Benchmarking of EVPN Multicast
draft-vikjac-bmwg-evpnmultest-03

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EVPN

- EVPN is defined in RFC 7432.
- Active-Active Multi-homing with Ethernet Segments. Control Plane Mac learning.
- Better Load Balancing and Convergence

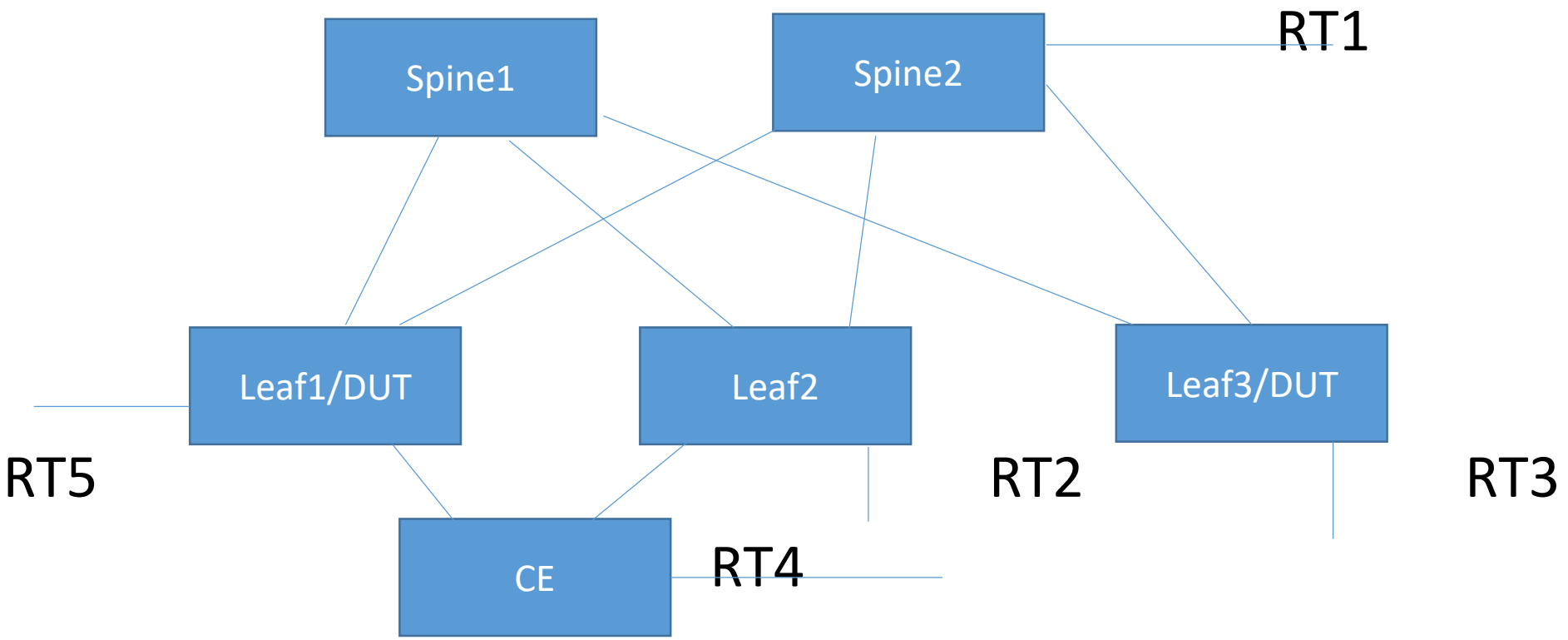
IGMP Snooping

- IGMP snooping is used to constrain L2-multicast traffic to be forwarded only onto those L2-interfaces that have listener interest.

EVPN and IGMP snooping

- Optimized L2-multicast forwarding in EVPN
- Proxy IGMP listener interest in EVPN using EVPN Type-6 route
- Multi-homing considerations related to IGMP Join/Leave sync with EVPN Type-7/8 routes
- https://tools.ietf.org/html/draft-ietf-bess-evpn-igmp-mld-proxy-03

Topology


Spine1
Spine2
RT1
Leaf1/DUT
Leaf2
Leaf3/DUT
RT5
RT2
RT3
CE
RT4

Benchmarking Parameters for EVPN Multicast in a single-homed EVPN PE

- IGMP Join latency for Single Home.
- IGMP (clearing the state) for Single home
- IGMP leave latency (stop forwarding the traffic due to leave message) Single home.
- IGMP Join latency for AA
- IGMP (clearing the state) for AA
- IGMP leave latency (stop forwarding the traffic due to leave message) for AA.
- Local Link Failure.
- Core Failure.
- Scale Convergence.
- HA
- SOAK

Benchmarking Parameters

- IGMP Join Learning: Time taken to learn reports and create state
- IGMP Join Timeout: Time taken to clear state when listeners do not refresh reports
- IGMP Leave Latency: Time taken to stop forwarding traffic on hearing Leave

Disruptive Tests in Multi-homed EVPN PEs and convergence measurement thereof

- Access Link on DF going down: Time taken for new DF to resume forwarding
- Core link on DF going down: Time taken for new DF to resume forwarding
- Routing Failure on DF: Time taken for new DF to resume forwarding
- DF Node Failure: Time taken for new DF to resume forwarding

- Measuring the above with multiple VLANs
- Measuring the above with scaled number of groups
- Measuring the above for stability with soak test

- Sections in the draft: 4.1 to 4.3.

Scale Convergence

- “N” number of vlans and groups.
- DF Core link flap.
- Measure the packet loss.

Thank you

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