Hands-On
IPTV Advanced
from an Engineering Perspective

Course Description

This powerful 3-day Advanced course covers both television and networking technologies which make up our New IPTV Technologies Today. Once Television could only be received over the air, via cable or via satellite. Today TV can be delivered over Internet Protocol (IP) services as well. Broadband carriers are offering Triple-Play networks where voice telephone, TV and Internet access are carried over the same network. Even Cable and Satellite operators now wish to converge towards this new common IP approach to enable delivery of TV to PCs, mobile devices and provide high digital options as well as High Definition TV.

To be successful in this new technology, knowledge of both television and networking technologies is a must. This course will provides 'Hands-On' Real-World experience by having students Configure, Implement and Send and Receive IPTV over a LIVE in-class network.

Students Will Learn

- **Install and Use an IP TV Streaming Application to Stream TV**
- **Install and Use an IPTV Client to Play Multicast IPTV**
- **Install and use an Protocol Analyzer to Decode and Troubleshoot Multicast Protocols**
- **Monitor Layer 2 LAN Multicasting**
- **Configuring Routers to carry PIM Sparse Mode Multicast**
- **Monitor Layer 3 Multicast Streams**
- **Implementing QoS using Weighted Fair Queuing**
- **Implementing Link aggregation to improve Bandwidth and Reliability**
- **Implementing Hot Stand-by Routing Protocol to Deliver**
- **And much more...**

Target Audience

Contractors, facilities managers, architects and developers, systems engineers, telecom managers and anyone involved in the design, implementation, support, installing, maintaining, evaluating, troubleshooting and or repairing IPTV Systems.

Prerequisites

A basic understanding of Telecommunications, IPTV Networks and Internetworking Applications or equivalent knowledge of. This information can be obtained in our courses below

TeleCom Networks Today I
Basic Telephony & Telecom Electronics
Understanding IPTV The Triple Play for Telcos Today
IPTV What Would It Take?, from a Tech/Srvs Perspective

Course Outline

Module 1:   Architecture of NG IP-TV

IPTV service profile
Architecture of an IP TV system
Content of an IP Head-End
Function of IP Access
Enabling Technologies
VLANs
Multicasting
Video Encoding
RTP Transport
Hands-on Implementing PC IP-TV client and Server

Module 2:   Access and Ethernet Services

Ethernet Protocol
Hands-on Examination of Ethernet Protocol Capture
Switching
Spanning Tree: STP and RSTP
Hands-on Configuration of Spanning Tree
VLANs
IEEE 802.1Q
Hands-on Configuring VLANs
Layer 2 Multicasting
IGMP
IGMP Snooping
Hands-on Monitoring Layer 2 Multicasting

Module 3:   Core Routing

Selecting Routing Protocols
OSPF Routing
Metrics
Areas

Load Sharing
Hands-on Configuration of OSPF in Core Network

Module 4:   Multicasting

Multicast Addressing
Multicast Routing Protocols
Dense-Mode and Sparse-Mode
Source Tree and Shared Tree
PIM
Hands-on Implementing PIM Sparse Mode
Hands-on Monitoring Multicast Streams

Module 5:   Quality of Service Considerations

Video service quality demands
Queuing Mechanisms
Differentiated Services Code Points
Weighted Fair Queuing
Hands-on Implementing QoS

Module 6:   Signaling and Content Delivery

Signaling program connection
Service Advertising Protocol
Session Initiation Protocol
SIP-Proxy Implementation
Hands-on Implementation of Programmed selection

Module 7:   Security in IP-TV

Restricting Access with Registration Protocols
Source Security
Firewall Considerations
Hands-on Implementation of Security countermeasures

Delivery Method

1-877-Info-2-Day | www.BTStraining.com

Instructor led with numerous Case Studies and Hands-On 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