SS7oIP- Sigtran

Course No.:1222 **Duration:** 2 Days

Course Overview:
In this seminar we shall expose the challenges of combining the two worlds: VoIP and the traditional Signaling No. 7. We shall explore how these two technologies can collocate together; we shall discover dedicated components and protocols that were developed for connecting between these two worlds. In this seminar we shall discuss different carrier grade topologies and analyze real captures.

Who should attend?
Professional people in communication and IT, Engineers, software developers, Technical support, field engineers

Prerequisites:
Basic knowledge of IP Networks and Fundamentals of SS7

Course Content:

Logtel provides the participants of this course with vital captures of SCTP, Sigtran adaptation layers, Megaco over SCTP and SIP-T. These captures can be used by R&D and QA for further analysis and testing.

Day 1

1. Telecommunication review
- E1 – T1
- CCS, OSI Model

2. SS7 review
- Components & LINKS CONNECTIONS
- SIGNALING Network
- SLS – SLC
- Linkset, Routeset
- ISUP, CIC
- SCCP, TCAP
- **C**ustomer **L**oca**l** **A**rea **S**igna**l** **S**ervice

3. NGN networks
- NGN motivation, capability
- NGN gateway

4. SS7oIP challenges and QoS issues
- Phenomenon's over IP Networks
- Packet loss, Variable latency & Round trip delay
- Delay Variation, Packets Miss order

5. Sigtran introduction
- SIGTRAN BASIC
- SS7 over IP requirements
- What is SIGTRAN?
- SIGTRAN Mobile services
- SIGTRAN protocol Architecture
- M2PA introduction, M2UA introduction
- M3UA introduction, SUA introduction

6. Stream Control Transmission Protocol
- SCTP Location
- Introduction to SCTP
- TCP, UDP, SCTP comparison table
- SCTP Features
- SCTP Tasks
- SCTP structure
- Common header structure
- Chunk structure / types
- Data Chunk fields
- Different chunk type description

7. SCTP states
- Association set up
- Multi Streaming
- MultiHoming operation
- Path report
- SCTP – Selective Acknowledgement
- Association close

8. Data Transfer
- Capability and advantage
- Slow Start and congestion avoidance
- Path and Peer Monitoring

9. M2PA
- M2PA connectivity
- M2PA Architecture in a SGW
- Protocols Identification and SCTP Ports
- Symmetrical Peer-to-Peer
- M2PA Protocol Header
- Functions Provided by M2PA
  - SCTP setup Demo

Continued …

SS7oIP- Sigtran

Type: Training **Duration:** 2 Days

Course Content:

… Continued

10. M2UA
- M2UA in the SG
- Architecture of M2UA
- M2UA Identification
- M2UA header structure
- M2PA versus M2UA

11. M3UA
- MTP 3 User Adaptation Layer
- Architecture of M3UA
- M3UA Usage
- M3UA Identification
- M3UA header structure & Parameter
- M3UA Advantages
- M3UA Demo
  - Wire-shark ISUP over M3UA
  - Linkbit ISUP over M3UA

12. SUA
- SUA target
- Architecture of SUA
- SUA usages
- SUA header structure
- SUA versus M3UA
- Application M3UA / M2PA /M2UA

13. SIP-T & SIP-I
- SIP-I Q1912.5
- SIP-T SIP for Telephones
- SIP-I Versus SIP-T

14. SIGTRAN summary & conclusion