Understanding
Metro Ethernet Services
for Sales and Marketing Professionals

BTS
Real-World Experience

Course Description

Carriers have offered connectivity services based on traditional TDM, Frame Relay and ATM for many years. However customers now use Ethernet as the interface of choice for virtually all services and applications. The cost of operating separate networks to provide each service, as well as the need to sell higher bandwidth services than can be offered with traditional networks, is forcing carriers to move to newer, more cost effective technologies, namely Ethernet, Backbone Bridging, IP and MPLS.

Ethernet and IP have allowed networks to deliver high bandwidth and new services with greater flexibility, while MPLS has allowed these new services to become more "carrier-class", offering the connection-oriented behaviour, quality of service, and reliability normally associated with traditional technologies. However the signalling and routing costs of MPLS and layer 3 solutions have still been significant, which has lead to the development of other layer 2 Provider Backbone Transports (PBT) and Provider Backbone Bridging (PBB) solutions for small to medium scale carrier metro services.

The Metro Ethernet Forum has evolved a set of standard service definitions for the kinds of Ethernet services customers now require. These can deliver services between sites that look to customers like end to end Ethernet. For carriers they can emulate other traditional TDM services over the same infrastructure and deliver all services over a common unified network by adding Pseudo Wire Emulation edge to edge (PWE3).

This course provides a fast overview of the concepts and terms used in the description and operation of Metro Ethernet Services. It identifies the key advantages and opportunities to sell these services, compares them with other competing technologies and offers an understanding of how to present the positive benefits of Metro Ethernet Solutions.

Students Will Learn

- **Describe key benefits of Metro Ethernet Services**
- **Identify competing technologies and show advantages of Metro Ethernet solutions**
- **Use the key terms introduced by the technology correctly**
- **Examine options for delivery of next generation services over Metro Ethernet**
- **Negotiate Service Level Agreements**
- **And More...**

Target Audience

Anyone interested in the Sales and Marketing aspects of Metro Ethernet Today.

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Prerequisites

A background in technical sales or marketing, and the will to learn about new technology.

Course Outline

Module I: Next Generation Carrier Network Concepts

- What services carriers need from their infrastructure
- Bandwidth for services
- Customer Interfaces
- Carrier Network Interfaces
- QoS and Protection for Service Level Agreements
- Evolution mechanisms for service development
- Services to be delivered
- Migration of existing TDM using emulation
- Business Ethernet LAN services
- Customer VLAN
- VoIP, IPTV and Triple Play
- Quality and Protection Demands
- Access and Core divisions
- Identifying the User Network Interface (UNI)
- Private networking needs: at layer 2 and/or Layer 3
- Security and isolation
- Managing the services

Module II: Services that Customer Want to Buy

- Virtual Network Services
- Service reliability
- TDM and other Legacy Services delivered over new interfaces
- Ethernet Service compatible with Customer LANs
- Point to Point Services between sites to interface to LANs
- Point to MultiPoint Services to deliver IPTV
- MultiPoint to MultiPoint Services to look like LANs Covering Many Sites
- Physical Interfaces that Match their existing equipment
- Quality of Service Guarantees
- Service Level Agreements that Guarantee Uptime and reliability

Module III: Key Ethernet Technical Concepts

- Ethernet Speed Evolution to 10Gbit/s and beyond
- Impact of Optical transmission
- Removing the distance limitations
- Ethernet switching
- VLANs and Spanning Trees

- Ethernet Addressing
- Multicasting
- How QoS is delivered
- Aggregation and How it Works to deliver reliability
- MPLS and Customer Label Switching
- Virtual Private Networks

Module IV: Selling Metro Ethernet Service Solutions

- Selling solutions for TDM Legacy Traffic
- Deploying Pseudo-Wire Emulation Edge-to-Edge (PWE3)
- Selling point to point E-Line Services
- Selling Multipoint E-LAN Services
- Selling E-Tree Services for IPTV Streaming

Module V: Case Studies and Workshops

- Analyzing the requirements
- Selecting potential solutions
- Presenting the solutions
- Handling the Negatives
- And more...

Delivery Method

Instructor-Led with numerous case-studies 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

2 Days