



Total ADSL

Course overview

Description

ADSL is a broadband technology providing fast Internet access (amongst other applications) over existing telephone lines. This course covers an overview of the DSL family, what ADSL is through to how ADSL works.

Who will benefit?

Network engineers and anyone who will be working with ADSL.

Prerequisites

Intro to data communications & networking.

Objectives

By the end of the course delegates will be able to:

- Recognise the benefits of ADSL.
- Describe what ADSL is.
- Describe how ADSL works.
- Describe the ADSL architecture.
- Recognise the limitations of ADSL
- List the elements required for an ADSL installation.

Duration: 2 days



Contents

What is ADSL?

Broadband definitions, OSI layer 1, ADSL services, WANS. ADSL features: always on, point to point, Asymmetric, speeds. ADSL benefits, xDSL family, standards, history, example DSL forum documents.

ADSL architecture

The big picture, The PSTN and telephones, Digital and analogue, PSTN and modems, ADSL vs. modem speeds, Block 1: Customer premises, Block 2: The last mile, Block 3: The exchange, Block 4: the core network.

Customer premises

Splitters, micro filters, splitter architectures, Splitterless ADSL, ADSL modems, USB, ADSL routers.

The local loop

ADSL PHY, Some basics, ADSL margins, speed implications, distances, RADSL, Line testing, whoosh tests, line coding, multiple channels, FDM, echo cancellation, Modulation: AM, FM, PM, QAM, QAM constellations, DMT, CAP, Framing, Superframes, fast data mode, interleaved mode, RADSL revisited.

The exchange

Local exchange ADSL items, DSLAMs, ADSL racks, Contention.

The core network

The role of the core network, ATM, ATM VPI/VCI, ATM cells, ATM layers, AAL5, RAS, Home gateways.

ADSL and the higher layers

Layer 2 choices, PPPoA, PPP, CHAP, Layer 4 and above, ADSL and ATM.

Installing and configuring ADSL

Choosing providers, line activation, hardware requirements, Configuring layer 1 and layer 2, Configuring IP.

Summary

ITU ADSL standards.

Generic training

Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".

"...because it covers the WHY, not just the how."

W.G. - BBC

Small class sizes

We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.

"Excellent course. The small class size was a great benefit..."

M.B. - IBM

Hands on training

The majority of our courses use hands on sessions to reinforce the theory.

"Not many courses have practice added to it. Normally just the theoretical stuff is covered."

J.W. Vodafone

Our courseware

We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.

"Well presented & lots of it."

P.A. Livingston

Customise your course

Is there more than one of you? Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."

S.R. Qinetiq

Our clients

You can be reassured that when you receive training from us, you are in good company. Clients range from service providers and large multinationals down to one man businesses.

"Material covered is relevant to ISP operation, more so than many vendor courses."

A.F. LINX

What our customers say

"Big thanks to SNT. I found this course to be well planned and delivered by your professional staff."

S.H. Deutsche Bank AG