Connectionless OAM yang model

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Model design

1. Choose test point -- augment network topology Yang model.

2. Define the parameters of these test points
   - Tp-address
   - Relative layer
   - Support tools (etc.)

3. Define the rpc and notification

Management System

Testpoint

Network topo model
Connection-less OAM model

• TP Address
  – Generic Representation of Test Point Address

• Tools
  – Describe Toolset for Fault detection and Isolation

• Oam Layers
  – In future, it can provide way to relate Oam Test Points for Connection Less
  – Default Level 0(same layer), so if relationship is not known it’s not required to be implemented
  – Provide OAM Test points to relate to each other as same layer, client layer, and server layer.
Connection Less OAM Model

• RPC
  – Continuity Check
    • Support Reachability Verification
      – Continuity Checks are used to verify that a destination is reachable, and are typically sent proactively, though they can be invoked on-demand as well.
  – Path Discovery / Fault localization
    • Identify nodes along the route to destination Test point
Details of TP-address

```
+-rw (tp-address)?
  |  +--:(mac-address)
  |  |  +--rw mac-address? yang:mac-address
  |  +--:(ipv4-address)
  |  |  +--rw ipv4-address? inet:ipv4-address
  |  +--:(ipv6-address)
  |  |  +--rw ipv6-address? inet:ipv6-address
  |  +--:(src-dst-address)
  |  |  +--rw src-ip-address? inet:ip-address
  |  |  +--rw dst-ip-address? inet:ip-address
  |  |  +--rw Interface? if:interface-ref
  |  +--:(fec)
  |  |  +--rw fec-type? fec-type
  |  |  +--rw (fec-value)
  |  |  ......  
```

FEC is required for MPLS OAM (RFC)

Add for BFD. (src-ip-address, dst-ip-address, interface)
Usage of “tools” attribute

Usage example:
The tools container can serve as a constraint condition when the base model be extended to specific OAM technology. For example: If we want to extend to a Multi-Part Messages ICMP:

```
../coam:tools-ip/coam:rfc4884
```

should be set to "true":

Then add these specific details:

```
augment "path....."{
  when "../coam:tools-ip/coam:rfc4884 = 'true'"
  test-point-locations
  ipv4-location
}
```

Default empty. This is a placeholder when OAM toolset is not needed.
Usage of “OAM layer”

c. Correlate testpoints with Test results in the LIME model.

b. report To management system with oam level info

a. Configure Testpoints

Testpoint A

Testpoint B

management System

Testpoints

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ML discussion Recap

- connectionless OAM model should be limited to continuity check, reachability verification.
- The test-point and many other acronyms should add to Terminology section.
- Some parameters in tool may not appropriate, such as RFC5880, RFC5885, RFC5882, RFC6375, RFC6428.
- The description of the model provided in Section 3 doesn't map to the model hierarchy.
- The oper object should be made clear in the document.
- The IPv4-location and IPv6-location (cc-ipv4-sessions-statistics and cc-ipv6-sessions-statistics) should be collapsed into one.
- Does it make sense to present oam-layer in this model?
- Whether it need a pair of source and destination addresses and TLV address?
- Is FEC really an attribute of TP-location?
- Does it really need to enumerate all of the tools?

Agree, and fix in 01 version

Agree, and will address in next version

Need further discuss
Next Step

• Fix the open issues raised on the list
• Add Common Session Information as it’s applicable to BFD and TWAMP/OWAMP
• Performance Monitoring to be added as separate draft