

Cisco CCNP Collaboration Training/Bootcamp – Course outline

300-801 Implementing and Operating Cisco Collaboration Core Technologies
CLCOR (CLCOR)

Infrastructure and Design

1.1 Describe the key design elements of the following, pertaining to the Cisco Collaboration architecture as described in the SRND/PA

- 1.1.a Licensing (Smart, Flex)
- 1.1.b Sizing
- 1.1.c Bandwidth
- 1.1.d High availability
- 1.1.e Disaster recovery
- 1.1.f Dial plan
- 1.1.g Security (certificates, SRTP, TLS)
- 1.1.h QoS

1.2 Describe the purpose of Edge devices in the Cisco Collaboration architecture such as Expressway and Cisco

Unified Border Element

1.3 Configure these network components to support Cisco Collaboration solutions

- 1.3.a DHCP
- 1.3.b NTP
- 1.3.c CDP
- 1.3.d LLDP
- 1.3.e LDAP
- 1.3.f TFTP
- 1.3.g Certificates

1.4 Troubleshoot these network components in a Cisco Collaboration solution

- 1.4.a DNS (A/AAA, SRV, Reverse Pointer Record (PTR))
- 1.4.b NTP
- 1.4.c LDAP integration on Cisco Unified Communications Manager

1.5 Explain these components to support Cisco Collaboration solutions

- 1.5.a SNMP
- 1.5.b DNS

Protocols, Codecs, and Endpoints

2.1 Troubleshoot these elements of a SIP conversation

- 2.1.a Call set up and tear down
- 2.1.b SDP
- 2.1.c DTMF

2.2 Identify the appropriate collaboration codecs for a given scenario

2.3 Configure codec negotiations

2.4 Deploy SIP endpoints

- 2.4.a Manual
- 2.4.b Self provisioning
- 2.4.c Bulk Administration Tool (BAT)

2.5 Troubleshoot collaboration endpoints

Cisco IOS XE Gateway and Media Resources

3.1 Configure these voice gateway elements

- 3.1.a DTMF
- 3.1.b Voice translation rules and profiles
- 3.1.c Codec preference list
- 3.1.d Dial peers

3.2 Configure ISDN PRI/BRI

3.3 Troubleshoot ISDN PRI/BRI

3.4 Configure and verify the MGCP

3.5 Identify the appropriate media resources for a given scenario (hardware and software)

Call Control

4.1 Describe the Cisco Unified Communications Manager digit analysis process

4.2 Implement toll fraud prevention on Cisco Unified CM

4.3 Configure globalized call routing in Cisco Unified CM

- 4.3.a Route patterns (traditional and +E.164 format)
- 4.3.b Translation patterns
- 4.3.c Standard local route group
- 4.3.d Transforms
- 4.3.e SIP route patterns

4.4 Describe Mobile and Remote Access (MRA)

QoS

5.1 Describe problems that can lead to poor voice and video quality

- 5.1.a Latency
- 5.1.b Jitter
- 5.1.c Packet loss
- 5.1.d Bandwidth

5.2 Describe the QoS requirements for these application types (voice and video)

5.3 Describe the class models for providing QoS on a network

- 5.3.a 4/5 Class model
- 5.3.b 8 Class model
- 5.3.c QoS Baseline model (11 Class)

5.4 Describe the purpose and function of these DiffServ values as it pertains to collaboration

- 5.4.a EF
- 5.4.b AF41
- 5.4.c AF42
- 5.4.d CS3
- 5.4.e CS4

5.5 Describe QoS trust boundaries and their significance in LAN-based classification and marking

5.6 Describe and determine location-based CAC bandwidth requirements

5.7 Configure and verify LLQ (class map, policy map, service policy)

Collaboration Applications

6.1 Configure Cisco Unity Connection mailbox and MWI

6.2 Configure Cisco Unity Connection SIP integration options to call control

6.3 Describe Cisco Unity Connection call handlers

6.4 Describe Cisco Unified IM&P protocols and deployment

- 6.4.a XMPP
- 6.4.b High availability

6.5 Deploy Cisco Jabber on premises

300-810 CLICA Implementing Cisco Collaboration Applications (CLICA)

Single Sign-On (SSO) for Collaboration Applications

1.1 Describe these types of SSO as they relate to Collaboration

- 1.1.a Smart card
- 1.1.b Integrated Windows AD
- 1.1.c Kerberos

1.2 Describe the SAML SSO login process flow in the context of Cisco Collaboration solutions

1.3 Describe these components of SAML 2.0 and later

- 1.3.a Assertion
- 1.3.b Protocol
- 1.3.c Binding
- 1.3.d Profiles

Cisco Unified IM and Presence

2.1 Configure Cisco Unified Instant Message and Presence on premises

- 2.1.a High availability
- 2.1.b Calendar integration
- 2.1.c Apple Push Notification Service
- 2.1.d Persistent chat
- 2.1.e Federation configuration (XMPP and SIP)
- 2.1.f Centralized Cisco Unified IM&P

2.2 Troubleshoot Cisco Unified IM&P on premises

- 2.2.a XMPP
- 2.2.b High availability
- 2.2.c Calendar integration
- 2.2.d Apple Push Notification Service
- 2.2.e Persistent chat
- 2.2.f Federation configuration (XMPP and SIP)

Cisco Unity Connection and Cisco Unity Express

3.1 Configure these in Cisco Unity Connection

- 3.1.a Call handlers
- 3.1.b Voicemail transfers and greetings
- 3.1.c Routing rules
- 3.1.d Distribution lists
- 3.1.e LDAP integration

3.2 Troubleshoot these in Cisco Unity Connection

- 3.2.a Call handlers
- 3.2.b Voicemail transfers and greetings
- 3.2.c Auto-Attendant
- 3.2.d Routing rules
- 3.2.e MWI

3.3 Implement toll fraud prevention

3.4 Troubleshoot Cisco Unity Connection integration options with Cisco Unified Communications Manager

3.5 Describe digital networking in multicluster deployments in Cisco Unity Connection

3.6 Configure Cisco Unity Express integration to Cisco Unified Communications Manager Express

- 3.6.a Basic call handler scripting (Auto-Attendant)
- 3.6.b Voicemail management
- 3.6.c MWI
- 3.6.d User management

3.7 Troubleshoot Cisco Unity Express integration to Cisco Unified CME

- 3.7.a Basic call handler scripting (Auto-Attendant)
- 3.7.b Voicemail management
- 3.7.c MWI
- 3.7.d User management

Application Clients

4.1 Configure DNS for service discovery

4.2 Troubleshoot service discovery

4.3 Configure Jabber client installation switches

4.4 Troubleshoot Cisco Jabber Instant Messaging and Presence

4.5 Troubleshoot Cisco Jabber phone control

4.6 Troubleshoot Cisco Jabber voicemail integration

4.7 Troubleshoot certificate validation for Jabber clients

4.8 Describe the Cisco Unified Attendant Console Advanced integration

300-815
CLACCM

Implementing Cisco Advanced Call Control and Mobility Services (CLACCM)

Signaling and Media Protocols

1.1 Troubleshoot these elements of a SIP conversation

- 1.1.a Early media
- 1.1.b PRACK
- 1.1.c Mid-call signaling (hold/resume, call transfer, conferencing)
- 1.1.d Session timers
- 1.1.e UPDATE

1.2 Troubleshoot these H.323 protocol elements

- 1.2.a DTMF
- 1.2.b Call set up and tear down

1.3 Troubleshoot media establishment

CME/SRST Gateway Technologies

2.1 Configure Cisco Unified Communications Manager Express for SIP phone registration

2.2 Configure Cisco Unified CME dial plans

2.3 Implement toll fraud prevention

2.4 Configure these advanced Cisco Unified CME features

- 2.4.a Hunt groups
- 2.4.b Call park
- 2.4.c Paging

2.5 Configure SIP SRST gateway

Cisco Unified Border Element

3.1 Configure these Cisco Unified Border Element dial plan elements

- 3.1.a DTMF
- 3.1.b Voice translation rules and profiles
- 3.1.c Codec preference list
- 3.1.d Dial peers
- 3.1.e Header and SDP manipulation with SIP profiles
- 3.1.f Signaling and media bindings

3.2 Troubleshoot these Cisco Unified Border Element dial plan elements

- 3.2.a DTMF
- 3.2.b Voice translation rules and profiles
- 3.2.c Codec preference list
- 3.2.d Dial peers
- 3.2.e Header and SDP manipulation with SIP profiles

- 3.2.f Signaling and media bindings

Call Control and Dial Planning

4.1 Configure these globalized call routing elements in Cisco Unified Communications Manager

- 4.1.a Translation patterns
- 4.1.b Route patterns
- 4.1.c SIP route patterns
- 4.1.d Transformation patterns
- 4.1.e Standard local route group
- 4.1.f TEHO
- 4.1.g SIP trunking

4.2 Troubleshoot these globalized call routing elements in Cisco Unified Communications Manager

- 4.2.a Translation patterns
- 4.2.b Route patterns
- 4.2.c SIP route patterns
- 4.2.d Transformation patterns
- 4.2.e Standard local route group
- 4.2.f TEHO
- 4.2.g SIP trunking

Cisco Unified CM Call Control Features

5.1 Troubleshoot Call Admission Control (exclude RSVP)

5.2 Configure ILS, URI synchronization, and GDPR

5.3 Configure hunt groups

5.4 Configure call queuing

5.5 Configure time of day routing

5.6 Configure supplementary functions

- 5.6.a Call park
- 5.6.b Meet-me
- 5.6.c Call pick-up

Mobility

6.1 Configure Cisco Unified Communications Manager Mobility

- 6.1.a Unified Mobility
- 6.1.b Extension Mobility
- 6.1.c Device Mobility

6.2 Troubleshoot Cisco Unified Communications Manager Mobility

- 6.2.a Unified Mobility
- 6.2.b Extension Mobility
- 6.2.c Device Mobility