Implementing Cisco Unified Communications Manager, Part 2 v8.0 (CIPT2 8)

Course Objectives

- Describe multisite deployment issues and solutions, and describe and configure required dial plan elements
- Implement call-processing resiliency in remote sites by using Cisco Unified SRST, MGCP fallback, and Cisco Unified Communications Manager Express in Cisco Unified SRST mode
- Implement bandwidth management and CAC to prevent oversubscription of the IP WAN
- Implement Device Mobility and Cisco Extension Mobility
- Describe and implement CCD deployments

Prerequisites

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

- Working knowledge of converged voice and data networks
- Working knowledge of the MGCP, SIP, and H.323 protocols and their implementation on Cisco IOS gateways
- Ability to configure and operate Cisco routers and switches
- Ability to configure and operate Cisco Unified Communications Manager in a single-site environment

Course Outline

Module 1: Multisite Deployment Implementation

Describe multisite deployment issues and solutions, and describe and configure required dial plan elements.

Lesson 1: Identifying Issues in a Multisite Deployment

This lesson defines issues pertaining to multisite deployment and relates the issues to multisite connection options.

- Multisite Deployment Issues Overview
- Quality Issues
- Bandwidth Issues
- Availability Issues
- Dial Plan Issues
- NAT and Security Issues

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Lesson 2: Identifying Multisite Deployment Solutions

This lesson defines solutions for multisite deployment issues.

- Multisite Deployment Solution Overview
- QoS
- Solutions to Bandwidth Limitations
- Availability
- Dial Plan Solutions
- NAT and Security Solutions

Lesson 3: Implementing Multisite Connections

This lesson defines how to configure gateways and trunks in multisite environments. Upon completing this lesson, the learner will be able to meet these objectives:

- Multisite Connection Options
- MGCP Gateway Implementation Review
- H.323 Gateway Implementation Review
- Trunk Implementation Overview
- SIP Trunk Implementation
- Intercluster and H.225 Trunk Implementation

Lesson 4: Implementing a Dial Plan for International Multisite Deployments

This lesson defines how to implement a dial plan to support inbound and outbound PSTN dialing, site-code dialing, and TEHO in an international environment.

- Multisite Dial Plan Overview
- Implementing Site Codes for On-Net Calls
- Implementing PSTN Access in Cisco IOS Gateways
- Implementing Selective PSTN Breakout in Cisco Unified Communications Manager
- Implementing PSTN Backup for On-Net Intersite Calls
- Implementing Tail-End Hop-Off
- Globalized Call Routing
- Globalized Call-Routing Considerations

Module 2: Centralized Call-Processing Redundancy Implementation

Implement call-processing resiliency in remote sites by using Cisco Unified SRST, MGCP fallback, and Cisco Unified Communications Manager Express in Cisco Unified SRST mode.

Lesson 1: Examining Remote Site Redundancy Options

This lesson defines the mechanisms for providing call survivability and device failover in remote sites, including the functions, operation, and limitations of each mechanism. Upon completing this lesson, the learner will be able to meet these objectives:

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- Remote Site Redundancy Overview
- Cisco Unified SRST Operation
- MGCP Fallback Operation
- Cisco Unified SRST Versions and Feature Support
- Dial Plan Requirements for MGCP Fallback and Cisco Unified SRST Scenarios

Lesson 2: Implementing SRST and MGCP Fallback

This lesson defines how to configure Cisco Unified SRST to provide call survivability for IP phones, and MGCP fallback for gateway survivability.

- MGCP Fallback and Cisco Unified SRST Configuration Overview
- Cisco Unified Communications Manager SRST Configuration
- Cisco IOS Gateway SRST Configuration
- Cisco IOS Gateway MGCP Gateway Fallback Configuration
- Cisco Unified Communications Manager Dial Plan Configuration for Cisco Unified SRST Support

Lesson 3: Implementing Cisco Unified Communications Manager Express in SRST Mode

This lesson defines how to configure Cisco Unified Communications Manager Express to provide telephony services to IP phones if the connection to the centralized call agent is lost.

- Cisco Unified Communications Manager Express Overview
- Cisco Unified Communications Manager Express Features
- General Configuration of Cisco Unified Communications Manager Express
- Configuration of Cisco Unified Communications Manager Express in SRST Mode

Module 3: Bandwidth Management and CAC Implementation

Implement bandwidth management and CAC to prevent oversubscription of the IP WAN.

Lesson 1: Managing Bandwidth

This lesson defines techniques to reduce bandwidth requirements on IP WAN links in Cisco Unified Communications Manager multisite deployments.

- Bandwidth Management Overview
- Cisco Unified Communications Manager Codec Configuration
- Local Conference Bridge Implementation
- Transcoder Implementation
- Multicast MOH from Branch Router Flash Implementation

Lesson 2: Implementing CAC

This lesson defines how to configure CAC mechanisms and AAR in Cisco Unified Communications Manager and in gatekeepers.

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- CAC Overview
- Locations
- RSVP-Enabled Locations
- Automated Alternate Routing
- SIP Preconditions
- H.323 Gatekeeper CAC

Module 4: Implementation of Features and Applications for Multisite Deployments

Implement Device Mobility and Cisco Extension Mobility.

Lesson 1: Implementing Device Mobility

This lesson defines how Device Mobility works and how it is implemented.

- Issues with Devices Roaming Between Sites
- Device Mobility Overview
- Device Mobility Configuration Elements
- Device Mobility Operation
- Device Mobility Interaction with Globalized Call Routing
- Device Mobility Configuration

Lesson 2: Implementing Cisco Extension Mobility

This lesson defines how Cisco Extension Mobility works and how it is implemented. Upon completing this lesson, the learner will be able to meet these objectives:

- Issues when Users Roam Between Sites
- Cisco Extension Mobility Overview
- Cisco Extension Mobility Configuration Elements
- Cisco Extension Mobility Operation
- Cisco Extension Mobility Configuration

Module 5: CCD

Describe and implement CCD deployments.

Lesson 1: Implementing SAF and CCD

This lesson defines how to implement the SAF client and forwarder in an environment with CCD.

- SAF and CCD Overview
- SAF Characteristics
- CCD Characteristics
- CCD Operation
- SAF and CCD Implementation
- CCD Considerations

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CIPT 2 8.0 LABS

- Lab 1-1: Implementing Basic Multisite Connections
- Lab 1-2: Implementing a Dial Plan for International Multisite Deployments
- Lab 2-1: Implementing SRST and MGCP Fallback
- Lab 2-2: Implementing Cisco Unified Communications Manager Express to Provide Redundancy
- Lab 3-1: Implementing Bandwidth Management
- Lab 3-2: Implementing CAC
- Lab 4-1: Configuring Device Mobility
- Lab 4-2: Configuring Cisco Extension Mobility
- Lab 5-1: Implementing CCD Using the Cisco SAF Client and Forwarder

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