Implementing Advanced TelePresence Video Solutions Part 2, v1.0 (PAIATVS2)

Course Objectives

- Recognize the MSE 8000 chassis and the corresponding blades available including their function
- Operate a Cisco TelePresence Server to enable mixed network calls between CTS and other Cisco TelePresence endpoints
- Configure and operate a Cisco TelePresence Content Server
- Configure a Cisco TelePresence Video Communication Server for sub-zones, zones, complex dial plans and security requirements
- Use the Cisco TelePresence Management Suite and Cisco TelePresence Communication Server to provision Movi and E20 systems

Prerequisites

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

- Completed and passed the PATVSEE exam
- Completed and passed the PATVSEA exam
- Completed PAIATVS1 class

Course Outline

Module 1: TelePresence MSE 8000, TelePresence Server and TIP This module provides you with the knowledge and skills to locate support documentation, install, upgrade and troubleshoot the MSE8000, Cisco TelePresence Server and understand the use of TIP and describe the interoperation between the TIP and SIP endpoints.

Lesson 1: Cisco TelePresence MSE8000

- Describe the MSE 8000 hardware including chassis, back plane, power requirements, fans and card slots
- Explain the common problems that can occur during installation
- Explain the purpose and meaning of the warning lights on the chassis
- Describe the operation of the Supervisor Blade
- Calculate the power consumption
- Recognize the blades used in the MSE8000 and describe their key features

Lesson 2: Cisco TelePresence Server

- Identify the different hardware options (8710, 7010)
- List the key software features
- Undertake initial system configuration

- Perform a software upgrade
- Manage endpoints
- Set up and manage conferences
- Undertake diagnostics
- Collect and view log files
- Search the TANDBERG Documentation web site
- Explain TelePresence Interoperability, TelePresence Interoperability Protocol, support for Cisco endpoints, and configuration of CUCM, VCS and TS

Lesson 3: TIP and Cisco Interoperation Support

- Define TIP
- Describe the interoperation between the TIP and SIP endpoints
- Explain TIP deployment scenarios

Module 2: TelePresence Content Server

Lesson 1: Recording Features and Functions

- Describe the basic features of the TelePresence Content Server including:
- system hardware components
- capacity
- supported layouts
- premium resolution option
- web streaming formats for true streaming and progressive download
- unicast and multicast streaming options
- file formats used and storage space required
- Describe the common protocols used for streaming including HTTP streaming and RTSP.
- Describe the difference between True streaming and Progressive download
- Describe the difference between unicast and multicast

Lesson 2: Configuration and Operation

- Register to a gatekeeper in gateway mode .
- Register to SIP server.
- Describe how to add users.
- Create a recording alias with a specific viewing output.
- Make an adhoc alias to create a recording.
- Log in as a user with the Creator role to edit the recording including trimming the recording, adding outputs for downloading and publishing the recording.
- Describe how add to TMS and schedule a recording
- Find the endpoint playback address and play a recording back to an endpoint.
- Describe how to export a recording and import to another TCS.

Lesson 3: Extending TCS Functionality

- Using NAS storage
- Automatic Distribution

- Describe the basic principles of clustering TelePresence Content Servers and using external Streaming servers

Module 3: Call Control This module provides you with the knowledge and skills to install, configure, maintain and troubleshoot Cisco TelePresence Video Communications Server (VCS).

Lesson 1: Registration

- Recap H.323 and SIP registration
- Recap H.323 call signaling
- Describe optimal call routing
- Set up a VCS Control, register both SIP and H.323 endpoints, and make test calls

Lesson 2: Security

- Allow List using an exact match, prefix and suffix.
- Deny List using an exact match, prefix and suffix.
- Authentication using the local database.

Lesson 3: Subzones

- Describe the benefits of splitting local endpoints into subzones.
- Describe the use of Links, Pipes, Local zone, Subzone, Default Subzone and Traversal Subzones.
- Configure subzones to determine which subzone an endpoint is registered to.
- Configure appropriate subzones and apply appropriate bandwidth restrictions based on a customer requirement.

Lesson 4: Zones

- Describe flat, structured, and hierarchical dial plans.
- Describe zone pattern matching.
- Describe and configure a neighbor zone on the VCS.
- Describe the problem of call looping.

Lesson 5: Backups and Upgrades

- Backup the configuration of the VCS system.
- Restore the configuration of the VCS system.

Lesson 6: Traversal Zones

- Describe why a traversal zone is needed to traverse video through a firewall.
- Describe the H.460 and Assent firewall protocols, the differences between them, and the firewall port configurations needed to make them work.
- Configure a server traversal zone on a VCS expressway and client traversal zone on a VCS Control for SIP and H.323 communication.
- Describe alternative deployments dependent on customer requirements including simple, typical, mutual, and DMZ solutions.

Lesson 7: Call Policy

- Describe the benefits of transforms, particularly when used with larger implementations, to provide least cost and alternative routing.
- Configure transform rules for a given example.
- Prioritize transforms.
- Create a call policy to prevent some endpoints contacting others.

Lesson 8: FindMe

- Add local users to the VCS.
- Describe the FindMe™ application and configure users on the system manually.
- Configure individual FindMe™ accounts to a user's specification and test that it works.
- Enable Interworking on the VCS and test calls between H.323 and SIP endpoints

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- Checking for transforms, administrator, and user policy.
- Searching zones and subzones.
- Priority order for searches.
- Behavior when bandwidth restrictions are reached on a link between subzones.
- Behavior when bandwidth restrictions are reached on a link between subzone and zone.
- Behavior when restrictions are reached within a subzone.

Lesson 10: TAC Files

- Used the search history and event log to discover why a call is not connecting.
- Used the call log and search details to determine information about the call including the route taken and the bandwidth used.
- Viewed statistics and status information.
- Viewed and acknowledge warnings from the web interface.
- Taken the appropriate details from the VCS to send to TAC.
- Described incident reporting capabilities.

Lesson 11: Certificates

- Describe the significance of security certificates.
- Be able to install security certificates.
- Describe the benefits and potential problems with the advanced account security option

Lesson 12: Presence

- Explain how Presence works.
- Describe the role of the Presence server and Presence User Agent (PUA).
- Describe different presence deployments including:
- Presence with a single VCS.
- Presence and Neighboring.
- Presence and Expressway

Lesson 13: LDAP Authentication

- Describe the use of LDAP as a method of authentication.
- Set up a remote LDAP connection to authenticate Endpoints using H.235 authentication, additional admin accounts, and user accounts.
- Configure the VCS to use an LDAP server for FindMe™ account authentication.

Lesson 14: Calls to Unregistered Endpoints

- Control calls to IP addresses that are not registered to the VCS
- Use direct and indirect modes in firewall traversal.

Lesson 15: Regular Expressions

- Understand the purpose of regular expressions.
- Describe where regular expressions can be used on the VCS.
- Create regular expressions to perform useful tests and transforms.

Lesson 16: ENUM and DNS Dialing

- Recognize the format of a URI address.
- Recognize the format of an ENUM address.
- Explain DNS and ENUM dialing.
- Explain the need for neighbor zones to be set up when DNS dialing is not available.
- Be able to provide the information necessary to configure DNS records.
- Be able to configure the VCS for URI dialing.

Lesson 17: Conference Factory

- List the systems necessary to implement Multiway™.
- Configure systems to implement Multiway™.
- Describe how Multiway™ works.

Lesson 18: Redundancy

- Describe how clustering works with VCS.
- Describe how replication happens.
- Implement and configure a cluster involving a master peer and one or more cluster peers.

Module 4: Provisioning This module provides you with the knowledge and skills to provision for a videoconferencing solution and its components. In the case where the provisioning does not work you will also be able to troubleshoot the system and repair the problem.

Lesson 1: Documentation

- Locate provisioning documentation on the Support website including the following:
- The TMS Provisioning Deployment Guide
- The TMS Provisioning Troubleshooting Guide
- The Movi Administrator Guide

- The Movi User guide
- The Movi Software Release Notes
- Describe what type of information is contained in each key provisioning document

Lesson 2: System Components

- The Cisco TelePresence VCS including
- The TMS Agent
- OpenDS
- The Cisco TelePresence Management Suite, including
- User management
- Movi Licence management
- Phonebook management
- The Cisco TMS Agent, including
- OpenDS
- Movi and E20 Clients

Lesson 3: Configuration

- Setup the Cisco VCS for Provisioning
- Setup the Cisco TMS for Provisioning

Lesson 4: Provisioning User Accounts

- Edit the Provisioning Dialplan
- Configure the External Source (AD)
- Add Groups
- Import users from AD
- Manually add users
- Add Phone Books
- Configure FindMe
- Configure the Email template
- Deploy the Cisco E20

Lesson 5: Troubleshooting

- Run the TMS Agent Diagnosis
- Fix problems
- Set scheduled time for diagnosis
- Know where to find the logs for:
- TMS
- VCS
- Movi & E20 clients
- Use Wireshark
- Identify common problems

TVS 2 Labs

- Lab 1-1: TelePresence Server Labeling

- Lab 2-1: TCS Functions and Features Quiz
- Lab 2-2: TCS Basic configuration
- Lab 2-3: TCS Recording a Conference
- Lab 2-4: TCS Editing a Recording
- Lab 2-5: TCS Playing a Recording from an Endpoint
- Lab 2-6: TCS Using the Online Help
- Lab 3-1: VCS Setup Lab
- Lab 3-2: VCS Security
- Lab 3-3: VCS Subzones
- Lab 3-4: VCS Zone Configuration
- Lab 3-5: VCS Backup
- Lab 3-6: VCS Firewall Traversal
- Lab 3-7: VCS Create a Call Policy
- Lab 3-8: VCS FindMe™ Accounts
- Lab 3-9: VCS Searches
- Lab 3-10: VCS Creating Files for TAC
- Lab 3-11: VCS Presence
- Lab 3-12: VCS LDAP
- Lab 3-13: VCS Unregistered Endpoints
- Lab 3-14: VCS Regular Expressions
- Lab 3-15: VCS DNS Zone Calls
- Lab 3-16: VCS Conference Factory Settings
- Lab 3-17 VCS Redundancy
- Lab 4-1:Basic Provisioning Configuration
- Lab 4-2:Advanced Provisioning Configuration
- Lab 4-4:Troubleshooting and Verification