



SIP Overview

Course Length: 1 day

Description: This course will provide a working understanding of SIP (Session Initiation Protocol). SIP is a signaling protocol used for controlling multi-media sessions. It provides a way to establish voice, video and advanced messaging between devices. Today it is finding new uses in telephony applications, conferencing and instant messaging. The focus of this course will be how SIP is used to setup and release calls in a packet network including calls that originate and / or complete in the Public Switched Telephone Network (PSTN). The student will have a practical understanding of the messaging and the protocol structure, and analysis of the protocol for various services is provided.

Course Outline:

- **VoIP Overview and Architecture**
 - ✓ Background and benefits
 - ✓ Transporting voice over packet networks
 - ✓ VoIP signaling
 - ✓ VoIP architectures
 - ✓ Addressing

- **SIP Architecture**
 - ✓ SIP standards
 - ✓ Network entities - servers
 - ✓ Address Schemes
 - ✓ Database Applications
 - ✓ Proxies

- **Session Initiation Protocol**
 - ✓ Structure and syntax
 - ✓ Message Content – message headers and body
 - ✓ SIP URIs
 - ✓ SIP Methods
 - ✓ Response Codes
 - ✓ Real-time Protocol (RTP)
 - ✓ Session Description Protocol (SDP)
 - ✓ SIP extensions and enhancements



- **Call Flows**
 - ✓ Registration
 - ✓ Session establishment
 - ✓ Session termination
 - ✓ Interworking - SIP to PSTN
 - ✓ Interworking - PSTN to SIP
 - ✓ Interworking with H.323
 - ✓ PSTN to PSTN using SIP
 - ✓ SIP features

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

Course Prerequisites: Basic knowledge wireline or wireless telephony and signaling would be helpful, but not essential.

What You Will Learn: The SIP Overview course will give the student a basic knowledge of how this signaling protocol is used to setup, modify and tear down multimedia sessions.

Who Will Benefit From This Course: As networks migrate toward packet-based multimedia sessions, this course will be valuable for those individuals responsible for planning, designing, marketing, managing or supporting almost any area of telecommunications.

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

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