

# IEEE 802.1 Working Group

## 13-16 March 2017 Plenary Meeting

### Vancouver, BC, Canada

### Meeting Minutes

The 802.1 Chair, Glenn Parsons, presided.

The 802.1 Recording Secretary, Jessy Rouyer, wrote the minutes in part based on input from 802.1 Task Group Chairs.

## 1 Attendance and affiliation

<i>Last Name</i>	<i>First Name</i>	<i>Affiliation</i>
Bao	Shenghua	HUAWEI
Belitz	Tobias	Renesas Electronics Corporation
Bierschenk	Jens	Robert Bosch GmbH
Bims	Harry	Bims Laboratories, Inc.
Bjornstad	Steinar	TransPacket
Boiger	Christian	b-plus GmbH
Bottorff	Paul	Hewlett-Packard Development Company, L.P.
Calcev	George	Huawei Technologies Co. Ltd
Cam-Winget	Nancy	Cisco Systems, Inc.
Chen	David	Nokia
Chen	Feng	Siemens AG
Chen	Lidong	NIST
Cheng	Weiyong	Coriant
Cummings	Rodney	National Instruments Corporation
Ellegaard	Lars	Microsemi Corporation
EMMELMANN	MARC	Self
Farkas	Janos	Ericsson
Finn	Norman	Huawei Technologies Co. Ltd
Fontaine	Mickael	TransPacket
Garner	Geoffrey	Broadcom Corporation
Gravel	Mark	Hewlett Packard Enterprise
Gunther	Craig	HARMAN INTERNATIONAL INDUSTRIES, INCORPORATED
Gutierrez	Marina	TTTech Computertechnik AG
Haddock	Stephen	Stephen Haddock Consulting, LLC
Hamilton	Mark	Ruckus Wireless
Hantel	Mark	Rockwell Automation
Harkins	Daniel	Aruba Networks, Inc.
Heffernan	Patrick	Spirent Communications

Hiertz	Guido	Ericsson AB
Holness	Marc	Ciena Corporation
Hotta	Yoshifumi	Mitsubishi Electric Corporation
Huang	Lu	802
Hung	Soar	Realtek Semiconductor Corp.
Itaya	Satoko	NICT
Jeffries	Timothy	Huawei R&D USA
Karl	Michael	Marvell Semiconductor, Inc.
Kehrer	Stephan	Hirschmann Automation and Control, Inc.
KOTO	Hajime	National Institute of Information and Communications Technology (NICT)
Laffey	Thomas	Hewlett Packard Enterprise
Lee	Hyeong Ho	Electronics and Telecommunications Research Institute (ETRI)
Lepp	James	BlackBerry
Li	Yizhou	Huawei Technologies Co. Ltd
Mangin	Christophe	Mitsubishi Electric Corporation
Marks	Roger	EthAirNet Associates
Maruhashi	Kenichi	NEC Corporation
Matsushima	Hideki	Panasonic Corporation
Messenger	John	ADVA Optical Networking Ltd.
Moskowitz	Robert	HTT Consultant
Mustala	Tero	Nokia Networks
Nakano	Hiroki	Kyoto University
Ohsawa	Tomoki	NICT
Pannell	Donald R	Marvell Semiconductor, Inc.
Parsons	Glenn	Ericsson AB
Pienciak	Walter	IEEE
Potts	Michael	General Motors Company
Randall	Karen	INDEPENDENT
Regev	Alon	Ixia
Riegel	Maximilian	Nokia Networks
Rouyer	Jessy	Nokia
Samii	Soheil	General Motors Company
Schewe	Frank	Phoenix Contact
Seaman	Michael	Individual
Specht	Johannes	University of Duisburg-Essen and General Motors Company
Stanton	Kevin	Intel Corporation
Thaler	Patricia	Broadcom Limited
Ting	Ao	ZTE Corporation
Unbehagen	Paul	Avaya Inc.
Wang	Hao	Fujitsu Research & Development Center

Wang	Lei	Huawei R&D USA
Wang	Tongtong	Huawei Technologies Co. Ltd
Wang	Xinyuan	Huawei Technologies Co. Ltd
Weis	Brian	Cisco Systems, Inc.
Wolfe	Jason	Non-Member
Woods	Jordon	Innovasic, Inc.
wu	yanwei	ZTE Corporation
Xie	Chengjie	Huawei Technologies Co., Ltd
Yang	Yunsong	Huawei Technologies Co. Ltd
Yee	Peter	NSA/IAD
Yi	Su	Fujitsu Research & Development Center
Zein	Nader	NEC Corporation
Zinner	Helge	Continental Automotive Systems AG
Zuniga	Juan Carlos	SIGFOX

## 2 Opening Plenary Meeting

Call to order: 13 March 2017, 10:32 AM.

The 802.1 Chair, Glenn Parsons, presided.

The 802.1 Recording Secretary, Jessy Rouyer, wrote the minutes.

The Chair presented the *Opening Agenda* slides available at

<http://www.ieee802.org/1/files/public/minutes/2017-03-opening-plenary-slides.pdf>.

During this presentation, the Chair:

- Showed the agenda on slide 2, which was tacitly approved.
- Showed slides 3 through 8 (reproducing slides 0 through 4 of the IEEE-SA PatCom Patent Slides for Standards Development Meetings, separately available at <http://standards.ieee.org/about/sasb/patcom/materials.html>).

The Chair:

- Presented information on these slides, which included:
  - Instructions for the WG Chair (and TG Chairs);
  - Participants, Patents and Duty to Inform;
  - Patent Related Links;
  - Call for Potentially Essential Patents; and
  - Other Guidelines for IEEE WG Meetings.
- Advised WG attendees that:
  - The IEEE's patent policy is described in Clause 6 of the IEEE-SA Standards Board Bylaws;
  - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
  - There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.
- Made the "Call for Potentially Essential Patents" thereby providing an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of

patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard.

There were no responses to the call.

- Reminded the 802.1 TG Chairs of their daily obligations (per slide 8) with respect to presenting the IEEE-SA PatCom Patent Slides for Standards Development Meetings and making the “Call for Potentially Essential Patents”.
- Reviewed general administrative information including:
  - Meeting “Decorum” or rules, including the policies on public reporting, and on photography or recording (slide 9);
  - Hotel and meeting room security (slide 10);
  - General information on 802.1 (slide 11), including information on 802.1 operation available at <http://www.ieee802.org/1/files/public/minutes/802-1-general-info-v3.pdf>, a reminder that contributions are to be uploaded before presentation, how to access meeting schedule, and how to report meeting session attendance;
  - The possibility that was offered for newcomers to attend an orientation session (<http://www.ieee802.org/1/files/public/docs2017/tsn-farkas-intro-0317-v01.pdf>) Sunday March 12, 2017 6:30 PM (slide 12); and
  - Meeting logistics (slide 13).
- Introduced 802.1 Officers and provided 802.1 website information (slide 14).
- Reviewed the list of 802.1 voting members, including information about individuals who have lost, may lose or may gain 802.1 voting membership, and reminded individual participants of their duties to vote as instructed in 802.1 ballots and to record their attendance to the meeting via IMAT to enable accurate maintenance of 802.1 voting membership (slides 15-19). The Chair indicated he would remind of their obligations to return letter ballots 25 current voters who have not met these obligations and are therefore at risk of losing voting member status (slide 20). The Chair reminded individual participants about 802.11 reciprocal credit, which was continued at this meeting (slide 21).
- Introduced ongoing updates to the 802.1 website scheduled to go live after the July 2017 plenary meeting (slide 22).
- Reviewed the schedule for future interim meetings (slide 23), which included:
  - May 15-18, 2017 meeting in Stuttgart, Germany.
    - Stephan Kehrer provided an oral update.
  - September 5-8, 2017 in St. John, Newfoundland, Canada
    - The 802.1 Chair provided an oral update.
  - January 22-26, 2018 in Geneva, Switzerland
    - The 802.1 Chair presented [http://www.ieee802.org/1/files/public/docs2017/admin-trowbridge-802d1+802d3-interim-jan-2018\\_0317.pdf](http://www.ieee802.org/1/files/public/docs2017/admin-trowbridge-802d1+802d3-interim-jan-2018_0317.pdf)
  - May 2018 (dates and location to be defined) hosted by Ethernet Alliance.
  - September 10-13, 2018 in Oslo, Norway
    - Mickael Fontaine presented <http://www.ieee802.org/1/files/public/docs2017/admin-fontaine-oslo-proposal-0317-v02.pdf> and conducted a Straw Poll on “Who would attend an interim meeting in September 2018 in Oslo, Norway?”. The results were 36 Yes, 0 No, 0 Abstain. The room count was 54.

- Reported the following items out of the 802 EC executive session (slide 24):
  - Fellowship program in July ([EC-17-015](#))
    - ~6 regulators will be invited
    - a side program will be arranged
  - 802 Task Force ([EC-17-028](#))
    - Indemnification
    - Tools
    - 802.11 dominance allegation
      - Report to IEEE-SASB to be approved this week
  - P&P, WG & CG change proposals ([EC-17-016](#))
    - various voting and membership clarifications
  - Future Venues ([EC-17-036](#))
    - Over a dozen responses to RFP...
    - March 2019 – Vancouver, Denver, New Orleans
    - November 2018 – Suzhou
  - Treasurer([EC-17-038](#))
    - Macau was break-even (after Government subsidy - ~\$130k)
      - Surplus on 2016 - \$300k (to \$1.6M)
    - Projected 2017 budget - \$200k loss
- Provided a list of 802 EC meetings to be held this week (slide 25).
- Provided information about Public Review (slide 26) and indicated which email ballots (ePoll) were conducted since the last plenary (slide 27) stressing one of them did not pass by lack of quorum.
  - It was clarified that the motion on IEEE 1588 was only applicable to current drafts at time of liaison letter approval. There was a request to make further drafts available on an ongoing basis. The 802.1 Chair noted he could indicate to IEEE 1588 that this is 802.1's desire but clarified there is no automated way for drafts to be made available on an ongoing basis.
- Pointed out PARs and CSDs that are up for vote at this meeting (slide 28). The Chair noted 802.1 has to comment on the PARs of other WGs (by end of 13 March 2017) if 802.1 thinks they are relevant to its work. The Chair asked whether there was interest in 802.1 to review any of these; no interest was expressed.
- Introduced an 802.1 Industry Connections Activity Initiation Document (ICAID – slide 29)
  - Maximilian Riegel presented <http://www.ieee802.org/1/files/public/docs2017/new-riegel-5gsc-actiona-icaid-Introduction-0317-v01.pdf> and <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0084-04-5gaa-draft-icaid-for-5g-sc-action-a.docx>
- Introduced the open discussion and tutorial to be held 13 March 2017 6:30 PM-8:50 PM (slide 30).
- Reviewed the list of liaisons within 802 (joint and standing committee meetings, 802 task force) for which meetings are to be held this week (slide 31) and the list of liaisons incoming to 802.1 and a press release of relevance to TSN TG (slide 32).
- Gave an overview of ITU-T SG13 IMT-2020 progress (slide 33).
- Pointed out the IETF work on Private VLANs encouraging review and preparation of an outgoing liaison as needed (slide 34).
- Provided his anticipation of next actions with respect to projects in the current WG's workload asking editors to review for correctness (slide 35) and discussed the promotion of the work that the WG is doing (slide 36), emphasizing marketing efforts towards the Deterministic Ethernet Forum (slide 37)
- Asked editors of the projects listed at the bottom of slide 38 to nominate future Standards Project Awards recipients (slide 38).

- Provided TG Chairs with guidance regarding the preparation of the motions for this week's closing plenary meeting, and requested to be provided with EC required supporting material (PAR to NesCom, drafts to Sponsor ballot, drafts to RevCom) before these motions are considered (slide 39).
- Showed the 802.1 plenary schedule/agenda for this meeting, which was tacitly approved (slide 40).
- Requested the 802.1 TG Chairs to introduce their TG agenda (slide 41):
  - Mick Seaman presented the Security TG agenda (slide 42).
  - János Farkas presented the TSN TG agenda (slide 43).
  - Maximilian Riegel presented the OmniRAN TG agenda (slides 44-46).
  - John Messenger presented the Maintenance TG agenda for 14 March 2017 (slide 47).
  - Patricia Thaler presented the DCB TG agenda (slide 48).

There was no other business to discuss (slide 49) and the opening plenary meeting was adjourned at 12:57 PM.

## 3 Task Group Meetings

### 3.1 Data Center Bridging

The Data Center Bridging (DCB) Task Group Chair, Patricia Thaler, presided and wrote the minutes.

At the beginning of the meetings on Tuesday, and Wednesday, Patricia Thaler presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings, and made the "Call for Potentially Essential Patents". There were no responses to the calls prior to the end of the week's sessions.

#### **Tuesday 14 March 2017 10:30 AM-6:01 PM**

Call to order: 14 March 2017, 10:30 AM

Patricia Thaler presented the participation slide and the following agenda for the meeting:

- P802c comment resolution
- P802.1Qcn
- P802.1CQ
- Presentation on IETF I-D on higher layer QCN (quantized congestion notification), to adjournment

This agenda was approved.

Roger B Marks, P802c editor, began resolving the comments received in the Sponsor ballot on <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-d2-0.pdf>.

<http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-D2-0-dis-r2.xlsx>

[Post-meeting update: <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-D2-0-dis-r3.xlsx>]

The TG recessed at 12:30 PM and resumed at 4:00 PM.

Roger B Marks, P802c editor, continued resolving the comments received in the Sponsor ballot on <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-d2-0.pdf>:

**Disposition:** Completed a first pass through all comments and resolved most of them. A few needed further work the following day.

**Wednesday 15 March 2017 8:10 AM-3:00 PM**

Call to order: 14 March 2017, 10:30 AM

Roger B Marks, P802c editor, continued resolving the comments received in the Sponsor ballot on <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-d2-0.pdf>:

**Disposition:** Discussed comments i-32 and i-39 and decided that they should be discussed with the TSN TG.

Ting Ao began presenting a proposal for P802.1CQ in *Local MAC Address Assignment Protocol(LAAP) -- Thought on 802.1CQ* <http://www.ieee802.org/1/files/public/docs2017/cq-ao-LAAP-proposal-0317-v02.pptx>.

The TG met with the TSN TG to discuss P802c comments received in the Sponsor ballot on <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-d2-0.pdf> and shape resolution.

The TG recessed at 9:45 AM and resumed at 10:00 AM.

Ting Ao began continued presentation of a proposal for P802.1CQ in *Local MAC Address Assignment Protocol(LAAP) -- Thought on 802.1CQ*

<http://www.ieee802.org/1/files/public/docs2017/cq-ao-LAAP-proposal-0317-v02.pptx> and received comments.

**Disposition:** Related to ongoing project, more discussion needed.

Roger B Marks, P802c editor, concluded the resolution of comments received in the Sponsor ballot on <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-d2-0.pdf>:

**Disposition:** Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-D2-0-dis-r2.xlsx>

[Post-meeting update: <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-D2-0-dis-r3.xlsx>]

The TG recessed at 11:00 AM and resumed at 1:30 PM.

Lu Huang presented *VDP extension for SR-IOV*

<http://www.ieee802.org/1/files/public/docs2017/cn-huang-vdp-for-sr-iov-0317-v00.pptx>

**Disposition:** Based on discussion, it is likely that current VDP plus P802.1Qcn will provide the information needed and further extensions are not necessary.

The TG discussed the status of P802.1Qcn: the project needs to start TG ballot and continue to seek comment from IETF NVO3 on the draft .

The TG reviewed a preliminary draft of the supporting material for P802c conditional approval to RevCom. Unresolved disapprove comments will be added after the voters have had a chance to indicate whether their comments have been resolved.

The TG also reviewed the response to comments i-32 and i-39 on <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-d2-0.pdf>.

**Motions**

Motions reflecting DCB Task Group conclusions were prepared for the 802.1 closing plenary and can be found in their final form following slide 67 in

<http://www.ieee802.org/1/files/public/minutes/2017-03-closing-plenary-slides.pdf>.

## 3.2 Maintenance

The Maintenance Task Group minutes are incorporated in these minutes by reference and are available at <http://ieee802.org/1/files/public/maint/2017-03-maintenance-meeting-v1.pdf>.

Motions reflecting Maintenance Task Group conclusions were prepared for the 802.1 closing plenary and can be found in their final form following slide 74 in <http://www.ieee802.org/1/files/public/minutes/2017-03-closing-plenary-slides.pdf>.

## 3.3 OmniRAN

OmniRAN Task Group meeting minutes (including coverage of ICAID session) are incorporated into these minutes by reference and are available at <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0036-01-00TG-mar-2017-f2f-meeting-minutes.docx>.

Current status of OmniRAN Task Group activities (including future meeting announcements, past meeting and conference call minutes) is available via a wiki located at <https://mentor.ieee.org/omniran/bp/StartPage>.

Motions reflecting OmniRAN Task Group conclusions were prepared for the 802.1 closing plenary and can be found in their final form following slide 71 in <http://www.ieee802.org/1/files/public/minutes/2017-03-closing-plenary-slides.pdf>.

## 3.4 Security

Call to order: 13 March 2017 02:00 PM. The Security Task Group met Monday 13 March 2017 starting at 2:00 PM, Tuesday 14 March 2017 starting at 10:30 AM following the Maintenance TG meeting, and Wednesday 15 March 2017 starting at 9:00 AM.

The Security Task Group Chair, Mick Seaman presided and wrote the minutes.

The IEEE-SA PatCom Patent Slides for Standards Development Meetings were presented, and the “Call for Potentially Essential Patents” were made by Karen Randall (in the temporary absence of the TG chair) at the beginning of Monday’s meeting, by the Chair of the Maintenance TG at the beginning of Tuesday’s meetings, and by the TG chair at the beginning of Wednesday’s meeting. There were no responses to the calls prior to the end of the week’s session.

Mick Seaman proposed the following agenda (as discussed in the 802.1 opening plenary, detail with document links: <http://www.ieee802.org/1/files/public/docs2017/security-seaman-agenda-0317-v0.pdf>) for the Security Task Group meeting week:

1. P802.1AE-Rev (*MAC Security*) PAR (roll-up)
2. P802.1Xck (*Port-Based Network Access Control: YANG Data Model*)
3. P802.1AR-Rev (*Secure Device Identity*)
4. P802E Privacy (*Recommended Practice for Privacy Considerations for IEEE 802 Technologies*)
5. JTC1 SC6 SC participation
6. A.O.B
  - 6.1. Security in the car
7. Further meetings/teleconferences

This agenda was approved.



Minutes of the discussion of each of the agenda items (above) in the Security Task Group, follow.

### **1. P802.1AE-Rev (MAC Security) PAR (roll-up)**

The Task Group had previously generated a PAR, prior to final SASB approval of IEEE Std 802.1AEcg. The TG chair updated this PAR with new anticipated end dates:

<http://www.ieee802.org/1/files/public/docs2017/ae-seaman-rev-draft-par-0317-v02.pdf>

Forwarding of this PAR to NesCom was approved by the closing 802.1 plenary, but the PAR was not updated in time for consideration by the Executive Committee at this meeting. It will be submitted to them prior to the July 2017 802.1 plenary meeting. This should not delay the project since publication of P802.1AEcg and the subsequent roll-up of IEEE Std 802.1AE-2006, IEEE Std 802.1AEbn-2011, IEEE Std 802.1AEbw-2013 and P802.1AEcg has to occur to establish the base text, prior to the incorporation of any maintenance items.

### **2. P802.1Xck (Port-Based Network Access Control: YANG Data Model)**

Marc Holness, P802.1Xck editor, had proposed a disposition of comments received in the WG ballot on P802.1Xck/D1.0 that had been reviewed/resolved in the TG teleconference held 21 February 2017: <http://www.ieee802.org/1/files/private/ck-drafts/d1/802-1Xck-d1-0-dis-v01.pdf>

The ballot had failed due to lack of response, of those voting Yes (8) or No (3) approval was 73%.

Marc Holness had generated a new draft prior to the meeting

<http://www.ieee802.org/1/files/private/ck-drafts/d1/802-1Xck-d1-1.pdf>, taking into account D1.0 comments, none of which were extensive in scope. In the Monday afternoon meeting, Marc Holness proposed that the TG review a document he had created to show the use of the YANG model in some of the example scenarios contained in Clause 7 of IEEE Std 802.1X and Clause 11 of IEEE Std 802.1AE. These were discussed, and some improvements suggested including detailing the use of defaults (explanation of what needed to be configured, and what did not). The final suggestion was that this material be added to P802.1Xck as a new informative annex to help users of the model: the editor agreed to do that.

### **3. P802.1AR-Rev (Secure Device Identity)**

P802.1AR-Rev/D2.0 is in WG ballot, to close 30 March 2017. For detailed history see the editor's introduction to the current draft:

<http://www.ieee802.org/1/files/private/ar-rev-drafts/d2/802-1AR-rev-d2-0.pdf>

Tom Laffey is working on an update of the Trusted Computing Group document covering the TPM/DevID module relationship. There was a brief discussion of the use of multiple LDevIDs to support the different types of TPM key/key usage.

Other points covered included the recent attacks on SHA-1 published by Google. P802.1AR-Rev no longer has the exceptional/underspecified operations, e.g. opaque mode, to support operations that were becoming outdated at the time of the original IEEE Std 802.1AR-2009. These few technical changes had been characterized as 'cockroach removal', a philosophy welcomed by the TG. A question was asked about SHA-1 in EST (enrollment): some participants said they didn't believe SHA-1 was used/referenced.

A point was raised about the ASN.1 definition of keys in clause 9, in particular the definition in 9.2.4 of the ECDSA key as ECPoint ::= OCTET STRING while the key was usually a bit string. The relevant text was carried over from IEEE Std 802.1AR-2009. The reference to RFC 5480 seems too brief to be useful/clear. A similar issue arises in 9.3.4, and possibly also in 9.1.4. Brian Weis agreed to provide a suggestion for clarifying text. This (or any other suggestion) could come in as a ballot comment.

#### **4. P802E (Recommended Practice for Privacy Considerations for IEEE 802 Technologies)**

Jerome Henry, P802E editor, was unable to attend this meeting but had been working on an update taking into account the discussion at the January 2017 interim meeting.

[Post meeting note: The new draft is now available at:

<http://www.ieee802.org/1/files/private/802-e-drafts/d0/802E-d0-07.pdf>]

#### **5. JTC1 SC6 SC participation**

Karen Randall had drafted detailed responses for the issues raised by SC6 NB (National Body) comments on IEEE Std 802.1Qbu-2016 and IEEE Std 802.1Qbv-2016. These responses were discussed in the Maintenance TG (Tuesday morning) and in the SC. The SC discussed the wider issue of responding to China NB comments (see minutes of the meeting). The IEEE Std 802.1Qbu-2016 and IEEE Std 802.1Qbv-2016 responses were approved by the 802.1 closing plenary.

#### **6. A.O.B.**

##### **6.1. 802.1 networks in the car**

There was a fruitful discussion on the use of 802.1 networks in the car, with Michael Potts providing information on the requirements and challenges, and Nancy Cam-Winget information on the various IETF activities that can use 802.1AR DevIDs to identify/authenticate/authorize components. Mick Seaman agreed to write up an approach that allowed both the authenticity of components and the location of their attachment to the car network to be verified.

#### **7. Future meeting/teleconference planning**

Teleconferences were scheduled for 19 April 2017 and 2 May 2017.

[Post meeting note: details for WebEx/teleconference dial in/draft agenda have been distributed to the 802.1 email exploder.]

The Security TG will discuss the ongoing projects during the May 2017 interim meeting in Stuttgart, Germany. The TG chair would start the process of engaging the 802.1 TSN TG during that meeting.

#### **Motions**

Motions reflecting Security Task Group conclusions were prepared for the 802.1 closing plenary and can be found in their final form following slide 60 in

<http://www.ieee802.org/1/files/public/minutes/2017-03-closing-plenary-slides.pdf>.

### **3.5 Time-Sensitive Networking**

The Time-Sensitive Networking (TSN) Task Group Chair, János Farkas presided. Craig Gunther wrote the minutes.

At the beginning of the meetings on Monday, Tuesday, Wednesday, and Thursday, János Farkas presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>, and made the Call for Potentially Essential Patents. There were no responses to the calls prior to the end of the week's session.

**Monday 13 March 2017 8:00 AM-6:00 PM**

Call to order: 13 March 2017, 8:00 AM

János Farkas presented the agenda for the TSN Task Group meeting week:

<http://ieee802.org/1/files/public/docs2017/admin-tsn-agenda-0317-v01.pdf>

**Disposition:** This agenda was approved.

Geoff Garner, P802.1AS-Rev editor, presented *802.1AS-Rev PAR Revision*

<http://www.ieee802.org/1/files/public/docs2017/as-garner-802-1AS-Rev-par-revision-0317.pdf>

**Disposition:** PAR modification.

Geoff Garner, P802.1AS-Rev editor, began resolving the comments received in the TG ballot on *P802.1AS-REV/D4.5*

<http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-5.pdf>

**Disposition:** Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-5-pdis-v1.pdf>.

Marina Gutiérrez presented *Proposal to Add YANG Model to IEEE 802.1AS-rev*

<http://www.ieee802.org/1/files/public/docs2017/as-gutierrez-yang-0317-v01.pdf>

**Disposition:** Supports ballot comment.

Rodney Cummings, P802.1Qcc editor, presented *802.1AS-rev: YANG Roadmap Proposal*

<http://ieee802.org/1/files/public/docs2017/as-cummings-yang-roadmap-proposal-0317-v0.pdf>

**Disposition:** Related to ongoing project, more discussion needed.

**Tuesday 14 March 2017 10:30 AM-6:00 PM**

Call to order: 14 March 2017, 10:30 AM

Marc Holness, P802.1Qcp editor, began resolving the comments received in the WG ballot on *P802.1Qcp/D1.0*

<http://www.ieee802.org/1/files/private/cp-drafts/d1/802-1Qcp-d1-0.pdf>

**Disposition:** Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cp-drafts/d1/802-1Qcp-d1-0-pdis-v01.pdf>.

Norman Finn, P802.1CB editor, led the resolution of comments received in the Sponsor recirculation ballot on *P802.1CB/D2.7*

<http://www.ieee802.org/1/files/private/cb-drafts/d2/802-1CB-d2-7.pdf>

- Christophe Mangin presented *Stream identification for untagged Industrial Automation traffics* <http://www.ieee802.org/1/files/public/docs2017/cb-mangin-stream-identification-for-untagged-ia-traffics-0317-v01.pdf> in support of comment #r01-3.

**Disposition:** Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cb-drafts/d2/802-1CB-D2-7-dis-v1.pdf>.

Stephan Kehrer presented *TSN Configuration Focusing on Network Management Protocols*

<http://ieee802.org/1/files/public/docs2017/cc-kehrer-TSN-Configuration-0317-v01.pdf>

**Disposition:** Proposes new work items; more discussion needed.

Rodney Cummings, P802.1Qcc editor, presented *P802.1Qcc/D1.2 Stream Reservation Protocol (SRP) Enhancements and Performance Improvements*

<http://www.ieee802.org/1/files/private/cc-drafts/d1/802-1Qcc-d1-2.pdf>

**Disposition:** Editor's update on ongoing project.

Jordon Woods presented *Use of Cut-Through for Industrial and Automotive Markets*  
<http://www.ieee802.org/1/files/public/docs2017/liaison-AVnuResponseCutthrhg-0313-v00.pdf>.

- This presentation accompanied the Avnu Alliance incoming liaison response (<http://www.ieee802.org/1/files/public/docs2017/liaison-AVnuResponseLetter-0313-v00.pdf>) to 802.1's 10 November 2016 outgoing liaison letter (<http://www.ieee802.org/1/files/public/docs2016/liaison-response-avnu-1116-v01.pdf>)

**Disposition:** Incoming liaison, further discussion needed

### **Wednesday 15 March 2017 8:00 AM-6:00 PM**

Call to order: 15 March 2017, 8:00 AM

Feng Chen presented *Link-local Registration Protocol (802.1CS) - Database and Synchronization* <http://iee802.org/1/files/public/docs2017/cs-chen-lrp-database-sync-0317-v01.pdf>.

**Disposition:** Related to ongoing project; more discussion needed

Norman Finn presented *Link Registry Protocol Options v2*  
<http://iee802.org/1/files/public/docs2017/cs-finn-link-registry-options-03-17-v02.pdf>.

**Disposition:** Related to ongoing project; more discussion needed

Roger Marks, P802c Editor, along with Pat Thaler led the resolution of comments received in the Sponsor ballot of *P802c/D2.0* <http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-d2-0.pdf>.

**Disposition:** Ballot comment resolution recorded in <http://iee802.org/1/files/private/802-c-drafts/d2/802c-D2-0-pdis-r2.xlsx>.

János Farkas, editor of P802.1CM, presented *P802.1CM – D0.6 Editor's Report*  
<http://iee802.org/1/files/public/docs2017/cm-farkas-editor-report-0317-v01.pdf>.

**Disposition:** updated to reflect comment resolution progress

<http://iee802.org/1/files/public/docs2017/cm-farkas-editor-report-0317-v02.pdf>

Tero Mustala presented the 3 March 2017 press release from CPRI Cooperation entitled "*Industry leaders confirm August release for the new CPRI Specification for 5G*"  
<http://www.cpri.info/press.html>.

**Disposition:** For information

Glenn Parsons presented the incoming MEF *Liaison on new project on Transport for 5G Mobile Networks* <http://www.ieee802.org/1/files/public/docs2017/liaison-MEF-L00258 Transport for 5G-0217.pdf>.

**Disposition:** Incoming liaison letter, for information

János Farkas began resolving comments received in the TG ballot on *P802.1CM/D0.6*  
<http://www.ieee802.org/1/files/private/cm-drafts/d0/802-1CM-d0-6.pdf>.

**Disposition:** Ballot comment resolution recorded in <http://iee802.org/1/files/private/cm-drafts/d0/802-1CM-d0-6-pdis-v01.pdf>

Steinar Bjørnstad presented *Bursts: Creation, impact and shaping*  
<http://iee802.org/1/files/public/docs2017/cm-bjornstad-burst-0317-v02.pdf>.

**Disposition:** Related to ongoing project; more discussion needed

Geoff Garner, P802.1AS-Rev editor, presented *Optional 1588 states not used in 802.1AS-Rev* <http://www.ieee802.org/1/files/public/docs2017/as-garner-optional-1588-states-not-used-in-as-rev-0217.pdf>. This was in regards to comment #10 on the P802.1AS-REV/D4.5 TG ballot.

**Disposition:** Supports ballot comment

Marc Holness, P802.1Qcp editor, continued the resolution of comments received in the WG ballot on P802.1Qcp/D1.0 <http://www.ieee802.org/1/files/private/cp-drafts/d1/802-1Qcp-d1-0.pdf>.

**Disposition:** Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cp-drafts/d1/802-1Qcp-d1-0-pdis-v01.pdf>.

Glenn Parsons presented the incoming MEF liaison letter on *Revision to MEF 38 - SOAM FM YANG Module* [http://www.ieee802.org/1/files/public/docs2017/liaison-MEF-L00259\\_MEF38-SOAMFMYANG\\_0317.pdf](http://www.ieee802.org/1/files/public/docs2017/liaison-MEF-L00259_MEF38-SOAMFMYANG_0317.pdf)

**Disposition:** Incoming liaison letter, response needed

Glenn Parsons presented the incoming MEF liaison letter on *Revision to MEF 39 - SOAM PM YANG Module* [http://www.ieee802.org/1/files/public/docs2017/liaison-MEF-L00260\\_MEF39-SOAMPMYANG\\_0317.pdf](http://www.ieee802.org/1/files/public/docs2017/liaison-MEF-L00260_MEF39-SOAMPMYANG_0317.pdf)

**Disposition:** Incoming liaison letter

Mick Seaman presented *Paternalist policing and scheduling*

<http://www.ieee802.org/1/files/public/docs2017/cr-seaman-paternalist-ppt-0317-v01.pdf>

introducing the corresponding note <http://www.ieee802.org/1/files/public/docs2017/cr-seaman-paternalist-policing-scheduling-0317-v03.pdf>.

**Disposition:** New proposal; more discussion needed

Johannes Specht, P802.1Qcr editor, gave an oral update on P802.1Qcr.

**Disposition:** Editor's update on ongoing project

Tim Godfrey presented *802.24 Utility Applications of Time Sensitive Networking White Paper on TSN - Vertical Applications TAG* <https://mentor.ieee.org/802.24/dcn/17/24-17-0006-00-sgtg-tsn-utility-applications-white-paper.docx>. There was a call for contributions to this white paper.

**Disposition:** Volunteers identified; more discussion needed

János Farkas mentioned a public call for papers related to TSN (see

<http://www.tsnconference.de/call-for-papers.html>) and showed the following public pages

<https://www.iiconsortium.org/time-sensitive-networks.htm> and

<https://www.iiconsortium.org/pdf/TSN-brochure-final.pdf> related to industrial applications of TSN.

Marc Holness, P802.1Qcp editor, continued the resolution of comments received in the WG ballot on P802.1Qcp/D1.0 <http://www.ieee802.org/1/files/private/cp-drafts/d1/802-1Qcp-d1-0.pdf>.

**Disposition:** Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cp-drafts/d1/802-1Qcp-d1-0-pdis-v01.pdf>.

**Thursday 16 March 2017 8:00 AM-12:30 PM**

Call to order: 16 March 2017, 8:00 AM

Geoff Garner, P802.1AS-Rev editor, presented a draft of the outgoing liaison letter to IEEE 1588 regarding information on PTP port states not used in IEEE 802.1AS

<http://www.ieee802.org/1/files/public/docs2017/liaison-1588-on-ptp-port-states-not-used-in-802-1as-0316-v01.pdf>

Jessy Rouyer presented a draft outgoing liaison response

<http://www.ieee802.org/1/files/public/docs2017/liaison-response-MEF-L00259-0317-v01.pdf> to the incoming liaison letter from MEF regarding MEF 38.1.

**Disposition:** Outgoing liaisons; motions will be proposed

János Farkas presented a draft of a proposed slide on TSN for presentation to the

Deterministic Ethernet Forum <http://iee802.org/1/files/public/docs2017/tsn-farkas-def-0317-v03.pptx>

**Disposition:** For communication from 802.1; motion will be proposed

Norman Finn presented a draft of the outgoing liaison letter to IETF regarding Private VLANs

<http://www.ieee802.org/1/files/public/docs2017/liaison-IETF-intarea-private-VLANs-0317-v01.pdf>

Norman Finn presented a draft of the outgoing liaison letter to IETF regarding Extended LLC

<http://www.ieee802.org/1/files/public/docs2017/liaison-IETF-isis-extended-llc-0317-v01.pdf>

János Farkas presented a draft of the outgoing liaison response

<http://www.ieee802.org/1/files/public/docs2017/liaison-response-avnu-0317-v01.pdf> to the incoming liaison letter from Avnu.

**Disposition:** Outgoing liaisons; motions will be proposed

János Farkas led the review of TSN motions, which can be found in their final form following slide 35 in <http://www.ieee802.org/1/files/public/minutes/2017-03-closing-plenary-slides.pdf>.

Marina Gutiérrez presented a draft PAR for a proposed 802.1AB amendment for a *YANG Data Model* <http://www.ieee802.org/1/files/public/docs2017/new-gutierrez-yang-for-AB-draft-PAR-0317-v01.pdf> and a corresponding draft CSD

<http://www.ieee802.org/1/files/public/docs2017/new-gutierrez-yang-for-AB-draft-CSD-0317-v01.pdf>.

**Disposition:** Proposes new project; more discussion needed

Marina Gutiérrez presented a draft PAR for a proposed 802.1Q amendment for *YANG Data Models for IEEE Std 802.1Qbv, IEEE Std 802.1Qbu and IEEE Std 802.1Qci*

<http://www.ieee802.org/1/files/public/docs2017/new-gutierrez-yang-for-Qbu-Qbv-Qci-draft-PAR-0317-v01.pdf> and a corresponding draft CSD

<http://www.ieee802.org/1/files/public/docs2017/new-gutierrez-yang-for-Qbu-Qbv-Qci-draft-CSD-0317-v01.pdf>.

**Disposition:** Proposes new project; more discussion needed

Mark Hantel presented *An Industrial Approach to TSN*

<http://iee802.org/1/files/public/docs2017/new-Hantel-AnIndustrialApproachToTSN-0317-v02.pdf>

**Disposition:** New proposal; more discussion needed

Geoff Garner, P802.1AS-Rev editor, continued Monday's comment resolution for TG ballot on *P802.1AS-REV/D4.5* <http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-5.pdf>.

**Disposition:** Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-5-pdis-v1.pdf>.

Stephen Haddock gave an oral update regarding *Link Aggregation Simulator* <http://www.ieee802.org/1/files/public/docs2017/ax-rev-haddock-link-agg-simulation-0117-v2.pptx>

**Disposition:** Update on simulator availability

## 4 802.1-802.15 joint meeting

Call to order: 14 March 2017 6:30PM

802.1 and 802.15 held a joint meeting to discuss topics of mutual interest. The 802.1 Chair, Glenn Parsons, and the 802.15 Chair, Pat Kinney, presided. The 802.1 Recording Secretary, Jessy Rouyer, wrote the minutes.

The 802.1 Chair made the Call for Potentially Essential Patents based on presentation of Slide #3 of the IEEE-SA PatCom Patent Slides for Standards Development Meetings <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>. There were no responses to the call prior to the end of the joint meeting.

The 802.1 Chair presented the agenda <http://www.802tsn.org/agenda>, which was tacitly approved.

Kenichi Maruhashi presented *QoS extension in dense and heterogeneous wireless networks for industry usage - Part 1: Motivation* <http://www.ieee802.org/1/files/public/docs2017/new-maruhashi-general-industrial-usage-part1-0317-v00.pdf>. Satoko Itaya presented *QoS extension in dense and heterogeneous wireless networks for industry usage - Part 2: Technical Aspects* <http://www.ieee802.org/1/files/public/docs2017/new-itaya-general-industrial-usage-part2-0317-v00.pdf>.

- It was clarified that a new project (if any) resulting from these two presentations would fall under the responsibility of IEEE 802.1.
- The 802.1 Chair conducted a Straw Poll on “*Do you agree that discussion on “QoS extension in dense and heterogenous wireless networks for industry usage is worth to a work item in IEEE802.1?”*”. The results were: 12 “YES”, 2 “NO”, 42 “Need more information”.

**Disposition:** Proposes new project; more discussion needed

Thomas Kürner showed slide1 of *Amendment to 802.1AC to include 802.15.3 MAC Entity* <https://mentor.ieee.org/802.15/dcn/16/15-16-0842-00-003m-802-1ac-amendment-for-802-15-3.pdf> then led the review of the draft *Amendment to IEEE Standard 802.1AC-2016 PAR* <https://mentor.ieee.org/802.15/dcn/17/15-17-0199-02-003d-draft-par-for-801-1ac-amendment.docx> and of the draft *CSD* <https://mentor.ieee.org/802.15/dcn/17/15-17-0198-02-003d-draft-csd-for-801-1ac-amendment.docx>

**Disposition:** Proposes new project; motions will be proposed in 802.1 and 802.15 to initiate project work under P802.1ACct; draft PAR <https://mentor.ieee.org/802.15/dcn/17/15-17-0199-03-003d-draft-par-for-801-1ac-amendment.docx> and CSD <https://mentor.ieee.org/802.15/dcn/17/15-17-0198-03-003d-draft-csd-for-801-1ac-amendment.docx> were updated post-meeting to reflect discussion

There was no other business to discuss and the joint meeting was adjourned at 8:00 PM.

## 5 Closing Plenary Meeting

Call to order: 16 March 2017, 1:33 PM.

The 802.1 Chair, Glenn Parsons, presided.

The 802.1 Recording Secretary, Jessy Rouyer, wrote the minutes.

The Chair presented the *802.1 Closing Plenary* slides available at

<http://www.ieee802.org/1/files/public/minutes/2017-03-closing-plenary-slides.pdf>.

During this presentation, the Chair:

- Showed the agenda on slide 2, which was tacitly approved.
- Showed slides 3 through 7 (reproducing slides 0 through 4 of the IEEE-SA PatCom Patent Slides for Standards Development Meetings, separately available at <http://standards.ieee.org/about/sasb/patcom/materials.html>):
  - The Chair made the “Call for Potentially Essential Patents”. There were no responses to the call.
- Showed the 802.1 Officers (slide 8).
  - Paul Unbehagen gave an oral update to encourage membership feedback regarding the update of the 802.1 website.
- Reviewed the list of 802.1 voting members, including information about individuals who will lose, have gained or may have gained 802.1 voting membership at this meeting as well as three individuals who volunteered to relinquish their voting member status and will become observer participants (slides 9 through 14).
- Reviewed the schedule for future 802.1 interim meetings (slide 15):
  - May 15-18, 2017 meeting in Stuttgart, Germany:  
<http://www.ieee802.org/1/files/public/docs2017/admin-kehrer-Stuttgart-interim-0317-v02.pdf>
    - Stephan Kehrer gave an oral update
  - September 5-8, 2017 in St. John, Newfoundland, Canada:  
<http://www.ieee802.org/1/files/public/docs2016/admin-parsons-nfld-proposal-1116.pdf>
    - The 802.1 Chair gave an oral update
  - January 22-26, 2018 proposed in Geneva, Switzerland:  
[http://www.ieee802.org/1/files/public/docs2017/admin-trowbridge-802d1%2B802d3-interim-jan-2018\\_0317.pdf](http://www.ieee802.org/1/files/public/docs2017/admin-trowbridge-802d1%2B802d3-interim-jan-2018_0317.pdf) or with 802 Wireless in Irvine, CA, USA
    - Possible alternative: 802 Wireless in Irvine, CA; 14-19 January 2018; \$450 fee
    - The 802.1 Chair conducted a Straw Poll (slide 16) on “Would you prefer January 2018 interim in
      - January 22-26 - Geneva with 802.3
      - January 14-19 - Irvine with 802.11/15?”Results were Geneva: 21, Irvine: 20.
  - May 2018 (dates and location to be defined) hosted by Ethernet Alliance.
  - September 10-13, 2018 in Oslo, Norway:  
<http://www.ieee802.org/1/files/public/docs2017/admin-fontaine-oslo-proposal-0317-v02.pdf>



- Reviewed the schedule for future 802.1 plenary meetings (slide 17).
  - July 9-14, 2017 – Berlin, Germany (Estrel)
  - November 5-10, 2017 – Orlando, FL, USA (Caribe Royale)
  - March 4-9, 2018 – Chicago, IL, USA (Hyatt Regency O'Hare)
  - July 9-13, 2018 – San Diego, CA, USA (Manchester Grand Hyatt)
  - November 12-16, 2018 – Suzhou, China
  - March 2019 – Vancouver, BC, Canada vs. Denver, CO, USA
- Reviewed the current WG's work load: 21 active projects, including in-progress PARs (slide 18).
- Requested presentations of the reports on 802 Standing Committees (slide 19):
  - Patricia Thaler reported on the IETF SC
    - Joint coordination meeting after next plenary
  - John Messenger reported on the JTC1 SC: <https://mentor.ieee.org/802.11/dcn/17/11-17-0252-07-0jtc-agenda-for-mar-2017-in-vancouver.pptx>
  - The 802.1 Chair reported on the ITU SC: <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0030-01-INTL-itu-standing-committee-agenda-mar-2017.pdf>
- Reported on the 802 TF (slide 20):
  - IEEE-SA marketing support
    - Press releases, eBlasts and collateral
  - Public statements
    - Input to regulators or input to public review
  - myProject (including IMAT & Mentor, WG balloting) replacement
    - Indeterminate delay
  - 802.11ax corrective action
    - Summary of observations for IEEE-SASB
    - Develop guidelines on outside consensus building & detecting aberrant behavior
  - IEEE-SA staff support
    - Program: Jonathan Goldberg & Kathryn Bennett
    - Editors: Michelle Turner
    - International: Jodi Haasz
- Requested the 802.1 TG Chairs to provide reports on the activities of their TGs (slide 21; see individual TG minutes above for details):
  - Mick Seaman gave an oral update of Security TG progress.
  - Patricia Thaler presented DCB TG progress (slide 22).
  - János Farkas gave an oral update of TSN TG progress.
  - Maximilian Riegel presented OmniRAN TG progress (slide 23-28).
  - John Messenger presented Maintenance TG progress  
<http://www.ieee802.org/1/files/public/docs2017/maint-messenger-closing-0317-v1.pdf>
- Led the review of draft outgoing liaisons (slide 29), some of which were in response to incoming liaisons (slide 30):
  - Geoff Garner presented a draft of the outgoing liaison 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>
  - Norman Finn presented drafts of the outgoing liaisons to the IETF IS-IS WG  
<http://www.ieee802.org/1/files/public/docs2017/liaison-IETF-isis-extended-llc-0317-v01.pdf> and to the IETF IntArea WG  
<http://www.ieee802.org/1/files/public/docs2017/liaison-IETF-intarea-private-VLANs-0317-v01.pdf>
  - Janos Farkas presented a draft of the outgoing liaison response to the Avnu Alliance  
<http://www.ieee802.org/1/files/public/docs2017/liaison-response-avnu-0317-v01.pdf>

- Jessy Rouyer presented a draft of the outgoing liaison response <http://www.ieee802.org/1/files/public/docs2017/liaison-response-MEF-L00259-0317-v01.pdf> to the MEF liaison L00259 on MEF 38 - SOAM FM YANG
- Janos Farkas presented a draft of a presentation marketing TSN <http://www.ieee802.org/1/files/public/docs2017/tsn-farkas-def-0317-v03.pptx>
- Conducted votes on the following motions:
  - Administrative motions:
    - 802.1 approves the November 2016 (Plenary) and January 2017 (Interim) minutes: <http://ieeee802.org/1/files/public/minutes/2016-11-minutes.pdf>  
<http://ieeee802.org/1/files/public/minutes/2017-01-minutes.pdf>  
Proposed: Jessy Rouyer Seconded: John Messenger  
Approved by Acclamation
    - 802.1 approves to hold an interim January 23-26, 2018 at [ITU](http://www.itu.int) Headquarters in Geneva, Switzerland  
Proposed: Norm Finn Seconded: Jordan Woods  
Approved Y 19 N 5 A 4
    - 802.1 approves to hold an interim September 10-13, 2018 in Oslo, Norway, hosted by Transpacket as detailed in: <http://www.ieee802.org/1/files/public/docs2017/admin-fontaine-oslo-proposal-0317-v02.pdf>  
Proposed: Steinar Bjornstad Seconded: John Messenger  
Approved Y 26 N 0 A 2
  - TSN motions:
    - 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
    - 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
    - 802.1 authorizes the May 2017 Interim to generate a PAR extension and update CSD, if necessary, for pre-circulation to the EC for P802.1Qcc SRP Enhancements and Performance Improvements.  
Proposed: Rodney Cummings  
Second: János Farkas  
Approved (y/n/a): 33, 0, 0

- 802.1 authorizes the May 2017 Interim to generate a PAR modification and CSD update, if necessary, for pre-circulation to the EC for P802.1AS-REV Timing and Synchronisation for Time-Sensitive Applications – Revision.  
Proposed: Geoffrey Garner  
Second: János Farkas  
Approved (y/n/a): 35, 0, 0
- Motion to reconsider  
Proposed: Don Pannell  
Second: John Messenger  
Approved (y/n/a): 14, 3, 13
  - 802.1 authorizes the May 2017 Interim to generate a PAR modification to add managed objects to the scope and update CSD, if necessary, for pre-circulation to the EC for P802.1AS-REV Timing and Synchronisation for Time-Sensitive Applications – Revision.  
Proposed: Geoffrey Garner  
Second: János Farkas  
Approved (y/n/a): 30, 0, 1
- 802.1 authorizes the May 2017 Interim to generate PAR and CSD for pre-circulation to the EC for an amendment to IEEE 802.1AB to specify YANG modules.  
Proposed: Marina Gutiérrez  
Second: János Farkas  
Approved (y/n/a): 34, 0, 0
- 802.1 authorizes the May 2017 Interim to generate PAR and CSD for pre-circulation to the EC for one or more amendments to IEEE 802.1Q to specify YANG modules.  
Proposed: Marina Gutiérrez  
Second: János Farkas  
Approved (y/n/a): 34, 0, 0
- 802.1 authorizes the May 2017 Interim to generate PAR and CSD for pre-circulation to the EC for an amendment to IEEE 802.1CB covering YANG and MIB modules and additional stream identification methods.  
Proposed: Stephan Kehrer  
Second: János Farkas  
Approved (y/n/a): 24, 3, 4
- 802.1 authorizes Marc Holness, the Editor of P802.1Qcp, YANG Data Model, to prepare drafts for and conduct Working Group balloting.  
Proposed: John Messenger  
Second: János Farkas  
Approved (y/n/a): 31, 0, 0
- 802.1 authorizes Geoffrey Garner, the Editor of P802.1AS-REV, Timing and Synchronisation for Time-Sensitive Applications – Revision, to prepare drafts for and conduct Working Group balloting.  
Proposed: Geoffrey Garner  
Second: János Farkas  
Approved (y/n/a): 34, 0, 0
- 802.1 authorizes Paul Unbehagen, the Editor of P802.1Qcj, Automatic Attachment to Provider Backbone Bridging (PBB) services, to prepare drafts for and conduct Task Group balloting.  
Proposed: Paul Unbehagen  
Second: János Farkas  
Approved (y/n/a): 32, 0, 0

- 802.1 authorizes Johannes Specht, the Editor of P802.1Qcr, Asynchronous Traffic Shaping, to prepare drafts for and conduct Task Group balloting.  
Proposed: Johannes Specht  
Second: János Farkas  
Approved (y/n/a): 29, 0, 0
- 802.1 authorizes Stephen Haddock and Jessy Rouyer, the Editors of P802.1AX-Rev, Link Aggregation – Revision, to prepare drafts for and conduct Task Group balloting.  
Proposed: Stephen Haddock  
Second: János Farkas  
Approved (y/n/a): 29, 0, 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
- 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
- 802.1 approves the liaison letter to the IETF IS-IS WG  
<http://www.ieee802.org/1/files/public/docs2017/liaison-IETF-isis-extended-llc-0317-v01.pdf>  
Proposed: János Farkas  
Second: Stephen Haddock  
Approved (y/n/a): 26, 0, 0
- 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
- 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
- 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

- The TSN TG will continue to have virtual conferences weekly on Mondays from 8AM (US-Pacific) to 10AM (US-Pacific) to discuss TSN projects and matters arising.  
Access information is posted on the <http://www.ieee802.org/1/pages/tsn.html> page and will be updated as necessary.  
Proposed: János Farkas  
Second: Craig Gunther  
Approved by Acclamation
- 802.1 resolves to hold pre-meeting(s) on the Monday morning of the July 2017 Plenary session for TSN.  
Proposed: János Farkas  
Second: Craig Gunther  
Approved by Acclamation
- Security motions:
  - Withdraw the P802.1ARce PAR  
WG vote  
Proposed: Seaman Second: Messenger  
For: 26 Against: 0 Abstain: 0  
Approved
  - Approve forwarding P802.1AE-Rev PAR documentation in <http://www.ieee802.org/1/files/public/docs2017/ae-seaman-rev-draft-par-0317-v02.pdf> to Nescom  
WG vote  
Proposed: Seaman Second: Messenger  
For: 24 Against: 0 Abstain: 0  
Approved
  - 802.1 authorizes the editor of P802.1AE-Rev, Mick Seaman, to prepare drafts for Working Group balloting following approval of the PAR.  
WG vote  
Proposed: Seaman Second: Messenger  
For: 26 Against: 0 Abstain: 0  
Approved
  - 802.1 authorizes the editor of P802E, Jerome Henry, to prepare drafts for and conduct Task Group balloting.  
WG vote  
Proposed: Seaman Second: Messenger  
For: 25 Against: 0 Abstain: 0  
Approved
  - 802.1 authorizes the Security Task Group to hold teleconferences to progress P802.1AR- Rev, P802.1AE-Rev, P802.1Xck, P802E and task group matters arising:  
– Dates/times to be announced subject to notice of at least 10 days to the 802.1 email exploder  
Proposed: Seaman Second: Messenger  
Approved by acclamation

- DCB motions
  - 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  
<http://www.ieee802.org/1/files/private/802-c-drafts/d2/802c-D2-0-dis-r2.xlsx>  
<http://www.ieee802.org/1/files/public/docs2017/802c-conditional-revcom.pdf>  
for supporting documentation  
In the WG,  
Move: Pat Thaler      Second:      Max Riegel  
Approved (y/n/a):      23, 0 , 1
  - 802.1 authorizes the DCB Task Group to hold a virtual conference to be scheduled the week of 10 April 2017 for comment resolution of P802c Sponsor ballot recirculation.  
– Date/time to be announced subject to notice of at least 10 days to the 802.1 email exploder  
Proposed: Pat Thaler      Second:      Max Riegel  
Approved by Acclamation
- OmniRAN motions:
  - 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
  - Approve OmniRAN TG conference calls:  
April 11th, 09:30 AM ET, 90mins  
May 2nd , 09:30 AM ET, 90mins  
Between the May 2017 interim and the July 2017 plenary with at least 10 days prior notice to the 802.1 mailing list.  
Agenda and call-in details will be announced at least 10 days prior on the 802.1 mailing list and be made available on <https://mentor.ieee.org/omniran/bp/StartPage>  
Moved: Max Riegel  
Second: Hao Wang  
Approved by acclamation
- Maintenance motions:
  - Authorize Maintenance TG to hold teleconferences on 2nd May and 27th June 2017 at 11am EST if necessary to discuss maintenance items and other matters arising.  
Access information will be posted to the 802.1 reflector in advance.  
Proposed:      Messenger      Second: Rouyer  
Approved by Acclamation

- Approve forwarding P802.1ACct PAR documentation in <https://mentor.ieee.org/802.15/dcn/17/15-17-0199-03-003d-draft-par-for-801-1ac-amendment.docx> to NesCom  
Approve CSD documentation in <https://mentor.ieee.org/802.15/dcn/17/15-17-0198-03-003d-draft-csd-for-801-1ac-amendment.docx>  
Approve precirculation of the PAR and CSD to EC.  
Proposed: Messenger Second: Rouyer  
For\_15\_Against\_0\_\_Abstain\_\_0\_\_  
Approved  
Note: this will be precirculated to the EC following this meeting.
- Conditionally approve forwarding P802.1Q-Rev/D2.0 to Sponsor Ballot.  
Proposed: Messenger Second: Rouyer  
For\_\_\_16\_\_\_Against\_\_\_\_\_0\_Abstain\_\_0\_  
Approved
- 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
- 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 publicationConditional on publication of approved standard.  
Proposed: Messenger Second: Rouyer  
For\_\_17\_\_\_Against\_0\_\_Abstain\_\_0\_\_  
Approved
- Approve liaison of the following draft(s) to ISO/IEC JTC1/SC6 for information under the PSDO agreement:
  - P802c/D2.1
  - P802.1Q-Rev/D2.0Proposed: Messenger Second: Rouyer  
For\_\_\_17\_\_\_Against\_\_\_\_\_0\_Abstain\_\_0\_  
Approved

There was no other business to discuss and the closing plenary meeting was adjourned at 6:21 PM.

## 6 Next meeting

15-18 May 2017, Stuttgart, Germany