

ADSL/ADSL2/ADSL2+ Fundamentals and Test Applications

Course Number	Delivery Method	Course Length	Language of Instruction
TT-ADSL	Instructor-Led at Customer Site	1 Day	English
TT-ADSL-VC	Instructor-Led via Virtual Classroom	3 two-hour sessions	English

Synopsis

This course is designed for telecommunication professionals who install, maintain, and design ADSL/ADSL2/ADSL2+ networks at the central office or customer premises. This course provides the fundamental information on various transmission concepts and how they relate to ADSL/ADSL2/ADSL2+. This course can include hands-on exercises if ADSL lines are available.

Prerequisites

Introduction to Internetworking (TT-INT) or equivalent.

Who Should Attend

Technicians, engineers, and technical support personnel directly or indirectly responsible for installing and maintaining ADSL/ADSL2/ADSL2+ systems.

Course Goals

Upon completion of this course, participants will be able to:

- Define the key concepts of ADSL
- Define the new features and benefits of ADSL, ADSL2 and ADSL2+
- Describe the characteristics of the copper loop and how they affect bandwidth
- Define the line requirements for ADSL/ADSL2/ADSL2+
- Describe ADSL network components from the customer site to the central office
- Describe ADSL signal characteristics and how they are affected by circuit design
- Describe a layered approach to testing ADSL/ADSL2/ADSL2+ services
- Interpret and troubleshoot ADSL test results

Course Outline

Introduction to ADSL/ADSL2/ADSL2+ (VC Session 1)

Technology

- Orientation and course goals
- What is ADSL
- How does ADSL Work
- The ADSL Network Architecture
- Motivating Factors for ADSL
- ADSL Standards
- OSI Model Review
- Ethernet, ADSL and ATM
- Bit Swapping
- Rate Adaptation

ADSL/ADSL2/ADSL2+ Networks (VC Session 2)

Copper Loop Characteristics

- Copper Loop Requirements
- Qualify the loop
- Loop characteristics
- Technology Interferers

ADSL2/2+

- ADSL2 Improvements and Benefits
- RE-ADSL2 Benefits
- ADSL2+ Improvements and Benefits

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ADSL/ADSL2/ADSL2+ Fundamentals and Test Applications

ADSL/ADSL2/ADSL2+ Testing (VC Session 3)

- ADSL Layered Testing
- Identify the Test Access Points
- Test Modes
- Emulate, terminate, Through-Mode

Layer 1

- Physical layer connectivity
- Identify the ADSL Signal Requirements

Layer 2

- VPI/VCI
- ATM OAM
- PPP Authentication
-

Layer 3

- IP Addressing
- DNS
- IP Ping
- Trace Route

Interpret Test Results

- Identify Errors
- Learn the Meanings of the Test Results
- Problem Resolution

Test the Service

- FTP Throughput Testing
- Internet
- VoIP
- IPTV

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