

## CIPT1 - Implementing Cisco Unified Communications IP Telephony Part 1 v8.0

### Course Objectives

- Describe Cisco Unified Communications Manager, including its functions, architecture, deployment and redundancy options, and how to install or upgrade
- Perform Cisco Unified Communications Manager initial configuration and user management
- Configure Cisco Unified Communications Manager to support on-cluster calling
- Implement PSTN access in Cisco Unified Communications Manager and to build a dial plan in a single-site Cisco Unified Communications Manager deployment
- Implement Cisco Unified Communications Manager media resources
- Implement Cisco Unified Communications Manager features and applications

### 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: Introduction to Cisco Unified Communications Manager**

Describe Cisco Unified Communications Manager, including its functions, architecture, deployment and redundancy options, and how to install or upgrade.

#### **Lesson 1: Understanding Cisco Unified Communications Manager Architecture**

This lesson defines Cisco Unified Communications Manager requirements for hardware, operating system, database, communication, and licensing.

- Cisco Unified Communications Overview
- Cisco Unified Communications Manager Overview
- Cisco Unified Communications Manager Hardware Requirements
- Cisco Unified Communications Manager Operating System
- Cisco Unified Communications Manager Database
- Cisco Unified Communications Manager Licensing

## **Lesson 2: Understanding Cisco Unified Communications Manager Deployment and Redundancy Options**

This lesson defines Cisco Unified Communications Manager deployment options and redundancy designs.

- Cisco Unified Communications Manager Deployment Options Overview
- Cisco Unified Communications Manager Single-Site Deployment
- Cisco Unified Communications Manager Multisite Deployment with Centralized Call Processing
- Cisco Unified Communications Manager Multisite Deployment with Distributed Call Processing
- Cisco Unified Communications Manager Multisite Deployment with Clustering over the WAN
- Cisco Unified Communications Manager Deployment on Virtualized Servers
- Cisco Unified Communications Manager Call-Processing Redundancy

## **Module 2: Administering Cisco Unified Communications Manager**

Perform Cisco Unified Communications Manager initial configuration and user management.

### **Lesson 1: Managing Services and Initial Configuration of Cisco Unified Communications Manager**

This lesson defines how to activate required Cisco Unified Communications Manager Services, configure initial settings, and remove DNS reliance.

- Cisco Unified Communications Manager Initial Configuration Overview
- Cisco Unified Communications Manager Network Configuration Options Overview
- Cisco Unified Communications Manager NTP and DHCP Considerations
- DNS Considerations
- Cisco Unified Communications Manager Network and Feature Services
- Cisco Unified Communications Manager Enterprise Parameters and Enterprise Phone Configuration
- Cisco Unified Communications Manager Service Parameters

### **Lesson 2: Managing User Accounts in Cisco Unified Communications Manager**

This lesson defines how to manage user accounts, including integrating Cisco Unified Communications Manager with a corporate LDAP directory and enabling multiple levels of user privileges.

- Cisco Unified Communications Manager User Accounts Overview
- Managing User Accounts Using the Administration GUI
- Cisco Unified Communications Manager BAT Overview
- Managing User Accounts Using Cisco Unified Communications Manager BAT
- LDAP Overview

## **Module 3: Enabling Single-Site On-Net Calling**

Configure Cisco Unified Communications Manager to support on-cluster calling.

### **Lesson 1: Understanding Endpoints in Cisco Unified Communications Manager**

This lesson defines the general features and unique characteristics of the H.323, SCCP, and SIP endpoints that are supported by Cisco Unified Communications Manager.

- Cisco Unified Communications Manager Endpoints Overview
- Cisco IP Phone Boot Sequence
- H.323 Endpoint Support in Cisco Unified Communications Manager
- SIP Third-Party IP Phone Support in Cisco Unified Communications Manager

### **Lesson 2: Implementing IP Phones**

This lesson defines how to implement SCCP and SIP (Cisco and third-party) phones in Cisco Unified Communications Manager.

- Endpoint Configuration Tools and Elements Overview
- IP Phone Autoregistration
- Configuring Autoregistration
- Cisco Unified Communications Manager BAT and Auto-Register Phone Tool
- Using Cisco Unified Communications Manager BAT for Adding Phones to Cisco Unified Communications Manager
- Manually Adding Phones to Cisco Unified Communications Manager

## **Module 4: Single-Site Off-Net Calling**

Implement PSTN access in Cisco Unified Communications Manager and to build a dial plan in a single-site Cisco Unified Communications Manager deployment.

### **Lesson 1: Implementing PSTN Gateways in Cisco Unified Communications Manager**

This lesson defines the implementation of PSTN gateways in Cisco Unified Communication Manager.

- Gateway Review
- MGCP Gateway Implementation
- H.323 Gateway Implementation
- SIP Gateway Implementation

### **Lesson 2: Configuring Cisco Unified Communications Manager Call-Routing Components**

This lesson defines how to configure Cisco Unified Communications Manager numbering plans, directory numbers, route groups, route lists, route patterns, digit analysis, and urgent priority for on- and off-net calls.

- Dial Plan Components
- Endpoint Addressing
- Cisco Unified Communications Manager Call Routing
- Cisco Unified Communications Manager Digit Analysis
- Special Call-Routing Features
- Cisco Unified Communications Manager Path Selection
- Cisco Unified Communications Manager Path Selection Configuration

### **Lesson 3: Using Partitions and CSSs to Implement Calling Privileges for On-Net Calls**

This lesson defines the need and uses for calling privileges and how to implement them in Cisco Unified Communications Manager.

- Calling Privileges Overview
- Partitions and CSSs
- Example of Partitions and CSSs
- Partition and CSS Considerations

### **Lesson 4: Implementing Cisco Unified Communications Manager Digit Manipulation**

This lesson defines digit-manipulation elements in Cisco Unified Communications Manager and how to implement them.

- Cisco Unified Communications Manager Digit Manipulation Overview
- Cisco Unified Communications Manager Digit-Manipulation Flow
- Cisco Unified Communications Manager Digit-Manipulation Configuration Elements Overview
- Cisco Unified Communications Manager External Phone Number Masks
- Cisco Unified Communications Manager Translation Patterns
- Cisco Unified Communications Manager Transformation Masks
- Cisco Unified Communications Manager Digit Stripping and Digit Prefixes
- Cisco Unified Communications Manager Significant Digits
- Cisco Unified Communications Manager Global Transformations
- Cisco Unified Communications Manager Incoming Number Settings

### **Lesson 5: Implementing Gateway Selection and PSTN-Access Features**

This lesson defines the need and uses for gateway selection and PSTN-access features and how to implement them in Cisco Unified Communications Manager.

- Calling-Privileges Applications Overview
- Implementing Time Schedules and Time Periods
- Implementing Gateway Selection and CoS
- Implementing 911 and Vanity Numbers
- Implementing Carrier Selection Based on Time of Day
- CMC and FAC
- Implementing CMC and FAC

## **Lesson 6: Implementing Call Coverage in Cisco Unified Communications Manager**

This lesson defines call coverage and how to implement it in Cisco Unified Communications Manager.

- Cisco Unified Communications Manager Call-Coverage Support
- Shared Lines
- Call Hunting
- Call-Hunting Scenarios
- Call-Hunting Configuration

## **Module 5: Media Resources**

Implement Cisco Unified Communications Manager media resources.

### **Lesson 1: Implementing Media Resources in Cisco Unified Communications Manager**

This lesson defines Cisco Unified Communications Manager media resources, including conferences, transcoders, and MTP, as well as MOH and annunciator services.

- Media Resources Overview
- Cisco Unified Communications Manager Media Resources Support
- Conference Bridge Overview
- Conference Bridge Media Resource Configuration
- Meet-Me Conference Configuration
- MOH Overview
- MOH Configuration
- Annunciator Overview and Configuration
- Media Resources Access-Control Overview
- Media Resources Access-Control Configuration

## **Module 6: Feature and Application Implementation**

Implement Cisco Unified Communications Manager features and applications.

### **Lesson 1: Configuring Cisco IP Phone Services**

This lesson defines how to configure Cisco IP Phone Services.

- Cisco IP Phone Services Overview
- Cisco IP Phone Services Redundancy
- Cisco IP Phone Services Configuration
- Cisco IP Phone Services Subscriptions

### **Lesson 2: Configuring Cisco Unified Communications Manager Native Presence**

This lesson defines how to configure presence-enabled speed dials and lists.

- Cisco Unified Communications Manager Native Presence Overview
- Cisco Unified Communications Manager Native Presence Operation
- Cisco Unified Communications Manager Native Presence Access Control
- Cisco Unified Communications Manager Native Presence Implementation

### **Lesson 3: Configuring Cisco Unified Mobility**

This lesson defines how to configure Cisco Unified Mobility.

- Cisco Unified Mobility Overview
- Cisco Unified Mobility Call Flows
- Cisco Unified Mobility Implementation Requirements
- Cisco Unified Mobility Considerations
- Cisco Unified Mobility Configuration

### **CIPT 1 8.0 LABS**

- Lab 2-1: Configuring Cisco Unified Communications Manager Initial Settings
- Lab 2-2: Managing User Accounts in Cisco Unified Communications Manager
- Lab 3-1: Implementing IP Phones
- Lab 4-1: Implementing PSTN Gateways
- Lab 4-2: Configuring Cisco Unified Communications Manager Call-Routing Components
- Lab 4-3: Implementing Digit Manipulation
- Lab 4-4: Implementing Calling Privileges in Cisco Unified Communications Manager
- Lab 4-5: Implementing Call Coverage in Cisco Unified Communications Manager
- Lab 5-1: Implementing Media Resources
- Lab 6-1: Configuring Cisco Unified Communications Manager Native Presence