DCBX – building on Joe’s proposal

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Proposal from Joe Pelissier:


Works well

Few suggestions

- Editorial generalizations
  - to allow definition of single SM in 802.1Qaz
  - 802.1Qbb (PFC) and 802.1Qaz (ETS) can provide functions that are invoked in common state machine

- Adding “Ready” state – important for End Stations
  - Need to decide when DCB feature can provide indication to applications (e.g. FCoE, iSCSI) that link provides desired characteristics and on which priorities etc.
Editorial generalization

- **FeatureRcvdTLV:**
  - Rcvd TLV from peer,
    - (LocalWilling && RemoteWilling == FALSE) for symmetric TLV: defined in 802.1Qbb
    - (LocalWilling && RV == TRUE) for asymmetric TLV: Defined in 802.1Qaz

- **FtrRcvdParamMatch:** Rcvd TLV from peer, OperParam == RemoteParam
- **OperParam = LocalAdminParam:** FeatureSetLocalParams: both in 802.1Qbb and az
- **OperParam = RemoteParam:** FeatureCopyRemoteParams: both in 802.1Qbb and az

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```
Init
OperParam = LocalAdminParam
OperParam != LocalAdminParam && !(LocalWilling && RemoteWilling==FALSE)

Recommend
OperParam = RemoteParam
OperParam != RemoteParam && (LocalWilling && RemoteWilling==FALSE)
```

```
Init
FtrSetLocalParams()
!FtrRcvdParamMatch && !FtrRcvdTIVO

Recommend
FtrCopyRemoteParams()
!FtrRcvdParamMatch && FtrRcvdTIVO

Changed to RemoteParam
Did I get it wrong?
```
Need “Ready” state

- “Ready”: When received acceptable configuration from peer
- “Both Ready”: When confirmed that peer is “Ready” too
- When end station reaches “Both Ready” – it can announce availability of “reliable link” for ULP (e.g. PFC agreement can start FCOE functionality)
Proposed TLV Change

- Add “Ready” bit in Configuration TLV

<table>
<thead>
<tr>
<th>TLV Type =127</th>
<th>TLV Info String Len=17</th>
<th>802.1 OUI 00-80-C2</th>
<th>802.1 Subtype = 9</th>
<th>Reserved</th>
<th>Willing</th>
<th>Priority Assignment Table</th>
<th>Priority Group Configured Bandwidth Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 bits</td>
<td>9 bits</td>
<td>3 octets</td>
<td>1 octet</td>
<td>7 bits</td>
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<td>4 Octets</td>
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Changed SM with “Ready” & “Both Ready”

- **Functions:**
  - `FtrUpdateParams()`: if (LocalWilling == TRUE) `FtrCopyRemoteParams()`; else {}
  - `FtrRcvdReady()`: RemoteReady == TRUE
  - `announceIEEEDCBFtrTLVs()`: Update local LLDP MIB to send update to peer

- **Variables:**
  - `LocalFeatureReady`: Indication to local entity whether feature is ready

- **LLDP variable:**
  - `DCBFtrReady`