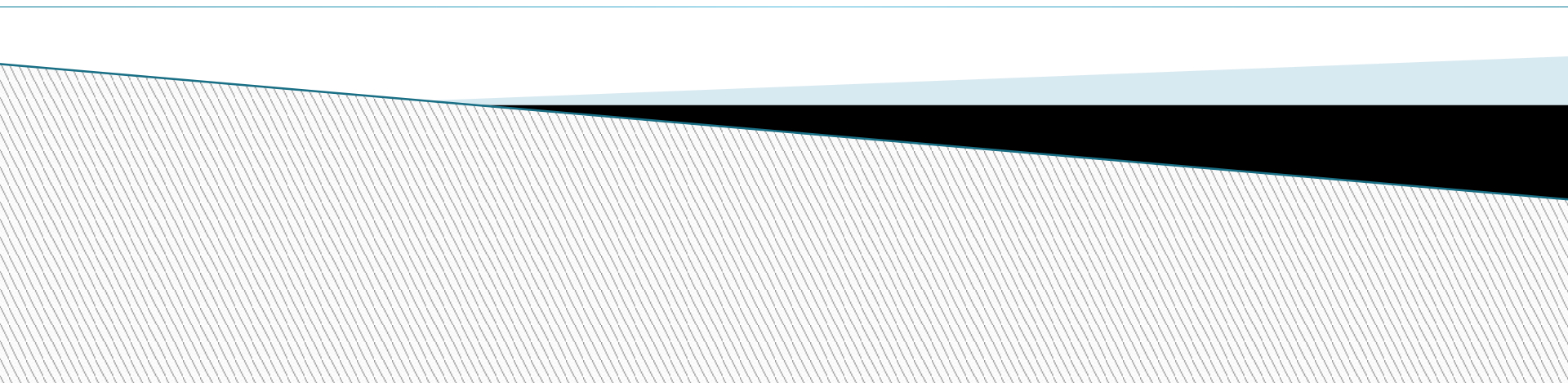
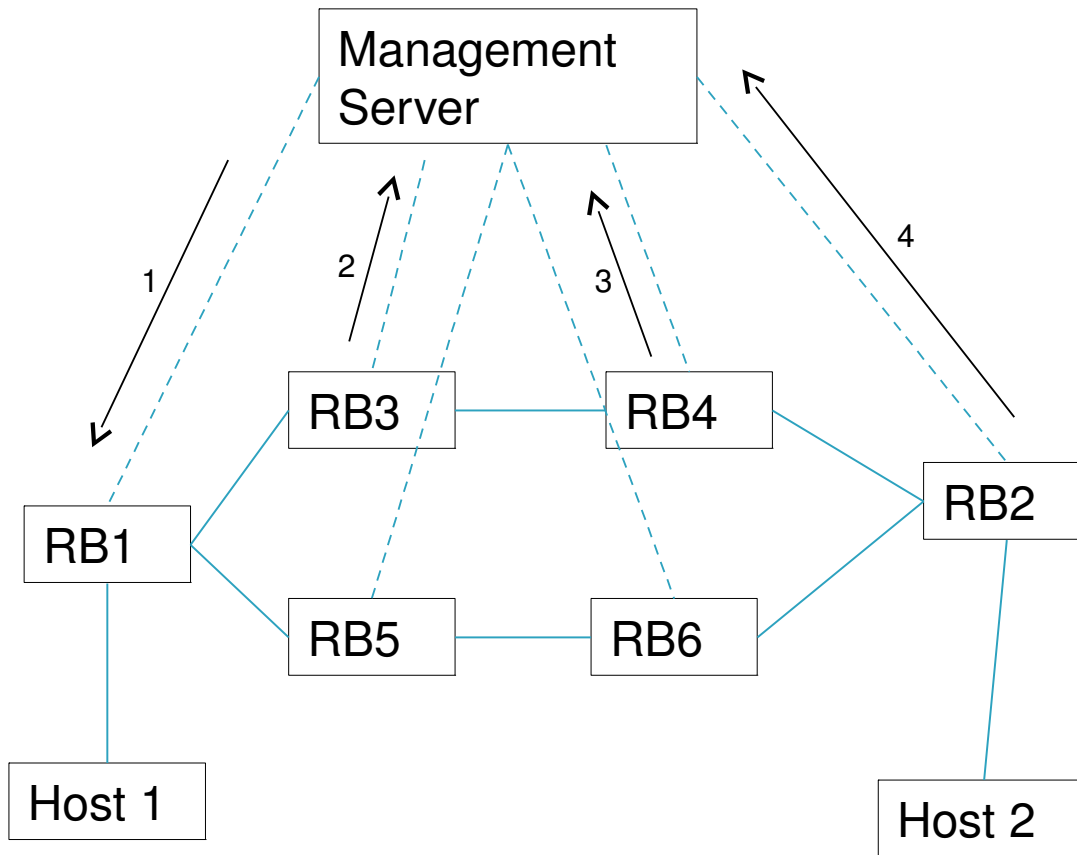


# TRILL Traceable OAM

draft-yizhou-trill-traceable-oam



# Motivations



- ▶ Centralized management servers are widely deployed:
  - Feed the desired OAM packets to the ingress.
  - Fetch the packets along the path for further analysis with appended info.
- ▶ It is an optional feature as a supplement to conventional ping/traceroute like OAM.
- ▶ Why required by customers?
  - It fits into current DC deployment. Customers want full control. Nobody else understands business logic better than themselves.
  - Saves effort of the sender to collect and analyze responses and generate multiple requests with different TTLs.

# Traceable Flag – T flag

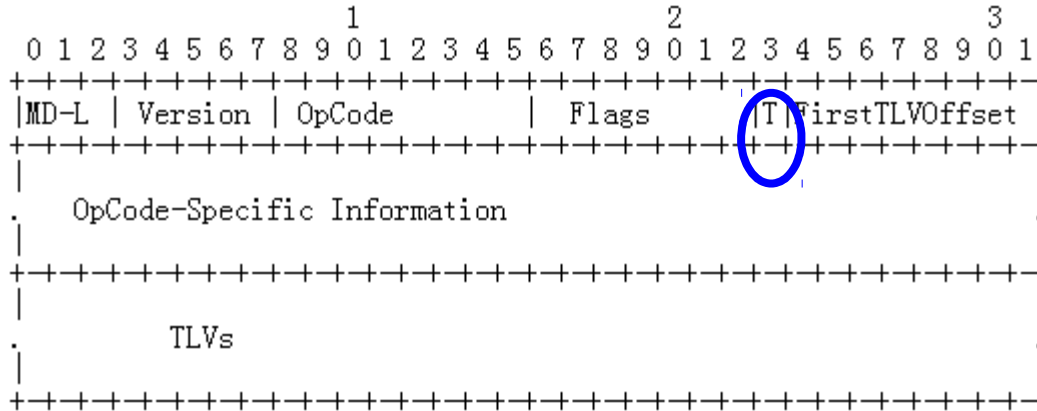
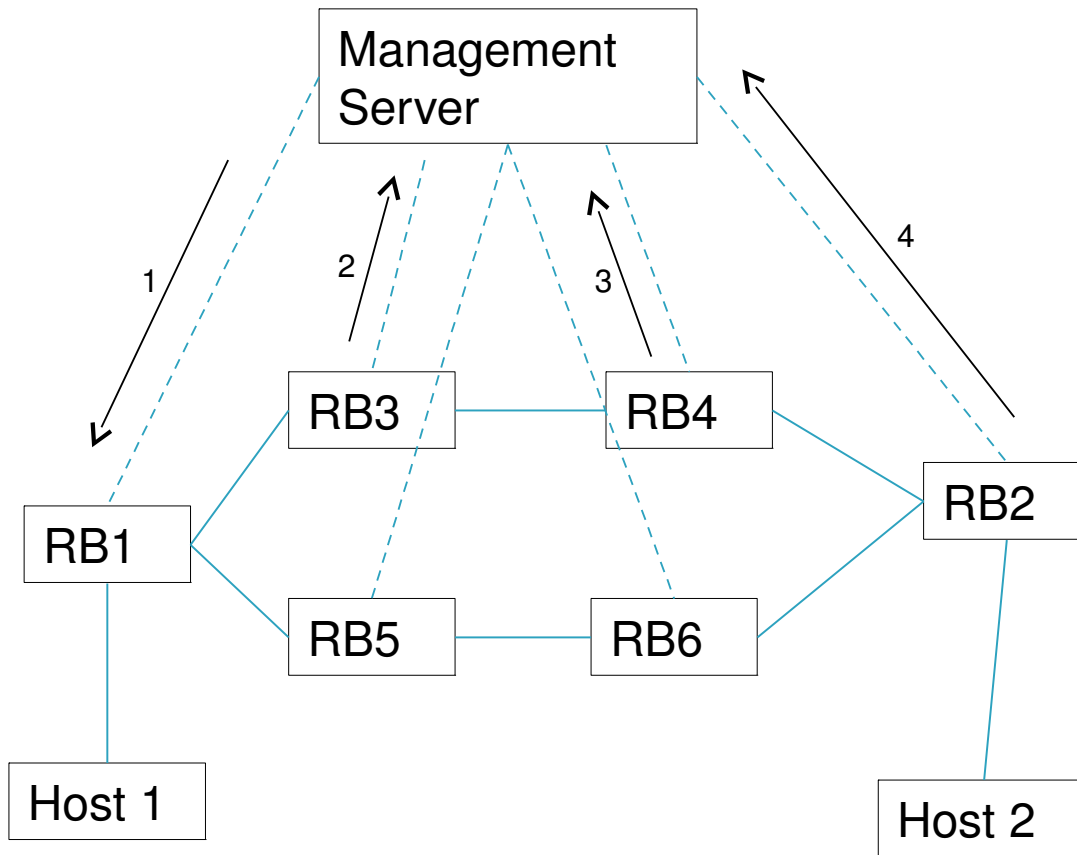


Figure 2. T Flag in TRILL OAM Message Header

Only valid in PTM (path trace) and MTVM (multi-destination tree) messages.

1. To indicate that intermediate RBs are to capture the frames and replicate them to CPU.
2. To guide the intermediate RB to perform certain operations which may be different from the traditional OAM operations. For example, as we can use packet-in to send the whole packet to openflow controller, it is not necessary to add Original Data Payload TLV to the packet.
3. To make sure the sender will not expecting any response and turn off certain mechanisms like time out.

# Path Trace Message (PTM) with Traceable Flag



- ▶ Management server may have knowledge of what entropy should be used to test a particular path or to traverse all paths.
- ▶ RB1 sends PTM with T flag.
- ▶ Intermediate RBs fetch PTM with T flag and replicate it to CPU. PTM may have additional information appended to server for further analysis.
- ▶ RB2 prevents leakage.

# Tree Trace Mode TLV

- ▶ Used for Multi-Destination Tree Verification Message (MTVM).

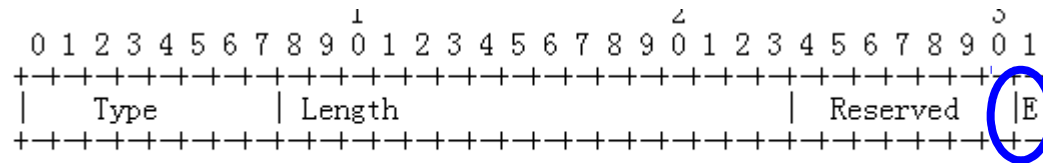


Figure 3. Tree Trace Mode TLV

E (1 bit): Egress Flag.

Concept: There is a requirement to trace only the leaf nodes of a distribution tree for a specified VLAN (or FGL). Those nodes are tentatively egress points for that VLAN. Pure transit nodes are not of interest in most cases.

In current draft, it is only used together with T flag. However it should be ok for generic usage.

**Thank you**