

Control Plane Requirements: TRILL Active/Active Edge

draft-zhang-trill-active-active-cp-req-00.txt

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Definition

- TRILL Active/Active Edge
 - An MC-LAG link is used to connect one end-system to multiple RBridges.
 - These RBridges ingress and egress data packets for the same VLAN at the same time.
- It increases the access bandwidth and resilience.

Control plane extensions

- This new connection type requires new control plane functions.
- MC-LAG does not carry TRILL IS-IS PDUs. Some functions carried out by TRILL IS-IS on a LAN link need be realized on the MC-LAG as well.
- These functions include discovery, election, failure detection, etc.
- These extensions can be hosted by TRILL IS-IS, TRILL BFD, TRILL ESADI, and TRILL Channel Protocol.

Discovery

- When an RBridge joins in an Active/Active Edge group, it should be in some way aware of other members in this group. Also other members should be aware that this RBridge joins in.
- System Identifier of the MC-LAG is needed in the process of discovery. This ID should be carried in the protocol as the ID of the AAE.

Election

- RBridges per RFC6325 used to elect a Designated RBridge (DRB) to carry out some common tasks on a LAN link.
- AAE group also needs such a master node.
- As an example, this master node may assign a pseudonode nickname to identify the MC-LAG in the TRILL domain.

Forwarding info sync

- Some forwarding information of member RBridges in an AAE need be synchronized.
 - For example, the MAC addresses learnt by one RBridge in the AAE need be synchronized to others.
 - For another example, the IGMP snooping status of the ports need be synchronized as well.
- The protocol should define the minimum sync interval.

Failure detection and notification

- If an AAE member RBridge or link in the MC-LAG fails, this RBridge need leave this AAE group.
- The AAE member RBridges MUST re-converge to a consensus network state.
- An algorithm to guarantee the consensus is required to be designed in the protocol.

Communicating configuration info

- AAE member RBridges need communicate their configuration information so that mis-configurations can be settled.
 - For example, they need report their enabled VLANs of the ports attached to the MC-LAG.
 - For another example, they need communicate the Affinity Sub-TLV [RFC6326bis].

Next steps

- Get direction from the WG
- Anything else missed? Welcome input.
- Update based on comments.

Thanks!