

Data Network Design

(From the Backbone, to the Edge, to Access and into the Premises)

COURSE FEATURES

Introduction/Pre-Test

Chapter 1 - Data Communications Trends and Directions

Chapter 2 – Data Network Business Drivers, Objectives & Challenges

Chapter 3 - Data Network Design Process Overview

Chapter 4 - Layer Reference Models

Chapter 5 - Voice and Legacy Technologies and Services

Chapter 6 - LAN Environment, Protocols & Principles

Chapter 7 - Networking Devices

Chapter 8 - Wireline Access Technologies & Services

Chapter 9 - Wireless Access Technologies & Services

Chapter 10 - Frame Relay Fundamentals

Chapter 11 - ATM Fundamentals

Chapter 12 - Enterprise Application and Traffic Demands

Chapter 13 - The Internet

Chapter 14 - TCP/IP Technology and Service Architecture

Chapter 15 - IP Addressing

Chapter 16 - IP VPNs

Chapter 17 - MPLS and MPLS VPNs

Chapter 18 - VoIP and IP Telephony Technology and Services

Chapter 19 - Network Security Fundamentals

Course Summary/Post Test

For more information on any of our products or services please call or visit us on the Web.

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Data Network Design Technical Training Course



COURSE BENEFITS

The Data Network Design course is a follow on to the popular book by <u>Darren L. Spohn titled "Data Network</u> <u>Design" 3rd Edition</u> published by Osborne McGraw-Hill. This book is used by many University Computer Engineering courses teaching network design processes, technologies and services.

It covers all current processes, technologies, and services including IP fundamentals such as; network addressing, DHCP, DNS, NAT and PAT. It covers ATM, Frame Relay, optical networking, SONET, voice over IP, and security designs. It covers routing and switching protocols, MPLS, DSL, Ethernet, Cable and DWDM, wireless, and more.

During this course you examine the entire data networking landscape from applications, network infrastructure, and CPE to the multi-service backbone. You review the fundamentals of networking environments, transmission methods, network topologies, and devices and how they form networks that carry data, voice, and video applications.

You model and diagram design concepts for metro and wide area network services for government, consumer and corporate customers from the customer premises, through access, and across a converged, multi-service MPLS backbone.

DATA NETWORK DESIGN – A FOUNDATION FOR ADVANCEMENT

After completing this 5-day Instructor-Led course you will be able to:

- Illustrate and explain current and emerging data networking technology, data communications trends, networking directions, concepts and services.
- Conceptually design a customer premise network for government, consumer and corporate customers from applications through the desktop to the Local Area Network to the Wide Area Network interface.
- Design government, consumer and corporate customer access from the customer premises through the LAN to the Service Providers edge.
- Design a Service Providers multi-service MPLS WAN backbone that provides multiple networking options and advanced IP services for government, consumer and corporate customers.

Exercises in this course let you:

- Test your data networking knowledge before the course.
- Define network design requirements.
- Match network layers to their specific functions.
- Design an existing LAN.
- Design a LAN and WAN with wireline access.
- Design a LAN and WAN with wireless access.
- Design a frame relay network.
- Design an ATM network.
- Convert binary, decimal and dotted decimal values.
- Subnet an IPv4 private network.
- Design a Converged MPLS Environment.
- Test your data networking knowledge after the course.

