Active OAM in Geneve

draft-mmbb-nvo3-geneve-oam

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Problem statement

• Active OAM uses specially constructed packets to monitor, troubleshoot, localize defects in a Geneve network
• Active OAM test packets must not be leaked out of Geneve domain
• Multiple active OAM protocols are required to support full management and performance monitoring
• Active OAM protocols in Geneve must be clearly identifiable in Geneve
Proposed solutions

• IP/UDP Encapsulation
• Direct identifier in the Protocol type field
• MPLS G-Ach
• Geneve Associated Channel
IP/UDP encapsulation

Destination IP address in the inner header from 127/8 range for IPv4 and from the 0:0:0:0:ffff:7f00/107 range for IPv6

Pro: similar to MPLS LSP
Cons: IP/UDP overhead
Direct encapsulation

Pro: No overhead
Cons: Will require several new Protocol Types
MPLS G-ACh

Pro: Re-use PW-VCCV OAM and already defined Channel Types (IANA PW Associated Channel Type Registry)

Cons: MPLS is required in Layer 3
Geneve Associated Channel

<table>
<thead>
<tr>
<th>Ver</th>
<th>Opt Len</th>
<th>O</th>
<th>C</th>
<th>Rsvd.</th>
<th>Protocol Type = OAM</th>
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<table>
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<tr>
<th>Virtual Network Identifier (VNI)</th>
<th>Reserved</th>
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<table>
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<tr>
<th>Variable Length Options</th>
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<tr>
<th>0 0 0 0</th>
<th>Version</th>
<th>Reserved</th>
<th>Channel Type</th>
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</thead>
</table>

~ Active OAM packet ~

Pro: May re-use PW-VCCV OAM and already defined Channel Types (IANA PW Associated Channel Type Registry)

Cons: ?
Next steps

- Discuss
- Decide
- Echo Request/Echo Reply

Thank you!