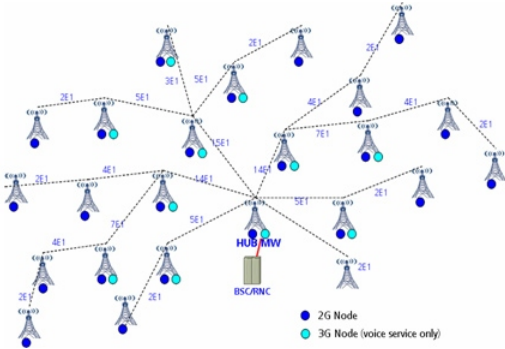


Telecom



Corporate Trainer's Profile

Corporate Trainers are having the experience of 4 to 12 years in development, working with TOP CMM level 5 companies (Project Leader /Project Manager) qualified from NIT/IIT/IIM and work exp in USA and UK.



CMM (Capability Maturity Model) level Project Standard:-

The Capability Maturity Model (CMM) is a method for evaluating the maturity of organizations on a scale of 1 to 5. Get the Opportunities to work on Client Projects Of US/UK, which follow the all standard of CMM level 5 Company.



Course Name: SS7 Fundamentals- Signaling Switching Number 7 Training

Course Duration: 2Days

Deployment Option:

Prerequisite: This is an introductory course with no prerequisite.

Who should attend ?

This course is designed to provide a general overview for strategic or technical managers, consultants, communications professionals, software engineers, system engineers, network professionals, marketing and sales professional, information systems engineers, and other telecommunications/data communications professionals who plan on using, evaluating or working with SS7 and related products, applications and services.

About the Course:

The dramatic increase in Internet traffic is driving the need to standardize strategies for offloading data from the circuit-switched network and optimizing the performance of IP-centric next generation networks. The PSTN is expected to continue providing the vast majority of residential users with access to the Internet and other data services. SS7 Fundamentals provides a thorough introduction to SS7.

Course Objectives:

Upon completion of this course, the participant will have a through understanding of:

- SS7 (Signaling System 7) Network
- SS7 Protocol Stack
- Signaling Network Elements: SSPs, STPs and SCPs
- Signaling Network Structures
- SS7 Signal Units
- Signaling Links
- Message Transfer Part (MTP) Level 1-3
- SCCP, TCAP and ISUP
- SS7 and VoIP
- SS7 in Next-Generation Networks
- SS7 Products and Related Equipment
- SS7 Enabling Products
- SS7 Vendors

INTRODUCTION AND OVERVIEW:

- Signaling Overview
- What is Signaling?
- What is Out-of-Band Signaling?
- Signaling Network Architecture
- Network Signaling Evolution

- The North American Signaling Architecture
- Signaling System No 7
- SS7, IN, AIN, Wireless, and VoIP
- Standards Organizations

SS7 EVOLUTION, ARCHITECTURE, and APPLICATIONS:

- SS7 Network Architecture
- Signal Switching Points (SSPs)
- Signal Transfer Points (STPs)
- Signal Control Points (SCPs)
- Intelligent Peripherals (IPs)
- Service Nodes (SNs)
- Service Management and Creation

SS7 Signal Data Links

- Access Link (A)
- Bridge Link (B)
- Cross Link (C)
- Diagonal Link (D)
- Extended Link (E)
- Fully Associated Link (F)

SS7 Applications

- Advanced Intelligent Networks (AIN)
- Basic Call Setup Example
- Database Query Example
- Layers of the SS7 Protocol
- What Goes Over the Signaling Link?
- Addressing in the SS7 Network
- Signal Unit Structure
- What are the Functions of the Different Signaling Units?
- Message Signal Unit Structure
- Local Number Portability (LNP)
- SS7 and Database Connection
- Wireless Applications
- OSS Interconnection: E911/911, LIDB, OS/DA

SS7 PROTOCOL OVERVIEW SS7 Layers

- Physical Layer
- Message Transfer Part (MTP) - Level 2
- Message Transfer Part (MTP) - Level 3
- Signaling Connection Control Part (SCCP)
- ISDN User Part (ISUP)
- Transaction Capabilities Application Part (TCAP)
- Operations, Maintenance, and Administration Part (OMA&P)

Network Service Part (NSP) of SS7

- Message transfer part (MTP)
- Signaling data link level signaling link function level
- SS7 signaling units
- Signaling network function level
- Signaling information
- SS7 signaling message types
- SS7 network node identification
- S7 network management message types
- Link and route management
- Traffic management
- Signaling connection control part (SCCP)
- Routing and discrimination
- Global title routing
- Subsystem management

User Part of SS7

- Transaction capabilities application part (TCAP)
- Operation, maintenance, and administration part (OMAP)
- Application services part (ASP)
- ISDN user part (ISUP)
- PRA and ISU

Message Transfer Part (MTP)

- MTP Levels 1, 2, and 3
- Message Routing
- MTP Level One
- Structure of MTP Level Two
- Basic Error Control Method
- CRC
- LSSU
- Signal Unit Alignment Procedure
- Structure of MTP Level Three
- Message Handling
- Normal routing Procedure
- Signaling Network Management
- Network Maintenance
- Network and Link Management

ISDN User Part (ISUP)

- ISUP Services
- Call Setup and Teardown
- Connection Control
- Messages and Formats
- Interworking with ISDN Q.931

Signaling Connection Control Part (SCCP)

- Enhancements to MTP Routing
- Flow Control
- Connection-Oriented and Connectionless Services
- Global Title Translation
- SCCP Management
- SCCP Management Structure
- Message Types
- Task of SCCP Messages
- Parameters of SCCP Messages
- The Principle of a SCCP Connection

Transaction Capabilities Application Part (TCAP)

- Component and Transaction Portions
- ASP Services
- TCAP Message Structure
- Connectionless TCAP
- TCAP Parameters

SS7 for Wireless and VoIP:

Wireless Market Summary

- Elements in a Mobile Network
- Mobile Switching Center (MSC)
- Base Station Controller (BSC)
- Base Transceiver Station (BTS)
- Home Location Register (HLR)
- Visitor Location Register (VLR)
- Short Message Service Center (SMSC) ANSI-41 and Mobile Application Part (MAP)
- GSM, CDMA and SS7

VoIP

- VoIP Call Control Protocol Overview
- SS7 Interworking with H.323, SIP, and Media Gateway Control (MEGACO)
- SS7 and IP Transport
- Stream Control Transmission Protocol (SCTP)
- SS7-IP Interworking

SS7 PRODUCTS:

SS7 Enabling Products

- SS7 Enabling Products
- SS7 STACKS
- Source Code
- Binary Stacks
- SS7 BOARDS
- SS7 PLATFORMS
- VoIP Gateways

·VoIP Policy Servers

SS7 Equipments

- Service Switching Points (SSP) And MSC
 - SS7 Connectivity Software
 - Signaling Transfer Points (STP)
 - Service Control Points (SCP)/Adjunct Processors (AP)
 - Intelligent Peripherals (IP)/Service Nodes (SN)
 - Home Location Registers (HLR)/Visitor Location Registers (VLR)
 - Short Message Service Centers (SMSC)
- VoIP Gateways