Implementing Cisco Advanced Call Control and Mobility Services

DURATION: 5 DAYS COURSE CODE: CLACCM FORMAT: LECTURE/LAB

COURSE DESCRIPTION

The Implementing Cisco Advanced Call Control and Mobility Services (CLACCM) v1.0 course covers advanced call control and mobility services. You will learn how to use Cisco® Unified Communications Manager features to consolidate your communications infrastructure into a scalable, portable, and secure collaboration solution. Through a combination of lessons and hands-on experiences, you will also learn about a wealth of other features such as Globalized Call Routing, Global Dial Plan Replication, Cisco Unified Mobility, Cisco Extension Mobility, Device Mobility, Session Initiation Protocol Uniform Resource Identifier (SIP/ URI) call routing, Call Admission Control, Cisco Unified Communications Manager Express and Survivable Remote Site Telephony

(SRST) gateway technologies, Cisco Unified Board Element Call deployments, signaling and media protocols, call coverage, and time of day routing.

This course prepares you for the 300-815 Implementing Cisco Advanced Call Control and Mobility Services (CLACCM) exam.

The 300-815 CLACCM exam certifies your knowledge and skills related to advanced call control and mobility services, including signaling and media protocols, Cisco Unified Communications Manager Express CME/SRST gateway technologies, Cisco Unified Board Element, call control and dial planning, Cisco Unified CM Call Control, and mobility.

After you pass 300-815 CLACCM exam you earn the Cisco Certified DevNet Specialist - Collaboration Call Control & Mobility Implementation certification, and you satisfy the concentration exam requirement for the CCNP® Collaboration professional-level certification.

This course will help you:

- Learn how to manage the tools of Cisco Unified Communications Manager (CM) for secure communication to facilitate team-based collaboration from any location using Voice over Internet Protocol (VoIP), video, unified messaging, and IM
- Gain hands-on experience in using Cisco Unified Communications Manager for secure, compliant communication protocols
- Acquire the knowledge to prepare for the 300-815 CLACCM exam

WHO SHOULD ATTEND

Network administrator

Network architect

Network designer

Network engineer

Network manager

PREREQUISITES

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

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

LEARNING OBJECTIVES

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 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. Analyzing and Troubleshooting Signaling and Media Protocols
2. Implementing Cisco Unified Communications Manager Supplemental Services
3. Implementing Call Coverage in Cisco Unified Communications Manager
4. Configuring and Troubleshooting Cisco Unified Communications Manager Device Mobility
5. Configuring and Troubleshooting Cisco Unified Communications Manager Extension Mobility
6. Configuring and Troubleshooting Cisco Unified CM Unified Mobility
7. Implementing Cisco Unified Communications Manager Express
8. Implementing Globalized Call Routing
9. Implementing Remote Site Survivability
10. Implementing Call Admission Control in Cisco Unified Communications Manager
11. Implementing URI Calling in Cisco Unified Communications Manager
12. Troubleshooting Multisite Cisco Unified Communications Manager Deployments
13. Examining Global Dial Plan Replication
14. Configuring and Troubleshooting Cisco Unified Border Element

DISCOVERY LABS

1: Analyze SIP, H.323, and Media Protocols
2: Troubleshoot SIP and Media Protocols
3: Implement Cisco Unified Communications Manager Supplemental Services
4: Implement Call Hunting and Call Queueing in Cisco Unified Communications Manager
5: Configure Device Mobility
6: Troubleshoot Cisco Unified Communications Manager Device Mobility
7: Configure Cisco Unified Communications Manager Extension Mobility
8: Troubleshoot Cisco Unified Communications Manager Extension Mobility
9: Configure Cisco Unified Mobility
10: Troubleshoot Cisco Unified Mobility
11: Implement Endpoints in Cisco Unified Communications Manager Express
12: Implement Endpoint Addressing and Call Routing in Cisco Unified Communications Manager Express
13: Implement Calling Privileges in Cisco Unified Communications Manager Express
14: Implement Hunt Groups, Call Park, and Paging in Cisco United Communications Manager Express
15: Implement Globalized Call Routing
16: Implement TEHO, PSTN Backup, and CoS in a Globalized Call-Routing Deployment
17: Implement MGCP Fallback and Survivable Remote Site Telephony
18: Implement Call Admission Control
19: Troubleshoot Globalized Call Routing
20: Troubleshoot Call Admission Control
21: Implement Global Dial Plan Replication
22: Implement Cisco Unified Border Element
23: Troubleshoot Cisco Unified Border Element