



Reference Lists

Cisco Networking Academy Program
IP Telephone v1.0

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General

For additional information on this module, refer to the resources listed below.

- *Cisco IP Communications Express: CallManager Express with Cisco Unity Express*. Indianapolis, Indiana: Cisco Press; ISBN: 158705180X; 2005.

Introduction to Packet Voice Technologies

For additional information on this module, refer to the resources listed below.

Traditional Telephony

- *Voice Network Signaling and Control*
http://www.cisco.com/warp/public/788/signalling/net_signal_control.html

Packetized Telephony Networks

- *Extending Enterprise Productivity with Converged IP-Based Cisco Solutions*
http://www.cisco.com/warp/public/cc/so/neso/vvda/avvid/avid_pl.htm

IP Telephony Applications

- *Design Guides*
http://www.cisco.com/en/US/netsol/ns340/ns394/ns147/ns17/networking_solutions_design_guidances_list.html

Analog Voice Basics & Analog-to-Digital Voice Encoding

- McQuerry, S., McGrew, K., Foy, S. *Cisco Voice over Frame Relay, ATM, and IP*. Indianapolis, Indiana: Cisco Press; ISBN: 1578702275; 2001.

Signaling Systems

- *Voice Network Signaling and Control*
http://www.cisco.com/warp/public/788/signalling/net_signal_control.html

Introduction to VoIP

For additional information on this module, refer to the resources listed below.

Gateways and Their Roles

- *Cisco 1700 Series Modular Access Routers, Product Bulletin, No. 1596*
http://www.cisco.com/en/US/products/hw/routers/ps221/prod_bulletin09186a00800920de.html

Encapsulating Voice in IP Packets

- *Request for Comments*
<http://www.faqs.org/rfcs/>
- *Configuring Compressed Real-Time Protocol*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/12cgcr/qos_c/qcpart6/qcrtphc.htm

Calculating Bandwidth Requirements

- *Voice over IP – Per Call Bandwidth Consumption*
http://www.cisco.com/warp/public/788/pkt-voice-general/bwidth_consume.html
- *Voice over IP (VoIP)*
http://www.cisco.com/en/US/tech/tk652/tk701/tsd_technology_support_protocol_home.html
- *Voice over Frame Relay (VoFR)*
http://www.cisco.com/en/US/tech/tk652/tk692/tsd_technology_support_protocol_home.html
- *Voice over ATM (VoATM)*
http://www.cisco.com/en/US/tech/tk652/tk690/tsd_technology_support_protocol_home.html

Configuring Cisco CallManager Express (CME)

For additional information on this module, refer to the resources listed below.

Overview of Cisco CME

- *Cisco CallManager Express with Cisco Unity Express Solution White Paper*
http://www.cisco.com/en/US/products/sw/voicesw/ps4625/products_white_paper09186a00801c637f.shtml

Challenges and Solutions in VoIP

- *Voice over IP – Per Call Bandwidth Consumption*
http://www.cisco.com/warp/public/788/pkt-voice-general/bwidth_consume.html#related
- *Voice Quality*
http://www.cisco.com/en/US/tech/tk652/tk698/tsd_technology_support_protocol_home.html
- *Quality of Service for Voice over IP*
http://www.cisco.com/en/US/tech/tk652/tk698/technologies_white_paper09186a00800d6b73.shtml

Cisco CME Features and Functionality

- *CallManager Express 3.1 System Administrators Guide*
http://www.cisco.com/en/US/products/sw/iosswrel/ps5207/products_administration_guide_book09186a0080380ccc.html
- *Cisco CallManager Express Data Sheet*
http://www.cisco.com/application/pdf/en/us/guest/netsol/ns331/c643/cdccont_0900aecd8026b194.pdf

Cisco CME Network Parameters

- *Configuring DHCP*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/fipr_c/ipcprt1/1cfdhcp.htm#xtocid0
- *Setting Time and Calendar Services*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/ffun_c/fcprt3/fcf012.htm#1001075
- *Cisco CallManager Express 3.1: Setting Up a Cisco CME System*
http://www.cisco.com/en/US/products/sw/iosswrel/ps5207/products_administration_guide_chapter09186a00801f12c1.html
- *The Network Time Protocol*
<http://ntp.org>

IP Phone Registration

- *Cisco CallManager Express Data Sheet*
http://www.cisco.com/application/pdf/en/us/guest/netsol/ns331/c643/cdccont_0900aecd8026b194.pdf

Ephone-dn and Ephone

- *Cisco CallManager Express 3.1: Overview*
http://www.cisco.com/en/US/products/sw/iosswrel/ps5207/products_administration_guide_chapter09186a00801f12ab.html

Cisco CME Files

- *Cisco CallManager Express Data Sheet*
http://www.cisco.com/application/pdf/en/us/guest/netsol/ns331/c643/cdccont_0900aecd8026b194.pdf
- *Cisco CME software* (A user ID and password are required to access this site.)
<http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>

Initial Phone Setup

- *Cisco CallManager Express Data Sheet*
http://www.cisco.com/application/pdf/en/us/guest/netsol/ns331/c643/cdccont_0900aecd8026b194.pdf

Voice Dial Plans, Configuring Voice Interfaces and Dial Peers

For additional information on this module, refer to the resources listed below.

Call Establishment Principles

- *Understanding Inbound and Outbound Dial Peers on Cisco IOS Platforms*
http://www.cisco.com/warp/public/788/voip/in_out_dial_peers.html

Configuring Dial Peers

- *Dial Peer Overview*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/fvfax_c/vvfpers.htm#xtocid2
- *Case Study: Understanding Inbound Matching and Default Dial-Peer 0*
http://www.cisco.com/warp/public/788/voip/in_dial_peer_match.html#topic13
- *Voice—Understanding Inbound and Outbound Dial Peers on Cisco IOS Platforms*
http://www.cisco.com/warp/public/788/voip/in_out_dial_peers.html
- *Cisco IOS Voice, Video, and Fax Command Reference, Release 12.2*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/fvfax_r/
- *Cisco IP Telephony*, Cisco Press; ISBN: 1587050501; 1st edition (December 17, 2001)

Specific-Purpose Connections

- *Cisco IOS Voice, Video, and Fax Configuration Guide, Release 12.2*
(A user ID and password are required to access this site.)
http://www.cisco.com/en/US/partner/products/sw/iosswrel/ps1835/products_configuration_guide_book09186a0080080ada.html

Building a Scalable Numbering Plan

- *Designing a Static Dial Plan*
http://www.cisco.com/univercd/cc/td/doc/cisintwk/intsolns/voipsol/dp3_isd.htm
- *Understanding One Stage and Two Stage Voice Dialing*
<http://www.cisco.com/warp/public/788/voip/1stage2stage.html>
- *Voice Design and Implementation Guide*
<http://www.cisco.com/warp/public/788/pkt-voice-general/8.html>

Configuring Voice Ports

- *Configuring Voice Ports*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/12cgcr/voice_c/vcprt1/vcports.htm
- *Configuring and Troubleshooting Transparent CCS*
http://www.cisco.com/warp/public/788/voip/trans_channel_signal.html
- *Configuring Voice Ports*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/fvvfax_c/vvfprt.htm

Adjusting Voice Quality

- *Voice Quality Tuning Commands*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/fvvfax_c/vvfpopt.htm#wp1161013

Dial Peer

- *Understanding Inbound and Outbound Dial Peers on Cisco IOS Platform*
(A user ID and password are required to access this site.)
http://cisco.com/en/US/partner/tech/tk652/tk90/technologies_tech_note09186a0080147524.shtml

Class of Restriction

- *Configuring Class of Restriction*
http://cisco.com/en/US/partner/tech/tk652/tk90/technologies_configuration_example09186a008019d649.shtml

Configuring CME Additional Features

For additional information on this module, refer to the resources listed below.

Cisco CME GUI Features & Configuring Phone Features

- *Cisco CallManager Express 3.1: Overview*
http://www.cisco.com/en/US/products/sw/iosswrel/ps5207/products_administration_guide_chapter09186a00801f12ab.html

VoIP Signaling and Call Control

For additional information on this module, refer to the resources listed below.

Need for Signaling and Call Control

- *ITU-T Recommendation H.323*
<http://www.itu.int/rec/recommendation.asp?type=folders&lang=e&parent=T-REC-H.323>
- IETF RFC 3261, *SIP: Session Initiation Protocol*
<http://www.faqs.org/rfcs/rfc3261.html>
- IETF RFC 2705: *Media Gateway Control Protocol (MGCP), version 1.0*
<http://www.faqs.org/rfcs/rfc2705.html>

Configuring H.323

- *ITU-T Recommendation H.323 (Version 4)*
<http://www.itu.int/rec/recommendation.asp?type=items&lang=E&parent=T-REC-H.323-200011-S>
- *Cisco IOS Voice, Video, and Fax Configuration Guide*
http://www.cisco.com/en/US/products/sw/iosswrel/ps1835/products_configuration_guide_book09186a0080080ada.html
- *Cisco IOS Voice, Video, and Fax Command Reference*
http://www.cisco.com/en/US/products/sw/iosswrel/ps1835/products_command_reference_book09186a0080080c8b.html

Configuring MGCP

- IETF RFC 2705: *Media Gateway Control Protocol (MGCP), version 1.0*
<http://www.faqs.org/rfcs/rfc2705.html>
- IETF RFC 2805: *Media Gateway Control Protocol Architecture and Requirements*
<http://www.faqs.org/rfcs/rfc2805.html>
- *Cisco IOS Voice, Video, and Fax Configuration Guide*
http://www.cisco.com/en/US/products/sw/iosswrel/ps1835/products_configuration_guide_book09186a0080080ada.html
- *Cisco IOS Voice, Video, and Fax Command Reference*
http://www.cisco.com/en/US/products/sw/iosswrel/ps1835/products_command_reference_book09186a0080080c8b.html
- *Configuring MGCP Gateway and FXO/FXS Ports on a Cisco CallManager Server*
http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_tech_note09186a008017825e.shtml

Improving and Maintaining Voice Quality

For additional information on this module, refer to the resources listed below.

IP QoS Mechanisms

- *Quality of Service (QoS)*
http://www.cisco.com/en/US/tech/tk543/tsd_technology_support_category_home.html
- *Implementing Quality of Service Policies with DSCP*
http://www.cisco.com/en/US/tech/tk543/tk757/technologies_tech_note09186a00800949f2.shtml

Implementing AutoQoS

- Cisco AutoQoS Whitepaper
http://www.cisco.com/en/US/tech/tk543/tk759/technologies_white_paper09186a00801348bc.shtml
- Configuring Automatic QoS
http://www.cisco.com/en/US/products/hw/switches/ps708/products_configuration_guide_chapter09186a0080121d11.html#1032637
- AutoQoS – VoIP
http://www.cisco.com/en/US/products/sw/iosswrel/ps1839/products_feature_guide09186a0080153ece.html#73342

Comparing Voice Quality Measurement Standards

- PESQ information
<http://www.pesq.org>
- Cisco PESQ article
Robison, Helen M. *Designing Voice Quality in Hybrid TDM-IP Networks*
http://www.cisco.com/en/US/about/ac123/ac114/ac173/ac225/about_cisco_packet_technology0900aecd800c9140.html

VoIP Challenges

- *Understanding Jitter in Packet Voice Networks (Cisco IOS Platforms)*
http://www.cisco.com/warp/public/788/voice-qos/jitter_packet_voice.html
- *Understanding Delay in Packet Voice Networks*
<http://www.cisco.com/warp/public/788/voip/delay-details.html>
- *Quality of Services (QoS)*
http://www.cisco.com/en/US/tech/tk543/tsd_technology_support_category_home.html

QoS and Good Design

- *Voice Quality*
http://www.cisco.com/en/US/tech/tk652/tk698/tsd_technology_support_protocol_home.html

Jitter

- *Playout Delay Enhancements for Voice Over IP*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t5/dt_pod.htm
- *Understanding Jitter in Packet Voice Networks (Cisco IOS Platforms)*
http://www.cisco.com/warp/public/788/voice-qos/jitter_packet_voice.html

Delay

- *Understanding Delay in Packet Voice Networks*
<http://www.cisco.com/warp/public/788/voip/delay-details.html#60>

Apply QoS in the Campus

- *Cisco AVVID Network Infrastructure Enterprise Quality of Service Design*
http://www.cisco.com/application/pdf/en/us/guest/netso/ns17/c649/ccmigration_09186a00800d67ed.pdf

QoS Tools in the WAN

- *Voice over IP (VoIP) Frame Relay (VoFR) and ATM (VoATM)*
http://www.cisco.com/en/US/tech/tk652/tsd_technology_support_category_home.html

Configuring QoS in the WAN

- *Voice Technologies*
http://www.cisco.com/en/US/tech/tk652/tsd_technology_support_category_home.html

Configuring CAC

- *Resource-Based CAC Mechanisms*
<http://www.cisco.com/univercd/cc/td/doc/cisintwk/intsolns/voipsol/cac.htm#903253>
- *Call Admission Control for H.323 Gateways*
http://www.cisco.com/en/US/products/sw/iosswrel/ps1839/products_feature_guide09186a00800e0d4b.html#76206
- *Call Admission Control for MGCP*
http://www.cisco.com/en/US/products/sw/iosswrel/ps1839/products_feature_guide09186a0080087d37.html#1048015
- *Measurement-Based Call Admission Control for SIP*
http://www.cisco.com/en/US/products/sw/iosswrel/ps1839/products_feature_guide09186a00801541b2.html