

VISTA TRAINING GROUP

CISCO CCNA Voice Syllabus

640-460 IIUC (CCNA Voice)

Implementing Cisco IOS Unified Communications

Describe the components of the Cisco Unified Communications Architecture

- Describe the function of the infrastructure in a UC environment
- Describe the function of endpoints in a UC environment
- Describe the function of the call processing agent in a UC environment
- Describe the function of messaging in a UC environment
- Describe the function of auto attendants and IVRs in a UC environment
- Describe the function of contact center in a UC environment
- Describe the applications available in the UC environment, including Mobility, Presence, and Telepresence
- Describe how the Unified Communications components work together to create the Cisco Unified Communications Architecture

Describe PSTN components and technologies

- Describe the services provided by the PSTN
- Describe time division and statistical multiplexing
- Describe supervisory, informational, and address signalling
- Describe numbering plans
- Describe analog circuits
- Describe digital voice circuits
- Describe PBX, trunk lines, key-systems, and tie lines

Describe VoIP components and technologies

- Describe the process of voice packetization
- Describe RTP and RTCP
- Describe the function of and differences between codecs
- Describe H.323, MGCP, SIP, and SCCP signalling protocols

Describe and configure gateways, voice ports, and dial peers to connect to the PSTN and service provider networks

- Describe the function and application of a dial plan
- Describe the function and application of voice Gateways
- Describe the function and application of voice ports in a Gateway
- Describe the function and operation of call-legs
- Describe and configure voice dial peers

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- Describe the differences between PSTN and Internet Telephony Service Provider circuits

Describe and configure a Cisco network to support VoIP

- Describe the purpose of VLANs in a VoIP environment
- Describe the environmental considerations to support VoIP
- Configure switched infrastructure to support voice and data VLANs
- Describe the purpose and operation of PoE
- Identify the factors that impact voice quality
- Describe how QoS addresses voice quality issues
- Identify where QoS is deployed in the UC infrastructure

Implement UC500 using Cisco Configuration Assistant

- Describe the function and operation of Cisco Configuration Assistant
- Configure UC500 device parameters
- Configure UC500 network parameters
- Configure UC500 dial plan and voicemail parameters
- Configure UC500 SIP trunk parameters
- Configure UC500 voice system features
- Configure UC500 user parameters

Implement Cisco Unified Communications Manager Express to support endpoints using CLI

- Describe the appropriate software components needed to support endpoints
- Describe the requirements and correct settings for DHCP, NTP, and TFTP
- Configure DHCP, NTP and TFTP
- Describe the differences between key system and PBX mode
- Describe the differences between the different types of ephones and ephone-dns
- Configure Cisco Unified Communications Manager Express endpoints
- Configure call-transfer per design specifications
- Configure voice productivity features, including hunt groups, call park, call pickup, paging groups, and paging/intercom
- Configure Music on Hold

Implement voicemail features using Cisco Unity Express

- Describe the Cisco Unity Express hardware platforms
- Configure the foundational elements required for Cisco Unified Communications Manager Express to support Cisco Unity Express
- Describe the features available in Cisco Unity Express

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- Configure AutoAttendant services using Cisco Unity Express
- Configure basic voicemail features using Cisco Unity Express

Perform basic maintenance and operations tasks to support the VoIP solution

- Describe basic troubleshooting methods for Cisco Unified Communications Manager Express
- Explain basic troubleshooting methods for Cisco Unity Express
- Explain basic maintenance and troubleshooting methods for UC500