriately.

If you still need to configure your Cisco VCS perform the steps outlined in Cisco TelePresence Conductor with Cisco TelePresence Video Communication Server Deployment Guide, using alias ‘meet\(\cdot\)\(\cdot\)\(\cdot\)’, dial plan prefix ‘rd-mse-0105’ and the conference bridge at ‘10.66.127.60’.

Finish

---

Administrator accounts

<table>
<thead>
<tr>
<th>Name</th>
<th>State</th>
<th>Access level</th>
<th>Web access</th>
<th>API access</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>Enabled</td>
<td>Read-write</td>
<td>Yes</td>
<td>Yes</td>
<td>View/Edit</td>
</tr>
<tr>
<td>cucm</td>
<td>Enabled</td>
<td>Read-write</td>
<td>Yes</td>
<td>Yes</td>
<td>View/Edit</td>
</tr>
</tbody>
</table>
VCS Configuration

![Cisco TelePresence Video Communication Server Control interface]

- Overview
- System information
  - System name
  - Up time
  - Software version
  - IPv4 address
- Options
- Resource usage (last up)
  - Non-traversal call license

![Login screen]

Username: admin
Password: ********

Home
VCS Configuration
MCU Zone Configuration

Configuration

- Name: rd-mse-0195
- Type: Neighbor
- Hop count: 15

H.323

- Mode: On
- Port: 1719

SIP

- Mode: On
- Port: 5061
- Transport: TLS
- TLS verify mode: Off
- Accept proxied registrations: Allow
- Media encryption mode: Auto
VCS Configuration

MCU Zone Configuration

Authentication
Authentication policy: Do not check credentials
SIP authentication trust mode: Off

Location
Peer 1 address: 10.66.127.60
H.323: Active: 10.66.127.60:1719
SIP: Active: 10.66.127.60:5061
Peer 2 address
Peer 3 address
Peer 4 address
Peer 5 address
Peer 6 address

Advanced
Zone profile: Infrastructure device
H.323 call signaling port: 1720
VCS Configuration
MCU Zone Search rule
VCS Configuration
Conductor Policy Service

Configuration

Name: Conductor 2.0
Description:
Protocol: HTTPS
Certificate verification mode: Off
HTTPS certificate revocation list (CRL) checking: Off
Server 1 address: 10.68.120.44
Server 2 address:
Server 3 address:
Path:
Status path: status
Username: admin
Password: ********
Default CPL:

Active. Last communication: 2012-12-06 22:19:32
VCS Configuration
Conductor Search Rule

Configuration

Rule name: meet.
Description:
Priority: 50
Protocol: Any
Source: Any
Request must be authenticated: No
Mode: Alias pattern match
Pattern type: Regex
Pattern string: meet.*
Pattern behavior: Leave
On successful match: Continue
Target: Conductor 2.0
State: Enabled
MCU Configuration

SIP configuration

![SIP Configuration Diagram]

- **SIP Registrar Usage**: Enabled
- **SIP Registrar Domain**: collab.cisco.com
- **SIP Registrar Type**: Standard SIP
- **Username**: rd-mse-0105
- **Password**: [掩饰]
- **Allow numeric ID registration for conferences**: [currency]

- **SIP Call Settings**
  - **SIP Proxy Address**: 10.66.120.39
  - **Maximum bit rate from Microsoft OCS/LCS clients**: 768 kbit/s
  - **Outgoing transport**: [SSL]
  - **Use local certificate for outgoing connections and registrations**: [currency]

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Cisco Public
MCU Configuration

H.323 Configuration

H.323

- Gatekeeper usage: Enabled
- Gatekeeper address: 10.66.120.39
- Gatekeeper registration type: MCU (standard)
- Ethernet port association:
  - Port A IPv4
  - Port A IPv6
  - Port B IPv4
  - Port B IPv6
- (Mandatory) H.323 ID to register: rd-mse-0105
- Use password: [on/off]
- Password: [enter password]
- Prefix for MCU registrations:
- MCU service prefix: [optional]
- Allow numeric ID registration for conferences: [on/off]
- Send resource availability indications: [on/off]

*Warning: configured threshold values will be ignored*
# MCU Configuration

## Conference Settings

<table>
<thead>
<tr>
<th>Conference settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum video size</td>
</tr>
<tr>
<td>Motion / sharpness tradeoff</td>
</tr>
<tr>
<td>Transmitted video resolutions</td>
</tr>
<tr>
<td>Default bandwidth from MCU</td>
</tr>
<tr>
<td>Default bandwidth to MCU</td>
</tr>
<tr>
<td>Default view family</td>
</tr>
<tr>
<td>Use full screen view for two participants</td>
</tr>
<tr>
<td>Active speaker display</td>
</tr>
<tr>
<td>Media port reservation</td>
</tr>
<tr>
<td>Audio notifications</td>
</tr>
<tr>
<td>Overlaid icons</td>
</tr>
<tr>
<td>Overlaid text</td>
</tr>
<tr>
<td>Overlaid logo duration</td>
</tr>
<tr>
<td>Conference welcome message</td>
</tr>
<tr>
<td>Conference welcome message duration</td>
</tr>
<tr>
<td>Time to show participant names</td>
</tr>
</tbody>
</table>
Conductor, CUCM & VCS
CUCM and VCS Model Configuration

VCS and CUCM Conferencing Scenario

SIP/H.323 Endpoints

SIP UA

VCS-C

SIP Trunk

CUCM

SIP Trunk & Media Resource

Conductor

API Control

TelePresence Server & MCU Pool

SIP

H.323

HTTPS
CUCM ADHOC and Rendezvous
Prior to Conductor

Location 1: Sydney
- Location 1
- ADHOC
- Rendezvous

Location 2: NZ
- Location 2
- ADHOC
- Rendezvous

IP1 - MCU1
IP2 - MCU2
IP3 - MCU3
IP4 - MCU4

CUCM
CUCM ADHOC and Rendezvous
With Conductor
Conductor Configuration

MCU Conference Bridge Pool

**Conference bridge pools**

You are here: Conference configuration > Conference bridges > Conference bridge pools > Edit

**Configuration**

- **Pool name**: Sydney HD Pool
- **Description**: Non - Immersive HD MCU Pool
- **Conference bridge type**: TelePresence MCU
- **Raise conference bridge resource alarm**: Threshold (%) 80
- **Unified CM location**: None

**Conference bridges in this pool**

- **Name**: Sydney MSE 8510 0105
  - Address: 10.56.127.60
  - State: Enabled
  - Username: conductor
  - Dial plan prefix: rd-mse-0105
  - Status: Active
  - Last unsuccessful contact attempt: 2012-12-09 21:20:29

Actions: View/Edit

Options: Create conference bridge, Delete conference bridge, Enable, Busy out, Select all, Unselect all
Conductor Configuration

MCU Conference Bridge Added to Conference Bridge Pool
Conductor Configuration

MCU Conference Bridge Pools Added to Conference Service Preference
## Conductor Configuration

### TPS Conference Bridge Pool

### Conference bridge pools

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool name</td>
<td>Immersive Pool</td>
</tr>
<tr>
<td>Description</td>
<td>Pool for TelePresence Servers for immersiv</td>
</tr>
<tr>
<td>Conference bridge type</td>
<td>TelePresence Server</td>
</tr>
<tr>
<td>Raise conference bridge resource alarm</td>
<td>Threshold (%) 80</td>
</tr>
<tr>
<td>Unified CM location</td>
<td>CUCM-90</td>
</tr>
</tbody>
</table>

### Conference bridges in this pool

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>State</th>
<th>Username</th>
<th>Dial plan prefix</th>
<th>Status</th>
<th>Status detail</th>
<th>Last unsuccessful contact attempt</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney MSE 6510 0106</td>
<td>10.66.127.61</td>
<td>Enabled</td>
<td>conductor</td>
<td>rd-mse-0106</td>
<td>Active</td>
<td></td>
<td>2012-12-16 16:25:00</td>
<td>View/Edit</td>
</tr>
</tbody>
</table>

**Actions:**
- Create conference bridge
- Delete conference bridge
- Enable
- Busy out
- Select all
- Unselect all
Conductor Configuration

TPS Conference Bridge Added to Conference Bridge Pool

Edit conference bridge

Configuration

- Name: Sydney MSE 8510 0106
- Description: TP Server 3.0
- State: Enabled
- IP address or FQDN: 10.66.127.61
- Protocol: HTTPS
- Port: 443
- Conference bridge username: conductor
- Conference bridge password: ********
- Dial plan prefix: rd-mse-0106
- Conference bridge type: TelePresence Server
- Conference bridge pool: Immersive Pool
- SIP port: 5061
Conductor Configuration
TPS Conference Bridge Pools Added to Conference Service Preference
Conductor Configuration
CUCM Rendezvous Template

Conference templates

Modify conference template

Name

Description

Conference type

Meeting

Call Policy mode

Off

Conference bridge Service Preference

Sydney HD SP

Number of cascade ports to reserve

1

Limit number of participants

Maximum

There are 0 auto-dialed participants associated with this template.

Limit the conference duration (minutes)

Maximum

Allow content

Yes

Scheduled conference

No
# Conductor Configuration

## CUCM Rendezvous Template – Advanced (optional)

**Advanced template parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Template name</strong></td>
<td>CUCM Rendezvous Meeting</td>
</tr>
<tr>
<td><strong>Conference bridge type</strong></td>
<td>TelePresence MCU</td>
</tr>
<tr>
<td><strong>Automatic lecture mode</strong></td>
<td>✓ Type 2</td>
</tr>
<tr>
<td><strong>Timeout for automatic lecture mode type 1</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Floor and chair control</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Content mode</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Transmitted content resolutions</strong></td>
<td>4-to-3 only</td>
</tr>
<tr>
<td><strong>Outgoing transcoded codec</strong></td>
<td>H.263+</td>
</tr>
<tr>
<td><strong>Minimum bit rate to use for transmitted content</strong></td>
<td>0</td>
</tr>
</tbody>
</table>
Conductor Configuration
CUCM AdHoc Template
Conductor Configuration
CUCM AdHoc Template Optional Advanced Settings

<table>
<thead>
<tr>
<th>Advanced template parameters</th>
<th>Immersive Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference bridge type</td>
<td>TelePresence Server</td>
</tr>
<tr>
<td>Guest PIN</td>
<td>666</td>
</tr>
<tr>
<td>PIN</td>
<td>777</td>
</tr>
<tr>
<td>Single-screen layout</td>
<td>Prominent</td>
</tr>
<tr>
<td>Multiscreen layout</td>
<td>ActivePresence</td>
</tr>
<tr>
<td>Custom parameters</td>
<td></td>
</tr>
</tbody>
</table>
Conductor Configuration
User Account

Configuration

Name: cucm
Access level: Read-write
Password: ********
Confirm password: ********
Web access: Yes
API access: Yes
State: Enabled

Administrator accounts

<table>
<thead>
<tr>
<th>Name</th>
<th>State</th>
<th>Access level</th>
<th>Web access</th>
<th>API access</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>Enabled</td>
<td>Read-write</td>
<td>Yes</td>
<td>Yes</td>
<td>View/Edit</td>
</tr>
<tr>
<td>cucm</td>
<td>Enabled</td>
<td>Read-write</td>
<td>Yes</td>
<td>Yes</td>
<td>View/Edit</td>
</tr>
</tbody>
</table>
Conductor Configuration
Add Virtual IPs

Network configuration
IPv4 gateway: 10.66.120.3

Primary LAN 1 IP address
IPv4 address: 10.66.120.44
IPv4 subnet mask: 255.255.255.0
IPv4 address range: 10.66.120.0 - 10.66.120.255

Additional addresses for LAN 1
IP address: 10.66.120.55
IP address: 10.66.120.56
Conductor Configuration
CUCM Locations
Conductor Configuration
CUCM Locations

- Warning about available IP address
- Clustering – Peers require unique IP addresses
Conductor Configuration
CUCM Rendezvous Conference Alias
CUCM Configuration
CUCM Add Conference Bridge

MCU Conference Bridge Info
- Conference Bridge Type: Cisco TelePresence MCU
- Device is trusted: Yes
- Conference Bridge Name: Conductor_Ad hoc
- Destination Address: 10.66.120.65
- Description:
- Device Pool: DP_Sydney
- Common Device Configuration: < None >
- Location: Sydney
- Use Trusted Relay Point: Default
CUCM Configuration
CUCM Add Conference Bridge

SIP Interface Info
- MCU Conference Bridge SIP Port: 5060
- SIP Trunk Security Profile: Non Secure SIP Conference Bridge
- SIP Profile: Standard SIP Profile

- SRTP Allowed - When this flag is checked, Encrypted TLS needs to be configured in the network to provide end to end security. Failure to do so will expose keys and other information.

Normalization Script Info
- Script: < None >
- Enable Trace

Parameter Name | Parameter Value
--- | ---
1 | 1

HTTP Interface Info
- Username: ccm
- Password: ************
- Confirm Password: ************
- HTTP Port: 60
- Use HTTPS

Find Conference Bridges where
- Conference Bridge Name: CFB_2
- Description: Default
- Device Pool: DP_Sydney
- Status: Registered with 10.66.120.47
- IP Address: 10.66.120.47
- Conference Bridge Name: Conductor_Adhoc
- Description: Default
- Device Pool: DP_Sydney
- Status: Registered with 10.66.120.47
- IP Address: 10.66.120.65
For clustered Conductors, add a Conference Bridge for each cluster peer
CUCM Configuration

CUCM Media Resource Group

Status

- Status: Ready

Media Resource Group Status

- Media Resource Group: MRG_Sydney_Adhoc (used by 5 devices)

Media Resource Group Information

- Name: MRG_Sydney_Adhoc
- Description:

Devices for this Group

Available Media Resources
- ANN_2
- CFB_2
- Conductor_Adhoc
- MOH_2
- MTP_2

Selected Media Resources

- Use Multi-cast for MOH Audio (If at least one multi-cast MOH resource is available)
CUCM Configuration
CUCM Media Resource Group List

Media Resources
- Annunciator
- Conference Bridge
- Media Termination Point
- Music on Hold Audio Source
- Fixed MOH Audio Source
- Music on Hold Server
- Transcoder
- Media Resource Group

Advanced Features

Status
- Status: Ready

Media Resource Group List Status
- Media Resource Group List: MRGL_Sydney_Adhoc (used by 5 devices)

Media Resource Group List Information
- Name: MRGL_Sydney_Adhoc

Media Resource Groups for this List
- Available Media Resource Groups
- Selected Media Resource Groups: MRGL_Sydney_Adhoc
CUCM Configuration

CUCM Device Pool

Device Pool Settings
- Device Pool Name: DP_Sydney
- Cisco Unified Communications Manager Group: Default
- Calling Search Space for Auto-registration: < None >
- Adjunct CSS: < None >
- Reverted Call Focus Priority: Default
- Local Route Group: < None >
- Intercompany Media Services Enrolled Group: < None >

Roaming Sensitive Settings
- Date/Time Group: CMLocal
- Region: Default
- Media Resource Group List: MRGL_Sydney_Adhoc
- Location: Sydney
- Network Locale: < None >
- SRST Reference: Disable
- Connection Monitor Duration: < None >
- Single Button Barge: Default
- Join Across Lines: Default
- Physical Location: < None >
- Device Mobility Group: < None >
MRGL can be applied directly to a single Endpoint instead of configuring Device Pool.
CUCM Configuration

Add SIP Trunk Between CUCM and Conductor for Rendezvous Conferencing
CUCM Configuration
Add SIP Trunk Between CUCM and Conductor for Rendezvous Conferencing
CUCM Configuration
SIP Trunk Between CUCM and Conductor for Rendezvous Conferencing (Clustered Conductor)

• For clustered TelePresence Conductor deployment, use SRV record at destination address. CUCM, allows incoming call from the device configured in the first line of Destination Address field.

• Tick the “Destination Address is an SRV” check-box

• Leave Destination Port to “0”
CUCM Configuration

Save then reset trunk

Device Reset

- Reset
- Restart

Status

Status: Ready

Reset Information

Selected Device: Trunk_Rendezvous_Conductor (SIP Trunk)

If a device is not registered with Cisco Unified Communications Manager, you cannot reset or restart it. If a device is registered, to restart a device without shutting it down, click the Restart button. To shut down a device and bring it back up, click the Reset button. To return to the previous window without resetting/restarting the device, click Close.

Note:

Resetting a gateway/trunk/media device drops any calls in progress that are using that gateway/trunk/media device. Restarting a gateway/media device tries to preserve the calls in progress that are using that gateway/media device, if possible. Other devices wait until calls are complete before restarting or resetting. Resetting/restarting a H323 device does not physically reset/restart the hardware; it only reinitializes the configuration loaded by Cisco Unified Communications Manager.
CUCM Configuration
Add Route Pattern, associating Rendezvous number to the trunk
CUCM Configuration
Modify Region settings to allow sufficient bit rate for TelePresence

<table>
<thead>
<tr>
<th>Region Information</th>
<th>Region Relationships</th>
<th>Modifiable Relationships to Other Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: Default</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Audio Codec Preference</th>
<th>System Audio Bit Rate</th>
<th>Maximum Session Bit Rate for Video Calls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Use System Default</td>
<td>(L16, AAC-LD)</td>
<td>32256 kbps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Operation Mode</th>
<th>Maximum Audio Bit Rate</th>
<th>Maximum Session Bit Rate for Video Calls</th>
</tr>
</thead>
<tbody>
<tr>
<td>System settings</td>
<td>Time</td>
<td>256 kbps (L16, AAC-LD)</td>
<td>32256 kbps</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shutdown</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Change password</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keep Current Setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32256 kbps</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TelePresence Server Configuration

Operations Mode – Remotely managed
TelePresence Server Configuration
SIP and H.323 Settings
# TelePresence Server Configuration

## Network Services – Enable 5060 and 5061

### Services

<table>
<thead>
<tr>
<th>TCP service</th>
<th>Port A</th>
<th>IPv4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web</td>
<td>✔️ 80</td>
<td></td>
</tr>
<tr>
<td>Secure web</td>
<td>✔️ 443</td>
<td></td>
</tr>
<tr>
<td>Incoming H.323</td>
<td>✔️ 1720</td>
<td></td>
</tr>
<tr>
<td>SIP (TCP)</td>
<td>✔️ 5060</td>
<td></td>
</tr>
<tr>
<td>Encrypted SIP (TLS)</td>
<td>✔️ 5061</td>
<td></td>
</tr>
<tr>
<td>FTP</td>
<td>✔️ 21</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>UDP service</th>
<th>Port A</th>
<th>IPv4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIP (UDP)</td>
<td>✔️ 5060</td>
<td></td>
</tr>
</tbody>
</table>
TelePresence Server Configuration

Set Time Server

Feature management

- MSE 8510 activation (MMT55-Y9WUC-19A6C-P30DX)
- Encryption (VX3GS-YCJBD-H5MYV-0E2PG) remove
- Third party Interop (VXXG5-Y35M-JM13QH-C2LYV) remove
- TS screen licenses x 16 (LWKLDM4BT1S1GJCPUK6BM22)

Update features
TelePresence Server Configuration

Encryption Feature Key Added

![Upgrade Screen]

- MSE 8510 activation (MMT55-Y5WUC-19A5C-P30DX)
- Encryption (VX8G5-YQJ3D-H5MYV-OB2PG) remove
- Third party interop (VXKG5-Y35MJ-M13QH-C2LYV) remove

License keys:

TS screen licenses x 16 (LWKUDM4BLT1G1GGJCPUK6BM22)

Activation code:

[Update features button]
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