

DRAFT YANG FOR CFM P802.1Qcx

INTRODUCTION



- › Update to Ericsson's draft of CFM YANG
- › Merged RW and RO trees following NMDA
- › Added Loopback
- › Added Link Trace
- › Other Updates
- › Future work

MERGED RW AND RO TREES



› NMDA

- Documents

- › [Network Management Datastore Architecture](#)

- › [Guidelines for YANG Module Authors \(NMDA\)](#)

- Provides guidelines and an architectural framework for datastores

- The IETF strongly advises following this approach

› P802.1Qcx has been modified to support the approach

› cfm-state branch no longer needed

- all nodes are under the same branch

LOOPBACK



- › Added support for
 - Loopback reply messages
 - Transmit loopback messages
- › Snip of tree →
 - Note: “...” means information removed for display purposes

```
+--rw md* [format md-name]
...
| +--rw ma* [format ma-name]
...
|   +--rw ma-comp* [component-name]
...
|     +--rw mep* [mep-identifier]
...
|       +--ro next-lbm-trans-id?          uint32
|       +--ro lbr-in?                    yang:counter32
|       +--ro lbr-in-out-of-order?      yang:counter32
|       +--ro lbr-bad-msdu?             yang:counter32
|       +--ro ltm-next-seq-number?     uint32
|       +--ro unexp-ltr-in?            yang:counter32
|       +--ro lbr-out?                  yang:counter32
|       +--rw tx-lbm-status?            boolean
|       +--rw tx-lbm-dest-mac-address?  ieee:mac-address
|       +--rw tx-lbm-dest-mep-id?      cfm:mep-id-or-zero
|       +--rw tx-lbm-dest-is-mep-id?   boolean
|       +--rw tx-lbm-messages?         int32
|       +--rw tx-lbm-data-tlv?         binary
|       +--rw tx-lbm-vlan-priority?    int32
|       +--rw tx-lbm-vlan-drop-enable? boolean
|       +--ro tx-lbm-result-ok?        boolean
|       +--ro tx-lbm-seq-number?       uint32
```

LINK TRACE



- › Added support for
 - Link Trace reply messages
 - Transmit Link Trace messages

- › Snip of tree →
 - Note: “...” means information removed for display purposes

```
+--rw md* [format md-name]
...
| +--rw ma* [format ma-name]
...
|   +--rw ma-comp* [component-name]
...
|     +--rw mep* [mep-identifier]
...
|       +--rw tx-ltm-status?          boolean
|       +--rw tx-ltm-flags?           bits
|       +--rw tx-ltm-target-mac-address?  ieee:mac-address
|       +--rw tx-ltm-target-mep-id?      cfm:mep-id-or-zero
|       +--rw tx-ltm-target-is-mep-id?   boolean
|       +--rw tx-ltm-ttl?              uint32
|       +--ro tx-ltm-result?            boolean
|       +--ro tx-ltm-seq-number?        uint32
|       +--rw tx-ltm-egress-identifier?  binary
|       +--ro ltr-entry* [ltr-seq-number ltr-receive-order]
|         +--ro ltr-seq-number          uint32
|         +--ro ltr-receive-order       uint32
|         +--ro ltr-ttl?                uint32
|         +--ro ltr-forwarded?          boolean
|         +--ro ltr-terminal-mep?       boolean
|         +--ro ltr-last-egress-identifier?  binary
|         +--ro ltr-next-egress-identifier?  binary
|         +--ro ltr-relay?               cfm:relay-action-field-value
|         +--ro ltr-chassis-id-subtype?  lldp:chassis-id-subtype
|         +--ro ltr-chassis-id?         -> /dot1q:bridges/bridge/lldp:lldp/port/remote-systems-data/chassis-id
|         +--ro ltr-ingress?             cfm:ingress-action-field-value
|         +--ro ltr-ingress-mac?         ieee:mac-address
|         +--ro ltr-ingress-port-id-subtype?  lldp:port-id-subtype
|         +--ro ltr-ingress-port-id?     -> /dot1q:bridges/bridge/lldp:lldp/port/remote-systems-data/port-id
|         +--ro ltr-egress?              cfm:egress-action-field-value
|         +--ro ltr-egress-mac?          ieee:mac-address
|         +--ro ltr-egress-port-id-subtype?  lldp:port-id-subtype
|         +--ro ltr-egress-port-id?     -> /dot1q:bridges/bridge/lldp:lldp/port/remote-systems-data/port-id
|         +--ro ltr-organization-specific-tlv?  binary
```

OTHER UPDATES



› Removed mep-list

- Since mep* and active-rmep* are under ma-comp, no need for mep-list

› The port-id and chassis-id of CFM MEP ltr-entry refers to the remote-systems-data of LLDP module.

- path "/dot1q:bridges/dot1q:bridge/lldp:lldp/lldp:port/lldp:remote-systems-data/lldp:chassis-id";
- path "/dot1q:bridges/dot1q:bridge/lldp:lldp/lldp:port/lldp:remote-systems-data/lldp:port-id";

› Both if-index and if-index-or-zero are updated to if:interface-ref

```
-----  
+--rw mep* [mep-identifier]  
|   +--rw mep-identifier      cfm:mep-id  
|   +--rw if-index?          cfm:if-index-or-zero  
-----  
+--ro config-error-list* [vid if-index]  
|   +--ro vid                ieee:vlanid  
|   +--ro if-index           cfm:if-index  
-----  
+--ro stack* [if-index vlanid-or-none md-level direction]  
+--ro if-index                cfm:if-index
```



```
+--rw mep* [mep-identifier]  
|   +--rw mep-identifier      cfm:mep-id  
|   +--rw interface?         if:interface-ref  
-----  
+--ro config-error-list* [vid interface]  
|   +--ro vid                ieee:vlanid  
|   +--ro interface          if:interface-ref  
-----  
+--ro stack* [interface vlanid-or-none md-level direction]  
+--ro interface              if:interface-ref
```

FUTURE WORK



- › Continue refinement based on further research and comments
- › Guidelines for filling out Revision information is an open discussion
- › Continue to monitor other IEEE YANG efforts

MODELS



- › Attached to the PDF file
 - YANG
 - TREE
- › In Acrobat Reader
 - View->Show/Hide->Navigation Panes->Attachments



ERICSSON