



## SS7 Interface to Packet

**Course Length:** 2 days

**Description:** The SS7 Interface to Packet course provides a basic understanding of how the SS7 protocol is transported over packet networks using ATM or IP. It details the family of protocols that provide reliable datagram service and user layer adaptations for the SS7 protocol. This protocol was originally intended to allow new VoIP networks the ability to easily interconnect with legacy PSTN networks and utilize the services that customers need and expect. Those services rely heavily on the current PSTN signaling applications.

### **Course Outline:**

- **Network Architecture Overview**
  - ✓ Public switched networks
  - ✓ Signaling networks
  - ✓ Link configurations
    - High-speed links
      - Signaling ATM Adaptation Layer
      - Link alignment, status
    - Virtual high speed links
  - ✓ SS7 protocol layers
    - MTP layer 1
    - MTP layer 2
      - Link alignment
      - Layer 2 functions
    - MTP layer 3
      - Message routing
      - Network Management
    - SCCP layer
      - Global title translation routing
    - TCAP and the applications

- **The SIGTRAN Protocols**
  - ✓ Supporting documentation
  - ✓ Architecture
    - Signaling Gateway (SG)
    - IP Signaling Point (IPSP)
    - Application Server (AS)
  - ✓ Stream Transmission Control Protocol (STCP)
    - Associations
    - Data Streams
  - ✓ User Adaptation (UA) layers
  - ✓ MTP level 2 User Adaptation (M2UA)
  - ✓ MTP level 2 Peer Adaptation (M2PA)
  - ✓ MTP layer 3 User Adaptation (M3UA)
  - ✓ SCCP User Adaptation (SUA)
  - ✓ Network Management
  - ✓ Examples and call flows

Exercises are provided throughout the course, reinforcing a practical understanding of the material.

**What You Will Learn:** This course starts by giving the student a thorough overview of the structure of the SS7 protocol and how it is used today. It then details how a suite of protocols known as Sigtran adapts the SS7 layers for transport over packet-based networks. Emphasis is placed on the most significant protocol defined by the Sigtran group – the Stream Control Transmission Protocol (SCTP). Knowledge of SS7 is essential to thoroughly understand the Sigtran family of protocols.

**Who Will Benefit From This Course:** This course will be an invaluable tool for those individuals responsible for maintenance and surveillance of the voice, signaling, or IP (packet) networks. This is especially true for personnel working in a control center environment such as the NOC, INAC, ESAC, etc. Anyone responsible for maintaining services on the existing intelligent network platform would also benefit. Others would include network or traffic engineers, technical support, network planners and interconnection specialists.

**Course Prerequisites:** A basic knowledge of telephony, IP and signaling would be helpful, but not essential.

**Instructors:** All of the SS7 instructors have years of experience developing and teaching technical courses at Telcordia Technologies (Bellcore) Learning Services in Lisle, IL. They are SS7 certified and CompTIA CTT+ Certified Professionals.

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