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Thoughts on DCBX SM simplification

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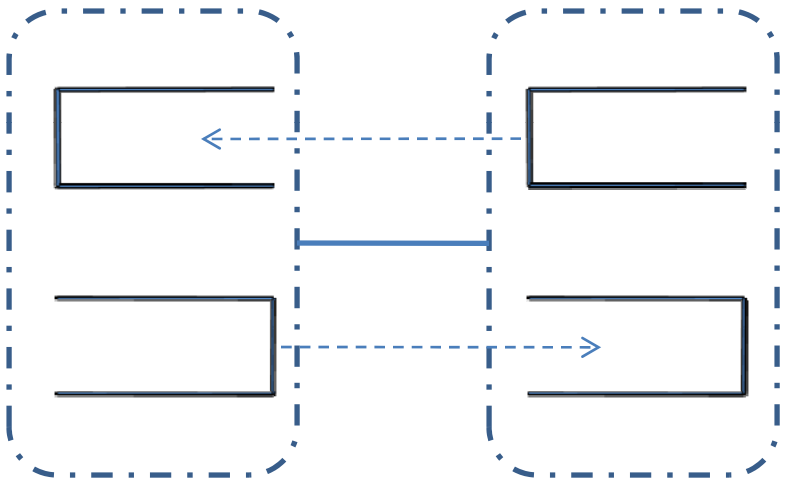
Background..

- Good progress on TLV discussions
- Proposal for handling asymmetric configurations on a link is good direction
- More discussion on efficient mechanism for achieving this
- And hint at how DCBX state machine can be simplified using these..

Desired Behavior

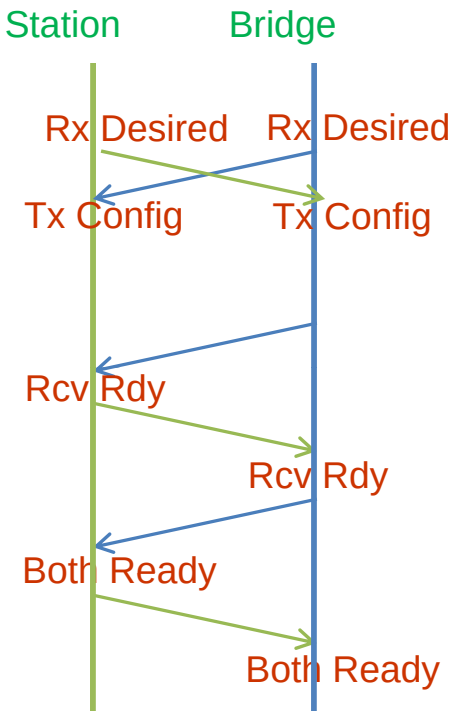
- Device can communicate “Rx Desire”
- Device can match Tx to match peer’s Rx desired behavior
- Device can “declare Rx- Desired TLV” and “adopt Tx TLV” per peer’s “Rx Desired TLV”



Proposed solution

- **Need to carry two sets of TLVs: “Rx-desired” and “Tx-Config” (current)**
- **However, Rx-Desired is required only during initial phase**
  - Can reuse Feature TLV for both
- **Add one bit to identify whether CNPV TLV is “Rx-desired” or “Tx-Config”**
- **So, LLDP TLV bits:**
  - Feature TLV: E.g. PG and PG-BW
  - R/T: Rx-Desired if 0 and Tx-Config if 1
  - Rdy[n]: I am ready for operation

Enhanced handshake



- **Additional phase in beginning to distribute Rx-Desired config**
- **Receiving Tx-Config confirms peer has received my Rx-Desired config**
- **Change to Rx-Desired or Tx-Config restarts the process**

Summary

- **Achieves without duplication of TLVs**
- **Can be used across features**
  - What it takes to get “Ready” can be different for each feature
  - Can be different for device being “Willing” or “not Willing”
- **DCBX state machine can be simplified logic used in previous foil (based on Norm’s proposal for CN Defense SM)**
  - Will be proposed in next meeting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Need for configuration distribution

- **Current 802.1Qau draft allows:**
  - node to
- **But does not allow:**
  - …
- **So, should be enhanced to have:**
  - Configuration distribution mechanism
  - Ability to resolve conflict about who adapts
  - Ability to announce feature being disabled

Who rules the link?

- **W – W (S/S): Doesn't work: Master election?**
- **W – NW (S/M) : Works**
- **NW – NW (M/M) : Doesn't work : Master election**
- **NW – W (M/S) : Works**
- **Everyone has valid configuration to bring up link**
- **W or Slave: Ready to adapt to peer's config**
  - Also ready to offer valid configuration if elected as Master
- **NW or M: Not ready to adapt**
  - Offers valid configuration
  - Ready to become slave if not elected as Master

Observations about CND Defense SM

- **Allows detection of per-priority CN support by link-peer**
- **Allows defense of CN priority queues by not allowing non-CN(capable) traffic to be mixed with CN(capable)-traffic**
- **Starts off “defense-on”**
- **Enters “defense off” only when configuration from peer matches with expected configuration**
- **A node only knows whether Peer is “Ready” or not**
  - No mechanism to know what is “desired” behavior