Extended Optimized Ingress Replication for EVPN

Draft-ietf-bess-extended-evpn-optimized-ir-03

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Extended Optimized Ingress Replication for EVPN

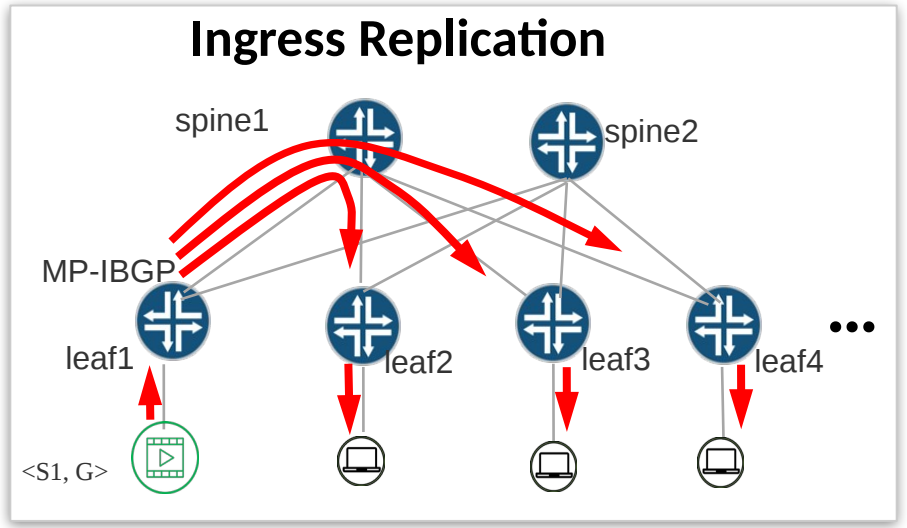
- Is an extension to the EVPN Optimized Ingress Replication:

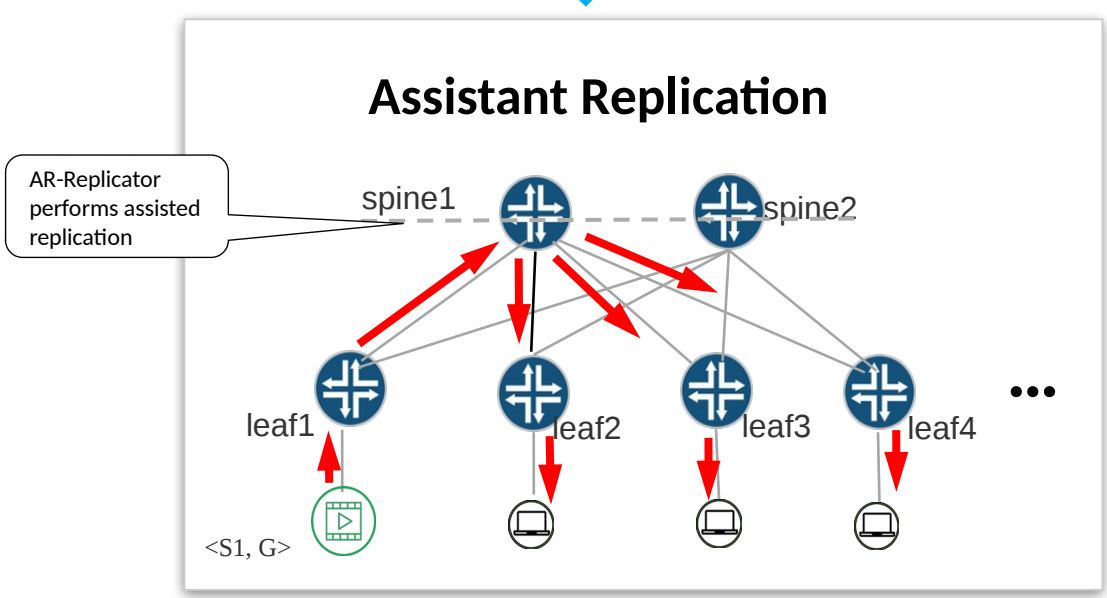
  draft-ietf-bess-evpn-optimized-ir-12.

Recap the need for Assisted Replication:

- To achieve efficient multicast delivery when multicast packet is delivered through ingress replication in the EVPN virtualization overlay networks

- Specially useful in EVPN Data Center over IP CLOS network
  - Avoids sending multiple copies of the same multicast flow over the same uplink
  - Saves uplink bandwidth between leaf to spine





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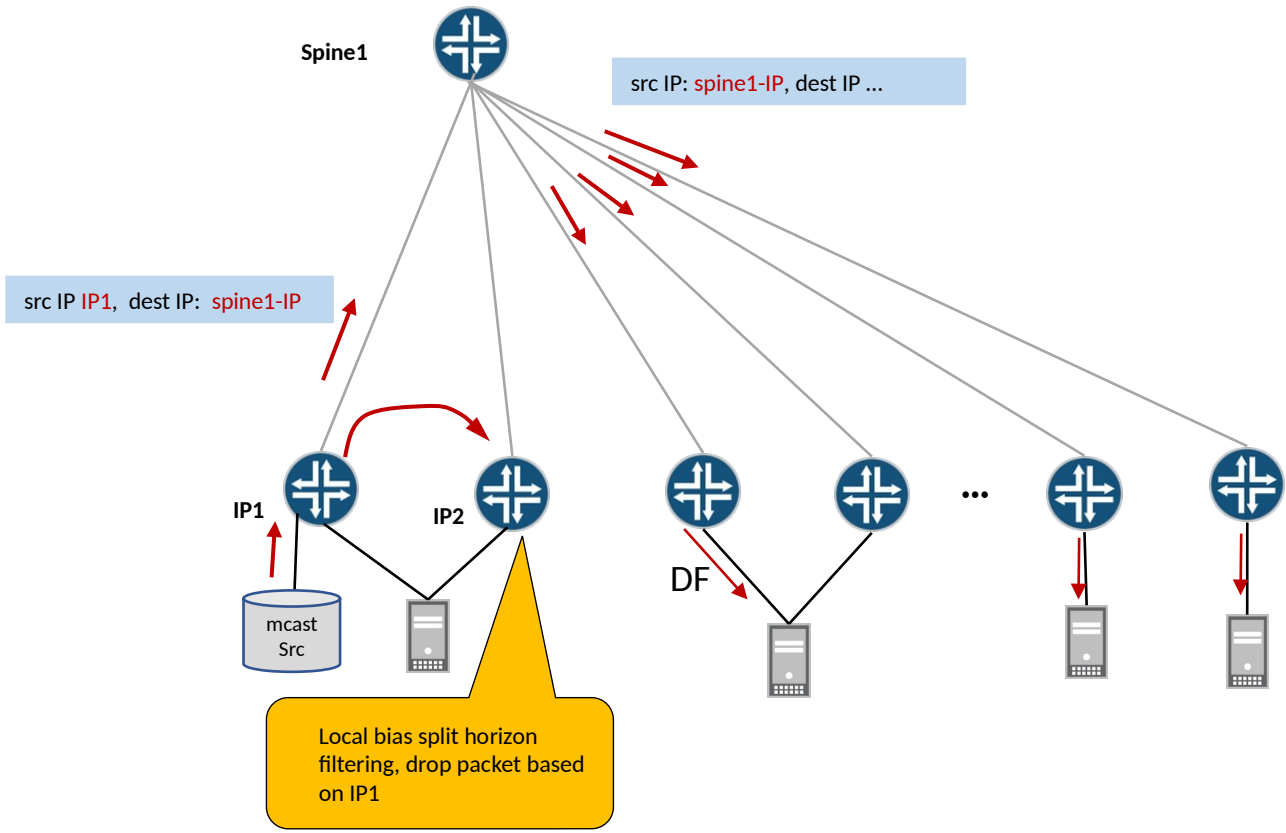
The need for Extended EVPN Optimized Ingress Replication

- Overlay load balance and redundancy relies on EVPN multihoming

- Extended the procedure to support EVPN multihoming with EVPN split horizon methods:
  - local-bias/source IP per RFC8365
  - ESI label per RFC 7432

- Overcome the challenges
  - AR-Replicator may be incapable to retain the source IP address
  - implementation complexity



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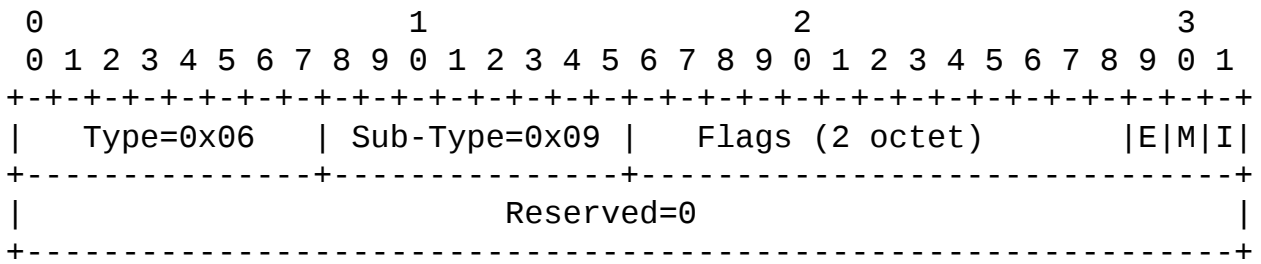
Extended Procedure for AR-REPLICATOR

An AR-REPLICATOR supports the following extended procedure - Extended-MH AR-REPLICATOR:

- Originates REPLICATOR-AR route as usual, and attach an EVPN Multicast Flag extended community with Extended-MH-AR flag set:



Bit Value: 13 Name: Extended-MH-AR (E)

- No need to retain source IP address or include ESI label for its AR-LEAF
- AR-REPLICATOR only performs assisted replication to other NVEs that is not multihomed with the ingress AR-LEAF

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Status and Next Steps

Status:

- Code have been delivered for years and been used in the field.

Next Steps:

- We would like to ask for WG last call.

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