Introduction to DSL

PROGRAM OVERVIEW

Many people rely on high-speed Internet access for work and personal use. Digital subscriber line (DSL) technologies provide high-speed Internet access using the existing telephone connection. Variations of the technologies are also used to deliver T-1 and PRI business services.

This course describes DSL technologies and how they can be deployed to provide higher speed access to networks and offload packet data from the public switched telephone network (PSTN). Topics include local loop qualification issues; ADSL and RADSL technologies; G.Lite and UADSL customer premises arrangements; HDSL and HDSL2; SDSL and G.SHDSL; VDSL and VDSL2; and DSLAM architectures.

Introduction to DSL runs 1.4 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 seven primary objectives:

- Provide definitions for key DSL terminology
- Identify various DSL services, and the relationships among them
- Discuss the ADSL family: ADSL/RADSL, G.Lite/UADSL
- Explain how HDSL/HDSL2 eases T-1/E-1 provisioning
- List and explain the benefits of VDSL
- Describe several issues/challenges with premises-based networks
- Explain the role and basic architecture of a DSLAM

PROGRAM OUTLINE

Lesson 1: DSL Overview

- Access issues and technologies
- Battle for the consumer
- Internet connectivity
- Analog loop characteristics
- Modern loop architecture
- The trouble with local loops
- The DSL family tree

Lesson 2: DSL Options

- Real world local loops
- DSL: analog or digital
- POTS with DSL
- The DSLAM

Lesson 3: Symmetrical DSLs

- HDSL as “repeaterless T-1”
- HDSL2
- SDSL and G.SHDSL
- HDSL4
- Summarizing symmetrical DSLs

Lesson 4: Asymmetrical DSLs

- ADSL / RADSL
- The RADSL edge
- Components of ADSL
- G.Lite and its components
- Summarizing asymmetrical DSLs

Lesson 5: VDSL

- Newer and better?
- VDSL Family
- VDSL: Future or not?

Lesson 6: Premises Issues

- The home LAN
- IP in the home and business
- Dealing with security