Optimized Ingress Replication solution for EVPN
draft-ietf-bess-evpn-optimized-ir-01

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Optimized Ingress Replication (Optimized-IR) solution for Overlay IP tunnels

- **PRUNED-FLOOD-LISTS (PFL)**
  - Prunes non-interested NVEs from BM/U flooding list
  - Backwards-compatible with existing NVEs

- **ASSISTED-REPLICATION (AR)**
  - Optimizes BM IR for low-performance-replication NVEs
  - Non-selective AR
  - Selective AR
  - Backwards-compatible with existing NVEs

Changes in rev 01
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Aligning control plane procedures with IETF I-Ds and IANA

Leaf-AD route replaces Leaf-AR route (IMET route with tunnel-type= AR and tunnel-id= AR-IP)

- Leaf-AD route (EVPN Route Type 11) is defined in draft-ietf-bess-evpn-bum-procedure-updates.
- Leaf-AD route is the ‘natural’ route to be used when explicit-tracking is required.

IANA allocated values have been incorporated

- Assisted-Replication PMSI tunnel type – 0xA
- PMSI Tunnel Attribute Flags: Assisted-Replication Type, BM and U flags.

Clarification on AR procedures along with EVPN Multi-homing Split-Horizon

- “Local Bias” and IP SA preservation is recommended, even for Overlay tunnels supporting ESI label, e.g. MPLSoGRE, MPLSoUDP.
Selective Assisted-Replication with Leaf-AD route

1. AR-R advertise R-AR routes with tunnel type = AR, Tunnel id = AR-IP L=1

2. AR-L picks up one AR-R and sends:
   - Leaf-AD route for AR-IP1
   - BM packets with IP DA=AR-IP1

3. Each AR-R builds its own AR-L-set and a remote AR-R-set
   - Received BM with IP DA=AR-IP1 and IP SA=(IP_in_AR-L-set) is forwarded to AR-L-set AND AR-R-set

4. Received BM with IP DA=AR-IP3 and IP SA != (IP_in_AR-L-set) is forwarded to AR-L-set only
Conclusions and next steps

This draft has vendor implementations and it is being deployed.

WG feedback / Ready for Working Group Last Call
Thank you