



Wireless Intelligent Network (WIN)

Course Length: 3 ½ days

Description: Wireless Intelligent Network (WIN) covers the network capability that allows ANSI-41 wireless providers to create new services. The standards that define the WIN architecture, call models, triggers and protocol are detailed. This course also explains how the existing ANSI-41 standard is enhanced to make it more “intelligent”. WIN is based on multiple standards that “add on” to existing mobility management standards. All areas including Phase I, Pre-Paid Charging and Phase II are thoroughly explained.

Course Outline:

- **Overview of Mobile Architecture and SS7**
 - ✓ Today’s mobile networks
 - ✓ Understanding mobility management
 - ✓ Introduction to ANSI-41
 - ✓ SS7 Network nodes
 - ✓ Low-speed and high-speed links
 - ✓ Introduction to the SS7 protocol
 - ✓ Supporting documentation
 - ✓ SS7 MTP
 - ✓ Routing and SLS
 - ✓ Network Management

- **SS7 Protocol – SCCP & ANSI TCAP**
 - ✓ Supporting documentation
 - ✓ Connectionless and connection-oriented services used
 - ✓ Structure of SCCP
 - ✓ Global Title Translation for ANSI-41
 - ✓ Global Title routing
 - ✓ Supporting documentation
 - ✓ Structure of TCAP
 - ✓ National versus private definitions
 - ✓ Parameter structure

- **ANSI-41 MAP Application**
 - ✓ The ANSI-41 document
 - ✓ Mobile architecture
 - ✓ Intersystem handoff call flow scenarios
 - ✓ Mobile qualification – registration and authentication
 - ✓ Voice services – call flows
 - ✓ Short Message Service (SMS)
 - ✓ Call flows and interactions between VLRs and HLRs

- **WIN Overview and Phase I**
 - ✓ What is WIN
 - ✓ What services does WIN support?
 - ✓ WIN standards – Phase I, Phase II, Prepay
 - ✓ WIN architecture and nodes
 - ✓ Intelligent Networking Principles
 - ✓ Basic Call State Model (BCSM)
 - ✓ Points In Call (PIC) and Detection Points (DP)
 - ✓ WIN triggers
 - ✓ Examples and uses of triggers
 - ✓ Calling Name Delivery

- **WIN Protocols**
 - ✓ SS7 MTP enhancements
 - ✓ WIN routing and GTT
 - ✓ TCAP, ANSI-41 and WIN
 - ✓ Arming triggers
 - ✓ Operations codes
 - ✓ Parameters

- **WIN Pre-Paid and Phase II**
 - ✓ WIN Pre-Paid Charging
 - ✓ WIN Pre-paid documentation
 - ✓ Changes to the BCSM
 - ✓ New triggers and detection points
 - ✓ Call flow scenarios for Pre-Paid Charging
 - ✓ WIN Phase II
 - Triggers for Preferred Language
 - Advice of Charge
 - Rejection of Undesired Annoyance Calls
 - Premium Rate Charging
 - Freephone
 - ✓ WIN Phase II documentation
 - ✓ WIN Phase II call flow scenarios



Many exercises are provided throughout the course, reinforcing a practical understanding of the material. This gives the student practice in analyzing the SS7 protocol and the ANSI-41 and WIN applications thus understanding how the data being sent and received is used.

What You Will Learn: The student will gain valuable knowledge of how mobile services are accomplished using WIN standards. This includes how to analyze and decipher critical parameters within the SS7 protocol structure and the Mobile Application Part (MAP) application. You will also learn important call flow scenarios of how network entities communicate vital information in a mobile network. Additionally, you will learn major elements that make up WIN. Also the relationship between the WIN call model and switch call processing will be explored. This course will also examine the common protocols used and potential new and enhanced services. There are many exercises provided that enhance the overall instruction.

Who Will Benefit From This Course: This course is designed for individuals responsible for or involved with network planning, switch maintenance, central office engineering, interconnection, technical support or network operations. Though this course is designed for wireless providers, those involved in the wireline interconnect area might also find it beneficial.

Course Prerequisites: There are no prerequisites, though a basic understanding of mobile communications is helpful.

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.

** This course is provided through special agreement with Telecom Training Associates, Inc.*