



Course Synopsis

Course : MEGACO (H.248) and SIGTRAN

Duration: 2 days

Q6 Code : GEN5052

This is a two day course which defines the next generation of telecommunications networks based on IP networks. All networks tend to be defined by their signalling and the signalling choices for the Next Generation Networks are based on multimedia gateways and carrying traditional signalling across IP networks.

The subject of Voice over IP has evolved rapidly over the last few years with both H.323 and SIP vying for supremacy in the marketplace. Effective and economic VoIP services are increasingly being deployed with more being announced almost daily using both Intranets and the Internet.

The existing traditional telecoms infrastructure using Signalling System 7 (SS#7) with ISDN signalling on the access links still has to be integrated with VoIP. Much work has been expended on this and MPLS is widely deployed to provide QoS.

The necessary soft switches that will distribute the switching function over carriers' infrastructures will be controlled using MEGACO, also referred to by the ITU as H.248.

This course looks at MEGACO in some detail as well as providing a background to carrying traditional signalling over IP-based networks. This latter area has been developed by the IETF SYSTRAN group.

Introduction to VoIP and New Telecommunications

- Major VoIP Protocols
- VoIP Protocol Stack
- H.323 Protocols
- Session Initiation Protocol (SIP)
- Media Gateway Control Protocol (MGCP)
- Megaco

Gigabit Ethernet and VLANs

- Evolution of Ethernet
- Virtual LAN Concepts
- Bridging: 802.1d
- 801.1Q
- PPOA
- PPOE
- GARP



ITU / IETF Megaco / H.248

- MGCP and Megaco
- Media Gateway Control Protocol (MGCP)
- The Media Gateway Reference Architecture
- Where Megaco Fits
- Megaco/H.248 Terminations and Contexts
- Megaco/H.248 Commands
- Megaco/H.248 Packages
- Megaco IP Phone Media Gateway
- Topology Descriptors

Characteristics of IP Networks

- Evolution of IP Networks
- IP Features
- Classful Addresses
- ICMP
- IPv6 Objectives

Signalling over IP

- SIGTRAN
- Benefits of Using IP Networks
- SIGTRAN Architecture
- SCTP
- Multi Homing and Multi Streaming
- Security at Startup
- M2PA
- M2UA
- M3UA

IP Signalling Over ATM

- About ATM
- Mixing Communications Types
- Transport Bearers for UMTS Networks

Quality of Service

- Approaches to Providing QoS
- Maintaining Voice Quality