Cisco, voice over IP

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SII-182 **5 Days (35 Hours)**

Description

This training covers the fundamentals of the problem of voice transport and telephony over IP. It will allow you to acquire the knowledge and skills necessary to implement voice and telephony over IP on today's networks.

Who is this training for ?

For whom

This course is intended for network technicians and engineers involved in Voice over IP technology in a Cisco environment.

Prerequisites

Aucune

Training objectives

- Understand the technical aspects and analysis methods for integrating voice transport into an IP network
- Know how to locate the characteristics of the different protocols
- Be able to carry out sizing calculations
- Master the concepts of quality of service, reservation (RSVP) and architecture Diffser
- Be able to choose VOIP technologies adapted to your needs

Training program

Rappels sur la téléphonie traditionnelle

- Standard components.
- Role and operation of a PBX.
- The principles of signaling.
- Multiplexing techniques.
- The usual interfaces.

Signalisation téléphonique

- The principles of telephony on packet networks.
- The T1 and E1 interfaces.
- CSS, ISDN, QSIG, SIGTRAN and SS7 signaling.

Configuration des interfaces voix

- Configuration of FXS, FXO and E&M interfaces.
- Configuration of timers.
- Configuration of digital ports.
- Configuration of ISDN interfaces.
- Configuring CCS options.
- Voice quality improvement techniques.
- Monitoring and Troubleshooting interfaces.

Transport de la voix en paquets

- Problem.
- The principles of voice digitization.
- The main Codecs.
- The constraints inherent to VoIP.
- The components.
- The RTP, RTcP, CRTP protocols.
- Calculation of the necessary bandwidth.
- VoIP security.

Fax over IP

- The T38 and T37 standards.
- The Fax Pass-Through technique.

Les techniques QoS

- Principles of QoS.
- Definitions.
- Mechanisms of network congestion.
- The causes of network congestion.
- Presentation of the different QoS models.
- The Integrated Services model: the RSVP protocol.
- The Differentiated Services Model: classification, marking, ToS / DSCP / CoS, 802.
- 1p, PQ, CQ, WFQ, CB-WFQ, etc.

Le protocole H323

- Presentation of the H323 protocol.
- The components of the architecture.
- Establishing a direct call.
- Establishing a call via a Gatekeeper.
- Role and operation of an MCU.
- Protocol configuration.
- Monitoring and Troubleshooting of H323.

Le protocole SIP et MGCP

- Presentation of the SIP and MGCP protocols.
- The components of the architecture.
- The different addressing.
- Direct call and via a proxy.
- Configuring SIP and MGCP.