

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

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