
Implementing and Configuring Cisco TelePresence Video Suite (Advanced)

DURATION: 5 DAYS

COURSE CODE: ADVANCEDTP-CT

FORMAT: LECTURE/LAB

COURSE DESCRIPTION

This one of kind Cisco Collaboration in-depth course takes student from initial endpoint configuration to a full solution deployment using all of the Cisco Collaboration Components. Students will have extensive labs in which they will configure and troubleshoot a full Cisco Telepresence Deployment.

Participants will gain in-depth practical knowledge with exercises on installing, configuring, maintaining and troubleshooting of all Cisco Telepresence Components.

The software applications that are covered in this course include:

- Cisco Unified Communications Manager (CUCM)
- Cisco Unified Communications Manager IM and Presence
- Cisco Expressway
- Cisco Video Communication Server (VCS)
- Cisco TelePresence Multipoint Controller Unit (MCU)
- Cisco Conductor
- Cisco Telepresence Server (TS)
- Cisco Meeting Server (CMS)
- Cisco Telepresence Management Suite (TMS)
- Cisco TMS Extensions
- Cisco Telepresence Content Server (TCS)

WHO SHOULD ATTEND

Network Video Engineer

Voice/UC/Collaboration/Communications Engineer

Collaboration Tools Engineer

Collaboration Sales/Systems Engineer

PREREQUISITES

Foundational IP networking knowledge such as included with a CCENT or CCNA certification is recommended.

Working knowledge of basic IP networking

Video Conferencing Experience / Voice Experience

LEARNING OBJECTIVES

Implement and Configure Cisco Endpoints

Implement and Configure Cisco Unified Communications Manager for Video Endpoints

Implement and Configure Cisco IMP for Jabber

Implement and Configure Cisco Expressway C & E

Implement and Configure Cisco Video Communications Server (VCS) Control / Expressway

Implement and Configure connectivity between a Cisco VCS and Cisco UCM

Implement and Configure a Cisco Conductor

Implement and Configure a Cisco Meeting Server (Acano)

Implement and Configure a Cisco Conductor, Cisco TelePresence Server to work with both the Cisco VCS and Cisco UCM

Implement and Configure a Cisco Meeting Server to work with Cisco UCM

Implement, Configure, and Operate Cisco TelePresence Management Suite (TMS) and provision devices using Cisco TMS Provisioning Extension (TMSPE)

Implement and Configure Cisco TelePresence Content Server (TCS) interacts with other products within the Cisco TelePresence Solution

COURSE OUTLINE

1. Telepresence Endpoints

Cisco TelePresence Endpoint Portfolio Overview

Cisco Video Phone Endpoint Characteristics

- 8845 / 8865

Cisco DX Series Endpoint Characteristics

- DX650
- DX70
- DX80

Cisco TelePresence TC/CE Software-Based Endpoint Characteristics

- C60/C90

Cisco TelePresence MX Series

- MX200
- MX300
- MX700
- MX800

Cisco TelePresence SX Series Endpoints

- SX10
- SX20
- SX80

Cisco Intelligent Proximity

Cisco TelePresence CE Software-Based Endpoint Peripherals

Cisco TelePresence CE Software-Based Endpoint Deployments

Cisco TelePresence Integrator C Series-Based Endpoints

Cisco Jabber

2. Understanding the Cisco Video Network

Network Overview

H323 Overview

SIP Overview

VCS vs Unified Communications Manager with Expressway

Internetworking

QOS Overview

3. Implementing and Configuring Unified Communication Manager for Video Endpoints

Unified Communications Manager Initial Settings

Service Activation

Enterprise and Service Parameters

Configure Video Setting in unified Communications Manger

- Regions
- Locations

SIP Domains

Configuring SIP Trunks

Configure IMP for Jabber

Configure Jabber Settings

Registering Endpoints

Verifying Network Registration

4. Implementing and Configuring Cisco Expressway / VCS for Video Endpoints

Configuring Initial Setting

Configuring Authentication

Registration Conflict Policy

Registration Restriction Policy

Local Zone Components

Membership Rules

Transforms

Purpose of Zones

COURSE OUTLINE

- Search Priority
- Neighbor Zones
- Creating Neighbor Zones
- Need for Traversal Zones
- H.460 and Assent Protocols
- Traversal Zone Configuration
- Domain Name System Dialing
- E.164 Number Mapping
- Bandwidth Management
 - Pipes
 - Subzones and Zones
 - Subzone Call Failure
- Call Processing Order
- Cisco Expressway / VCS Call Routing
- Certificates
- Certificate Installation
- Clustering and the Cisco Expressway / VCS
- Clustering Configuration
- Collecting Information
- Log Files
- Search History
- 5. Internetworking Cisco Expressway / VCS and Cisco Unified Communications Manager for Video Endpoints**
 - Connecting Expressway / VCS-C to CUCM
 - Connect Expressway-C / VCS-C to Expressway-E / VCS-E
 - Connecting CUCM to VCS-C / Expressway-C
- 6. Multipoint Conferencing with Cisco Video Conference Bridges**
 - Cisco Multipoint Conferencing Solutions
 - Cisco TelePresence Multipoint Media Infrastructure
 - Cisco TelePresence MCU
 - Cisco TelePresence Server
 - Multiparty Media 410v
 - Multiparty Media 820
 - Cisco Telepresence Server on MSE 8710
 - Cisco Telepresence Server on Virtual Machine
 - Ad Hoc Multipoint Conferences
 - Cisco TelePresence Multisite
- 7. Configuring Cisco Meeting Server (formerly Acano)**
 - Setting up CMS
 - Installing Certificates
 - Call Bridge
 - Web Bridge
 - TURN server
 - XMPP server
 - Load Balancer
 - Configuring CUCM with CMS
 - Provision the RTC Client
 - Database clustering
 - LDAP configuration
 - Dial plan configuration
 - Configuring Meeting Spaces
 - Skype for Business / Lync client Integration
 - Configure Recorder in CMS/Acano Call Bridge
 - Configure CMS WebRTC Proxy over Expressway
 - CMS / TMS Integration
 - Troubleshooting
- 8. Configuring Cisco Conductor**
 - What is Conductor?
 - Conductor – How it works
 - Installing Cisco Conductor
 - Configuring Conductor Network Settings
- 9. Configuring Conductor for a CUCM Configuration**
 - MCU Configuration
 - Resetting TelePresence MCU configuration to default
 - Creating a user
 - Installing an encryption key
 - Configuring SIP
 - Disabling H.323 registration
 - Miscellaneous settings
 - Telepresence Server
 - Creating a user
 - Installing an encryption key
 - Configuring SIP
 - Disabling H.323 registration
 - Configuring the operation mode
 - Telepresence Conductor Server Configuration
 - Changing the administrator password
 - Changing the root password
 - Creating a user for Unified CM access
 - Changing the system settings
 - Creating Service Preferences
 - Adding IP addresses for ad hoc and rendezvous locations on TelePresence Conductor
 - Adding FQDNs to server certificate
 - Configuring TelePresence Conductor for ad hoc conferences
 - Creating a conference template for an ad hoc Meeting-type conference

COURSE OUTLINE

- Creating an ad hoc Location

Configuring TelePresence Conductor for rendezvous conferences

- Creating a conference template for a rendezvous Meeting-type conference
- Creating a conference alias for a rendezvous Meeting-type conference
- Creating an auto-dialed participant for a rendezvous Meeting-type conference
- Creating a conference template for a rendezvous Lecture-type conference
- Creating a host conference alias for a rendezvous Lecture-type conference
- Creating a guest conference alias for a rendezvous Lecture-type conference
- Creating a rendezvous Location
- Adding Locations to conference bridge pools

Configuring Unified CM

Configuring general settings on Unified CM

Locations in Unified CM

Unified CM trusts TelePresence Conductor's server certificate

SIP trunk security profile

Configuring Unified CM for rendezvous conferences

Sip Trunk Configuration

Conference Bridge Configuration

MRG and MRGL Configuration

Unified CM normalization scripts

Configuring Unified CM for ad hoc conferences

Sip Trunk Configuration

Route pattern to match the SIP Trunk Configuration

Unified CM normalization scripts

10. Configuring Conductor for a CUCM with Cisco VCS

Designing a Dial Plan

MCU Configuration

- Resetting TelePresence MCU configuration to default
- Creating a user
- Installing an encryption key
- Configuring SIP
- Disabling H.323 registration
- Miscellaneous settings
- Telepresence Server

Telepresence Server

- Creating a user
- Installing an encryption key
- Configuring SIP

- Disabling H.323 registration
- Configuring the operation mode
- Configuring the Cisco VCS
- TelePresence Conductor as a neighbor zone Configuration
- TelePresence Conductor as a Search Rule Configuration

Telepresence Conductor Server Configuration

- Changing the administrator password
- Changing the root password
- Creating a user for Unified CM access
- Changing the system settings
- Creating Service Preferences
- Adding an IP address for Cisco VCS rendezvous conferences on TelePresence Conductor
- Configuring a Location for Cisco VCS
- Setting up Conference Bridge pools
- Creating Service Preferences
- Creating conference templates for Meeting-type conferences
- Creating conference templates for Lecture-type conferences
- Creating the auto-dialed participants
- Creating conference aliases for the Meeting-type conferences
- Creating conference aliases for the Lecture-type templates

Backing Up Conductor

Troubleshooting Conductor

11. Installing Cisco Telepresence Management Server

Windows Server Installation

SQL Server Installation

Server Prerequisites and configuration

Installing TMS

Installing TMS Provisioning Extensions

Release and Option Keys

Upgrading TMS

Backup TMS

12. Configuring Cisco TelePresence Management Suite (TMS)

Initial Configuration

Endpoint Configuration

Adding User Accounts and Profiles

Groups and Permissions

Active Directory Lookup

Configuration Templates

Setting Configuration

COURSE OUTLINE

- General Settings
- Network Settings
- Mail Settings
- Conference Settings

Expressway / VCS Configuration for TMS

Direct Endpoint Management VCS/TMS

- Direct Managed Endpoint Features
 - Granular / Immediate System Configuration
 - Scheduling
 - OBTP
 - Upgrades
 - Reporting
 - Phonebooks
 - Conference Management

CUCM Configuration for TMS

Direct Endpoint Management – CUCM

- TMS Responsibilities
 - Scheduling
 - OBTP
 - Basic call history for TC
- CUCM Responsibilities
 - Phonebooks
 - Software Upgrade
 - Device Configuration
- Findme Configuration
- Phonebooks & Phonebook Sources
- Creating Phone Book Sources
- Manual List Phonebooks
- External Source Phonebooks

13. Configuring Cisco TMSPE

What Is TMSPE?

Provisioning Components

Configuring the Cisco VCS for Provisioning

Configuring the Cisco TMS for Provisioning

DNS for Provisioning

Groups and Users

Address Patterns

Template Schemas

Provisioning Phone Book Sources

Provisioning a Phone Book

Sending Account Information

TMSPE Diagnostics

TMSPE Services

Log Files

14. Booking Conferencing With TMS

Conference Creation

Advanced Conference Settings

Booking & Scheduling

Participant Types

Methods

Conference Monitoring

Dial Plans, Configuration Templates

Scheduler / Smart Scheduler

15. Managing and Troubleshooting TMS

Using the Logs

Cisco TMS Ticketing System

Troubleshooting VCS Registrations

Troubleshooting CUCM Registrations

System Maintenance

16. Configuring Cisco Telepresence Content Server (TCS)

Cisco TCS Purpose Documentation

Cisco TCS Basic Features

Cisco TCS with Cisco Show and Share and the Cisco Media eXperience Engine

H.323 and SIP Settings

Adding Users

Conference Templates, Categories, and Call Configuration

Recording Alias

Playback Alias

Export and Import Recordings

DISCOVERY LABS

- 1: Configure Unified Communications Manager
- 2: Configure the Cluster Fully Qualified Domain Name (FQDN)
- 3: Configure Inter-Presence Group Subscription Parameter for IMP
- 4: Region Session Bit Rate for Video Calls
- 5: Configure the SIP Trunk Security Profile for Conferencing
- 6: Configure the SIP Trunk Security Profile for IMP
- 7: Configure the SIP Profile for Expressway / VCS
- 8: Configure the SIP Profile for Conductor
- 9: Configure the SIP Profile for CMS
- 10: Create a SIP Trunk to Expressway / VCS
- 11: Create a SIP Trunk to IM&P Server
- 12: Create a SIP Trunk to Conductor
- 13: Integrate Active Directory
- 14: Add IM and Presence UC Profiles
- 15: Add IM and Presence Service Profiles

DISCOVERY LABS

- 16: Set Up Cisco Unified Communications IM and Presence
- 17: Add Media Resources Groups
- 18: Add Media Resources Groups Lists
- 19: Modify the Default Date/Time Group
- 20: Modify the Default Device Pool
- 21: Create a Route Patterns to Expressway / VCS
- 22: Create a Route Patterns to CMS
- 23: Create a Route Patterns to Conductor
- 24: Create a SIP Route Patterns to VCS
- 25: Add the 9971phone as a CUCM Endpoint
- 26: Add EX90 as a CUCM Endpoint
- 27: Add SX80 as a CUCM Endpoint
- 28: Install the Jabber Client
- 29: Add the Jabber Client to CUCM
- 30: Configure the Cisco Jabber Client
- 31: Verify Video and Audio Input on the Cisco Jabber Client
- 32: Expressway / VCS Control (VCS--C) Configuration
- 33: Basic Expressway / VCS Administration Configuration
- 34: Expressway / VCS Zone Configuration
- 35: Expressway / VCS Zone Configuration to CUCM
- 36: Expressway / VCS Zone Configuration to Expressway / VCS-E
- 37: Expressway / VCS Zone Status
- 38: Expressway / VCS Search Rule to CUCM
- 39: Expressway / VCS Search Rule to VCS-E
- 40: Expressway / VCS Transform Rule to CUCM
- 41: Expressway / VCS Transform Rule for Calls Coming From CUCM
- 42: Add your EX90 as an H.323 Endpoint to VCS
- 43: Add C-60 as a SIP and H.323 Endpoint to VCS
- 44: Add SX10 as a SIP Endpoint to VCS
- 45: Configure Cisco Telepresence Server Pre-configuration
- 46: Configure Virtual Telepresence Servers (VTS)
- 47: Basic VTS Administration Configuration Configure Cisco Meeting Server
- 48: Add CMS to CUCM
- 49: Configure SIP Trunk for CMS
- 50: Configure Cisco Meeting Spaces
- 51: Configure the RTC client
- 52: Check Cisco Conductor Configuration
- 53: Configure Cisco Conductor
- 54: Basic Conductor Administration Configuration
- 55: Configure a Conference Bridge Pool
- 56: Configure a Service Preference
- 57: Configure an Additional IP Address on TP Conductor for Meetings
- 58: Create a conference template for Rendezvous type meetings
- 59: Create a conference template for Ad hoc type meetings
- 60: Create a Rendezvous Location
- 61: Add Location to Conference Bridge Pool
- 62: Create a conference alias for rendezvous Meeting-type conference
- 63: Create an AD Hoc Location
- 64: Create User Accounts for TMS, TMSPE, and CUCM
- 65: Create a SIP Trunk to Conductor for Ad hoc Conferences
- 66: Create a SIP Trunk to Conductor
- 67: Create a SIP Trunk to Conductor for Rendezvous Conferences
- 68: Add a Conference Bridge to CUCM for Conductor
- 69: Add a Conference Bridge to CUCM for Ad hoc conferences on Conductor
- 70: Modify Media Resources Group
- 71: Configure CUCM MeetMe Number Pattern
- 72: Configure Route Pattern for the MeetMe Number Pattern
- 73: Configure Meet-Me Phone Button for your 9971 Phone
- 74: Configure a Search Rule on the Expressway / VCS for 6XXX extensions to CUCM
- 75: Check Cisco TMS Preconfiguration
- 76: Preconfigured Cisco TMS
- 77: TMS Basic Configuration
- 78: Configure TMS to send E-mailAdd User-1 and User-2 to TMS
- 79: Rename Main Folder in Navigator
- 80: Add Conductor to TMS
- 81: Add Telepresence Servers to TMS
- 82: Add Unified Communication Manger TMS
- 83: Add Expressway / VCSE to TMS
- 84: Add EX90s From Call Manager to TMS
- 85: Add EX90 From Expressway / VCS to TMS
- 86: Add C60 From Expressway / VCS to TMS
- 87: Add SX10 From Expressway / VCS to TMS
- 88: TMSPE - Expressway / VCS Control (VCS--C) Configuration
- 89: Configured Cisco TMS