BFD for VXLAN
(draft-spallagatti-bfd-vxlan-02.txt)

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Use case

- VMs OAM aggregation
- Layer 2 VMs.
- Fault localization.
- Service node reachability.
- p2p BFD for now and p2mp for future study.
Deployment

SERVER1

VM1-1
VNI 100

VM2-2
VNI 200

Hypervisor VTEP1 (IP1)

SERVER2

VM2-1
VNI 100

VM2-2
VNI 200

L3 underlay

Hypervisor VTEP2 (IP2)
# BFD packet encapsulation

<table>
<thead>
<tr>
<th>Header</th>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner MAC header</td>
<td>Destination MAC</td>
<td>This MUST be a well-known MAC [TBD] OR the MAC address of the destination VTEP.</td>
</tr>
<tr>
<td></td>
<td>Source MAC</td>
<td>MAC address of the originating VTEP.</td>
</tr>
<tr>
<td>Inner IP header</td>
<td>Source IP address</td>
<td>IP address of the originating VTEP.</td>
</tr>
<tr>
<td></td>
<td>Destination IP address</td>
<td>IP address of the terminating VTEP.</td>
</tr>
<tr>
<td></td>
<td>TTL</td>
<td>This MUST be set to 1.</td>
</tr>
<tr>
<td>GPE header</td>
<td>O bit</td>
<td>MUST be set.</td>
</tr>
</tbody>
</table>

**Note:** We are still discussing on inner IP destination IP address.
VXLAN path and reserved VNI

- It is expected that implementation should ensure BFD packet would traverse the same path as any other VXLAN packet within the system when:
  - BFD packet is sent out from VTEP
  - BFD packet is received on VTEP

- One way to aggregate BFD sessions between VTEP’s is to have BFD session established for VNI 0.

- VNI 0 can also be used to establish BFD session between VTEP and service node.
Reception of BFD packet

- Inner MAC set to well-known or receiving VTEP then packet should not be forwarded to VM.
- Use inner VNI as the key to demultiplex received BFD packet when Your Discriminator in BFD packet is set to 0.
- Reverse path over IP or MAY be directed over another VXLAN tunnel (for future work).
Next steps

- Welcome comments from the WG
- Asking WG to consider adoption of the draft
- Thank you