Cisco PGW2200 Call Control Hands-On Training

Length
5 days

Format
Lecture/lab

Track
Support

Version
2.0

PGWC

Course Description

This course covers the PSTN Gateway PGW2200 and how it is used in its call control deployments, including Packet Transit, TDMTDM grooming, HSI, SIP Gateway and MGCP-Dial termination. An extensive lab requires that participants build up the entire PSTN Gateway PGW2200 Solution with all components to provide a deeper understanding and practical experience with the solutions. PGW2200 provisioning, operation, maintenance and troubleshooting are covered, as well as the configuration and maintenance of the Cisco SLT. Related media gateways are configured.

Who Should Attend

This course provides in-depth technical training for Telephony Service Providers implementing PGW2200 in a call control mode, and individuals who build Cisco SS7 Interconnect and VoIP Networks for Voice and Dial Traffic.

Recommended Prerequisites

- SS7 familiarity
- Telephony network basics
- Transmission fundamentals
- TCP/IP networking basics
- Experience with Cisco IOS (ICND level)

Related Training

Learning Objectives

After you complete this course, you will be able to:

- Identify and describe Cisco layered approach to packet telephony architecture
- Describe the PGW2200 switched solutions
- Identify and describe the PGW2200 software components of the call processing system
- Identify and describe the PGW2200 hardware components
- Provision the PGW2200 using either the Man Machine Language (MML) or Voice Services Provisioning Tool (VSPT)
- Provision the MGX Voice gateway or Access Server AS5xx0 using the VSPT
- Describe and provision the Cisco SLT using Cisco IOS
- Provision Number Analysis (Dial Plans)
- Use MML to verify PGW2200 operation
- Demonstrate the use of PGW2200, HSI and SIP procedures
- Identify basic solution troubleshooting tools

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Course Outline

Module 1: Introduction to the PGW2200

Lesson 1: VoIP Packet Transit Overview
Cisco's Layered Approach
PSTN Gateway Based Solutions
PSTN Gateway Supported Protocols
Backhaul Protocols and Backhauling
Cisco PSTN Gateway Solutions
Media Gateway Controller Software Architecture

Module 2: Introduction to VSPT

Lesson 1: Introduction to VSPT
Provisioning Overview
Starting a Provisioning Session
Navigating the VSPT

Lesson 2: Setting up the XECfgParm.dat file
PGW2200 Configuration Process
Setting up the EXCfgParm.dat file

Lesson 3: Provisioning the PGW2200 for SS7 Signaling
Provisioning Session
Provisioning SS7 Signaling Services

Lesson 4: Provisioning the PGW2200 for SS7 Signaling
Provisioning Session
Provisioning SS7 Signaling Services

Lesson 5: Provisioning External Nodes – SLT
Signaling Link Terminator Overview
Signaling Links
Lab: Configure the Cisco SLT
Bringing it All Together
Hairpin Configuration
Remote SLT Considerations
Integrated SLT
Specimen Integrated SLT Configuration

Lesson 6: Provisioning External Nodes - Media Gateways
Adding External Nodes
Controlling the Gateways with MGCP
Note on TDM-TDM Hairpin

Lesson 7: Provisioning Facility Associated Signaling (FAS) and Non Facility Associated Signaling (NFAS)
Backhauling Q.931 via Media Gateways

Lesson 8: Provisioning Trunks and Routes
Media Gateway Controller Trunking Overview

Lesson 9: Provisioning Trunk Groups
Adding Trunks
Defining Routes & Route Lists
Provisioning Trunk Groups
Adding Trunks
Defining Routes & Route Lists

Lesson 10: Provisioning Dial Plans
Dial Plans
PGW2200 Number Analysis Overview
Dial Plan Configuration

Module 3: Operating & Maintaining the PGW2200

Lesson 1: Operating & Maintaining the PGW2200
PGW Data Storage
Saving Your Files to Production
Introduction to Man Machine Language
Checking the General State of the PGW
Signaling Control Link
Controlling Bearer Channels
The Alarm System
Monitor & Control the SLT with IOS
PGW2200 Directories

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Course Outline

Module 3 (continued)

Lesson 2: Provisioning the H.323 Signaling Interface (HSI)
HSI Solution Overview
HSI Architecture
The Call Processing module
HSI Protocols
HSI Call Flows
Provisioning the PGW
Provisioning the HSI
Introducing the Provisioning Lab
Provisioning Lab 1
Provisioning Lab 2
Troubleshooting PGW – HSI
Displaying and Responding to Alarms
Gatekeeper Status and Debug
Software Maintenance

Lesson 3: Session Initiation Protocol
About SIP
The Role of PGW in SIP
Provisioning Lab SIP

Lesson 4: Provisioning for Data Termination
About the Cisco Access Server
Terminating Data Calls
Provisioning Data Termination