CFM in Backbone Edge Bridges

Norman Finn
Figure 22-1—MEPs and MIPs distinguished by VID (incomplete picture)
Fig. 22-1 trimmed down to relevant parts

- LOMs moved up and demultiplexed to concentrate the CFM for the purposes of this discussion — this causes no change to the function or intention of .1ag or .1ah.
### Obvious I-Component MPs

#### P802.1ah Forwarding Process

<table>
<thead>
<tr>
<th>Current 802.1Q and P802.1ah</th>
<th>Current P802.1ag and P802.1ah</th>
<th>Customer Instance Ports</th>
</tr>
</thead>
</table>

#### Virtual Instance Ports (I-SIDs):

- Provider Instance Port:

#### Place in VIP:

- 2
- 3
- 4
- 5

#### Place in PIP:

(In P802.1ag Fig. 22-9)
I-Component with per I-SID MEPs

These MEPs protect tagged S-VLANs grouped into one I-SID (VIP) in S-space. (Not used if no S-tag.)

Virtual Instance Ports (I-SIDs):

Provider Instance Port:
## MAC Address Spaces

### S-space

<table>
<thead>
<tr>
<th>VID Mux</th>
<th>VID Mux</th>
<th>VID Mux</th>
<th>VID Mux</th>
<th>VID Mux</th>
</tr>
</thead>
<tbody>
<tr>
<td>VID 2</td>
<td>VID 7</td>
<td>VID 12</td>
<td>VID 19</td>
<td></td>
</tr>
<tr>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
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<tr>
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<tr>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
</tr>
<tr>
<td>ISS (6.7)</td>
<td>ISS</td>
<td>Support EISS (6.7)</td>
<td>ISS (6.7)</td>
<td>ISS</td>
</tr>
</tbody>
</table>

**Support of the 802.1ah EISS (6.8)**

### B-space

<table>
<thead>
<tr>
<th>VID Mux</th>
<th>VID Mux</th>
<th>VID Mux</th>
<th>VID Mux</th>
<th>VID Mux</th>
</tr>
</thead>
<tbody>
<tr>
<td>VID 10</td>
<td>VID 11</td>
<td>VID 12</td>
<td>VID 13</td>
<td></td>
</tr>
<tr>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
<td>ISS</td>
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<td>ISS</td>
<td>ISS</td>
</tr>
</tbody>
</table>

**Support of the EISS for Customer Backbone Ports (6.9)**

<table>
<thead>
<tr>
<th>I-SID Multiplexer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISS 1</td>
</tr>
<tr>
<td>ISS 2</td>
</tr>
<tr>
<td>ISS 3</td>
</tr>
</tbody>
</table>

**Lower layers**

---

*CFM in Backbone Edge Bridges*  
Rev. 3  
Norman Finn, Cisco Systems  
IEEE 802.1 interim, Monterey  
6/11
But, what B-destination does the MEP at level 1 use for an LBM?

- **Error**: Every S-B or B-S transition requires an I-component’s learning element.
I-Component with Connection MEPs

P802.1ah Forwarding Process

Support of the 802.1ah EISS (6.8)

Support of the EISS for Customer Backbone Ports (6.9)

Lower layers
**I-Component with Connection MEPs**

- **Connection MEPs cannot pass an I-tagged NNI.**

**P802.1ah Forwarding Process**

To what B-VLAN are the (red) CFM messages assigned? They have no I-tag.

Support of the EISS for Customer Backbone Ports (6.9)

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I-Component with per I-SID MEPs seems to work.

* These interfaces are probably not really EISS and ISS interfaces; more work needed, here.
Conclusion

• Some form of “short I-tag” is necessary. The exact encoding is To Be Determined.