IEEE 802.17
A Carrier's Perspective

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Agenda Topics

- Business objectives

- Service objectives

- Service categories

- Performance objectives

- Architectural objectives

- Operational objectives

Business Objectives

- Deploy MAN infrastructure that
    - Optimizes delivery of metro Ethernet services
    - Enables new revenue-generating services
    - Is significantly lower in cost than SONET/SDH
    - Maximizes fiber (wavelength) utilization
    - Is industry-backed and standards-based
    - 8+ years technology life

Service Objectives

- Scalable Ethernet services
  - Point-to-point virtual private line
    - "transparent LAN service"
  - Multipoint VLAN
    - 802.1Q VLANs - Maintain customer's VLAN
    - Multicast and broadcast
  - Symmetrical and asymmetrical contracts
- Configurable service protection
  - Per customer, per flow
  - Percentage-based (e.g., 10%, 20%, 100%)

Service Objectives (2)

- Service Requirements
  - Guaranteed service contracts per customer
    - Bandwidth, delay, loss
    - May have many contracts per customer
  - Traffic and service separation
    - Service performance not negatively impacted by network loading or behavior of other flows
    - Service flows are logically isolated from one another

Service Categories

- Per customer, per contract, edge-to-edge
  - (1) Committed bandwidth, tight delay (metro)
  - (2) Committed bandwidth, loose delay bound
  - (3) Available bandwidth, no delay bound
- SLA must be maintained across entire ring

Performance Objectives

- Network availability - 99.999%
  - 50 msec protection performance
    - Node addition and removal
    - Ring or node failure
- >90% ring bandwidth efficiency
  - Bandwidth sharing
    - Weighted fair allocation across burstable services
  - Low transport overhead
- Meets or exceeds all configured SLAs independent of network loading
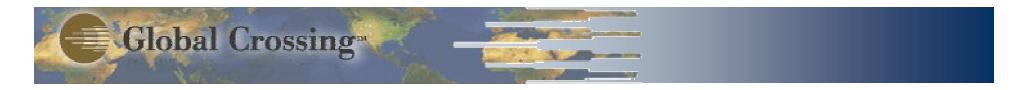
Architectural Objectives

- Topology
  - Support for 150+ km rings
  - Support for 40+ km internodal links
- Ring capacity
  - Dual 10 Gbps
- Flow-based service management (edge-to-edge)
- Layer 2 transport
  - Transparent to IP routing
- Strong preference for ring to operate as single distributed switch

Operational Objectives

- Facility performance monitoring
  - SONET/SDH-like (L0 and L1) statistics
  - Frame level (L2) statistics
- Traffic engineering
  - Ring segment statistics
  - Engineered subscription
- SLA statistics
  - Per subscriber contract
- SNMP and Standardized MIB

Simply Stated

- Global is looking for a standards-based solution designed for the MAN that satisfies our business, service and operational requirements.

Don't try to solve all of the world's problems