draft-sajassi-bess-evpn-rfc8317bis-00.txt

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Scenarios in RFC 8317

1. Leaf or Root Site(s) per PE

2. Leaf or Root Site(s) per AC Scenario (superset of scenario-1)

3. Leaf or Root Site(s) per MAC Address (no changes)
Clarifications

1. Clarified when talking about about root or leaf in context of an EVI, it is basically root or leaf for a BD where BD = EVI (for VLAN-based or VLAN-bundle services) and BD= EVI+VLAN for VLAN-aware service

2. Changed the diagrams to show 3 PEs instead of 2 for better demonstration of root/leaf ACs
Changes Relative to RFC 8317

1. Changes to scenario-1 - Leaf or Root sites per PE:
   a) Removed 2-RT option because it doesn’t address EVPN host mobility
   b) 1-RT option which was the recommended option, is now the only option
   c) Ingress filtering of known unicast traffic is done at ingress PE by coloring MAC/IP routes as before
   d) For this simple scenario-1, the BUM filtering can also be done at ingress PE for ingress rep.
Changes Relative to RFC 8317 - II

1. Changes to scenario-1 - Leaf or Root sites per PE:

   e) BUM filtering is achieved by coloring IMET routes via existing tailored BGP route import/export policy or via signaling extensions

   f) The transmit policy matches the IMET route and colors it with BGP standard community, and the receive policy checks IMET routes with this policy and discard them

   g) When a PE can start with scenario-1 and move to scenario-2 (or vise versa), then
Changes Relative to RFC 8317 - III

1. Changes to scenario-2 - Leaf or Root sites per AC:
   
a) Ingress filtering for this scenario when IR used, can be adaptive – i.e., to dynamically decide toward what PE to perform ingress filtering and toward what PEs not to.
   
b) Need to convey ingress source type (leaf or root) in data-plane. MPLS was already covered in 8317. This draft extended it for VxLAN.
Changes Relative to RFC 8317 - IV

- Section 5.3 is added to describe coloring of non-MPLS encapsulated user traffic (e.g., VxLAN) for egress filtering of BUM traffic

- Need to indicate whether user traffic is from root or leaf

- Approach: to send a IMET route along with a Tunnel Encap EC and E-Tree EC. If the Tunnel Encap is VxLAN (or GENEVE), and leaf-indication flag is set, then VNI identifies both EVI and leaf as a source of traffic.

- The receiving PE, when receives traffic with this leaf VNI, it drops the packet at leaf ACs and passes it at root ACs.
Changes Relative to RFC 8317 - V

- Added section 5.5 on Adaptive Filtering
- Figure-4: E-Tree EC Setting by an Ingress PE per BD

<table>
<thead>
<tr>
<th>Condition</th>
<th>Root AC</th>
<th>Leaf AC</th>
<th>E-Tree EC Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
<td>No</td>
<td>No E-Tree EC</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td>No</td>
<td>No E-Tree EC</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>Yes</td>
<td>Root-Flag=0, Leaf-Flag=1, Leaf-VNI= valid or 0xFFFFFFFF</td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
<td>Yes</td>
<td>Root-Flag=1, Leaf-Flag=1, Leaf-VNI= valid or 0xFFFFFFFF</td>
</tr>
</tbody>
</table>
# Changes Relative to RFC 8317 - VI

<table>
<thead>
<tr>
<th>Condition</th>
<th>Ingress PE role</th>
<th>Ingress AC role</th>
<th>&quot;non-Leaf PEs&quot; Flood List</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Root</td>
<td>Root</td>
<td>Use &quot;All PEs&quot; flood list with Base VNI for BUM traffic</td>
</tr>
<tr>
<td>2</td>
<td>Leaf</td>
<td>Leaf</td>
<td>Use &quot;non-Leaf PEs&quot; flood list with Leaf VNI for BUM traffic</td>
</tr>
<tr>
<td>3</td>
<td>Root+</td>
<td>Root</td>
<td>Use &quot;All PEs&quot; flood list with Base VNI for BUM traffic</td>
</tr>
<tr>
<td>4</td>
<td>Root+</td>
<td>Leaf</td>
<td>Use &quot;non-Leaf PEs&quot; flood list with Leaf VNI for BUM traffic</td>
</tr>
</tbody>
</table>

*Figure 5: When to use 2nd Flood List*
Next Step

- Requesting comments & inputs
- Will request for WG adoption in next IETF
THANK YOU!