

# Cisco® Communication Manager Administration v11.0 (CMA)

## Course Overview

This course will introduce students to the CUCM 11.0 system, the basic procedures for administering IP Phones and Users, understanding the Dial Plan and implementing Features.



This is a 3-day class

## Who Should Attend

The primary audience for this course is as follows:  
Customers who will be configuring and maintaining CUCM 8.x, 9.x, 10.x or 11.0  
PBX System Administrators transitioning to CUCM administration  
IP networking professionals taking on responsibility for CUCM administration  
Workers being cross-trained for CUCM administration coverage

## Course Objectives

Upon completing this course, the learner will be able to meet these overall objectives:

- Demonstrate an overall understanding of the CUCM 10.0 system and its environment
- Configure CUCM to support IP Phones in multiple locations
- Configure CUCM to route calls to internal, inter-cluster and PSTN destinations
- Configure User accounts and multi-level administration
- Understand User Web Page functionality
- Configure user features including Intercom, Hunt Groups, [Other Group] Call Pickup and Presence
- Understand Unified Mobility, Mobile Voice Access and Enterprise Feature Access
- Understand the capabilities of and demonstrate the Bulk Administration Tool
- Understand and configure the Disaster Recovery System
- Understand the revised Licensing model for Cisco Unified Communications
- Understand and demonstrate the use of the Unified Reporting tool
- Understand and demonstrate the use of the Dialed Number Analyzer

## Course Outline

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## 1 CUCM SYSTEM BASICS

- Introduction to IP Telephony
- Traditional Voice vs. IP Telephony
- Clustering Overview
- Intra-Cluster Communications
- CUCM Redundancy Options
- Deployment Models
  - Campus (Single Site) Deployment
  - Centralized Call Processing Deployment
  - Distributed Call Processing Deployment
  - Clustering over the IP WAN Call Processing Deployment
  - Hybrid Call Processing Deployment
- Basics of CUCM Configuration
- Administrative Interfaces
- Logging into Administration and Serviceability
- Logging into Unified Reporting and the Enterprise License Manager
- Logging into the Disaster Recovery System and Unified OS Administration
- Navigation Bar
- Command Line Interface
- Server Redundancy: CM Groups
- CM Group Configuration
- Date/Time Group
- Regions and Codecs
- Locations
- Device Pool Configuration
- Service Parameters Configuration
- Enterprise Parameters Configuration

## 2 SUPPORTING PHONES & USERS

- Configuring CUCM to Support Phones
- Cisco Unified IP Phone Model Ranges
- Specialized Cisco IP 89xx and 99xx phones
- Cisco Jabber Client
- Phone Button Templates
- Softkey Template
- Cisco IP Phone Registration
- Device Defaults Configuration
- Phone Configuration
- Manual Phone Configuration
- Auto-Registration
- Using the Bulk Administration Tool (BAT)
- Deploying new phones and users
- Overview of the Auto-Register Phone Tool
- Configuring CUCM to Support Users
- Understanding CUCM Users
- Manual User Creation
- User Import with BAT
- Importing Users with LDAP Sync
- LDAP Authentication
- Understanding User Administration
- Configuring User Administration
- Working With Access Control Groups
- Assigning End Users to Access Control Groups
- User Web Pages

## 3 UNDERSTANDING THE DIAL PLAN

- Dial Plan Overview
- Introduction to the Dial Plan
- Understanding Dial Plan Components
- Route Lists, Route Groups and Devices
- Call Routing
- Understanding Digit Analysis
- Basics of Dial Plan Configuration
- Basics of Dial Plan Configuration
- Translation Patterns
- Route Plan Report
- Advanced Dial Plan Configuration
- Understanding Digit Manipulation
- External Phone Number Masks
- Transformation Masks
- Discard Digits Instructions: PreDot
- Call Admission Control
- Automated Alternate Routing (AAR)
- Survivable Remote Site Telephony (SRST)
- SRST Operation
- Class of Control
- Overview of Class of Control
- Traditional vs. Line/Device Approach
- Configuring Partitions and CSSs
- Partitions and Calling Search Space
- Time of Day Routing
- PLAR Application
- Forced Authorization Codes
- CUCM Features

## 4 CUCM FEATURES

- Media Resources
  - Overview of Media Resources
  - Conference Bridge
  - Transcoder
  - Music on Hold
  - Annunciator
  - Overview of Media Resource Management
  - Configuring Media Resources
- User Features
  - Configuring Call Coverage in Cisco Unified Communications Manager
  - Call Coverage in Cisco Unified Communications Manager
  - Hunt Group Overview
  - Hunt Group Configuration
  - Final Forwarding
  - Shared Lines
  - Call Pickup
    - Directed and Group Call Pickup
    - Other Group Call Pickup
  - Call Park
  - Native Cisco Unified Communications Manager Presence
    - Presence Status on IP Phones
    - CSS versus Subscribe CSS
    - Configuring Native Cisco Unified Communications Manager Presence
    - Enable Presence-Enabled Call Lists
- CUCM Mobility Features
  - Mobile Connect in Cisco Unified Communications Manager
  - Cisco Unified Mobility Architecture
  - Mobile Connect Call Flow: Incoming Calls to Office Phone
  - Mobile Connect Call Flow: Internal Calls Placed from a Remote Phone
    - Configure Remote Destination Profile
    - Configure Remote Destinations
- System Features
  - CUCM 10.0 Licensing
  - Enterprise License Manager Overview
  - Cisco Unified Reporting Tool

## 5 LAB OUTLINE

- Lab 2-1: Configuring the System to Support Cisco IP Phones
- Lab 2-2: Creating and Associating Users
- Lab 3-1: Configuring Basic Dial Plan Elements
- Lab 3-2: Configuring Complex Dial Plan Elements
- Lab 3-3: Implementing Class of Control
- Lab 4-1: Configuring Media Resources
- Lab 4-2: Configuring Hunt Groups and Call Coverage
- Lab 4-3: Configuring Call Pickup and Call Park
- Lab 4-4: Configuring Native Presence with Speed Dial BLF
- Lab 4-5: Configuring Mobile Connect
- Lab 4-6: Generating Cisco Unified Communications Manager Reports
- Lab 4-7: Configuring IP Phone Services