Wide Area Network Analysis

Technical Data

**HP Education Services:
Your Key to Higher
Productivity**

Course Overview

This course is designed to provide an in-depth understanding of WAN fault isolation techniques through the use of the HP Internet Advisor. The student will acquire the necessary techniques to rapidly isolate problems associated with wide area networking and interconnection of LANS.

Course Features

- extensive hands-on using the HP Internet Advisor

- covers all major WAN technologies, including HDLC, PPP, T1/E1, X.25, Frame Relay, ISDN and ATM

- monitoring data traffic, including encapsulated LAN frames

- use of statistics and filtering

- simulating data

- bit error rate testing (BERT)

- remote operation of the HP Internet Advisor

Specifications

Course Length
1 day

Audience
Private and public network service technicians, network managers, technical support personnel, and communications technical staff.

Prerequisites
General knowledge of data communications and protocols. Networking experience helpful but not necessary.

Delivery Method
Classroom or dedicated

Format
Course content is 50% lecture and 50% hands-on labs to familiarize the students with the J2301B Internet Advisor.

Ordering Information

To order Wide Area Network Analysis (J2301B+24C) in the U.S., call 1-800-HPCLASS (800-472-5277).

HP's Customer Registration Center can provide you with price, scheduling, and enrollment information, as well as provide information about dedicated (J2301B+24Y) delivery or customizing a course for your specific needs.

Outside the U.S., contact your nearest local HP sales office.

Classroom Training Benefits

Experienced HP Instructors
Learn from an experienced HP instructor who is an expert in using and applying instrument systems to meet your measurement needs.

Available at HP Classrooms or Your Site
Take advantage of HP's learning facilities, equipment, and interactive learning environment by attending class at an HP facility. Or, save travel expenses and time by organizing a dedicated class at your location.

Regularly Scheduled Classes
Plan training months in advance.

Extensive Hands-on Practice
HP classroom training is characterized by extensive hands-on experience and interactive class discussion. HP classroom training pays off immediately because it is geared to real-world solutions.

Comprehensive Student Materials
Copies of course materials are provided for future reference on the job.

**Course Number: J2301B+24C (Scheduled)
J2301B+24Y (Dedicated)**

Wide Area Network Analysis (J2301B+24C)

Course Agenda

Wide Area Networking Fundamentals
- Course Objectives
- Review of wide area networking fundamentals
- Introduction to Network Protocols
- Introduction to Physical Interfaces
- Introduction to Character Oriented Protocols
- Introduction to Bit Oriented Protocols
- Basic Analysis with the Internet Advisor

Lab Exercises
- Introduction to Microsoft Windows 95
- Monitoring an HDLC link
- Monitoring a synchronous PPP link
- Monitoring a synchronous character-oriented protocol

Introduction to the HP Internet Advisor
- The HP Internet Advisor
- Introduction to the windows 95 User Interface
- When and why to use each of the testing environments
- WAN Internet Advisor Analysis Types
- Windows 95 Start Menu selections
- The Utilities Selection on the WAN Analysis Tree

Lab Exercises
- Monitoring an HDLC link - Part 2
- Introduction to the HP Internet Advisor hardware

T1/E1 Technology and Testing Techniques
- Review of T1/E1 fundamentals
- T1 Fundamentals
- E1 Fundamentals
- Connecting the HP Internet Advisor to the Network Under Test

Lab Exercises
- Monitoring a T1/E1 link between two routers
- Bit error rate testing

X.25 Technology and Testing Techniques
- Introduction to X.25 Fundamentals
- Troubleshooting X.25 Networks
- Connecting the HP Internet Advisor to X.25 networks

Lab Exercises
- Monitoring X.25 call establishment procedures on switched virtual circuits
- Monitoring X.25-encapsulated LAN traffic between two Cisco routers

Frame Relay Technology and Testing Techniques
- Review of Frame Relay Fundamentals
- PVCs, DLCIs and Signaling Fundamentals
- Troubleshooting Frame Relay Networks
- How to connect and configure the HP Internet Advisor to monitor frame relay networks

Lab Exercises
- Isolating an intermittent frame relay problem
- Monitoring frame relay-encapsulated LAN traffic between two Cisco routers
- Simulating frame relay traffic using the HP Internet Advisor

ISDN Technology and Testing Techniques
- Review of ISDN fundamentals
- Connection and configuration the HP Internet Advisor on ISDN networks

Lab Exercises
- Monitoring an ISDN BRI call using the HP Internet Advisor

ATM Technology and Testing Techniques
- ATM Reference Model
- Analyzing ATM Networks with the HP Internet Advisor
- Connecting to ATM Networks
- Configuring the ATM Advisor
- Troubleshooting ATM Networks

Lab Exercises
- HP Internet Advisor ATM On-Line Functionality

Course Number: J2301B+24C (Scheduled)
J2301B+24Y (Dedicated)