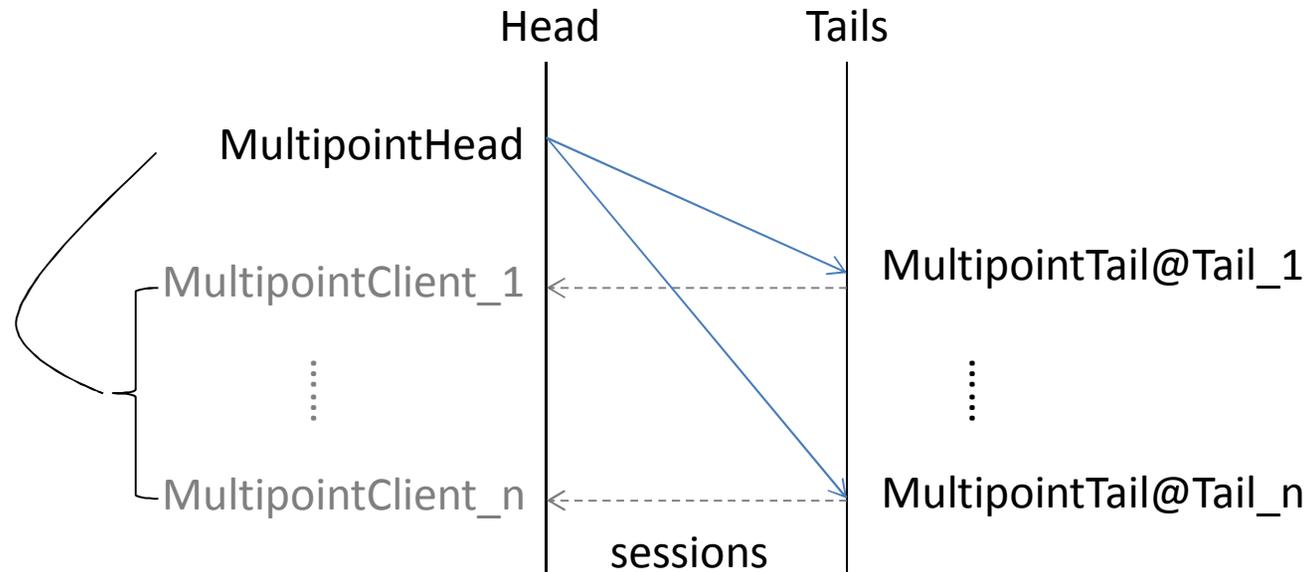


Point to Multipoint BFD for TRILL draft-zhang-trill-p2mp-bfd-00

Mingui (Huawei), Santosh (Juniper), Prasad (Cisco)

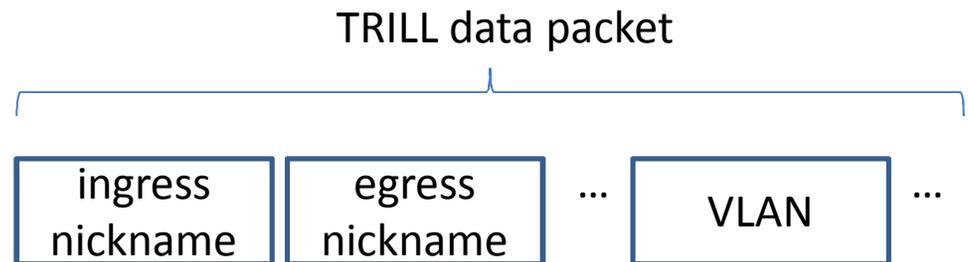
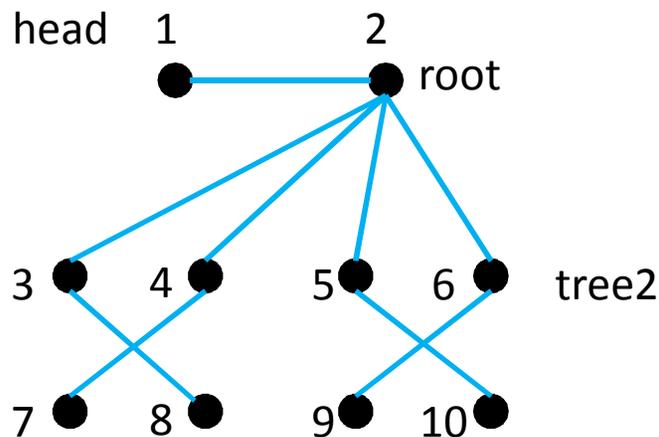
P2MP BFD Session Model



- “ The head has a MultipointHead session that is bound to a multipoint path.
- “ The tail has a MultipointTail associated with a multipoint path.
- “ If the head need to track the tail, it uses MultipointClient per tail that it cares about. All MultipointClient sessions for tails on a particular multipoint path are grouped with the MultipointHead session.

TRILL Multicast

- “ Multicast packets are forwarded along the tree that is pruned per VLAN.
- “ The head (ingress) is not necessarily the root.
- “ Source RBridge encapsulates the root’s nickname as the egress nickname.



Demux: source address

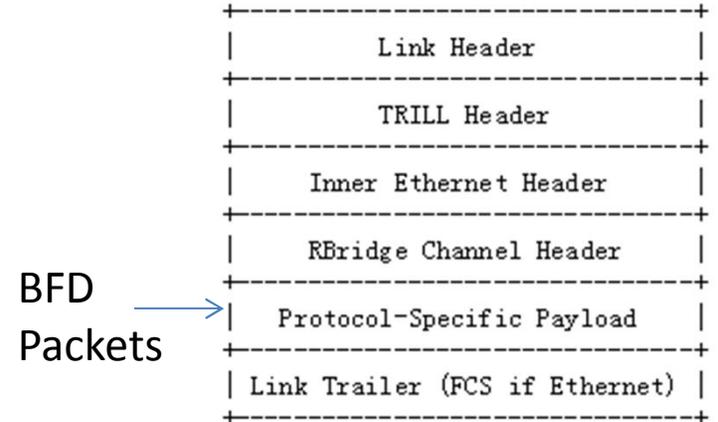
- ” Ingress nickname
 - . It identifies the head/tail

Demux: VLAN

- “ Unicast packets in TRILL are forwarded in a VLAN oblivious way.
- “ However, multicast forwarding is VLAN aware. It's required that VLAN is also used as a factor in demux.
 - . So we have [ingress, discr, vlan] for demux.

Packet Format per RFC 7175

- “ BFD Control packets are carried as payload of TRILL data packets.
- “ TRILL allocated two Channel code points in the “RBridge Channel Header”.
 - . BFD Control 0x002
 - . BFD Echo 0x003



Update Existing RFC?

- “ The RFC 7175 defines the checker: if the packet is a multicast packet (M bit =1), it is to be discarded by receivers.
- “ It eliminates the possibility that the attacker abuses multicast BFD to send out bogus packets. If the RFC itself is updated, its security seems impaired.
- “ Suggestion: allocate another protocol code point from RBridge channel. Keep the RFC intact.
 - . BFD Control 0x002
 - . BFD Echo 0x003
 - . **P2MP BFD Control TBD**

BFD on tail

- “ RBridge channel is the data plane forwarding of control plane PDUs.
- “ Channel messages are identified by Ethertype and MAC address.
- “ Receiver RBridges absorb TRILL data packets on the channel rather than deliver them to end stations.
- “ A Tail replies unicast BFD control packets to Head reusing the following channel code [RFC7175]
 - . BFD Control 0x002

Bootstrapping

“ Bootstrapping is quite the same as the P2P BFD TRILL, which has been covered in Section 6 of RFC 7177 (<https://tools.ietf.org/html/rfc7177#section-6>). Only a minor update to the following text might be needed:

“ OLD

- If an RBridge supports BFD [RFC7175], it will have learned whether the other RBridge has BFD enabled by whether or not a BFD-Enabled TLV [RFC6213] was included in its Hellos.

“ NEW

- If an RBridge supports BFD [RFC7175] **[TRILL P2MP BFD]**, it will have learned whether the other RBridge has BFD enabled by whether or not a BFD-Enabled TLV [RFC6213] was included in its Hellos.

P2MP Capability Announcement

- “ By announcing the new code point for the P2MP BFD Control RBridge Channel, originating RBridge also indicates its support for performing P2MP BFD.
- “ This is realized using the “RBridge Channel Protocols Sub-TLV” in LSPs [RFC7176].

Thanks!