IMPLEMENTING AND OPERATING CISCO COLLABORATION CORE TECHNOLOGIES (CLCOR) V1.3

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The Implementing and Operating Cisco Collaboration Core Technologies (CLCOR) training provides you with the knowledge and skills to deploy, configure and troubleshoot core collaboration and networking technologies. Topics include infrastructure design protocols, codecs, and endpoints, Cisco Internetwork Operating System (IOS®) XE gateway and media resources, call control, and Quality of Service (QoS). This training also earns you 64 Continuing Education (CE) credits towards recertification.

How you'll benefit

This class will help you:

- Integrate and troubleshoot Cisco Unified Communications Manager with Lightweight Directory Access Protocol (LDAP) for user synchronization and user authentication
- Implement Cisco Unified Communications Manager provisioning features
- Configure and troubleshoot collaboration endpoints
- Earn 64 credits toward recertification

Why Attend with Current Technologies CLC

- Our Instructors are in the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The primary audience for this course is as follows:

- Students preparing to take the CCNP Collaboration certification
- Network Administrators
- Network Engineers
- Systems Engineers

Course Duration
5 days

Course Price
$4,295.00 or 43 CLCs

Methods of Delivery
- Instructor Led
- Virtual ILT
- On-Site

OUTLINE

Module 1: Cisco Collaboration Solutions Architecture

- Overview of Cisco Collaboration Solutions Architecture
- Collaboration Deployment Models
- Licensing
- High Availability
- Capacity Planning
- Security Requirements

- Discovery 1: Using Certificates
- Disaster Recovery
- Dial Plan
- IP Network Protocols
- Discovery 2: Configure IP Network Protocol
- Codecs

Module 2: Call Signaling over IP Networks
- IP Phone Initialization
- Single Site On-Cluster Calling
- Single Site On-Cluster Call Setup Troubleshooting
- Describe the Call Setup and Teardown Process
- Describe SIP Call Signaling for Call Setup and Teardown
- Discovery 3: Configure and Troubleshoot Collaboration Endpoints
- Discovery 4: Troubleshoot Calling Issues
- Compare the Call Control Protocols
- Describe DTMF Signaling over IP Networks

Module 3: Cisco Unified Communications Manager LDAP
- Overview of LDAP Integration in Cisco Unified Communications Manager
- LDAP Synchronization in Cisco Unified Communications Manager
- LDAP Authentication in Cisco Unified Communications Manager
- LDAP Attribute Mapping in Cisco Unified Communications Manager
- LDAP Considerations in Cisco Unified Communications Manager
- Access Control Groups in Cisco Unified Communications Manager
- Feature Group Templates in Cisco Unified Communications Manager
- Discovery 5: Configure and Troubleshoot LDAP Integration in Cisco Unified Communications

Module 4: Cisco Unified Communications Manager Provisioning Features
- Overview of Provisioning Options
- Discovery 6: Deploy an IP Phone Through Auto and Manual Registration
- Self-Provisioning Prerequisites
- Self-Provisioning Components
- Self-Provisioning Authentication Modes
- Discovery 7: Configure Self-Provisioning
- Batch-Provisioning Tools
- Discovery 8: Configure Batch Provisioning

Module 5: Exploring Codecs
- Define Codecs
- Compare Audio Codecs
- Compare Video Codecs
- Evaluate the Effects of Encryption on Codecs
- Discovery 9: Explore the Cisco VoIP Bandwidth Calculator
- Describing Call Admission Control
- Discovery 10: Configure Regions and Locations

Module 6: Dial Plans and Endpoint Addressing
- Dial Plan Overview
- Dial Plan Components and Their Functions
- Endpoint Addressing
- Overview of Cisco Unified Communications Manager Call Routing
- Cisco Unified Communications Manager Call-Routing Logic
- Address Methods and Digit Analysis
- Variable-Length Patterns, Overlapping Patterns, and Urgent Priority

- Discovery 11: Implement Endpoint Addressing and Call Routing

Module 7: Cloud Calling Hybrid Local Gateway

Module 8: Calling Privileges in Cisco Unified Communications Manager
- Calling Privileges Overview
- Partitions and CSSs
- Partition and CSS Considerations
- Traditional-Approach Example: Single Site
- Traditional-Approach Example: Multiple Sites
- Time-of-Day Routing
- Client Matter Codes and Forced Authorization Codes
- Discovery 16: Configure Calling Privileges

Module 9: Toll Fraud Prevention
- Toll Fraud Prevention Overview
- Cisco Unified Communications Manager CoS for Toll Fraud Prevention
- Discovery 17: Implement Toll Fraud Prevention on Cisco Unified Communications Manager

Module 10: Globalized Call Routing
- Overview of Multisite Dial Plans
- Globalized Call Routing Overview
- Globalized Call Routing Number Formats
- Globalization of Localized Call Ingress
- Localization During Call Egress

Module 11: Media Resources in Cisco Unified Communications Manager

Module 12: Webex Calling Dial Plan Features

Module 13: Webex App

Module 14: Cisco Unity Connection Integration
- Overview of Cisco Unity Connection Integration
- SIP Integration
- Typical Integration Mistakes
- Integration Considerations
- Discovery 20: Configure the Integration Between Unity Connection and Cisco UCM
- Discovery 21: Manage Unity Connection Users

Module 15: Cisco Unity Connection Call Handlers

Module 16: Collaboration Edge Architecture
- Describe Collaboration Edge (Expressway-C, -E)
- Describe Supported Services for B2B Collaboration
- Describe Prerequisites for Mobile and Remote Access
- Describe Service Discovery
- Explore Expressway Settings for MRA
- Describe Cisco Unified Border Element (CUBE)

Module 17: Quality Issues in Converged Networks
- Converged Networks
- Available Bandwidth
- Components of Network Delay
- End-to-End Delay Calculations
- Jitter
- Packet Loss

Module 18: QoS and QoS Models

- QoS Defined
- Network Traffic Identification
- Divide Network Traffic into Classes and Define Policies
- QoS Mechanisms
- QoS Models
- DSCP Encoding
- Expedited Forwarding and Assured Forwarding
- AF Drop Probability
- Class Selector

Module 19: Classification and Marking

- Classification and Marking Overview
- Classification and Marking at the Network and Data Link Layers
- QoS Service Class
- Cisco Marking Recommendations
- QoS Markings in a SIP Call Flow
- MQC Classification and Marking Options
- Discovery 22: EAI: Configure QoS

Module 20: Classification and Marking on Cisco Catalyst Switches

- Campus Classification and Marking
- Overview of QoS Trust Boundaries
- Ingress QoS Models
- QoS Marking and Table Maps
- Internal DSCP

LAB OUTLINE

- **Lab 1: Using Certificates**
- **Lab 2: Configure IP Network Protocols**
- **Lab 3: Configure and Troubleshoot Collaboration Endpoints**
- **Lab 4: Troubleshoot Calling Issues**
- **Lab 5: Configure and Troubleshoot LDAP Integration in Cisco Unified Communications Manager**
- **Lab 6: Deploy an IP Phone Through Auto and Manual Registration**
- **Lab 7: Configure Self-Provisioning**
- **Lab 8: Configure Batch Provisioning**
- **Lab 9: Configure Regions and Locations**
- **Lab 10: Implement Endpoint Addressing and Call Routing**
- **Lab 11: Calling Using MGCP Gateways**
- **Lab 12: Configure and Troubleshoot Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI)**
- **Lab 13: Examine Cisco IOS Gateway Inbound and Outbound Dial-Peer Functions**
- **Lab 14: Implement and Troubleshoot Digit Manipulation on a Cisco IOS Gateway**
- **Lab 15: Configure Calling Privileges**
- **Lab 16: Implement Toll Fraud Prevention on Cisco Unified Communications Manager (CUCM)**

- **Lab 17: Implement Globalized Call Routing**
- **Lab 18: Configure the Integration between Unity Connection and Cisco Unified CM**
- **Lab 19: Manage Unity Connection Users**
- **Lab 20: Configure QoS**