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Session 7 : Data over Transport Networks Highlights & Conclusions

Ethernet Services over Transport MPLS
Italo BUSI, Alcatel
Highly Scalable Ethernets
Paul BOTTORFF, Nortel Networks
Ethernet OAM and Protection Switching
Hiroshi OHTA, NTT
Next Generation Ethernet
Alan McGUIRE, BT

Malcolm BETTS

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Highlights from Presentation 1 "Ethernet Services over Transport MPLS"

- T-MPLS can be used as a carrier grade infrastructure to support Ethernet services
  - Multi service capability
  - Ethernet service segregation and multiplexing
  - Infrastructure OAM and protection switching
  - Supports p2p, mp2mp Ethernet services

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Highlights from Presentation 2 "Highly Scalable Ethernets"

- Global Virtual Private Network that supports multiple service instances
  - Supports multiple (client) services
  - Offers p2p, LAN and tree topology
- Ethernet - continuing evolution
  - 802.1ah adds full encapsulation/hierarchy for scalability and security
  - Carrier grade OAM with Y.1731/802.1ag
  - Protection switching G.8031/802.1aq

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Highlights from Presentation 3 "Ethernet OAM and Protection Switching"

- OAM defined in Y.1731 and 802.1ag for fault and performance management
  - Supports fault isolation in multi carrier networks
- Protection switching
  - Uses OAM frames
  - Rapid recovery for p2p services
- SDH/OTN style OAM for Ethernet

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Highlights from Presentation 4 "Next Generation Ethernet"

- Ethernet
  - Ubiquity in Enterprise & the home
  - Interface of choice for many applications
- Requirements:
  - Multi service capability – one interface
  - Separation network/customers and customer/customer
  - SDH operational features and costs
  - Ethernet/packet flexibility and price point
- PBT is a potential solution

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CONCLUSIONS - Observation

- The Transport infrastructure has evolved from offering simple point to point private line services over SDH/OTN/WDM
- Ethernet is the transport service interface of the future
  - Rapidly expanding “infrastructure” service
  - Supports multiple clients
- Packet transport network is evolving to meet the scalability and operational challenges

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CONCLUSIONS - Action

- Gap between the IP centric "top end" of the transport stratum and the evolving packet based "infrastructure" services
- Transport network economies of scale rely on the aggregation of a large number of services
- Carrier Ethernet offers flexible connectivity and QoS capabilities: How do we map from the individual dynamic service demands to the (more stable) aggregated trunks