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Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Intermediate

Course Duration: 5 Days

## Administering Cisco Unified Communications Manager and Unity Connection (ACUCM with AUC)



## About this course:

Administering Cisco Unified Communications Manager (ACUCM with AUC) is a 5-day training program providing administrators and networking professionals an in-depth understanding of the Cisco Unified Communications Manager System. This course relays the concepts of IP telephony's systems, configuration, and features that are based in system administration.

This course is entry level and begins with basic IP telephony concepts, but moves the learner forward at a good pace into a detailed understanding of system concepts such as clustering, creation of phones and users, route plans, digit manipulation, media resources, and phone features – all of which are integral to IP telephony support in the enterprise network. The course focuses on Cisco Unified Communications Manager v11 x. All labs use CUCM v11.x.

The course is targeted at individuals who are meant to use and/or manage the system or administrate for Level 1 and Level 2 support. Level 1 support involves supporting phone users and adding, moving, and changing desktop phone environments. Level 2 support involves supporting changes in the overall organization, in the form of opening new office locations or the relocation of departments. However, this course does not involve covering the challenges of initial development, new cluster development, international developments, or underlying network issues involving routers, switches, or Cisco iOS software configuration.

This course includes a variety of lab exercises that can be applied to what has been taught in each preceding lesson. Labs start with a newly installed publisher and subscriber. The solitary elements to be preconfigured are two MCP gateways – one for the headquarters (HQ) and one for the branch (BR), and an inter-cluster trunk that points to the neighbor's pod. Hence, the learner will quickly familiarize themselves with all various concepts through the configuration of every element in the lab environment.

This course describes the administration features, options, and configuration settings of Administering Cisco Unity Connection (AUC) as they apply to the administrator, and presents Cisco Unity Connection with the primary goal of ensuring that administrators are provided with the requisite skills needed to perform their daily job functions by means of the Cisco Unity Connection system.

Students requiring skills beyond administration where engineering, integration, and networking skills are necessary should consider the Implementing Cisco Unity Connection (IUC) course.

The salary for Cisco Unified Communications Administrator averages **\$72,762** per annum.

## Course Objectives:

Upon the completion of this course, students will be able to:

- Comprehend the Cisco Unified Communications Manager network, service, and features
- Describe user configuration and the user web interface, the various media resources, including conferencing and MOH, basic phone features and use of hunt groups
- Describe the components that are required for user call processing by Cisco Unity Connection, the route plan and on-net/off-net calling
- Describe the functions of Cisco Unity Connection and the various interfaces that are used to access the system
- Describe basic phone options and the use of BAT
- Understand the significance of and configuration of redundancy and high availability in the enterprise network
- Enact the variety of features, applications, reports, tools, and options that are available to users in Cisco Unity Connection

## **Audience:**

The primary audiences intended for this course are the following:

- Phone network administrators
- Data system administrators
- Entry-level network engineers
- Administrators
- IT support personnel
- Helpdesk support staff

The secondary audiences include the following:

- Learners looking to gain a technical overview of Cisco Unified Communications Manager
- Learners who need a preparatory course before taking Implementing Cisco Unified Communications IP Telephony Part 1 (CIPT1) and Implementing Cisco Unified Communications IP Telephony Part 2 (CIPT2)

- Introduction to Cisco Unity Connection for Network Engineering Staff Personnel

## **Prerequisites:**

In order to fully benefit from this course, prospective learners should be well-versed in the following:

- Basic knowledge of IP and networking or voice networks is suggested, but not required
- Basic knowledge of the Windows desktop environment
- Basic understanding of fundamental terms and concepts of computer networking, including LANs, WANs, and IP switching and routing.
- Basic knowledge of traditional PSTN operations and technologies, including PBX and voice-mail administration tasks
- Basic understanding of Cisco Unified Communications Manager

## **Suggested prerequisite courses:**

- Interconnecting Cisco Networking Devices Part 1 v3.x (ICND1)
- Cisco Unified Wireless Networking Boot Camp (CUWNBC)

## **Course Outline:**

### **ACUCM Course Outline:**

#### **Module 1: Introduction to IP Telephony**

##### Lesson 1: Exploring IP Telephony

- Traditional Voice versus IP Telephony
- Clustering Overview
- Intracluster Communications
- Traditional Voice versus IP Telephony
- Clustering Overview
- Intracluster Communications

##### Lesson 2: Describing Deployment Models

- Single-Site Deployment
- Centralized Call-Processing Deployment

- Distributed Call-Processing Deployment
- Distributed Single-Cluster Call-Processing Deployment
- Hybrid Call-Processing Deployment
- New Advanced Multicenter Options

### Lesson 3: Understanding Advanced Multisite Features

- Need for CAC
- Deploying AAR
- Survivable Remote Site Telephony
- SRST Failover

## **Module 2: Defining the Basic Configuration**

### Lesson 1: Logging In to Cisco Unified Communications Manager

- Logging In to Cisco Unified CM Administration and Cisco Unified Serviceability
- Logging In to Cisco Unified Operating System Administration and the DRS
- Navigation Menu
- Command-Line Interface

### Lesson 2: Examining Basic Server Configuration

- Server Configuration—Eliminating DNS Reliance
- Configuring Enterprise Parameters

### Lesson 3: Describing Multilevel Administration

- Configuring Multilevel Administration
- Creating End Users
- Creating Roles
- Creating User Groups

### Lesson 4: Configuring DRS Backup and Restore Procedures

- DRS Backup Procedures
- DRS Restore Procedures

## **Module 3: User Administration**

### Lesson 1: Understanding User Configuration

- Understanding User Management
- Configuring Users

### Lesson 2: Using the User Web Pages

- Understanding the User Web Pages
- Using the User Web Pages

## **Module 4: Exploring Phone Registration and Cisco Unified IP Phones**

### Lesson 1: Configuring System Parameters

- Cisco Unified CM Configuration
- Cisco Unified Communications Manager Group Configuration
- Phone NTP Configuration
- Date/Time Group
- Codecs and Regions Location Configuration
- Device Pool Configuration
- DHCP Service Configuration
- Device Defaults Configuration
- Clusterwide Parameters
- Licensing

### Lesson 2: Supporting Cisco Unified IP Phones

- Cisco Unified IP Phones Overview
- Specialized Cisco Unified IP 7900 Series Phones
- Phone Button Templates
- Softkey Templates

### Lesson 3: Exploring Phone Registration and IP Phone Communications

- Cisco Unified IP Phone Registration
- Cisco Unified IP Phone Configuration

### Lesson 4: Utilizing the Bulk Administration Tool (BAT)

- Overview of Cisco Unified Communications Manager BAT
- Cisco Unified Communications Manager TAPS

## **Module 5: Basic Route Plan Configuration**

### Lesson 1: Implementing Dial Plan Connectivity

- Organizational Dial Plan
- Trunks
- Gateways

### Lesson 2: Creating Route Plans

- Dial Plan Overview
- Route Pattern Overview
- Digit Collection
- Call Routing

## **Module 6: Route Filters and Digit Manipulation**

### Lesson 1: Configuring Translation Patterns and Route Filters

- Translation Patterns
- The 9.@ Pattern
- Route Filters

## Lesson 2: Implementing Digit Manipulation

- Discard Digits Instruction
- Transformation Masks

## **Module 7: Class of Control**

### Lesson 1: Defining Class of Control

- Overview of Class of Control
- Partitions
- CSS Configuration
- PLAR Application

### Lesson 2: Using Class of Control Features

- Call Restriction
- Time of Day Routing
- Traditional vs. Line/Device Approach

## **Module 8: Understanding Media Resources**

### Lesson 1: Defining Media Resources

- Overview of Media Resources
- Conference Bridge
- Media Termination Points
- Transcoder
- Music on Hold
- Annunciator

### Lesson 2: Exploring Media Resource Management

- MRG Management
- Configuring MRGs
- Configuring MRGLs

## **Module 9: Features and Services**

### Lesson 1: Describing Basic Features

- Call Park
- Call Pickup
- Cisco Call Back
- Shared Lines with Barge and Privacy

## Lesson 2: Exploring Hunt Groups

- Hunt Group Overview
- Line Group Configuration
- Hunt List Configuration
- Hunt Pilot Configuration
- Final Forwarding

## Lesson 3: Describing Phone Services

- Cisco IP Phone Services
- Cisco Phone Services Configuration

## **ACUCM v10.x Lab Outline**

This guide includes these activities:

Lab 0: Connection and Orientation to the NterOne Voice Lab Environment

Lab 1: Configuring Cisco Unified Communications Manager Initial Settings

Lab 2: Backing Up Cisco Unified Communications Manager Using the Disaster Recovery System

Lab 3: Managing User Accounts in Cisco Unified Communications Manager

Lab 4: Implementing IP Phones

Lab 5: Implementing PSTN Gateways

Lab 6: Configuring Cisco Unified Communications Manager Call-Routing Components

Lab 7: Implementing Digit Manipulation

Lab 8: Implementing Calling Privileges in Cisco Unified Communications Manager

Lab 9: Implementing Cisco Unified Border Element (CUBE) for calls to and from the Actual PSTN

Lab 10: Implementing Media Resources

Lab 11: Implementing Call Coverage in Cisco Unified Communications Manager

## **AUC Course Outline**

### **Module 1: Introduction to Cisco Unity Connection**

Lesson 1: Overview of Cisco Unity Connection



- Understanding Cisco Unity Connection
- Cisco Unity Connection Integration
- Active-Active, High-Availability Deployment
- Digital Networking Deployment Model

## Lesson 2: Navigating Cisco Unity Connection

- Accessing Cisco Unity Connection
- Logging into Cisco Unity Connection Applications
- Cisco Unified Serviceability and Cisco Unity Connection Serviceability
- Cisco Unity Connection Administration
- Port Configuration for Telephony Integration
- General Configuration

## Lesson 3: Understanding Call Handlers, Users, and Call Flow

- Call Processing
- Default Call Handlers
- Handlers—Function and Purpose
- Default Call Handler Flow
- Call Handler Configuration
- Incoming Call Flows
- Cisco Unity Connection Incoming Call Flow
- Message Retrieval
- Incoming Call Processing Components
- Call Routing—Direct or Forwarded
- Call Routing—Direct
- Call Routing—Forwarded
- Configuration of Users
- Implementation of Call Routing
- Implementation of Call Routing—Direct
- Implementation of Call Routing—Forwarded
- Directory Handlers
- Directory Handlers Configuration
- Interview Handlers
- Interview Handlers Configuration

## **Module 2: Configuration of Users and Contacts**

### Lesson 1: Explaining Users and Contacts

- Understanding Users
- Preparing to Configuring Users
- Configuring Authentication Rules
- Configuring CoS
- Configuring Schedules and Holidays

### Lesson 2: Managing Multiple Users

- Configuring Multiple Users

- Importing Users Using AXL
- Importing Users Using LDAP
- Importing Users Using BAT
- Reviewing Users

### **Module 3: Implementation of Features**

#### Lesson 1: Implementing the Dial Plan

- Dial Plan Components
- Dial Plan Configuration

#### Lesson 2: Understanding User Features

- Reviewing User Features

#### Lesson 3: Accessing Voice Messaging and User Features

- Accessing Voice Messaging
- Phone View
- Implementing Cisco Unity Connection VMO
- Accessing Voice Messaging Using RSS Feeds
- Implementing Secure Messaging

### **Module 4: Use of Cisco Unity Connection Applications, Tools and Reports**

#### Lesson 1: Designing an Audiotext Application

- Audiotext Application Design
- Audiotext Application Configuration
- Greeting Administrator
- Greeting Administrator Configuration

#### Lesson 2: Using Cisco Unity Connection Tools and Reports

- Using the Bulk Edit Feature
- Using Task Management
- Cisco Unity Connection Reports

#### Lesson 3: Using the DRS

- Disaster Recovery System
- Configuring Backups
- Performing Restore Operations

### **AUC v10.x Lab Outline**

This guide includes these labs:

#### Lab 0: Connection and Orientation to the NterOne Voice Lab Environment

Lab 1: Configuring Cisco Unified Communications Manager (CUCM) Initial Settings

Lab 2: Implementing Cisco Unified Border Element (CUBE) for calls to and from the Actual PSTN

Lab 3: Verifying Cisco Unity Connection Default Services

Lab 4: Integrating Cisco Unity Connection with Cisco Unified Communications Manager

Lab 5: Implementing Unity Connection Voice Mailboxes

Lab 6: Unity Connection User Features

Lab 7: Implementing the Unity Connection Dial Plan

Lab 8: Understanding User Features

Lab 9: Using Cisco Unity Connection Tools and Reports

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