DDCFM

Data dependent and data driven connectivity fault management

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(Data dependent and data driven connectivity fault) management

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Data dependent and data driven faults

Background

Terminology

Customers and services

Detection and isolation

What's missing today

Progressing the work

Background

Follow-up from "payload loopback"

Leveraging comments made at last meeting

Isolating just the payload sensitive parts
- Not just a poor performance test

Looking for real permanent value
- Not a horseless carriage or familiar hammer

Terminology

Data dependent connectivity faults

- Loss of frames containing certain data (and/or addresses), independent of the data in other frames

Data driven connectivity faults

- Loss of frames with certain data, as a result of communication of other frames

Customers and services

Provider bridge networks and enterprise networks
- Of course provider bridge networks don't look at the customers' data, or do they?
- Firewalls, protocol based classification, link aggregation, and eqpt misconfiguration

Not interesting for truly data agnostic networks
- Carriers' carriers might not care

  (link aggregation faults difficult without proposed functionality)

Interesting diagnosis for enhanced services
- Managed service providers and their customers do

Detection and isolation (1)

Goal is to be able to do a 'single-ended' test of arbitrary application behavior over part or whole of a service instance

Must be able to run on live network
- Loopback selective, and half-silvered

Sending 'naked' frames in both directions to loopback will cause as well as solve problems
- IP address moving around with different sending MAC Address should definitely trip firewall

Detection and isolation (2)

Separate 'forward' and 'return' path testing to 'loopback point'

Encap data to be returned in clear after a "send this back to" opcode

Data forwarded in clear is returned after a "sending this back" opcode

=> No problems with multiple loopbacks, as never loopback a "sending this back" frame

Conceptual test gear (1)

Two end stations, each with a standard protocol stack, one has modified transmit/receive shim:

- Receives only "sending this back" frames

- Transmits only "send this back to" frames

Conceptual test gear (2)
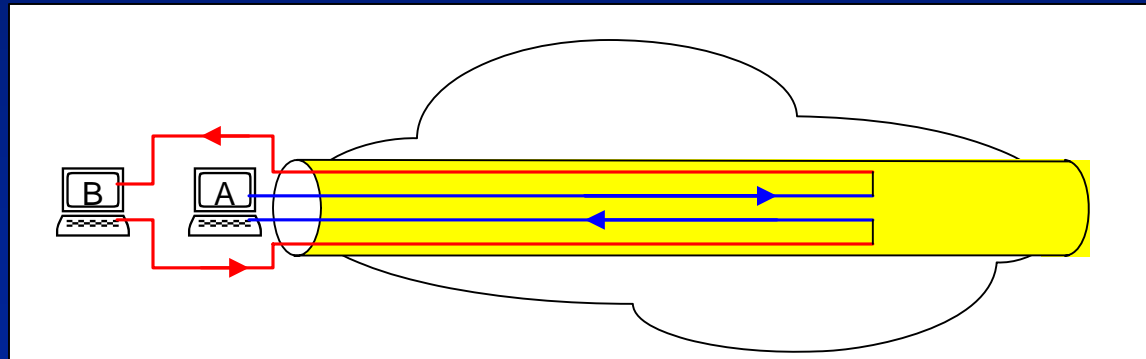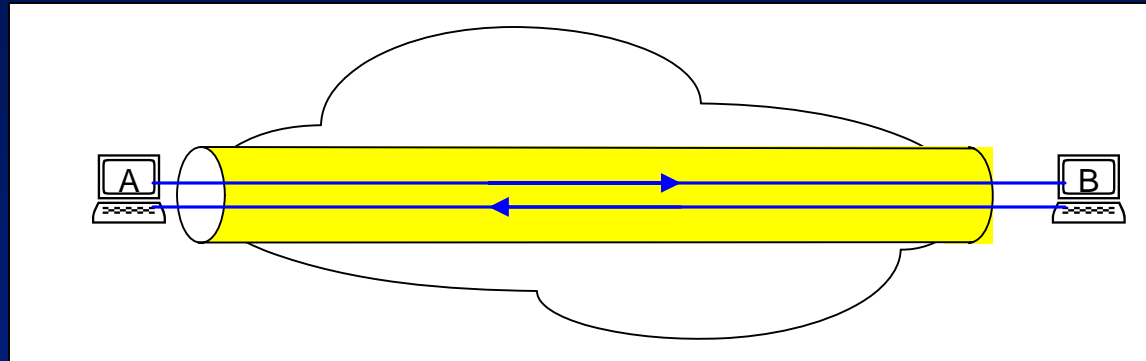
What's missing today

ETH-TEST supports return path testing (?)

Need to define the half-silvered mirror function.

Questions

Where are legitimate loopback points?

Within CFM framework?

Progressing the work

.1ag completion takes precedence.

Role of liaison with ITU

Stand alone PAR?

PAR for very small set of named addition to .1ag?