



## ExperTech 2.0: TCP/IP Network Concepts

### PROGRAM OVERVIEW

The ExperTech 2.0 series is a library of CD-ROM or intranet-based products covering key communications topics. Seminar style presentations provide telecom professionals with easy access to the information they need. Topics are presented by Hill Associates instructors renowned for their technical expertise, industry experience, and outstanding presentation style.

The Internet has made TCP/IP the standard protocol suite for computer communications. This course examines TCP/IP and related protocols. It begins with an overview of the TCP/IP protocol suite and continues with an examination of the protocol suite's four layers. At each layer common protocols and their applications are examined.

*TCP/IP Network Concepts* runs 2.2 hours, and includes audio, interactive elements, review slides, section knowledge checks, and a final exam. The participant can expect to spend about twice this amount of time to complete the course.

This program has six primary objectives:

- Describe the TCP/IP protocol suite
- Identify the layers of the TCP/IP protocol suite, the protocols found at each layer, and the core function of each
- Explain what an IP address is, and describe its structure
- Explain the difference between public and private addresses
- Differentiate between connectionless and connection-oriented protocols
- Examine three popular application services: DNS, World Wide Web, and email

Specific topics can be developed or packaged together to create a unique and customizable curriculum. All of our standard titles are available for preview at our store ([www.hill.com/store](http://www.hill.com/store)).

### About Hill Associates

At Hill Associates, we excel at creating custom talent development programs. Our experts help identify and assess your needs, and create training and educational programs that exactly meet those needs. Though we specialize in information technology, we've strengthened companies and organizations in a wide range of industries for over 25 years. Let us help you create a world-class talent development program that moves your business forward.

### PROGRAM OUTLINE

#### Lesson 1: Introduction

- The need for communication
- TCP/IP protocol suite
- Applications using TCP/IP

#### Lesson 2: The TCP/IP Suite

- Defining TCP/IP
- Moving between layers
- An example

#### Lesson 3: The Network Interface Layer

- Examining the layer according to OSI
- Common Network Interface layer protocols

#### Lesson 4: The Internet Layer

- Examining the layer
- IP, IP routing, and datagrams

#### Lesson 5: IP Addressing

- Classes, ranges, subnetting
- CIDR, NAT, private/public addresses
- IPv6

#### Lesson 6: IP Routing

- Routing tables and protocols
- ARP, Routing decision
- Following a packet

#### Lesson 7: Transport Layer

- Examining the layer
- Connectionless vs. connection-oriented
- TCP vs. UDP

#### Lesson 6: The Application Services Layer

- Examining the layer
- Looking at DNS, WWW, and email