6210 Central Ave, Portage, IN. 46368 Phone: 219.764.3800 Fax: 219.764.3805 Web: http://www.ctclc.com

Implementing and Operating Cisco Collaboration Core Technologies (CLCOR) V1.3

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.

This training helps prepare you to take the exam:

- 350-801 Implementing Cisco Collaboration Core Technologies (CLCOR)

How You'll Benefit

This course 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 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

Price :

$4295.00

Duration :

5 Days

Certification Exam:

350-801

CE Credit: 64

Objective

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

- Describe the Cisco Collaboration solutions architecture
- Compare the IP Phone signaling protocols of Session Initiation Protocol (SIP), H323, Media Gateway Control Protocol (MGCP), and Skinny Client Control Protocol (SCCP)
- Integrate and troubleshoot Cisco Unified Communications Manager with LDAP for user synchronization and user authentication
- Implement Cisco Unified Communications Manager provisioning features
- Describe the different codecs and how they are used to transform analogue voice into digital streams
- Describe a dial plan, and explain call routing in Cisco Unified Communications Manager
- Describe cloud calling using the on-premises local gateway option through Webex by Cisco
- Configure calling privileges in Cisco Unified Communications Manager
- Implement toll fraud prevention
- Implement globalized call routing within a Cisco Unified Communications Manager cluster
- Implement and troubleshoot media resources in Cisco Unified Communications Manager
- Implement and troubleshoot Webex Calling dial plan features in a hybrid environment
- Deploy the Webex app in a Cisco Unified Communications Manager environment and migrate from Cisco Jabber to Webex app
- Configure and troubleshoot Cisco Unity Connection integration
- Configure and troubleshoot Cisco Unity Connection call handlers
- Describe how Mobile Remote Access (MRA) is used to allow endpoints to work from outside the company
- Analyze traffic patterns and quality issues in converged IP networks supporting voice, video, and data traffic
- Define QoS and its models
- Implement classification and marking
- Configure classification and marking options on Cisco Catalyst® switches

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

Prerequisites

To fully benefit from this course, you should have the following knowledge and skills:

- Working knowledge of fundamental terms of computer networking, including LANs, WANs, switching and routing
- Basics of digital interfaces, Public Switched Telephone Networks (PSTNs), and Voice over IP (VoIP)
- Fundamental knowledge of converged voice and data networks and Cisco Unified Communications Manager deployment

Course 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

- **Using Certificates**
- **Configure IP Network Protocols**
- **Configure and Troubleshoot Collaboration Endpoints**
- **Troubleshoot Calling Issues**
- **Configure and Troubleshoot LDAP Integration in Cisco Unified Communications Manager**
- **Deploy an IP Phone Through Auto and Manual Registration**
- **Configure Self-Provisioning**
- **Configure Batch Provisioning**
- **Configure Regions and Locations**
- **Implement Endpoint Addressing and Call Routing**
- **Calling Using MGCP Gateways**
- **Configure and Troubleshoot Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI)**
- **Examine Cisco IOS Gateway Inbound and Outbound Dial-Peer Functions**
- **Implement and Troubleshoot Digit Manipulation on a Cisco IOS Gateway**
- **Configure Calling Privileges**
- **Implement Toll Fraud Prevention on Cisco Unified Communications Manager (CUCM)**

- **Implement Globalized Call Routing**
- **Configure the Integration between Unity Connection and Cisco Unified CM**
- **Manage Unity Connection Users**
- **Configure QoS**