

IEEE 802.1Qbg

Proposal to add Channel Type IDs

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Overview

- Use cases for channel type identifiers
- Limitations of current mechanisms
- Suggested protocol enhancements
- Modifications to EDCP in 802.1Qbg draft 1.0

Use cases

- A channel represents an uplink similar to a physical port in many aspects, and should have the capacity to support port related **features** such as QoS, rate limiting, default vid settings etc.
- A bridge may wish to **customize** the properties of each channel on a port differently. For example, support ECP on one channel, and disable it on another.
- A bridge may need to **pre-configure** characteristics of channels, such as enabling flow monitoring features on a channel
- A bridge needs to **identify** and **track** channels consistently in order to support desired feature-sets on the channels
- A bridge may wish to control the rate of **broadcast** and **multicast** traffic on the channel. VDP related QoS parameters apply to specific VSIs, whereas a bridge may wish to apply **shared** properties for all VSIs on a given channel, such as bandwidth limits

Limitations of current scheme

- A station requests channels by identifier only. No persistent binding guarantees between a channel and its 'user' on the station side
- Even if the binding maintained within the station, the requested ordering of channels in CDCP may change depending upon station internal operational sequence, or parameters, or configuration
 - Bridge has no mechanism available to identify a channel consistently
 - Bridge cannot pre-configure any customized (non-default) parameters on the channel
- Assuming the network admin configures parameters manually after the channel has been set up, these cannot be persistent across bridge or station resets

Protocol Enhancement

- Add a type identifier and version field to EVB tlv, similar to the VSI type id and VSI version id in the VDP tlv
 - Allows bridge and station to converge on channel type definition using out-of-band mechanisms outside of the scope of the specification (similar to VSI)
- Stations indicate the type of channel being created in the request, and the properties for that channel type can be determined or retrieved by the bridge
- Typical mode of configuration could be static on the bridge, if the number of channels is limited
- Comparable in principle to LACP in which the key can be used to pre-configure LAG properties

Proposed EVB TLV

