

802.1Qcc Planning

Rodney Cummings

National Instruments

Recent History

- Feedback on 802.1Qcc/D0.1 editor's draft has fallen into two categories
 - Enhance Existing: Improve a few things in AVB
 - Design New: New elements/protocol for new TSN goals
- Focus of 802.1Qcc/D0.2:
Configuration elements for new TSN goals
 - Defers TSN protocol questions
- Next 2 slides categorize items from PAR editor's notes
 - 5.2 of <http://www.ieee802.org/1/files/public/docs2013/new-tsn-cgunther-SRP-enhancements-PAR-5C-0513-v05.pdf>

Enhance Existing

- Clear to editor
 - ✓ **More streams, MRP timer work**: D1.1 change to leave timer
 - ✓ **Refresh reduction**: D1.1 digest (solution looking for a problem?)
 - ✓ **Talker VLAN pruning; Talker pruning per port**: D1.1
 - ✓ **Configurable priority/VID/interval w/ protocol**: D1.1 Domain attribute
 - Does anyone want this (e.g. Pro Audio)?
 - **Configurable priority/VID/interval w/ management**
 - AVnu automotive profile is effectively doing this, but standard would clarify
- Unclear: Specific proposal needed from AVB community
 - **Max latency (for AVB)**: Craig G has a presentation this meeting
 - **Integration with .1Qbu and .1Qca**: No known work thus far
 - **Speed up reservations**
 - **Link aggregation; Energy Efficient Ethernet; Tear-down rank bit**
 - **Multiple talkers per stream; Two-way reservations**

Design New

- Clear to editor
 - ✓ Max latency (centralized): D0.2 is the starting point
 - ✓ Configuration of .1Qbv; Associate streams to .1Qbv and .1CB: D0.2
 - ✓ Allow latency changes from network reconfiguration; Move streams: D0.2
 - ✓ IP addressing (routers); Unicast stream DA; Multicast issues: D0.2
 - ✓ User/Network Interface (UNI): D0.2
- Unclear: Pending discussion in IETF DetNet
 - IETF PCE
 - Interoperability with RSVP
 - Avoid flapping (?) : Refresh elimination
 - Ack/retry each attribute like IS-IS; Simpler state machines; New code
 - AVB wants to continue leveraging existing MRP design and code
 - Need unclear for centralized TSN models:
Request/reply protocol is arguably a better fit than signaling protocol

Proposal

- Keep .1Qcc PAR as is: Don't split into two PARs/editors
 - Enhance Existing waits for Design New (centralized)
- D0.3: Remove digest; Keep leave timer change
- Focus 'next' published set on .1Qbv, .1Qbu, .1AS Rev
 - Primarily an AVnu action item to rollout published set
 - Benefits for automotive control: Pre-configured
 - Benefits for industrial control: Managed
- Continue working on .1Qcc, .1CB, and other PARs
 - Benefits for all: Centralized, routing, redundancy, policing, ...
 - Decide AVnu rollout for this set later

Thank You