Hands-On
IPTV CPE Installation for Installers
From the Cable Pair to the TV

BTS
Real-World Experience

Course Description

This Hands-On course provides an introduction to DSL Services and IPTV installation for installation technicians and technical support staff.

This course will provide an understanding of the function and operation of the equipment installed on customer site, installation testing of DSL Routers, Wireless Access devices, IPTV Set top boxes as well as their connection to modern TVs and Flat screen monitors.

This course will address technologies in the DSL Access as well as typical home networking equipment used by customers to which devices may be attached. It is designed for installers who need a fast grounding in the technology, equipment and network architectures as well as identifying problems or failures.

Attendees will use Hands-On labs and use Protocol analyzer, wireless analyzer and IPTV transport stream analyzer software to test services.

We will also incorporate client equipment and testing tools into our labs to train the students on equipment they are actually using.

Students Will Learn

- **Understand the equipment and software used to deliver IPTV and VoD services**
- **Describe the architecture of these modern TV services**
- **Identify the installation and Local Loop issues with IPTV and VoIP services**
- **How the service can be delivered throughout homes, institutions and hotels**
- **Testing and Troubleshooting methods**
- **Understanding the Market Potential and Advancements**
- **And More...**

Target Audience

Anyone responsible, involved and/or interested in installing IPTV/Triple-Quad Play services.

Prerequisites

None.

Course Outline

1. Modern DSL Access

- DSL services
- Traditional wire-line voice
- Check and Qualify cable pairs (DSL Refresher (ADSL2+,VDSL))
- Home Networking
- DSL modems and routers
- Locating DSL Devices
- Testing IP Reach ability
- Using Wireless LAN Access
- CAT5 5/6 home network wiring
- Basic IP for Internet Access

Hands-on Exercise Installing/Testing DSL Router and Internet Access

Hands-on Testing DSL Internet Access and validating IP Services

Hands-on Surveying Home Wireless Services

2. IPTV Services

- TV over the Internet over the top TV
- Video on Demand with guaranteed quality
- Broadcast and multicast TV
- Technical requirements for good quality IPTV
- IPTV subscriber view of the service
- IPTV Installation
- Set-top box setup
- Connecting to TV Interfaces
- Composite Video, S-Video, VGA and HDMI connection
- TV set-up

Hands-on IP Television Installation

Hands-on Exercise exploring Symptoms of key IPTV failures and fixes

Hands-on Testing Wireless Access

3. Access Faults, Tests and Fixes

- Fundamentals of troubleshooting: How to fault-find
- Locating faults in telephone line services
- Understanding the characteristics of twisted Pairs
- Frequency and distance trade-off
- Impact of distance and noise on DSL service
- Types of noise and crosstalk
- Impact of noise on IPTV performance
- Finding the causes of wiring problems and their fixes
- IPTV Troubleshooting Techniques
- Network System Checks
- Locating the fault and its isolation
- Measuring Signal quality
- Finding the cause of Freeze Frames
- Troubleshooting Drop Zones and Disconnects

Hands-on Exercise Troubleshooting Access issues on IPTV

4. Support Roadmap

- Dealing with the customer
- Questions to ask and listening to the answers
- Information to get from the customer about service under test
- Information to leave the customer

Hands-on Exercise: Mystery Setups for fault finding

5. References, Refresh & Review

Notes

The course will use DSL Routers, Set-top boxes, TVs and Wireless home access devices typically used in the services that they will install. Attendees will use their own laptop computers to connect to services as customers would and to test, and validate the services using software supplied with the course notes.

Delivery Method

Instructor-led with numerous Hands-On labs and exercises.

Equipment Requirements
(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

3 Days