

Benchmarking of EVPN Multicast

draft-vikjac-bmwg-evpnmultest-01

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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

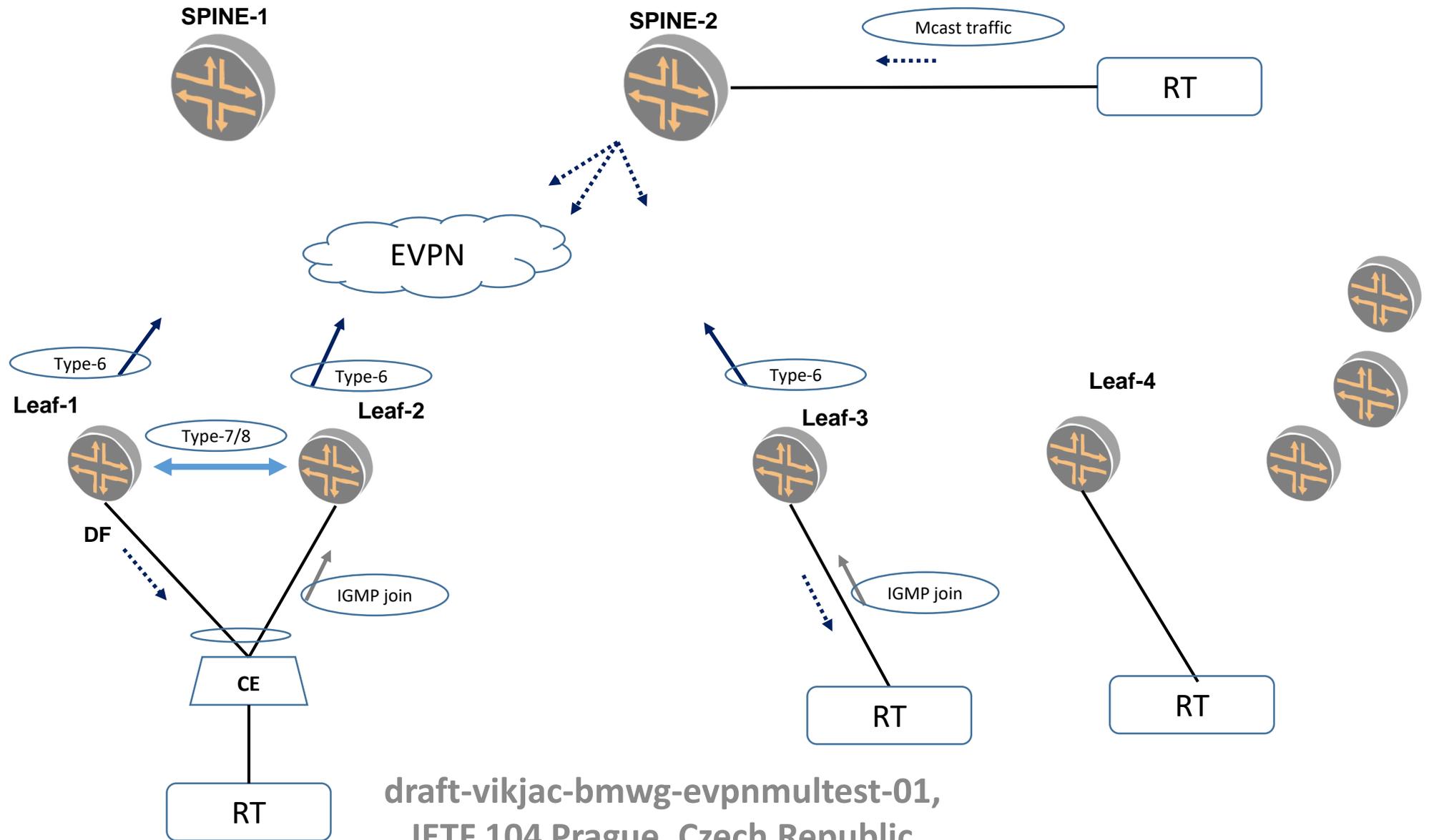
- IGMP snooping is used to constrain L2-multicast traffic to be forwarded only onto those L2-interfaces that have listener interest.

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-02>

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EVPN with IGMP Snooping



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

- **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 Learning:** Time taken to learn leave and clear state
- **IGMP Leave Latency:** Time taken to stop forwarding traffic on hearing Leave

- **Remote IGMP-Proxy Type-6 Learning:** Time taken to learn rmt Type-6 and create state
- **Remote IGMP-Proxy Type-6 Withdraw:** Time taken to learn rmt Type-6 withdraw and clear state

- 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: Section 3.1 to 3.6. Section 3.11

Benchmarking Parameters for EVPN Multicast in multi-homed EVPN Active/Active PEs

- IGMP Join Sync : Time taken to learn reports, sync and create state on all relevant MH peers (Type-7)
- IGMP Join Timeout: Time taken to clear state on all MH PEs when listeners do not refresh reports
- IGMP Leave Sync : Time taken to learn leave, sync leave and clear state on all MH PEs (Type-8)
- IGMP Leave Latency: Time taken for traffic to stop on hearing Leave

- 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: 3.7 to 3.10

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.

Thank you

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