Making Ethernet Better

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Ethernet – Stages of evolution

Stage 1

- Topology and switching
- Replace 10Base2 with 10BaseT

Stage 2

- Make it go faster

Ethernet – Stages of evolution

Stage 3

- Repeat stage 2 as necessary

Stage 4

- ?? Profit

LAN or WAN?

- Traditional WAN protocols have WAN features built in

But..

- Ethernet is a LAN protocol
- Inherently lacks features for WAN
- Made better by extensions & protocols which may or may not be supported

Buying Ethernet

- Do you have an SLA?
- If so, on what?
- What Layer-2 protocols does it carry?

MEF answers two questions

- “How does it behave?”
- “How does it perform?”

Service definitions

- EVC – Ethernet Virtual Connection
- EVC Types: E-Line and E-LAN

E-Line is point-to-point

E-Line flavours: EPL, EVPL (multiplexed)

E-LAN is multipoint-to-multipoint

E-Tree: akin to Private VLANs

MEF Abstract Test Suites

- MEF9 – Behaviour

"What does this service do with frames?"

- MEF14 – Performance

"How fast does it do it?"

- MEF18 – Circuit Emulation Behaviour
- MEF21 – OAM Channel Behaviour

MEF9

How does your Ethernet behave?

- Service attributes:
- CE-VLAN ID preservation
- CE-VLAN CoS preservation
- L2 control PDU processing/discarding
- Bundling (Q-in-Q)
- EVC support

MEF14

How does your Ethernet perform?

- Frame Delay (latency)
- Frame Delay Variation (jitter)
- Frame Loss Ratio
- Bandwidth Profile Rate Enforcement

OAM channels

How do you measure the performance of a Layer-2 service?

- OAM for performance and reliability testing
- Configure OAM tests from CPE to CPE
- Retrieve results via SNMP

Goals of MEF

- Standardised services
- Scalability
- Reliability
- Quality of Service
- Service Management

The result of all this

- Less time spent in pre-sales
- Easy to gain trust of potential customers about network performance
- Easy to display that you understand your network
- Fewer reported faults
- Visibility into your service quality