

IEEE P802.1Qcp YANG Instance Document

IEEE 802 Plenary Meeting

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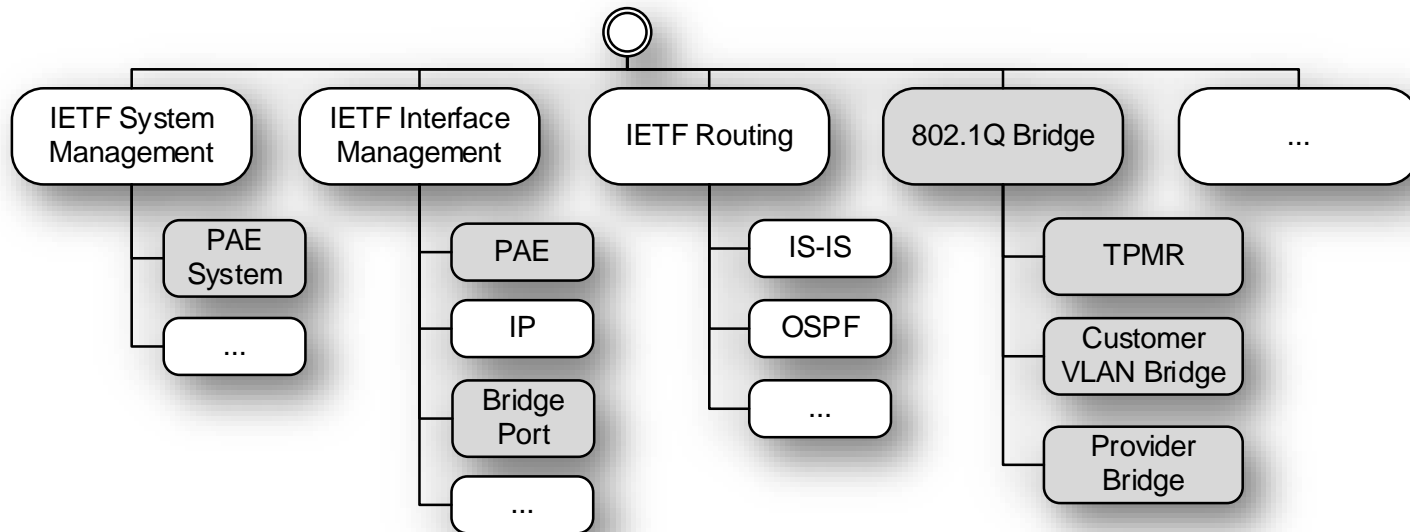
Introduction

- This package provides “configuration instances” of various aspect of the P802.1Qcp version D1.1 YANG modules

802.1Qcp YANG Structure and Relationships

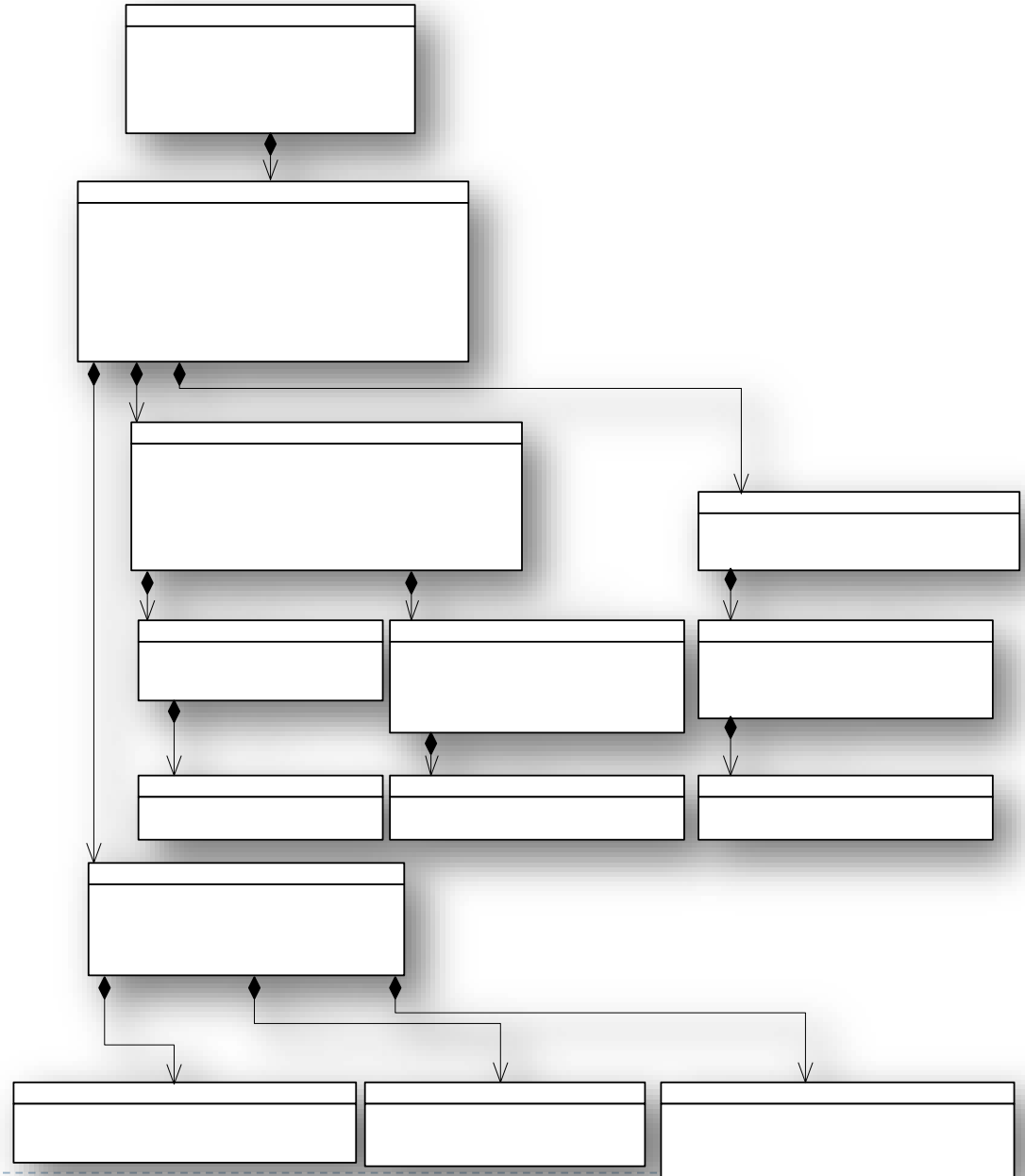


- The following hi-level YANG structure and relationships were defined



Generic IEEE 802.1Q Bridge Model

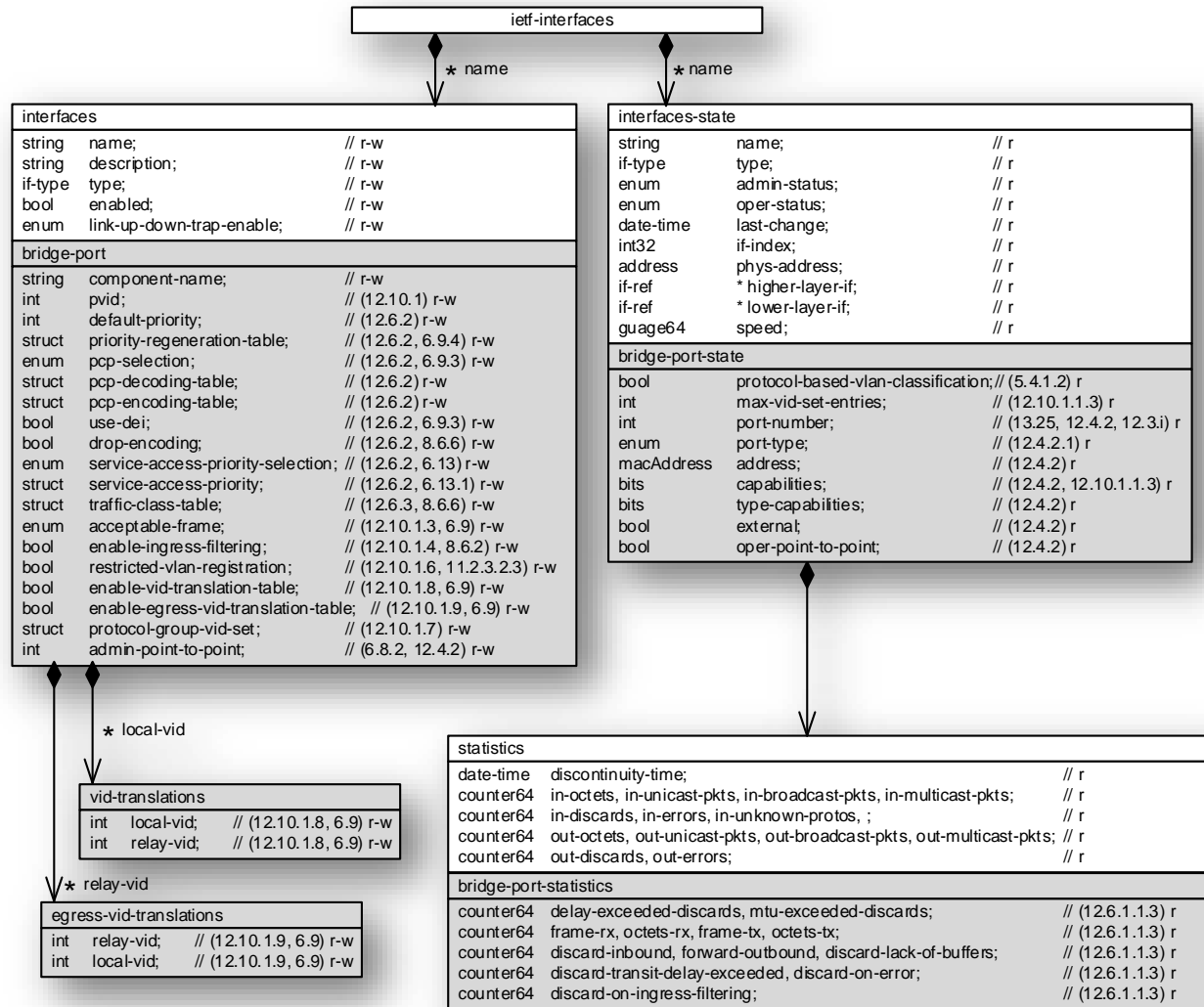
- The various bridge types (i.e., Two-Port MAC Relay, Customer VLAN Bridge, and Provider Bridge) are derivatives of this generic 802.1Q Bridge model
- It is an objective that this generic Bridge model can gracefully accommodate even more complex Bridges (e.g., Provider Backbone Bridges, etc.)



Generic IEEE 802.1Q Bridge Port Model



- The Bridge Port model is an augmentation (e.g., extension) of the IETF Interface Management Model (RFC 7223)



- Data attributes in white are generic Interface (RFC7223)
- Data attributes in grey are IEEE 802.1Q Bridge Port specific

Example Customer VLAN Bridge Configuration



- Configuration instance of a Customer VLAN Bridge with two bridge ports

```
<bridges xc:operation="create">
  <bridge>
    <name>myCVB</name>
    <address>01:12:23:34:45:af</address>
    <bridge-type>customer-vlan-bridge</bridge-type>
    <component>
      <name>myComponent</name>
      <type>c-vlan-component</type>
      <address>01:12:23:34:45:56</address>
    </component>
    <bridge-vlan>
      <vlan>
        <vid>1001</vid>
        <name>vid1001</name>
      </vlan>
    </bridge-vlan>
    <component>
      <name>myComponent</name>
      <vlan-registration-entry>
        <database-id>42</database-id>
        <vids>2-300,1000-2000</vids>
        <entry-type> static</entry-type>
        <port-map>
          <port-ref>port2</port-ref>
        </port-map>
      </vlan-registration-entry>
    </component>
  </bridge>
</bridges>
```

```
<interfaces xc:operation="create">
  <interface>
    <name>if1</name>
    <type>ethernetCsmacd</type>
    <bridge-port>
      <component-name>myComponent</component-name>
      <port-type>cvlan-bridge-port</port-type>
      <enable-vid-translation-table>true</enable-vid-translation-table>
    </bridge-port>
  </interface>
  <interface>
    <name>if2</name>
    <type>ethernetCsmacd</type>
    <bridge-port>
      <component-name>myComponent</component-name>
      <port-type>cvlan-bridge-port</port-type>
    </bridge-port>
  </interface>
</interfaces>
```

Example Static FDB Entry Configuration

- Configuration instance of static FDB entries

```
<bridges>
  <bridge>
    <name>myCVB</name>
    <component>
      <name>myComponent</name>
      <filtering-database>
        <filtering-entry>
          <database-id>12</database-id>
          <vids>1001</vids>
          <address>01:ab:bc:cd:de:ef</address>
          <entry-type>static</entry-type>
          <port-map>
            <port-ref>port1</port-ref>
          </port-map>
        </filtering-entry>
        <filtering-entry>
          <database-id>12</database-id>
          <vids>1001</vids>
          <address>01:ab:bc:cd:de:ee</address>
          <entry-type>static</entry-type>
          <port-map>
            <port-ref>port2</port-ref>
          </port-map>
        </filtering-entry>
      </filtering-database>
    </component>
  </bridge>
</bridges>
```

Example VID Translations Configuration

- Configuration instance of [ingress] VLAN identifier translations table

```
<interfaces>
  <interface>
    <name>if1</name>
    <bridge-port>
      <vid-translations>
        <local-vid>20</local-vid>
        <relay-vid>1020</relay-vid>
      </vid-translations>
      <vid-translations>
        <local-vid>21</local-vid>
        <relay-vid>1021</relay-vid>
      </vid-translations>
    </bridge-port>
  </interface>
</interfaces>
```


Example VID Translations Configuration



- Configuration instance of priority code point encoding and decoding tables
 - Reference Table 6-2 and 6-3 in 802.1Q-2014, clause 6.9.3

```
<interfaces>
  <interface>
    <name>if1</name>
    <bridge-port>
      <pcp-decoding-table>
        <pcp>8P0D</pcp>
        <priority-map>
          <priority-code-point>1</priority-code-point>
          <priority>3</priority>
          <drop-eligible>>false</drop-eligible>
        </priority-map>
        <priority-map>
          <priority-code-point>3</priority-code-point>
          <priority>1</priority>
          <drop-eligible>>false</drop-eligible>
        </priority-map>
      </pcp-decoding-table>
      <pcp-encoding-table>
        <pcp>8P0D</pcp>
        <priority-map>
          <priority>3</priority>
          <drop-eligible>>false</drop-eligible>
          <priority-code-point>1</priority-code-point>
        </priority-map>
      </pcp-encoding-table>
    </bridge-port>
  </interface>
</interfaces>
```

Example TPMR Configuration



- Configuration instance of a TPMR

```
<bridges xc:operation="create">
  <bridge>
    <name>myTPMR</name>
    <address>01:12:23:34:45:af</address>
    <bridge-type>two-port-mac-relay-bridge</bridge-type>
    <component>
      <name>myComponent</name>
      <type>d-bridge-component</type>
      <address>01:12:23:34:45:56</address>
    </component>
  </bridge>
</bridges>

<interfaces xc:operation="create">
  <interface>
    <name>if1</name>
    <type>ethernetCsmacd</type>
    <bridge-port>
      <component-name>myComponent</component-name>
      <port-type>d-bridge-port</port-type>
    </bridge-port>
  </interface>
  <interface>
    <name>if2</name>
    <type>ethernetCsmacd</type>
    <bridge-port>
      <component-name>myComponent</component-name>
      <port-type>d-bridge-port</port-type>
    </bridge-port>
  </interface>
</interfaces>
```

Example Provider [Edge] Bridge Configuration



- Configuration instance of a Provider Edge Bridge with two bridge ports

```
<interfaces xc:operation="create">
  <interface>
    <name>if1</name>
    <type>ethernetCsmacd</type>
    <bridge-port>
      <component-name>c-vlan-component</component-name>
      <port-type>customer-edge-port</port-type>
      <cvid-registration>
        <cvid>2000</cvid>
        <svid>3000</svid>
      </cvid-registration>
      <svid>3001</svid>
    </bridge-port>
  </interface>
  <interface>
    <name>if2</name>
    <type>ethernetCsmacd</type>
    <bridge-port>
      <component-name>s-vlan-component</component-name>
      <port-type>provider-network-port</port-type>
    </bridge-port>
  </interface>
</interfaces>
```

```
<bridges xc:operation="create">
  <bridge>
    <name>myPB</name>
    <address>01:12:23:34:45:af</address>
    <bridge-type>provider-edge-bridge</bridge-type>
    <component>
      <name>myCComp</name>
      <type>c-vlan-component</type>
      <address>01:12:23:34:45:56</address>
    </component>
    <component>
      <name>mySComp</name>
      <type>s-vlan-component</type>
      <address>01:12:23:34:45:57</address>
    </component>
    :
  </bridge>
</bridges>
```