802.1 Motions for EC agenda, including supporting material

Closing IEEE 802 EC
March 2017, Vancouver

Agenda - 1

- **ICAID to ICCom (ME)**
  - 5.051 IEEE 802 network enhancements for the next decade
- **Drafts to Sponsor ballot (ME)**
  - 5.052 IEEE P802.1Q-rev - *conditional* - Local Medium Access Control (MAC) Address Usage
- **Draft Standards to RevCom (ME)**
  - 5.053 IEEE P802c - *conditional* - Local Medium Access Control (MAC) Address Usage
  - 5.054 IEEE P802.1Qch - Cyclic Queuing and Forwarding
  - 5.055 IEEE P802.1CB - *conditional* - Frame Replication and Elimination for Reliability
- **Items to SC6 (ME)**
  - 7.071 FDIS comment responses for IEEE Stds 802.1Qbu-2016 and 802.1Qbz-2016, to SC6 under PSDO
  - 7.072 IEEE Stds 802d-2017, 802.1AEcg-2017, 802.1Qci-2017, 802.1AX-2014/Cor1-2017 P802.1CB and P802.1Qch, to SC6 for adoption under PSDO
  - 7.073 IEEE P802.1Q-rev and 802c to SC6 for information under PSDO

Agenda - 2

- 7.074 Liaisons (II)
  - IEEE 802.1 to IEEE 1588 on PTP port states
  - IEEE 802.1 to IETF IntArea WG on Private VLAN
  - IEEE 802.1 to IETF IS-IS WG on extended LLC
  - IEEE 802.1 to MEF Forum on YANG
  - IEEE 802.1 to Avnu Alliance on cut-through
- 7.075 Communication (II)
  - IEEE 802.1 presentation for Deterministic Ethernet Forum event

ICAID to ICcom

5.051 - Motion

- Forward the ICAID proposal 'IEEE 802 network enhancements for the next decade' addressing the 5G SC Action A to ICcom.

    - https://mentor.ieee.org/omniran/dcn/16/omniran-16-0084-07-5gaa-draft-icaid-for-5g-sc-action-a.docx

    - Moved: Max Riegel
    - Second: Walter Pienciak
    - Vote: Approved - Y 20, N 0, A 4

ICAID Summary

'IEEE 802 network enhancements for the next decade'

- Kind of activity:
  - Market research into emerging IEEE 802 networking requirements
- Expected deliverable:
  - Report to 802.1 with recommendations regarding new standardization topics, documentation of use cases and user needs for those topics, and proposed organizational approaches to ensure effective participation from user communities.
- Activity duration:
  - 2 years with first draft report delivered after 1 year

- 802 socialization
  - Pre-circulated to EC
  - Comments received and incorporated

Drafts to sponsor ballot

5.052 - MOTION

- Conditionally approve forwarding P802.1Q-Rev/D2.0 to Sponsor Ballot.

- Proposed: Messenger   Second: Rouyer
- For__16__Against__0_Abstain__0__
- Approved

- EC proposed: Parsons   Second: Thaler
- For____Against___Abstain____

* Note: There are no CSD for this maintenance PAR.

802.1Q-Rev supporting info

Ballot Open Date:	01 Mar 17
Ballot Close Date:	13 Mar 17
Type:	WG recirc
Draft #:	D1.2

1 outstanding MBS
comment from 1 voter

RESPONSE RATE

This ballot has met the 50% returned ballot requirement.

59	Number of voters
40	votes received = 68% returned
5	abstentions

APPROVAL RATE

The 75% affirmation requirement is being met.

33	Yes
2	No
	94% affirmative

Recirculation plan:
Second WG recirc following March plenary
Comment resolution at May interim
Third WG recirc, if required following May interim

802.1Q-Rev unsatisfied

CI 8   *SC* 8.6.3.h   *P* 128   *L* 29   # 1

Haddock, Stephen   Stephen Haddock Con

Comment Type   **TR**   *Comment Status* **A**

Changing reserved address 01-80-C2-00-00-0B in Table 8-1 to "EDE-SS PEP Address (IEEE Std 802.1AEcg)" reveals an ambiguity in the specification of how reserved addresses are handled in S-VLAN components and TPMRs. There is no explicit specification of how Reserved Addresses that are not in Table 8-2 are handled by S-VLAN components, or how Reserved Addresses that are not in Table 8-3 are handled by TPMRs, however it is implied that these addresses are always forwarded. Indeed many protocols depend upon them always being forwarded. Bullet h states (using non-normative language) that "PDUs using this [Nearest Customer Bridge] destination address, or any of the other addresses that appear in Table 8-1 but not in either Table 8-2 or Table 8-3, will be relayed by TPMR components and S-VLAN components but will propagate no further than the nearest C-VLAN component or MAC Bridge", but this is not true of the EDE-SS PEP Address or the Provider Bridge MVRP Address. Either of these may be filtered by S-VLAN components.

SuggestedRemedy

Add a sentence in the second paragraph of 8.6.3 (after the third sentence and before the last two): "Unless explicitly noted in Table 8-1, a reserved address specified in Table 8-1 but not Table 8-2 shall not be configured in the FDB of an S-VLAN component, and a reserved address specified in Table 8-1 but not Table 8-3 shall not be configured in the FDB of a TPMR component." Add a footnote to the EDE-SS PEP Address in Table 8-1 "May be filtered by an S-VLAN component in a EDE-SS (IEEE Std 802.1AEcg)." Add a footnote to the Provider Bridge MVRP Address in Table 8-1 "May be filtered by an S-VLAN component implementing MVRP." Consider adding "unless otherwise noted in Table 8-1" to bullets g and h, but this makes the informative sentences very long and complex, and may not be necessary once the normative text is clarified.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE. Mick to supply a combined table for inclusion in next draft.

Draft standards to RevCom (ME)

5.053 - Motion: Approval to send P802c to RevCom – as per template

- Conditionally approve sending P802c to RevCom.
- Approve CSD documentation in https://mentor.ieee.org/802-ec/dcn/16/ec-16-0217-00-ACSD-802c.pdf
- P802c D2.0 had 93% approval at the close of initial sponsor ballot.
- See
  - https://mentor.ieee.org/802-ec/dcn/17/ec-17-0054-00-00EC-p802c-to-revcom-conditional-approval-request.pdf
- for supporting documentation
- In the WG,
  - Move: Pat Thaler   Second: Max Riegel
  - Approved (y/n/a):   23, 0 , 1
- In the EC,
  - Move: Glenn Parsons Second: Pat Thaler

Close of ballot information

- Second Sponsor recirculation ballot closed 23 February 2017. Results:
- RESPONSE RATE
- This ballot has met the 75% returned ballot requirement.
- 115 eligible people in this ballot group.
- 80   affirmative votes
- 6   total negative votes with comments
- 0   negative votes with new comments
- 0   negative votes without comments
- 4   abstention votes: (Conflict of interest 1, Lack of expertise 1, Lack of time: 2)
- 90   votes received = 78% returned
-             4% abstention
- APPROVAL RATE
- The 75% affirmation requirement is being met.
- 80   affirmative votes
- 6   negative votes with comments
- 86   votes = 93% affirmative
- 6 outstanding Disapprove votes, 17 outstanding MBS comments

5.054 - Motion: Approval to send 802.1Qch to RevCom

- Approve sending P802.1Qch D2.2 to RevCom.
- Approve CSD documentation in http://www.ieee802.org/1/files/public/docs2014/ch-mjt-cyclic-queuing-and-forwarding-par-csd-0814-v01.pdf
- P802.1Qch D2.2 had 100% approval at the end of the last sponsor recirculation ballot.
- See http://www.ieee802.org/1/files/private/ch-drafts/d2/802-1Qch-D2-2-dis.pdf for supporting documentation
- In the WG,
  - Proposed: János Farkas; Second: Craig Gunther
  - Approved (y/n/a): 32 , 0, 0
- In the EC,
  - Move: Glenn Parsons Second: Pat Thaler

Supporting information – P802.1Qch

- Second Sponsor recirculation ballot closed 23 February 2017. Results:
- RESPONSE RATE
- This ballot has met the 75% returned ballot requirement.
- 84 eligible people in this ballot group.
- 74   affirmative votes
- 0   total negative votes with comments
- 0   negative votes with new comments
- 0   negative votes without comments
- 3   abstention votes: (Lack of time: 3)
- 77   votes received = 91% returned
-     3% abstention
- APPROVAL RATE
- The 75% affirmation requirement is being met.
- 74   affirmative votes
- 0   negative votes with comments
- 74   votes = 100% affirmative
- No outstanding Disapprove votes, no outstanding comments

5.055 - Motion: Conditional approval to send 802.1CB to RevCom

- Conditionally approve sending P802.1CB D2.8 to RevCom.
- Approve CSD (5C) documentation in http://www.ieee802.org/1/files/public/docs2013/new-p802-1CB-draft-5c-0313.pdf
- P802.1CB D2.7 had 95% approval at the end of the last sponsor recirculation ballot.
- See http://www.ieee802.org/1/files/private/cb-drafts/d2/802-1CB-D2-7-dis-v1.pdf for supporting documentation
- In the WG,
    - Proposed: Norman Finn; Second: János Farkas
    - Approved (y/n/a):   34, 0, 0
- In the EC,
    - Move: Glenn Parsons Second: Pat Thaler

Supporting information 802.1CB

Ballot tally

- Last sponsor recirculation ballot closed: 22-Feb-2017
- 4 outstanding Disapprove votes, 4 Must Be Satisfied comments
- Comment resolution available here: http://www.ieee802.org/1/files/private/cb-drafts/d2/802-1CB-D2-7-dis-v1.pdf
- Second recirculation ballot will be conducted during March timeframe with resolution at May interim.
- A possible final recirculation in April timeframe with resolution on TSN calls, if required as a result of further comments received.

Recirculation #1 Initial Ballot

Ballot Open Date:	23-Jan-2017
Ballot Close Date:	22-Feb-2017
Type:	New
Draft #:	2.7
Ballots Received:	13
Vote Changes:	4
Comments:	5
Must Be Satisfied Comments:	4

RESPONSE RATE
This ballot has met the 75% returned ballot requirement.

100 eligible people in this ballot group.

- 83 affirmative votes
- 4 total negative votes with comments
- 2 negative votes with new comments
- 0 negative votes without comments
- 3 abstention votes: (Lack of expertise: 2, Lack of time: 1)

90 votes received = 90% returned

3% abstention

APPROVAL RATE
The 75% affirmation requirement is being met.
- 83 affirmative votes
- 4 negative votes with comments

87 votes = 95% affirmative

JTC1 SC6 PSDO items

7.071 - MOTION

- Approve liaison of the following comment responses to ISO/IEC JTC1/SC6 under the PSDO agreement:
    - 802.1Qbu-2016 and 802.1Qbz-2016: http://ieee802.org/1/files/public/docs2017/liaison-randall-SC6ResponseQbuandQbz-0317.pdf

- Proposed: Messenger Second: Rouyer
- For__16__Against__0_Abstain__0__
- Approved

- EC proposed: Glenn Parsons Second: Pat Thaler
- For____Against___Abstain____

7.072 - MOTION

- Approve submission of the following project(s) to ISO/IEC JTC1/SC6 for adoption under the PSDO agreement
    - 802d-2017 – URN namespace
    - 802.1AEcg-2017 – Ethernet Data Encryption Devices
    - 802.1Qci-2017 – Per Stream Filtering and Policing
    - P802.1CB – Frame Replication and Elimination for Reliability; following approval and publication
    - 802.1AX-2014/Cor1-2017 – Link Aggregation corrigendum
    - P802.1Qch – Cyclic queueing and forwarding; following approval and publication
- Conditional on publication of approved standard.
- Proposed: Messenger   Second: Rouyer
- For__17__Against_0__Abstain__0__
- Approved

- EC proposed: Glenn Parsons Second: Pat Thaler
- For____Against___Abstain____

7.073 - MOTION

- Approve liaison of the following draft(s) to ISO/IEC JTC1/SC6 for information under the PSDO agreement:
  - P802c/D2.1
  - P802.1Q-Rev/D2.0
- Proposed: Messenger Second: Rouyer
- For__17__Against__0_Abstain__0__
- Approved

- EC proposed: Glenn Parsons Second: Pat Thaler
- For____Against___Abstain____

7.074 - Liaisons (II)

Motion: Liaison from 802.1

- 802.1 approves the liaison letter to IEEE 1588
  - http://www.ieee802.org/1/files/public/docs2017/liaison-1588-on-ptp-port-states-not-used-in-802-1as-0316-v01.pdf

- Proposed: Geoffrey Garner
- Second: János Farkas

- Approved (y/n/a): 29, 0 ,0

Motion: Liaison from 802.1

- 802.1 approves the liaison letter to the IETF IntArea WG
  - http://www.ieee802.org/1/files/public/docs2017/liaison-IETF-intarea-private-VLANs-0317-v01.pdf

- Proposed: Craig Gunther
- Second: Stephen Haddock

- Approved (y/n/a): 29, 0, 0

Motion: Liaison from 802.1

- 802.1 approves the liaison letter to the IETF IS-IS WG
  - http://www.ieee802.org/1/files/public/docs2017/liaison-IETF-isis-extentended-llc-0317-v01.pdf

- Proposed: János Farkas
- Second: Stephen Haddock

- Approved (y/n/a): 26, 0, 0

Motion: Liaison from 802.1

- 802.1 approves the response to the MEF liaison L00259 on MEF 38 - SOAM FM YANG
  - http://www.ieee802.org/1/files/public/docs2017/liaison-response-MEF-L00259-0317-v01.pdf

- Proposed: Jessy Rouyer
- Second: János Farkas

- Approved (y/n/a): 29, 0, 0

Motion: Liaison from 802.1

- 802.1 approves the response to the Avnu Alliance
  - http://www.ieee802.org/1/files/public/docs2017/liaison-response-avnu-0317-v01.pdf

- Proposed: János Farkas
- Second: Craig Gunther

- Approved (y/n/a): 26, 0, 2

7.075 - Communication (II)

Supporting info
DETERMINISTIC ETHERNET FORUM 2017
https://www.de-forum.com/

- Exposure to commercial users of our standards in a non-academic setting

- Introduce the IEEE 802.1 WG to future potential participants
  - Infusion of new requirements and ideas
  - Encourage more participation from real-life users (i.e. recruiting)
  - Face-to-face time with commercial users and suppliers

- On-stage opportunity at the Welcome Event to tell the attendees who we are

- Discuss and influence future Deterministic Ethernet implementations

- Table-top space in exhibition area
  - IEEE-SA Marketing staff will provide table/display, collateral and giveaways
  - IEEE-SA Marketing will also help create 802.1 specific collateral

- There is no fee or contract associated with being a "lead exhibitor" for this event

Motion: Communication from 802.1

■ Approve
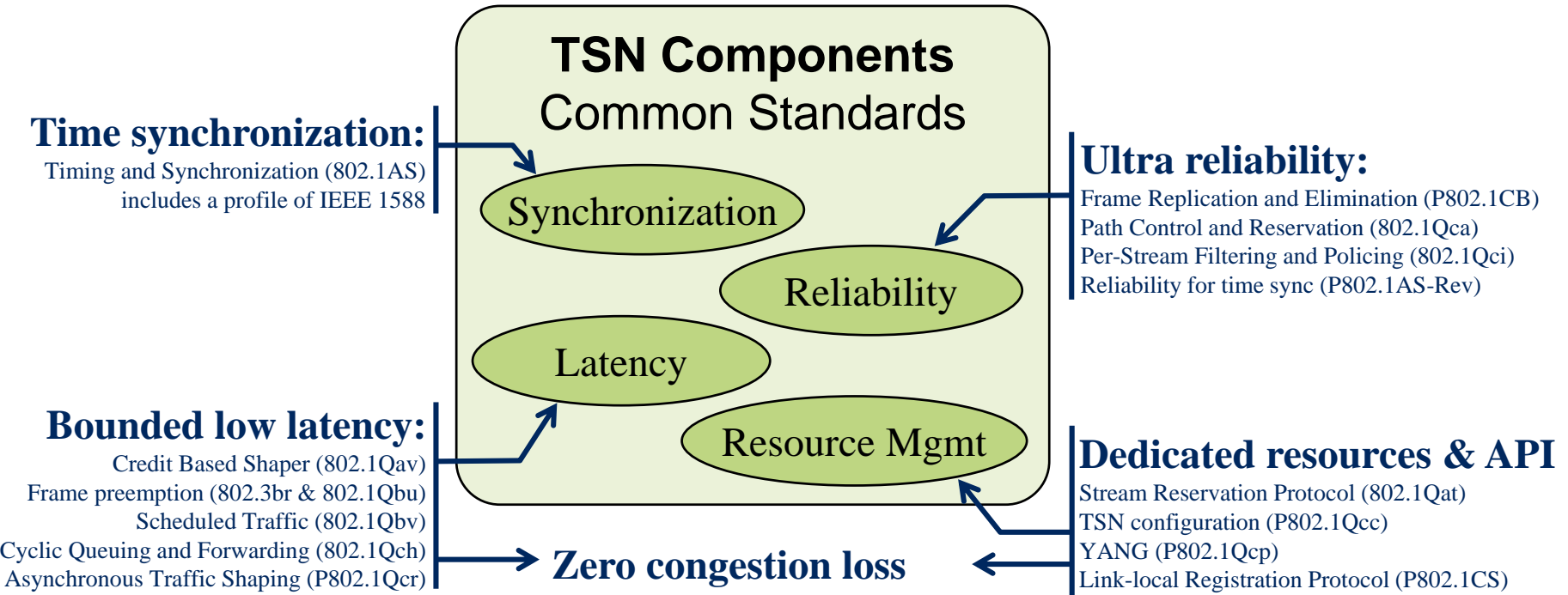http://www.ieee802.org/1/files/public/docs2017/tsn-farkas-def-0317-v03.pptx   as communication to Deterministic Ethernet Forum 2017, noting the IEEE 802.1 TSN TG chair will present.

• Proposed: Don Pannell

• Second: Craig Gunther

■ Approved (y/n/a): 27, 0 , 0

IEEE 802.1 Time-Sensitive Networking (TSN)

TSN Components
Common Standards

Synchronization

Reliability

Latency

Resource Mgmt

Time synchronization:
Timing and Synchronization (802.1AS)
includes a profile of IEEE 1588

Ultra reliability:
Frame Replication and Elimination (P802.1CB)
Path Control and Reservation (802.1Qca)
Per-Stream Filtering and Policing (802.1Qci)
Reliability for time sync (P802.1AS-Rev)

Bounded low latency:
Credit Based Shaper (802.1Qav)
Frame preemption (802.3br & 802.1Qbu)
Scheduled Traffic (802.1Qbv)
Cyclic Queuing and Forwarding (802.1Qch)
Asynchronous Traffic Shaping (P802.1Qcr)

Dedicated resources & API
Stream Reservation Protocol (802.1Qat)
TSN configuration (P802.1Qcc)
YANG (P802.1Qcp)
Link-local Registration Protocol (P802.1CS)

Zero congestion loss

Guaranteed data transport with bounded low latency, low delay variation, and extremely low loss

API: Application Programming Interface; YANG: a data modeling language