

Course ID
GSM-B
Course Duration
1 day

Course Title
GSM: A Technology Overview

Related Courses

- Wireless Network Structure, Operation, and Technologies (WIRELESSNET, 3 days)
- GSM: Network Architecture, Operation, and Design (GSM-I, 5 days)
- GSM: Optimization and Advanced Features (GSM-A, 2 days)
- iDEN™: A Technology Overview (IDEN-O, 1 day)
- iDEN™: Network Architecture, Operation, and Design (IDEN, 4 days)
- Direct Sequence Spread Spectrum Techniques and CDMA-based Technologies (CDMA, 2 days)
- cdmaOne/IS95 (IS95, 2 days)
- UMTS-FDD: Network Architecture, Operation, and Design (UMTS-FDD, 3 days)
- UMTS-TDD: Network Architecture, Operation, and Design (UMTS-TDD, 2 days)
- HSDPA: Network Architecture, Operation, and Design (HSDPA, 2 days)
- 1xRTT: Network Architecture, Operation, and Design (1XRTT, 2 days)
- 1xEVDO: Network Architecture, Operation, and Design (EVDO, 2 days)

Aimed At

Engineers, technicians, and others who have some existing background in wireless and require an introduction to this important technology.

Group Size

5-25

Prerequisites

- None

Course In a Nutshell

The Global System for Mobile communications (GSM) is the world's dominant wireless technology. It's no exaggeration to state that every wireless technology that has come since GSM has been impacted by it, at least in a conceptual way. This overview course sets the stage for a more advanced study of GSM and other technologies, both current and future.

After having taken the course, you will be in a position to describe the various components of a GSM network and their interrelationships. You will have a road map of where modern mobile telecommunications came from, where it is currently, and where it is headed. This will enable you to properly evaluate the plethora of claims and counterclaims being made by a number of existing and planned technologies.

Customize It!

Customize this course to your specific needs at little-to-no additional cost. We offer distinct versions of this course tailored for audiences such as:

- Network design and optimization engineers
- Equipment or application designers
- Less technical audiences such as managers, executives, business planners, sales and marketing specialists, and operations and support personnel

We also offer an expanded two-day course for those who need a more detailed introduction to GSM.

Course Outline

- Evolution of GSM
 - Original motivation for GSM: What did GSM replace and why?
 - GSM: What does the acronym stand for and how/why has that changed?
 - GSM Phase 1, GSM phase 2, and then what?
 - Current evolutionary path for GSM operators
- GSM Network Components and their Functionality
 - MSC: The heart of the system
 - BSC: Why is it there?
 - BTS: What the mobile actually “communicates” with
 - MS: Without the mobile there is no mobile communications!
 - GSM-defined data bases
 - GSM-defined interfaces
 - GSM core network architecture and capabilities: How a mobile originated call is “connected” to the rest of the world
- GSM: The Radio Interface
 - Fundamental structures on the frequency domain
 - Fundamental structures on the time domain
 - Burst types, motivation, and structures
 - Physical channels and logical channels
 - Framing structures and mapping of logical channels to physical channels
 - Cell selection and reselection principles
 - Call establishment signaling flows including handover principles
 - Idle mode procedures, including location area updates and registrations
- Course Recap and Conclusion

How You Will Learn

- You will learn in interactive lecture format from an instructor who’s among the most knowledgeable and dynamic in the industry.
- Along with lecture, we use exercises, puzzles, case studies, and interesting group activities to enrich the instruction and drive home the essential points.
- If you already know something about the technology, we will build on that.

We'll compare and contrast what's familiar with what's new, making new ideas easier to learn as well as more relevant.

- If your background is less technical, we will use meaningful and ingenious examples and analogies to simplify the complex subject matter.
- The participant handbooks will provide you with a structure to which you can add the information and insight provided in real-time, turning it into a valuable reference resource you can take back to your job.

Revised

June 4, 2006