

Voice over IP (VoIP)

Course Length	Two (2) days
Course Code	NFSVP2
Course Title:	Voice over IP (VoIP)
Prerequisites	None, however a data and telecom fundamental courses are extremely helpful.
Course Overview:	This Course provides an overview of VoIP technology and the equipment used in a VoIP network. The class will also discuss protocols used in implementing VoIP services.

*** This course can be customized or combined to meet specific training needs ***

Course Outline

DAY 1

What is TCP/IP?

- The protocol suite architecture
- Uses of the major protocols
- TCP vs. UDP

Overview of IP?

- IP addressing
- Routing through the network
- Transporting IP

Overview of the OSI Model

- Why is the OSI Model helpful?
- Layer 3 - The Network Layer

Network Overview Diagram (to show the entire scope of a network)

Accessing the Network

- T1s
- DS3
- DSL services
- Mobile services

Convergence

- What is convergence?
- Benefits of convergence
- IP telephony components
- Benefits of IP telephony

IP Telephony Overview

- Connectionless networks
- Virtual circuits
- Switching vs. routing
- Standards for IP telephony
 - H.323
 - H.248
 - SIP
 - MGCP
- Gateway Architectures

VoIP

- Packet Voice fundamentals
- Packetizing voice
- Voice compression
- Quality of Service
- Interworking VoIP and SS7 architectures

DAY 2

Implementations

- IP PBX and Hosted PBX solutions
- IP Voice mail
- Music on Hold
- IP faxing
- IP call centers

IP Equipment Overview

- Router
- Switches
- Gateways
- PBX VoIP cards
- IP telephony switches
- IP Telephony handsets

Hands-on Exercises