

Course ID  
**XCONNECT**  
Course Duration  
**2 days**

Course Title  
**Interconnect Technologies: T1/E1, Microwave, Fiber**

### **Related Courses**

- Wireless Network Structure, Operation, and Technologies (WIRELESSNET, 3 days)
- Wireless Technologies: A Comparative Study (COMPARISON, 2-4 days)
- GSM: Network Architecture, Operation, and Design (GSM-I, 5 days)
- GPRS: Network Architecture, Operation, and Design (GPRS, 3 days)
- EDGE: Network Architecture, Operation, and Design (EDGE, 2 days)
- iDEN<sup>TM</sup>: Network Architecture, Operation, and Design (IDEN, 4 days)
- cdmaOne/IS95: Network Architecture, Operation, and Design (IS95, 2 days)
- 1xRTT: Network Architecture, Operation, and Design (1XRTT, 2 days)
- UMTS-FDD: Network Architecture, Operation, and Design (UMTS-FDD, 3 days)
- IP-based Systems: TCP/IP and Mobile IP (IPSYS, 2 days)
- Multimedia Applications: IMS, SIP, and VoIP (MULTIMEDIA, 2 days)

**Aimed At** Technical audiences.

**Group Size** 5-25

**Prerequisites** You should have some familiarity with communications engineering. If you have an understanding of the architecture of a mobile communications network and the limitations imposed by its air interface, that will be helpful but it's not required. The necessary prerequisite material will be reviewed as needed.

**Course In a Nutshell** As increasingly sophisticated and complex technologies provide ever-increasing capacity on the air interface, we sometimes forget that a chain is only as strong as its weakest link. The interconnect portion of the network is but a link in the end-to-end chain! What are the key issues to consider in designing interconnects?

In this course, we will study the various alternative approaches to the implementation of the interconnect portion of the mobile communications network. We will examine issues specific to the technology used for implementation such as T1, microwave links, or fiber. We will also look at the issues related to topology, e.g., which BSC should a BTS be connected to. We will consider these issues at both qualitative and quantitative levels, including the process for quantifying capacity and performance metrics that these links must satisfy to meet the end-to-end performance requirements of the end user applications. All in all, you will go away from this course with a solid understanding of both the technological and methodological issues that underlie the design of interconnections in the core network.

**Customize It!** Customize this course to your specific needs at little-to-no additional cost. Whether your forte is microwave link engineering or the digital hierarchy in optical networks, we can modify the course to suit your background and requirements. We offer distinct versions tailored for:

- 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.

**Course Outline** We will provide a detailed course outline following training needs assessment. Please call or e-mail to schedule a no-obligation conference call to help us understand your audience background and training objectives.

**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 Handbook 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*

*Dec. 5, 2005*