Proposed EVB TLV

v2

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Summary of Proposed EVB TLV

- Advertise a station or bridge’s EVB functional and resource capabilities
- Activate common functional capabilities
- Reduce resource capabilities to a maximum common value
Proposed EVB TLV (1)

Transport: LLDP

<table>
<thead>
<tr>
<th>Octets:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>6</th>
<th>7</th>
<th>9</th>
<th>11</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bits:</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>8</td>
<td>18</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

- TLV type = 127 (7 bits)
- TLV information string length (9 bits)
- OUI (3 octets)
- Subtype (1 octet)
- EVB Capabilities (2 octets)
- EVB Current Config. (2 octets)
- VSI (4 octets)
- RTE

- TLV information string = 13 octets

- # VSI Supported (2 octets)
- # VSI Configured (2 octets)

**EVB Capabilities** – Describes EVB capabilities that can be supported by the sender. Includes port forwarding modes and other capabilities.

- **EVB Current Configuration** – Identifies the EVB capabilities that are currently enabled by the sender. (Only one port forwarding mode may be selected)
  - Forwarding Mode
    - Standard 802.1Q forwarding
    - Reflective Relay
  - Capabilities Bits
    - VSI Discovery Protocol (VDP)
    - 802.1X Authentication Required
    - T3PR Supported
    - RTE (Retransmission Timer Exponent)
### Proposed EVB TLV (2)

**Transport:** LLDP

#### TLV Type

- **TLV type:** 127 (7 bits)
- **TLV information string length:** 9 bits
- **OUI (3 octets):**
- **Subtype (1 octet):**
- **EVB Capabilities (2 octets):**
- **EVB Current Config. (2 octets):**
- **VSI (4 octets):**
- **∞**
- **RTE**

#### TLV Information String

- **Octets:** 1 2 3 4 5 6 7 8 9 10 11 12 13
- **Bits:** 8 2 1 8 1 1 5 14

#### TLV Header

- **Bits:**
  - 8 7 6 5 4 3 2 1
- **STD**
- **RR**
- **Reserved**
- **Reserved**
- **RTG**
- **T3PR**
- **Auth**
- **VDP**

#### TLV Information String

- **Bits:**
  - 8 7 6 5 4 3 2 1
- **STD**
- **RR**
- **Reserved**
- **Reserved**
- **RTG**
- **T3PR**
- **Auth**
- **VDP**

#### Number of VSI Supported

- Identifies the number of VSI that are supported by the sender. It may indicate limits imposed by buffering, ACL rules, etc.

#### Number of VSI Configured

- Identifies the number of VSI currently in use.
  - From the station, it indicates the number of resources that should be reserved by the bridge.
  - From the bridge, it indicates the number of active Virtual Station Interfaces (VSI) discovered/configured

#### Retransmission Exponent (RTE)

- **RTG (Retransmission Granularity) = 10 us**
- **Retransmission Multiplier (RTM) = 2^{RTE}**
- **The ULP retransmission timer = RTM * RTG**
- **Both sides agree to the largest common value**
EVB Discovery TLV Usage

Station (e.g., Hypervisor)

- Server configures itself from the available capabilities according to local policy.

Bridge

1. **EVB TLV – OFFER CAPABILITIES**
   - Capabilities
     - Forwarding: Std, RR
     - Other: VSI, Auth, etc.
   - Current Config.: (Std, None)
   - # VSIs Supported = J
   - # VSIs Configured = 0
   - RTE = 15

2. **EVB TLV – CONFIGURE**
   - Capabilities & Current Config.
     - Forwarding: RR
     - Other: VSI, Auth, etc.
   - # VSIs Supported = J
   - # VSIs Configured = K
   - RTE = 10

3. **EVB TLV – CONFIRMATION**
   - Capabilities
     - Forwarding: Std, RR
     - Other: VSI, Auth, etc.
   - Current Config.
     - Forwarding: RR
     - Other: VSI, Auth, etc.
   - # VSIs Supported = J
   - # VSIs Configured = K
   - RTE 10

Bridge advertises what modes it can support and the max number of VSIs it can handle.

Bridge matches its configuration to the limited capabilities advertised by the station.

But still advertises its full set of capabilities.