Implementing Cisco Telepresence Solutions (ITS)

Course Objectives

- Describe a Cisco TelePresence solution and the technology that makes it work
- Describe and configure a Cisco TelePresence system endpoint
- Describe the Cisco TelePresence architecture
- Describe the extended features of Cisco TelePresence

Prerequisites

The knowledge and skills you must have before attending this course are as follows:

- Interconnecting Cisco Networking Devices Part 1
- Interconnecting Cisco Networking Devices Part 2
- Implementing Cisco Quality of Service
- Implementing Cisco Unified Communications Manager Part 1

Course Outline

Module 1: Introduction to Cisco TelePresence

This module describes a Cisco TelePresence solution and the technology that makes it work

Lesson 1: Exploring the Cisco TelePresence Solution

- Define telepresence and the use of technology to immerse a participant in the experience
- Identify the limitations of traditional video communications
- Explain the original design attributes for Cisco TelePresence
- Describe the Cisco TelePresence endpoint design principles
- Describe the advantages of the Cisco TelePresence solution
- Discuss the vision for Cisco TelePresence and how it can help create a next–generation, rich-media network
- Discuss the high-level network requirements for Cisco TelePresence
- Provide a high-level overview of the NPA

Lesson 2: Exploring the Cisco TelePresence Environments

- List the components of the Cisco TelePresence solution and which role each component fulfills
- Identify the endpoints in the Cisco TelePresence portfolio and describe the level of experience that each model provides
- Discuss the wiring for the Cisco TelePresence generation 2 primary codec
- Describe the acoustic properties of the Cisco TelePresence room
- Describe the Cisco TelePresence illumination specifications

- Describe the Cisco TelePresence Auto Collaborate feature
- Describe the capabilities of the Cisco TelePresence Multipoint Switch
- List the capabilities of the Cisco TelePresence Recording Server
- Define the capabilities of Cisco TelePresence Manager
- Describe the Cisco TelePresence experience, as well as video and audio characteristics
- Define the Cisco TelePresence architecture for intercompany communications
- Discuss the purpose of the Cisco TelePresence Planning, Design, and Implementation Service

Lesson 3: Planning a Cisco TelePresence Room Design

- Discuss various questions you should ask when designing a Cisco TelePresence room
- Discuss the importance of corporate identity on a conference room and how Cisco TelePresence solutions provide the flexibility to incorporate corporate culture
- Discuss the importance of background aesthetics in creating a 3-D experience
- Describe Cisco TelePresence room design examples
- Discuss the effect that wall textures have on a Cisco TelePresence room
- List the approved background colors for a Cisco TelePresence room

Module 2: Cisco TelePresence Call Control

This module describes Cisco TelePresence endpoints and how to configure them

Lesson 1: Integrating Cisco TelePresence Endpoints with Cisco Unified Communications Manager

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- Describe the complete end-to-end solution that the Cisco TelePresence solution provides
- Describe the Cisco TelePresence codec
- Configure and troubleshoot the Cisco TelePresence codec
- Describe Cisco Unified Communications Manager
- Describe the registration process between the codec and Cisco Unified Communications Manager
- Describe the Cisco Unified Communications Manager configuration that is needed to support the Cisco TelePresence system
- Describe the Cisco Unified IP Phone 797xG
- Describe Cisco TelePresence CAC considerations
- Troubleshoot Cisco TelePresence system issues

Lesson 2: Examining the Cisco TelePresence User Interface

- Describe the Cisco Unified IP Phone that the Cisco TelePresence system uses
- Describe the One-Button-to-Push features of the Cisco Unified IP Phone
- Conference an audio-only call into a Cisco TelePresence session
- Describe the multiple audio and video call support features
- Describe the meeting control options
- Control the document camera from the IP phone
- Describe the Cisco Auto Collaborate Presentation Privacy alert
- Describe the Cisco TelePresence in-call icons
- Describe the user interface on phone alerts, status, and messages

Module 3: Cisco TelePresence Network Architecture

This module describes the Cisco TelePresence network architecture

Lesson 1: Deploying a Cisco TelePresence Network

- Describe the functionality of multiplexing RTP video and audio streams with the Cisco TelePresence codec
- Describe the various Cisco TelePresence deployment models
- Configure Cisco devices for use with Cisco TelePresence

Lesson 2: Shaping and Policing

- Describe recommendations for provisioning a network with Cisco TelePresence
- Describe bursty traffic in the network
- Describe traffic policing and shaping of network traffic
- Describe traffic characteristics for Cisco TelePresence
- Provision for bursts in the network

Lesson 3: Setting a QoS Policy

- Explain the effect that latency, jitter, and loss have on Cisco TelePresence
- Describe the various IP packet classification and marking methods
- Describe the Cisco Catalyst queuing model for Telepresence traffic
- Provide an overview of campus QoS policies

Lesson 4: Designing WAN and Branch QoS Policies

- Describe the difference between a converged network and an overlay WAN network
- Provide an overview of the WAN and branch QoS polices
- Describe considerations and recommendations for LLQ and CBWFQ
- Describe the various WAN edge models
- Provide an overview of MPLS VPN policies
- Provide an overview of subline rate issues
- Describe the Cisco Certified TelePresence Connection program for service providers

Lesson 5: Understanding the NPA

- Describe the NPA process
- Describe the tools that are used to perform an NPA
- Use the VSAA to collect network statistics
- Describe the Cisco TelePresence Manager PreQualification Assistant 1.5

Lesson 6: Using the VSAA

- Describe the VSAA
- Configure VSAA bootable flash drives
- Configure VSAAs, run tests on the network, collect the data and upload the results to the Cisco Partner portal

Module 4: Cisco TelePresence Extended System Features

This module describes the extended features of Cisco TelePresence

Lesson 1: Understanding the Cisco TelePresence Multipoint Switch

- Provide an overview of the Cisco TelePresence Multipoint Switch
- Discuss the conference features available for Cisco TelePresence Multipoint Switch conferences
- Discuss the bandwidth requirements for the Cisco TelePresence Multipoint Switch
- Discuss the rationale for centrally deploying the Cisco TelePresence Multipoint Switch server
- Discuss the process for room switching with Cisco TelePresence systems
- Discuss the process for speaker switching with Cisco TelePresence systems
- Discuss the Cisco TelePresence Multipoint Switch meeting types
- Troubleshoot different Cisco TelePresence Multipoint Switch meeting types

Lesson 2: Understanding the Cisco TelePresence Multipoint Switch

- Provide an overview of the Cisco TelePresence Manager features and specifications
- Review the initial server configuration settings for Cisco TelePresence Manager
- Describe how Cisco TelePresence Manager integrates with Cisco Unified Communications Manager
- Discuss how Cisco TelePresence Manager integrates with Cisco TelePresence Systems
- Discuss how Cisco TelePresence Manager integrates with LDAP and Microsoft Exchange
- Discuss the requirements for Microsoft Exchange integrations with forms-based authentication
- Discuss how Cisco TelePresence Manager integrates with Lotus Domino
- Discuss and configure the Cisco TelePresence Manager integration with Cisco TelePresence Multipoint Switch
- Discuss the management and troubleshooting of Cisco TelePresence scheduled meetings
- Demonstrate the scheduling of a Cisco TelePresence meeting
- Troubleshoot Cisco TelePresence Manager

Lesson 3: Exploring One-Button-to-Push Without Cisco TelePresence Manager

- Discuss reasons for not deploying Cisco TelePresence Manager
- List the features that you lose without Cisco TelePresence Manager and the options on the Cisco TelePresence User Interface that you can use instead of One-Button-to-Push
- Discuss how to schedule a Cisco TelePresence meeting without Cisco TelePresence Manager

Lesson 4: Examining Cisco TelePresence Interoperability

- Provide an overview of Cisco TelePresence interoperability, list the features of Cisco TelePresence interoperability, and identify the benefits and caveats of interoperability with Cisco TelePresence
- Discuss Cisco TelePresence interoperability integrations

- Describe the design of a dial plan when you are implementing a Cisco Unified Conferencing MCU
- Discuss call setup during a Cisco TelePresence interoperability call
- Connect to the console of the Cisco Unified Videoconferencing 3500 Series MCU
- Demonstrate how to access the Cisco Unified Videoconferencing web administration page
- Demonstrate how to configure the Cisco Unified Videoconferencing 3500 Series MCU

Lesson 5: Working with the Cisco TelePresence Recording Server

- Provide an overview of the Cisco TelePresence Recording Server and its features
- List the Cisco TelePresence Recording Server specifications
- Demonstrate the integration of LDAP with Cisco TelePresence Recording Server
- Use the Cisco TelePresence Recording Server to record, review, and distribute content
- Discuss the benefits of integrating the Cisco TelePresence Recording Server with the Cisco MXE 3000 Media Experience Engine for video postproduction

Lesson 6: Examining Intercompany Communications

- Provide an overview of intercompany communication
- Describe the process that enables intercompany communication
- Discuss the use of ENUM as a tool for mapping directory numbers to an IP address and discuss options for external dial plans
- Describe the functionality that the Cisco Unified Border Element provides
- Discuss the SIP signaling negation process when using an SBC
- Discuss the SIP signaling negation process when using a Cisco ASA 5500 Series Adaptive Security Appliance
- Discuss RTP media flow through an SBC
- Discuss the RTP signaling negation process when using a Cisco ASA 5500 Series Adaptive Security Appliance
- Describe how service providers can enable hosted solutions

Lesson 7: Examining Cisco TelePresence Security

- Describe the security features of Cisco TelePresence in Cisco Unified Communications Manager
- Configure the security profile for Cisco TelePresence in Cisco Unified Communications Manager
- Configure PKI-based security features in Cisco Unified Communications Manager

Labs:

- Cisco TelePresence Demonstration to EBC (Optional)
- Assembling the Endpoint
- Registering the Cisco TelePresence Endpoint
- Completing a Cisco TelePresence Call Between Two Endpoints
- Performing an NPA Using VSAA
- Performing an NPA Using IP SLA
- Configuring the Cisco TelePresence Multipoint Switch
- Using the Cisco TelePresence Manager Prequalification Tool

- Configuring Cisco TelePresence Manager, Cisco Unified Communications Manager, and Microsoft Exchange Service Account
- Adding Users to Exchange
- Configuring Scheduled Meetings
- Enabling Cisco Unified Video Advantage
- Configuring the Cisco Unified Videoconferencing MCU with SIP
- Configuring the Cisco TelePresence Recording Server