

## Cisco Voice over IP

**Duration: 5 Days**    **Course Code: CVOICE**

### Overview:

Cisco Voice over IP (CVOICE) v6.0 provides an understanding of converged voice and data networks and also the challenges faced by the various network technologies. The course also provides network administrators and network engineers with the knowledge and skills required to integrate gateways and gatekeepers into an enterprise VoIP network. This course is one of several courses in the Cisco CCVP™ track that addresses design, planning, and deployment practices and provides comprehensive hands-on experience in configuration and deployment of VoIP networks.

### Target Audience:

The primary audience for this course is as follows :Students completing the CCVP certification track, —Network engineers, architects, and support staff with the following responsibilities — Maintain and configure voice and data network devices — Are considering various methodologies to implement VoIP — Require a fundamental understanding of the issues and solutions related to implementation —Require a fundamental understanding of packet telephony technologies that are common for both enterprise and service provider applications

### Objectives:

- At the end of the course delegates will be able to;-
- Describe VoIP, voice gateways, special requirements for VoIP calls, codecs and codec complexity, and how DSPs are used as media resources on a voice gateway
- Configure gateway interconnections to support VoIP and PSTN calls and to integrate with a PSTN and PBX
- Describe the basic signaling protocols that are used on voice gateways and configure a gateway to support calls using the various signaling protocols
- Define a dial plan, describe the purpose of each dial plan component, and implement a dial plan on a voice gateway
- Implement gatekeepers and directory gatekeepers, and identify redundancy options for gatekeepers
- Implement a Cisco UBE gateway to connect to an Internet telephony service provider

### Prerequisites:

The knowledge and skills that a learner must have before attending this course are as follows:

- Working knowledge of fundamental terms and concepts of computer networking to include LANs, WANs, and IP switching and routing
- Basic internetworking skills taught in Interconnecting Cisco Network Devices (ICND), or equivalent knowledge
- Ability to configure and operate Cisco routers and switches and to enable VLANs and DHCP
- Knowledge of traditional public switched telephone network (PSTN) operations and technologies
- We also strongly recommend that all delegates who attend this course have attended and passed the IIUC course, although it is not essential.

### Testing and Certification:

This course will prepare delegates for the following exam;

642-436 CVOICE Cisco Voice over IP

## Follow-on-Courses:

The following courses are recommended for further study:

- CIPT — Cisco IP Telephony
- QOS — Implementing Cisco Quality of Service
- TUC – Troubleshooting Unified Comms

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## Content:

### **Introduction to VoIP**

- Introducing VoIP
- Introducing Voice Gateways
- Specifying Requirements for VoIP Calls
- Understanding Codecs, Codec Complexity, and DSP Functionality

### **Voice Port Configuration**

- Understanding Call Types
- Configuring Analog Voice Ports
- Understanding Dial Peers
- Configuring Digital Voice Ports
- Understanding QSIG

### **VoIP Gateway Implementation**

- Implementing MGCP Gateways
- Implementing SIP Gateways

### **Dial Plan Implementation on Voice Gateways**

- Understanding Dial Plans
- Implementing Numbering Plans
- Configuring Digit Manipulation
- Configuring Path Selection
- Implementing Calling Privileges on Cisco IOS Gateways

### **H.323 Gatekeepers**

- Introducing Gatekeepers
- Configuring Basic Gatekeeper Functionality
- Implementing Gatekeeper-Based CAC

### **ITSP Connectivity**

- VoIP Signaling and Call Control
- Understanding Special Requirements for External VoIP Connections
- Implementing a Cisco UBE

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## Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 01924 377489

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