Hands-On

Triple Play / IPTV

for TeleCommunications

BICSI CECs

This course has been approved for CEC credits by BICSI. Please read below for a breakdown of the credits that we offer for this course. For more information regarding BICSI please visit our website.

RCDD: 21	OSP: 21	Inst: 15	Tech: 18	Cert. Trainer: 21

Course Description

This 3-day Hands-On course covers Today's Triple-Play / IPTV networks that deliver Telephony, IPTV and Internet Access over common telecommunication infrastructures and includes Security and Access control. The success of these service networks depend on being designed, installed, managed and troubleshot to provide the highest quality services available.

This course provides practical Hands-On experience to deploy, manage and troubleshoot large-scale carrier IPTV networks. Attendees will learn how to ensure the delivery of the required quality of service for successful TV delivery.

Students Will Learn

- - Triple-Play/IPTV Architecture and Components
- - IPTV from an OSP Perspective
- - IPTV from a CO Perspective

- - How to use an SNMP Management Utility to Mange an IPTV Network
- - Configure Set-Top Boxes to Receive Multicast Live TV
- - Implementation of Security and Access Keys for Stream Protection
- - How to Configure Carrier Access Node to Deliver IPTV Over xDSL, FTTx, WiMAX, and Satellite Access Technologies
- - Discuss Troubleshooting Techniques for Low Signal, Freeze Frames, Disconnects, Drop Zones and Fault Locates
- - Test Equipment
- And More

Target Audience

Outside plant and Central office technicians, contractors, union craftsman, electricians, technicians, installers, managers /administrators, engineers, facilities managers, architects and developers, systems engineers, telecom managers and anyone that is interested in and/or working with Triple-Play / IPTV network services.

Prerequisites

A basic understanding of telecommunications. This information can be obtained in our courses below

TeleCom Networks Today "I"
Hands-On Basic Telephony & TeleCom Electronics
Hands-On Internetworking Essentials
Understanding Triple-Play / IPTV

Course Outline

IPTV Refresher

Architecture and Components

Module I: How IPTV Changes the Business of Television

A. Internet-based Television
B. Business Models
C. Power Shifts toward Content driven market
D. Power to the Consumer

Module II: IPTV System Model

A. Set-top Box Architecture
B. Multimedia Home Platform
C. Home Network
D. Streamer Platforms
E. VoD platforms
F. Professional TV Head-ends
G. Content Security

Module III: IPTV Standardization Efforts

A. Industry Alliances
B. Consumer Alliances

Module IV: Technology of Internet Protocol Networks

A. Internet Protocol Suite
B. Multimedia over IP
C. Streaming Video Protocols
D. Encapsulation of Media over IP

E. Channel Change Delay

Module V: IPTV Technology

A. Analog Signals
B. Going from Analog to Digital Signaling
C. Compression Formats
D. Video Streaming using MPEG Compression Standards
E. Encoders
F. Pro-MPEG
G. Provisioning and Configuration

Module VI: IPTV Network Management

H. SNMP
I. Management Applications
J. MIBs
K. Using MIBs to control network switching

Module VII: IPTV in the Home

A. Set-top Box Architecture
B. Multimedia Home Platform
C. Home Network

Module VIII: IPTV Network Distribution Technologies

A. xDSL Services
B. Fiber Optics / FTTx
C. Satellite / SATCOM

D. WiMAX/Fixed Wireless/802.16
E. Address Allocation
F. Managing Distribution Services
G. Provisioning

Module IX: IPTV Copy Protection and Digital Rights Management

A. Need for Security
B. Encryption
C. Access Control
D. Authentication
E. DRM Systems
F. Protecting both Digital and Analog Content

Module X: Troubleshooting Techniques

A. Network System Check
B. Fault Locate and Isolate
C. Low Signals
D. Freeze Frames
E. Drop Zones
F. Disconnects
G. Test Equipment

Notes

For Hands on Labs

Require access to Client specific Set Top Boxes, Access Nodes and User Account for access, Network Management System, and Test Equipment. It is also recommended that each student have Laptops available for use in class, if not BTS can provide laptops upon request. Availability of equipment will directly influence availability of actual hands-on labs.

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