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

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Topology

- Spine1
- Spine2
- Leaf1/DUT
- Leaf2
- Leaf3/DUT
- CE
- RT1
- RT2
- RT3
- 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
EVPN with IGMP Snooping

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Non-Juniper
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