Hands-On
CIPT1 - Telephony v8.0-v9.0 Part 1
Implementing Cisco Unified Communications IP Telephony

Course Description

This Hands-On Implementing Cisco Unified Communications Manager, Part 1 (CIPT1) v9.0 course prepares you for implementing a Cisco Unified Communications Manager solution at a single-site environment. This course focuses primarily on Cisco Unified Communications Manager Version 9.0, which is the call routing and signaling component for the Cisco Unified Communications solution.

Focusing primarily on CUCM v8.x/9.x, you will learn basic administrative tasks, such as configuring users and associating them with phones, as well as more advanced topics, such as unified mobility, Media Gateway Control Protocol (MGCP), H.323 gateways, media resources and more...

Familiarity with the role that CUCM (Cisco Unified Communications Manager) plays in a converged network from a system, software, and hardware perspective is necessary to successfully install and configure CUCM. It is important that the Cisco Unified Communications network provides a high availability at or above what a traditional voice network provides.

It is vital to understand the deployment and redundancy options of CUCM and to follow the recommended design and deployment practices. Our training course for CIPT1 introduces the CUCM solution and describes the role, architecture, characteristics, hardware and software requirements, and the licensing model of CUCM. The available deployment models for using CUCM in a Cisco Unified Communications solution is also explored.

Students Will Learn

- **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**
- **And More...**

Target Audience

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Anyone on the path for their CCNP and Network professionals who install, configure, and manage Cisco Unified Communications solutions.

Prerequisites

This CIPT1 Call Manger training course is part of the Cisco CCNP Voice Certification path. The pre-requiste for this course is passing the CVOICE Course.

Course Outline

Introduction to Cisco Unified Communications Manager

- Components within a Cisco Unified Communications solution
- Characteristics of CUCM IBM IDS database
- Licensing models
- Deployment models
- Call-processing redundancy in a CUCM cluster

Cisco Unified Communications Manager Administration

- How basic settings are configured
- Explore the difference between network and feature services managed using Cisco Unified Serviceability
- Features of CUCM Enterprise Parameters
- Characteristics of Enterprise Phone Configuration
- Purpose of service parameters
- Administrator account use and its account type
- Assign user privileges to application and end users
- Methods of user management
- Bulk Administration Tool (BAT) user management operation
- Create user accounts using the CUCM Bulk Administration Tool (BAT)
- Types of LDAP support provided by CUCM

Cisco Unified Communications Manager Single-Site On-Net Calling

- The boot sequence of Cisco IP phones
- Support for H.323 endpoints
- Add a third-party SIP IP phones
- How to enable endpoint configuration elements
- Configure settings of phone templates and profiles
- Sequence the steps in the autoregistration process
- How autoregistration is enabled for automatic insertion of new phones to the configuration database
- How Auto-Register Phone Tool is used to add IP phones
- Learn how BAT is used to add phones to CUCM
- Manually add phones
- Manually add IP phones by using Cisco Unified Communications Manager BAT and autoregistration

Implementing PSTN gateways in Cisco Unified Communications Manager

- Types of gateways that can interact with Cisco Unified Communications Manager
- Integrate MGCP gateways
- Learn to configure a Cisco IOS MGCP gateway to integrate with Cisco Unified Communications Manager
- Configure Cisco Unified Communications Manager to use a Cisco IOS MGCP gateway
- How to integrate H.323 gateways
- Configure Cisco Unified Communications Manager to use a H.323 gateway
- Integrate SIP gateways with Cisco Unified Communications Manager

CUCM Call Routing Components and Calling Privileges

- Components of a dial plan
- Different endpoints and how they can be addressed in a CUCM dial plan
- Determine what route pattern will be used
- Characteristics of CUCM Digit Analysis
- Addressing methods supported by CUCM to the appropriate devices
- Special call-routing features
- Steps to configure CUCM path selection
- Configure a basic dial plan
- Key characteristics of calling privileges
- Outcome of a specific CSS configuration
- Rules and guidelines for working with CSSs and partitions
- Partitions and CSSs

Digit-manipulation Tools and Calling Privileges

- Digit-manipulation elements and their characteristics
- Use external phone number masks
- Features of translation patterns
- Transformation masks
- How to strip and prefix digits
- Characteristics of significant digits configuration
- Global Transformations
- How incoming number prefixes are used
- Configure digit manipulation using route lists
- Applications for calling-privileges
- Learn how time schedules operate
- Describe how time periods operate
- Reasons for gateway selection
- Methods of CoS implementation
- Steps to implement vanity numbers
- Best way to implement carrier selection based on the time of day
- Distinguish between the operations of CMC and FAC
- CMC and FAC implementation
- Configure Forced Authorization Codes

Implementing Call Coverage

- Characteristics of a shared line
- How call hunting works
- Outcome for a call placed to a directory number in call hunting and forwarding scenarios
- Configure call hunting

Implementing Media Resources in Unified Communications Manager

- Types of media resources and their functions
- How Cisco Unified Communications Manager supports hardware and software based media resources
- Features of different conference types available
- Steps to configure conference bridge media resources
- Configure a Meet-Me conference pattern
- Characteristics of MOH solutions
- How to configure MOH media resources
- Features of the integrated annunciator
- Identify true statements about how access control to media resources works
- How to configure MRGs and MRGLs to devices
- Assign MRGs and MRGLs to device pools

Feature and Application Implementation

- Features of Cisco IP Phone Services
- How to provide redundancy for Cisco IP Phone Services
- Configure IP Phone Services
- Subscribe configured Cisco IP Phone Services to Cisco Unified IP phones
- Create an XML-based phone service and subscribe a phone to that service
- How CUCM native presence operates
- Implement CUCM presence policies to control which watcher can monitor which presence entities
- Configure Cisco Unified Communications Manager presence
- Implement presence policies
- Configure presence-enabled speed dials on a Cisco IP phone and Cisco Unified Communications Manager to support presence-enabled call lists

Cisco Unified Mobility

- Features of Cisco Unified Mobility
- Recognize the features of call flows
- Requirements for implementing and configuring Cisco Unified Mobility
- Factors to consider when using Cisco Unified Mobility MVA
- Configure Mobile Connect
- How to implement MVA

Delivery Method

Instructor-Led with numerous Hands-On labs and exercises.

Equipment Requirements
(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

5 Days