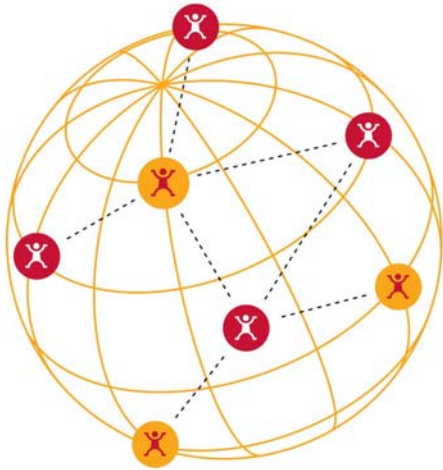


TRAINING PROGRAM OUTLINE



ENG-402E IP NETWORK PLANNING & MANAGEMENT

DESCRIPTION

A 10-day Training Program to provide participants with the knowledge, skills and tools required to plan, design, deploy and manage IP networks.

OBJECTIVES

- Provide participants with an overview of TCP/IP functions and terminology
- Provide participants with various examples of IP network topology and components (hardware and software)
- Lead participants through the steps required to set up an IP addressing scheme
- Describe the process of naming various entities in an IP network
- Provide information required to register an IP network
- Provide an overview of processes and typical tasks in IP network management
- Present the modeling and characterization of services that are required for IP network management
- Review the major network infrastructures involved in IP networks
- Describe the major network management architectures available in IP networks



- Define the standards of IP network management
- Provide information on remote monitoring capabilities in IP networks
- Introduce new trends in IP network management

TOPICS

- TCP/IP overview
 - Open System Interconnection (OSI) reference model
 - Management standards
 - System overview
 - Organization model
 - Information model
 - Communication model
 - Application functions management
 - TCP/IP protocol architecture model
 - TCP/IP handling of data communications
- Designing the IP network
 - Hardware requirements
 - Software requirements
- Setting up an IP address scheme
 - Administering network numbers
 - Designing IP addressing scheme
 - Applying IP addresses to network interfaces
- Naming entities in the IP network
 - Administering host names
 - Selecting a name service
 - Domain names
 - Administrative subdivisions
- Registering the IP network
- Network management overview
 - Telecommunications networks



- Network management approaches and goals
- Review of networks
 - Local Area Networks (LANs)
 - Carrier Sense Multiple Access with Collision Detection (CSMA/CD) and Ethernet
 - Fast Ethernet and Gigabit Ethernet
 - Switched Ethernet
 - Virtual LANs
 - Token Ring LANs
 - Wide Area Networks
 - Internet Protocol (IP)
 - Asynchronous Transfer Mode (ATM)
 - Multi-Protocol Label Switching (MPLS)
 - Transmission systems
 - Wired transmission
 - Plesiochronous systems
 - Synchronous Optical NETWORK/Synchronous Digital Hierarchy (SONET/SDH)
 - Network elements
 - Bridges
 - Routers
 - Gateways
 - Multiplexers
 - Switches
- Telecommunications Management Network (TMN)
 - Concepts
 - Operations systems
 - TMN standards
 - TMN conceptual model
 - TMN architecture
 - TMN management service architecture
 - TMN integrated view
- Simple Network Management Protocol (SNMP)
 - SNMP standards
 - Network management model
 - Organization model
 - Information model



- Communication model
 - Abstract Syntax Notation One (ASN.1)
 - Functional model
- SNMPv1
 - SNMP standards
 - Network management model
 - Organization model
 - Information model
 - Functional model
 - Architecture
 - Protocol specification
 - Operation
 - Management Information Base (MIB)
- SNMPv2
 - Changes in SNMPv2
 - System architecture
 - Structure of Management Information (SMI)
 - MIB
 - Protocol
- SNMPv3
 - Architecture
 - Application
 - MIB
 - Security
 - User-based security model
 - Access control
- Remote Monitoring (RMON)
 - RMON SMI and MIB
 - RMON 1
 - RMON 2
- Broadband network management
 - Broadband access network and technology
 - Hybrid Fiber-Coaxial (HFC) technology

- Cable modem
 - HFC plant
 - Radio Frequency (RF) spectrum for cable modem
 - HFC management
 - Asymmetric Digital Subscriber Line (ADSL) technology
 - ADSL management
- Network management tools
 - Bit Error Rate (BER) tester
 - Software tools
 - MIB tools
 - Protocol analyzer
 - Statistics measurement systems
 - Commercial network management systems
- Web-based management
 - Introduction
 - Web interface to SNMP
 - Embedded web-based management
- Web-Based Enterprise Management (WBEM)
 - Windows management instrumentation

TARGET AUDIENCE

- Telecommunications managers and personnel responsible for the planning, design, deployment and management of IP networks
- Managers looking to complement their skill-set by gaining a good understanding of IP networks



METHODOLOGY

Our Training Programs combine expert presentations, workshops, case studies and discussions on real-life situations faced by participants. Complete training material is provided to all participants for future reference and follow-up action plans.

LOCATION

Our Training Programs are held at regular intervals in selected cities around the world. Upon request, our expert trainers can lead Training Programs at the location of your choice. If interested, please contact us at training@neotelis.com.

EXPERTISE

Neotelis provides consulting and training services to telecommunications organizations worldwide. Its team of experts has trained thousands of executives and managers working for operators, regulators, policy-makers and governments in over 100 countries around the world.

