

Cisco® Implementing Cisco® Advanced Call Control and Mobility Services v.1.0 (CLACCM)

Overview

In this course, you will learn how to use Cisco® Unified Communications Manager features to consolidate your communications infrastructure into a scalable, portable, and secure collaboration solution. This course prepares you for the 300-815 Implementing Cisco Advanced Call Control and Mobility Services (CLACCM) concentration exam and CCNP-Collaboration certification.

Prerequisite Comments

Before taking this course, you should have the following knowledge and skills:

Internet web browser usability knowledge and general computer usage

Basic understanding of networking technologies

Basic understanding of voice and video

Describe the different codecs and how they are used to transform analogue voice into digital streams

Knowledge of Cisco Internetworking Operation System (Cisco IOS XE) command line

Describe the Cisco Collaboration solutions architecture

Define collaboration and describe the main purpose of key devices in a Cisco collaboration on-premises deployment model

Configure and modify required parameters in Cisco Unified CM including service activation, enterprise parameters, CM groups, time settings, and device pool

Deploy and troubleshoot IP phones via manual configuration within Cisco Unified CM

Describe and configure endpoints and commonly required features

Compare the IP Phone signaling protocols of Session Initiation Protocol (SIP), H.323, Media Gateway Control Protocol (MGCP), and Skinny Call Control Protocol (SCCP)

Analyze traffic patterns and quality issues in converged IP networks supporting voice, video, and data traffic

Define Quality of Service (QoS) and its models

Describe the call setup and teardown process for a SIP device including codec negotiation using Session Description Protocol (SDP) and media channel setup

Manage Cisco Unified CM user accounts (local and via Lightweight Directory Access Protocol [LDAP])

Describe a dial plan and explain call routing in Cisco Unified Communications Manager

Configure dial plan elements within a single site Cisco Unified CM deployment including Route Groups, Local Route Group, Route Lists, Route Patterns, Translation Patterns, Transformations, SIP Trunks, and SIP Route Patterns

Implement basic globalized call routing within a Cisco Unified Communications Manager cluster

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Configure calling privileges in Cisco Unified Communications Manager

Implement toll fraud prevention

Implement common endpoint features including call park, softkeys, shared lines, and pickup groups

Implement Public Switched Telephone Network (PSTN) access using Media Gateway Control Protocol (MGCP) gateways

Implement a Cisco gateway for PSTN access

Deploy a simple SIP dial plan on a Cisco Interrupt Service Routine (ISR) gateway to enable access to the PSTN network

Implement and troubleshoot media resources in Cisco Unified Communications Manager

Manage Cisco Unified CM access to media resources available within Cisco Unified CM and Cisco ISR gateways

Describe tools for reporting and maintenance including Unified Reports, Real Time Monitoring Tool (RTMT), Distributed Resource Scheduler (DRS), and Call

Detail Records (CDRs) within Cisco Unified CM

Target Audience

This course is designed for Collaboration engineers and administration professionals in job roles such as:

Network administrator

Network architect

Network designer

Network engineer
Network manager

Course Objectives

After taking this course, you should be able to:

Analyze and troubleshoot SIP, H.323, and media protocols

Implement time-of-day routing, call park, call pickup, and meet-me conferences in Cisco Unified Communications Manager

Implement call coverage in Cisco Unified Communications Manager

Configure and troubleshoot Cisco Unified Communications Manager Device Mobility

Configure and troubleshoot Cisco Unified Communications Manager Extension Mobility

Configure and troubleshoot Cisco Unified Communications Manager Unified Mobility

Implement Cisco Unified Communications Manager Express for SIP phones

Implement globalized call routing within and between Cisco Unified Communications Manager clusters

Implement Media Gateway Control Protocol (MGCP) fallback and Survivable Remote Site Telephony (SRST) in Cisco Unified Communications Manager and in Cisco IOS® XE gateways

Implement Call Admission Control and Automated Alternate Routing (AAR) in Cisco Unified Communications Manager

Implement URI calling in Cisco Unified Communications Manager for calls within a cluster and between clusters

Troubleshoot multisite Cisco Unified Communications Manager deployments

Implement Intercluster Lookup Service (ILS) between Cisco Unified Communications Manager clusters and enable General Data Protection Regulation (GDPR)

Configure and troubleshoot Cisco Unified Border Element

Course Outline

1 - Course Outline

Analyzing and Troubleshooting Signaling and Media Protocols

Implementing Cisco Unified Communications Manager Supplemental Services

Implementing Call Coverage in Cisco Unified Communications Manager

Configuring and Troubleshooting Cisco Unified Communications Manager Device Mobility

Configuring and Troubleshooting Cisco Unified Communications Manager Extension Mobility

Configuring and Troubleshooting Cisco Unified CM Unified Mobility

Implementing Cisco Unified Communications Manager Express

Implementing Globalized Call Routing

Implementing Remote Site Survivability

Implementing Call Admission Control in Cisco Unified Communications Manager

Implementing URI Calling in Cisco Unified Communications Manager

Troubleshooting Multisite Cisco Unified Communications Manager Deployments

Examining Global Dial Plan Replication

Configuring and Troubleshooting Cisco Unified Border Element

2 - Lab outline

Analyze SIP, H.323, and Media Protocols
Troubleshoot SIP and Media Protocols
Implement Cisco Unified Communications Manager Supplemental Services
Implement Call Hunting and Call Queuing in Cisco Unified Communications Manager
Configure Device Mobility
Troubleshoot Cisco Unified Communications Manager Device Mobility
Configure Cisco Unified Communications Manager Extension Mobility
Troubleshoot Cisco Unified Communications Manager Extension Mobility
Configure Cisco Unified Mobility
Troubleshoot Cisco Unified Mobility
Implement Endpoints in Cisco Unified Communications Manager Express
Implement Endpoint Addressing and Call Routing in Cisco Unified Communications Manager Express
Implement Calling Privileges in Cisco Unified Communications Manager Express
Implement Hunt Groups, Call Park, and Paging in Cisco Unified Communications Manager Express
Implement Globalized Call Routing
Implement TEHO, PSTN Backup, and CoS in a Globalized Call-Routing Deployment
Implement MGCP Fallback and Survivable Remote Site Telephony
Implement Call Admission Control
Implement a URI-Based Dial Plan for Multisite Deployments
Troubleshoot Globalized Call Routing
Troubleshoot Call Admission Control
Implement Global Dial Plan Replication
Implement Cisco Unified Border Element
Troubleshoot Cisco Unified Border Element

Related Courses, Certifications, Exams

- Cisco® Understanding Cisco® Collaboration Foundations v1.1 (CLFNDU)
- Cisco® Implementing and Operating Cisco® Collaboration Core Technologies v1.1 (CLCOR)