

IEEE 802.1 Working Group

July 15-19, 2019 Plenary Session

Vienna, Austria

Session Minutes

The acting Working Group (WG) Chair, John Messenger, presided.
 The 802.1 Recording Secretary, Jessy Rouyer, wrote the minutes in part based on input from sub group Chairs and their Secretaries.

1 Attendance and affiliation

			TSN TG + IEC/IEEE 60802 Joint Project (Friday, 19-Jul-2019, 13:00 - 18:00)																			
			TSN TG + IEC/IEEE 60802 Joint Project (Friday, 19-Jul-2019, 08:30 - 12:00)																			
			Closing Plenary (Thursday, 18-Jul-2019, 13:30 - 18:00)																			
			TSN TG (Thursday, 18-Jul-2019, 08:00 - 12:30)																			
			IEC/IEEE 60802 Joint Project (Thursday, 18-Jul-2019, 08:00 - 12:30)																			
			Nendica (Thursday, 18-Jul-2019, 08:00 - 10:00)																			
			Security TG (Wednesday, 17-Jul-2019, 13:30 - 18:00)																			
			TSN TG (Wednesday, 17-Jul-2019, 13:30 - 18:00)																			
			IEC/IEEE 60802 Joint Project (Wednesday, 17-Jul-2019, 13:30 - 18:00)																			
			TSN TG (Wednesday, 17-Jul-2019, 10:30 - 12:30)																			
			IEC/IEEE 60802 Joint Project (Wednesday, 17-Jul-2019, 10:30 - 12:30)																			
			Security TG (Wednesday, 17-Jul-2019, 09:00 - 12:30)																			
			TSN TG + IEC/IEEE 60802 Joint Project (Wednesday, 17-Jul-2019, 08:00 - 10:00)																			
			TGbe - EHT - Joint Meeting with 802.1 TSN (Tuesday, 16-Jul-2019, 19:30 - 21:30)																			
			Security TG (Tuesday, 16-Jul-2019, 13:30 - 18:00)																			
			TSN TG (Tuesday, 16-Jul-2019, 13:30 - 18:00)																			
			Security TG (Tuesday, 16-Jul-2019, 10:30 - 12:30)																			
			TSN TG (Tuesday, 16-Jul-2019, 10:30 - 12:30)																			
			Nendica (Monday, 15-Jul-2019, 19:30 - 21:30)																			
			YANGsters (Monday, 15-Jul-2019, 18:00 - 19:30)																			
			Security TG (Monday, 15-Jul-2019, 13:30 - 18:00)																			
			TSN TG (Monday, 15-Jul-2019, 13:30 - 18:00)																			
			Opening Plenary (Monday, 15-Jul-2019, 10:30 - 12:30)																			
			TSN TG (Monday, 15-Jul-2019, 08:00 - 10:00)																			
Last Name	First Name	Affiliation																				
ADEMAJ	Astrit	TTTech Computertechnik AG
Andersdotter	Amelia	Article 19
Anderson	Ben	U.S. Federal Government
Arokkiam	Jerome	OSRAM GmbH
Avrillon	Matthieu	Luceor
Beecroft	Jon	Cray Inc
Belliardi	Rudy	Schneider Electric; IEC TC 65
Bernhard	Hans-Peter	Silicon Austria Labs SAL
Bierschenk	Jens	Robert Bosch GmbH
Bims	Harry	Bims Laboratories, Inc.
Boiger	Christian	b-plus GmbH
Bottorff	Paul	Hewlett-Packard Development Company, L.P.
Canchi	Radhakrishna	Kyocera International Inc.
Chandran	Sarin	Broadcom Corporation
Chang	Xin	Huawei Technologies Co. Ltd
Chen	David	Nokia
Chen	Feng	Siemens AG
Chen	Lihao	Huawei Technologies Co. Ltd
Choi	Eunmin	Daegu Gyeongbuk Institute of Science and Technology (DGIST)

IEEE 802.1 July 15-19, 2019 Plenary in Vienna, Austria

TSN TG + IEC/IEEE 60802 Joint Project (Friday, 19-Jul-2019, 13:00 - 18:00)												
TSN TG + IEC/IEEE 60802 Joint Project (Friday, 19-Jul-2019, 08:30 - 12:00)												
Closing Plenary (Thursday, 18-Jul-2019, 13:30 - 18:00)												
TSN TG (Thursday, 18-Jul-2019, 08:00 - 12:30)												
IEC/IEEE 60802 Joint Project (Thursday, 18-Jul-2019, 08:00 - 12:30)												
Nendica (Thursday, 18-Jul-2019, 08:00 - 10:00)												
Security TG (Wednesday, 17-Jul-2019, 13:30 - 18:00)												
TSN TG (Wednesday, 17-Jul-2019, 13:30 - 18:00)												
IEC/IEEE 60802 Joint Project (Wednesday, 17-Jul-2019, 13:30 - 18:00)												
TSN TG (Wednesday, 17-Jul-2019, 10:30 - 12:30)												
IEC/IEEE 60802 Joint Project (Wednesday, 17-Jul-2019, 10:30 - 12:30)												
Security TG (Wednesday, 17-Jul-2019, 09:00 - 12:30)												
TSN TG + IEC/IEEE 60802 Joint Project (Wednesday, 17-Jul-2019, 08:00 - 10:00)												
TGbe - EHT - Joint Meeting with 802.1 TSN (Tuesday, 16-Jul-2019, 19:30 - 21:30)												
Security TG (Tuesday, 16-Jul-2019, 13:30 - 18:00)												
TSN TG (Tuesday, 16-Jul-2019, 13:30 - 18:00)												
Security TG (Tuesday, 16-Jul-2019, 10:30 - 12:30)												
TSN TG (Tuesday, 16-Jul-2019, 10:30 - 12:30)												
Nendica (Monday, 15-Jul-2019, 19:30 - 21:30)												
YANGsters (Monday, 15-Jul-2019, 18:00 - 19:30)												
Security TG (Monday, 15-Jul-2019, 13:30 - 18:00)												
TSN TG (Monday, 15-Jul-2019, 13:30 - 18:00)												
Opening Plenary (Monday, 15-Jul-2019, 10:30 - 12:30)												
TSN TG (Monday, 15-Jul-2019, 08:00 - 10:00)												
Last Name	First Name	Affiliation										
Kim	Yongbum	NIO		*								*
Kojima	Fumihide	National Institute of Information and Communications Technology (NICT)		*	*			*				
KONDO	Kenji	Yaskawa Electric Corp	*	*	*			*	*	*	*	*
KOTO	Hajime	National Institute of Information and Communications Technology (NICT)	*	*	*	*	*	*	*	*	*	*
Landsman	David	Western Digital Corporation	*	*	*							*
Lawlis	James	Ford Motor Company	*	*	*	*	*	*	*	*	*	*
Lehment	Nicolas	NXP Semiconductors	*	*	*	*	*	*	*	*	*	*
Lo	William	Axone Inc.										*
Lu	Yuchun	HUAWEI	*									
Lv	Lily	Huawei Technologies Co. Ltd		*								
Mangin	Christophe	Mitsubishi Electric Corporation	*	*	*	*	*	*	*	*	*	*
Mansfield	Scott	Telefon AB LM Ericsson	*	*	*	*	*	*	*	*	*	*
Marks	Roger	EthAirNet Associates; Huawei	*	*	*					*		
Maruhashi	Kenichi	NEC Corporation	*	*	*	*	*	*	*	*	*	*
McCall	David	Intel	*	*	*	*	*	*	*	*	*	*
McMillan	Larry	Western Digital Corporation	*	*	*	*	*	*	*	*	*	*
Messenger	John	ADVA Optical Networking Ltd.	*	*	*	*	*	*	*	*	*	*
Miao	xinyu	China Academy of Information and Communications Technology (China Academy of TeleCommunication Research, MIIT) CAICT (CATR)	*	*	*	*	*	*	*	*	*	*
Mueller	Sina	Hirschmann Automation and Control, Inc.	*	*	*	*	*	*	*	*	*	*
Mustala	Tero	Nokia	*	*	*	*	*	*	*	*	*	*
Myers	Roy	INDEPENDENT	*	*	*	*	*	*	*	*	*	*
Nakano	Hiroki	NETREQS Co., Ltd.	*	*	*	*	*	*	*	*	*	*
Natarajan	Sriram	Cisco Systems, Inc.	*	*	*	*	*	*	*	*	*	*
Nomura	Takumi	JASAPAR; NEC Communication Systems, Ltd.									*	*
Nosworthy	Bob	University of New Hampshire InterOperability Laboratory (UNH-IOL)	*	*	*	*	*	*	*	*	*	*
Ohsawa	Tomoki	NICT	*	*	*	*	*	*	*	*	*	*
ohue	hiroshi	panasonic	*	*	*	*	*	*	*	*	*	*
Osagawa	Daisuke	Mitsubishi Electric Corporation		*	*	*	*	*	*	*	*	*
Pannell	Donald	NXP Semiconductors	*	*	*	*	*	*	*	*	*	*
Parmar	Hari	Marvell Semiconductor, Inc.	*	*	*	*	*	*	*	*	*	*
Petre	Razvan	Spirent Communications	*	*	*	*	*	*	*	*	*	*
Potts	Michael	General Motors Company	*	*	*	*	*	*	*	*	*	*
Proell	Dieter	Siemens AG	*	*	*	*	*	*	*	*	*	*
QUU	WEI	Huawei Technologies Co., Ltd	*	*	*	*	*	*	*	*	*	*
Regev	Alon	Keysight Technologies	*	*	*	*	*	*	*	*	*	*

3 Opening Plenary Meeting

Monday March 11, 2019

10:45 AM (call to order by the acting Chair)

The Vice-Chair, John Messenger, presided as acting Chair.
The Recording Secretary, Jessy Rouyer, wrote the minutes.

The acting Chair presented the *Opening Agenda* slides finalized as <http://www.ieee802.org/1/files/public/minutes/2019-07-opening-plenary-slides.pdf>.

During this presentation, the acting Chair:

- Introduced the agenda on slide 2. The agenda was approved.
- Presented slides 3 through 7 (including reproduced 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 acting Chair:

- Presented information on these slides including:
 - Instructions for the WG Chair (and sub group Chairs);
 - Participants' duty to inform the IEEE;
 - Ways to inform IEEE;
 - Other guidelines for IEEE WG meetings; and
 - Patent-related information.
- Advised WG attendees that:
 - 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 IEEE is not aware. Additionally, neither 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 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);
 - The acting Chair called for any members of the press (i.e., anyone reporting publicly on this meeting) to announce their presence.
 - There were no responses to the call.
 - Participation in IEEE 802 meetings on an individual basis (slide 10);
 - Hotel and meeting room security (slide 11);

- General information on 802.1 (slide 12), including information on 802.1 newcomers orientation available at <http://www.ieee802.org/1/files/public/docs2018/tsn-farkas-intro-0318-v01.pdf>, 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 session minutes and schedule, and how to report meeting attendance;
- Session logistics (slide 13) including the following counts:
 - Friday morning break: 41
 - Friday lunch: 39
 - Friday afternoon break: 28
- Introduced 802.1 officers and provided 802.1 website information (slide 14).
- Thanked Max Riegel, as former OmniRAN TG Chair, and the TG participants, noting the work of the TG on P802.1CQ has been transferred to the TSN TG and that, consequently to the pre-meeting resignation of the former OmniRAN TG Chair, the acting Chair is closing the OmniRAN TG (slide 15).
 - The former OmniRAN TG Chair received a round of applause.
- Reminded 802.1 voting members of their obligations and of the consequences of not meeting these obligations by not following ballot instructions (slide 16).
- Reviewed the list of 802.1 voters (slide 17), including information about individuals who have lost (slide 18), will lose (slide 19), may gain (slides 20 and 21) or lose (slide 22) 802.1 voting membership.
- Reminded individual participants of 802.11 reciprocal credit, which was continued at this meeting (slide 23).
- Provided an update on the 802.1 website at <http://1.ieee802.org> (slide 24).
- Reviewed the schedule for future interim sessions (slide 25):
 - September 16-20, 2019 in Edinburgh, UK
 - September 23, 2019 in Detroit, MI, USA
 - January 20-24, 2020 (workshop January 25) in Geneva, Switzerland
 - May 18-20, 2020 in North America
 - September 21-25, 2020 in Stuttgart, Germany (to be confirmed)
 - Stephan Kehrer presented *IEEE 802.1 Interim meeting proposal Stuttgart, Germany* <http://www.ieee802.org/1/files/public/docs2019/admin-kehrer-sep2020-interim-proposal-0719-v01.pdf>.
 - The acting Chair conducted the following straw polls:
 - Who would attend this session if held the week of September 21st in Stuttgart? 57
 - Who would not attend this session if held the week of September 21st in Stuttgart? 0
 - The acting Chair indicated 802.1 would vote whether to authorize this interim session at its November 2019 closing plenary meeting.
- Reviewed information on the January 2020 interim session and workshop to be held in Geneva, Switzerland (slides 26-27).
- Reviewed the schedule for future plenary sessions (slide 28):
 - November 10-15, 2019 in Waikoloa, HI, USA
 - March 15-20, 2020 in Atlanta, GA, USA
 - July 12-17, 2020 in Montreal, QC, Canada
 - November 8-13, 2020 in Bangkok, Thailand
 - March 14-19, 2021 in Denver, CO, USA
 - July 11-16, 2021 in Madrid, Spain (to be confirmed)
 - November 14-19, 2021 in Vancouver, Canada

- Reported the following items out of the 802 Executive Committee (EC) executive session (slide 29):
 - SA staff are available – Tom Thompson is our staff contact this week, Jodi Haasz long term
 - 802 Task Force (Thurs 10:30-12:30 – Room 0.51)
 - IEEE SA Tools update
 - Web conferencing
 - Bulk Framemaker licenses
 - P&P, OM, WG & CG change proposals
 - Update Standard Committee P&P
 - Update WG P&P
 - Venues ([EC-16-66-08](#))
 - No big changes
 - Treasurer ([EC-19-116](#))
 - Reserves \$1.2m, rising slowly
 - This meeting: 732 registrations, 724 paid (so far), anticipate \$280k loss.
- Provided a status update on myProject (slide 30).
- Reviewed the list of 802 EC meetings to be held this week (slide 31).
- Provided and discussed an update on the IEEE Open Source offering (slide 32).
- Provided information about public review (slide 33) and about the following email ballots (ePoll) since the last plenary session (slide 34):
 - None.
- Pointed out PARs, PAR extensions, and CSDs that were up for vote at this IEEE 802 plenary session (slides 35-36).
- Introduced the 802 Industry Connections activity (slide 37) and the Monday tutorials (none) at this 802 plenary session (slide 38).
- Reviewed the list of liaisons within 802 (joint and standing committee meetings, YANGsters) for which meetings were to be held during this 802 plenary session (slide 39).
- Reviewed the list of liaisons incoming to 802.1 to be handled by the TSN TG and YANGsters (slide 40).
- Provided the anticipation of next actions with respect to projects in the WG's current workload (slide 42 – skipping slide 41 that does not exist) and discussed promotion of the work of the WG (slide 43).
- Provided an overview of the various IEEE-SA Awards, encouraging nominations (slide 44).
- Noted that Standards Project Awards are being prepared (slide 45).
- Summarized the list of anticipated motions for EC Consent Agenda (slides 46-47).
- Showed the 802.1 plenary schedule/agenda for this session, which was tacitly approved (slide 48).
- Listed 802.1 Management meetings (slide 49).
- Requested that the sub group agendas be presented (slide 50):
 - The YANGsters Chair, Scott Mansfield, presented the agenda on slide 51
 - The Security TG Chair, Mick Seaman, presented the agenda on slide 52.
 - The TSN TG Chair, János Farkas, and the IEC/IEEE 60802 Joint Project Chair, Ludwig Winkel, presented the agenda on slide 53.
 - The Maintenance TG Chair, Paul Congdon, presented the agenda on slide 54.
 - The Nendica Chair, Roger Marks, presented the agenda on slide 55.
- Called for Any Other Business (slide 56).
 - No further business was discussed in this meeting.

12:37 PM adjournment

4 Maintenance Task Group

Minutes of TG conference calls are available at <https://1.ieee802.org/maintenance/>.

Tuesday 16 July 2019

8:00 AM call to order by the TG Chair

The Maintenance Task Group Chair, Paul Congdon, presided and wrote the minutes.

At the beginning of the meeting the TG Chair presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings

<https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>, the IEEE 802 Participation slide <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0093-05-0PNP-ieee-802-participation-slide-ppt.ppt>, and made the Call for Potentially Essential Patents. There were no responses to the call prior to the end of the meeting.

The TG Chair:

- Introduced the agenda per *Maintenance Task Group Meeting July 16, 2019 Agenda* in <http://www.ieee802.org/1/files/public/docs2019/maint-congdon-session-0719-v01.pdf> that was approved.
- Presented *Document Vehicles - Status Update* in <http://www.ieee802.org/1/files/public/docs2019/maint-congdon-session-0719-v01.pdf>.
- Led the discussion of open and new maintenance items.
 - 0205 - Include regional Navigation satellite systems into IEEE Std 802.1CM
 - 0211 - AdminCycleTime and Interval max values
 - 0223 - Maintenance Request: IEEE8021-SRP-MIB inappropriate SYNTAX for ieee8021SrpStreamDataFramePriority
 - 0224 - Clarify whether frame ends on last bit or after the inter-packet gap and preamble
 - 0225 - Addendum to Maintenance Request 0223: IEEE8021-SRP-MIB inappropriate SYNTAX for ieee8021SrpStreamDataFramePriority
 - 0226 - 802.1CB Active Destination MAC and VLAN Stream identification
 - 0227 - 802.1CB Required stream identification methods
 - 0228 - 802.1AE-2018 incorrect text in Figure 9-4
 - 0229 - 802.1CB IP Stream identification
 - 0230 - 802.1Qcp-2018 maintenance: Incorrect traffic-class-table-grouping

Disposition: Details for discussion on all new items were logged in the IEEE 802.1 Maintenance database at <https://www.802-1.org/home> where items progressed at the meeting can be reviewed by selecting 'Meetings'.

- Led the review of the JTC1/SC6 pre-ballot responses for IEEE 802.1AE and IEEE 802.1Xck in:
 - http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResp1AE-0719_v02.pdf
 - <http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResponse8021Xck-v00.pdf>

Disposition: The Security TG made minor editorial corrections to the responses in:

- <http://ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResp1AE-0719-v03.pdf>
- <http://ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResponse1Xck-0719-v01.pdf>

A motion to send edited responses will be made at the 802.1 closing plenary.

- Led the review of the status of standards in the SC6 engagement and PSDO process. The current status of 802.1 documents using the PSDO process for international standardization was reviewed. The status slides are part of the maintenance meeting material at <http://www.ieee802.org/1/files/public/docs2019/maint-congdon-session-0719-v01.pdf>.

Roger Marks presented *What are EPD and LPD?* <http://www.ieee802.org/1/files/public/docs2019/maint-Marks-epd-lpd-0719-v02.pdf> about inconsistencies in 802 standards with EPD and LPD

Disposition: The meeting agreed (none dissenting) that inconsistencies need to be addressed and it was decided to continue the discussion at a future conference call or face-to-face meeting in order to come up with a specific maintenance proposal.

Future meetings/teleconferences

The TG intends to hold teleconferences on Tuesday, one or two weeks before the next interim and plenary sessions: a motion to hold teleconferences on Tuesday September 03, 2019 and Tuesday November 05, 2019 at 8:00 AM Pacific, unless cancelled prior to the call will be made at the 802.1 closing plenary.

The TG meets face-to-face next at the September 2019 802.1 interim session in Edinburgh, UK.

Any Other Business

No further business was discussed in this meeting.

10:01 AM adjournment

Post-meeting, the TG Chair provided session slides updated based on discussion in <http://www.ieee802.org/1/files/public/docs2019/maint-congdon-session-0719-v02.pdf>. The TG website at <http://www.ieee802.org/1/maint.html> provides further details and discussion.

5 Security Task Group

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

Minutes of TG conference calls are available at <https://1.ieee802.org/security/security-task-group-minutes/>.

At the beginning of the TG meeting on Monday, the TG Chair presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>, the IEEE 802 Participation slide <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0093-05-0PNP-ieee-802-participation-slide-ppt.ppt>, and made the "Call for Potentially Essential Patents". At the beginning of the TG meetings on Tuesday and Wednesday, the TG chair announced that the meetings were subject to the Patent Policy as read and displayed at the opening of Monday's TG meeting. There were no responses to the calls prior to the end of the week's meetings.

In addition to the participants listed in section 1 who registered in IMAT, the following individuals also participated:

- Ben Anderson, U.S. Federal Government [Monday PM, Tuesday AM, PM, Wednesday AM]
- Mathieu Cunche, University of Lyon [Tuesday PM]

- Don Fedyk, LabN Consulting, L.L.C. [Monday PM, Tuesday AM, PM, Wednesday AM]
- Max Riegel, Nokia Networks [Tuesday AM, PM]
- Mick Seaman, Individual [Monday PM, Tuesday AM, PM, Wednesday AM]

The draft agenda posted on the 802.1 website prior to the meeting was reviewed by the TG Chair in the Monday WG opening plenary and at the beginning of the TG meeting on Monday PM.

1. Respond to ISO/IEC JTC1 FDIS pre-ballot comments on IEEE Std 802.1AE-2018 and IEEE Std 802.1Xck-2018
2. P802E Privacy (Recommended Practice ... for 802) D1.4 Working Group ballot resolution
3. P802.1X-Rev Port-Based Network Access Control D1.4, forward to [Standards Association] Ballot
4. IEEE 802.1AE-2018 Corrigenda
5. MACsec Privacy Protection (formerly Traffic flow privacy)
6. A.O.B
7. Future meetings/teleconferences

Monday 15 July 2019

1:45 PM call to order by the TG Chair

Response to ISO/IEC JTC1 FDIS pre-ballot comments on IEEE Std 802.1AE-2018

The TG Chair led a discussion of *Responses to comments ISO/IEC JTC1/SC6 ballot of 802.1AE-2018* http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResp1AE-0719_v02.pdf.

- The document summarized the results of the successful pre-FDIS ballot. One set of comments had been received from the China National Body. Responses had been prepared by Karen Randall taking into account previous responses, prepared by 802.1 and the 802 JTC1 Standing Committee, to the points raised by the China NB. Details of prior responses and interactions with the China NB on these points were included.

Disposition: No changes were made to the proposed responses; they would also be reviewed with other JTC1 liaison in the Tuesday Maintenance TG meeting. Following that meeting a final version was generated, differing only in the removal of prior editing change tracking, *Responses to comments ISO/IEC JTC1/SC6 ballot of 802.1AE-2018* <http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResp1AE-0719-v03.pdf>.

Response to ISO/IEC JTC1 FDIS pre-ballot comments on IEEE Std 802.1Xck-2018

The TG Chair led a discussion of *Responses to comments ISO/IEC JTC1/SC6 ballot of IEEE 802.1Xck-2018* <http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResponse8021Xck-v00.pdf>.

- The document summarized the results of the successful pre-FDIS ballot. One set of comments had been received, from the China National Body. Responses had been prepared by Karen Randall. Details of prior responses and interactions with the China NB on these points were included.

Disposition: No changes were made to the proposed responses; they would also be reviewed with other JTC1 liaison in the Tuesday Maintenance TG meeting. Following that meeting a final version, with only minor formatting differences was generated, *Responses to comments ISO/IEC JTC1/SC6 ballot of IEEE 802.1Xck-2018* <http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResponse1Xck->

[0719-v01.pdf](#).

P802.1X-Rev Port-Based Network Access Control, D1.4 forward to [Standards Association] Ballot

Mick Seaman, P802.1X-Rev editor, reported that the WG recirculation ballot on <http://www.ieee802.org/1/files/private/x-rev-drafts/d1/802-1X-rev-d1-4.pdf> had closed with no outstanding Disapprove votes and no further comments.

Disposition: 802.1 permission to proceed to Standards Association Ballot would be requested on the 802 EC consent agenda and in the 802.1 closing plenary. There would be no additional work in this meeting. Disposition recorded in <http://www.ieee802.org/1/files/private/x-rev-drafts/d1/802-1X-rev-d1-4-dis.pdf>.

P802.1AE-2018/Cor 1 MAC Security - Corrigendum 1: Tag Control Information Figure

The TG Chair reported that the PAR <http://www.ieee802.org/1/files/public/docs2019/ae-cor1-draft-par-0319-v00.pdf> for this project (correcting Figure 9-4 of IEEE Std 802.1AE-2018 to be identical to that of IEEE Std 802.1AE-2006) had been approved.

Disposition: 802.1 permission for the editor, Mick Seaman, to prepare drafts for and conduct WG balloting would be requested in the 802.1 closing plenary. There would be no further work on this project at this session.

3:10 – 3:40 PM recess

MACsec Privacy Protection (formerly Traffic flow privacy)

Don Fedyk presented *IEEE P802.1AE Yang Instance Document* <http://www.ieee802.org/1/files/public/docs2019/dk-fedyk-ieee802-dot1ae-instance-discussion-0719-v00.pdf>.

- On the working assumption that management for the proposed MACsec Privacy Protection 802.1AE amendment project would be based on YANG, rather than on SNMP MIBs, a base MACsec YANG model is required. The presentation discussed the relationship between that 802.1AE model and the 802.1X model. The 'bubble diagrams' in 802.1X/802.1Xck subclause 14.4.4 were found useful in the discussion.

Disposition: Updated presentation incorporating the resolution of some of the questions asked in the original: <http://www.ieee802.org/1/files/public/docs2019/dk-fedyk-ieee802-dot1ae-instance-discussion-0719-v01.pdf>.

Don Fedyk presented his use of YUMA (YANG-Based Unified Modular Automation) to instantiate MACsec with the 802.1Xck YANG models, using *dk-fedyk-ieee802-dot1ae-types-0719-v00.yang* <http://www.ieee802.org/1/files/public/docs2019/df-fedyk-ieee802-dot1ae-types-yang-0719-v00.pdf>, *dk-fedyk-ieee802-dot1ae-0719-v00.tree* <http://www.ieee802.org/1/files/public/docs2019/dk-fedyk-ieee802-dot1ae-tree-0719-v00.pdf>, *df-fedyk-ieee802-dot1ae-0719-v00.yang* <http://www.ieee802.org/1/files/public/docs2019/dk-fedyk-ieee802-dot1ae-yang-0719-v00.pdf>.

Disposition: The use of YUMA to instantiate models and reveal any issues resulting from their combination would be socialized in 802.1, and in the YANGsters group in particular. The discussion had clarified the relationship of MACsec SecYs to underlying interfaces (a single SecY per underlying (Common Port) interface, instantiating virtual interfaces if necessary to preserve that relationship).

Continued later.

5:05 PM recess

Tuesday 16 July 2019

10:30 AM call to order by the TG Chair, 12:10 – 1:40 PM and 3:10 – 3:50 PM recesses

P802E Privacy (recommended Practice ... for 802) D1.4 WG ballot resolution

Jerome Henry, P802E Editor, summarized the WG ballot results in *Proposed Disposition of the Working Group Ballot on IEEE P802E-D1.4* <http://www.ieee802.org/1/files/private/802-e-drafts/d1/802E-d1-4-pdis0.pdf>.

- The ballot passed with a single Disapprove vote.

Disposition: Continued later.

Max Riegel presented *802e-riegel-privacy-threat-model-0719-v1*

<http://www.ieee802.org/1/files/public/docs2019/802e-riegel-privacy-threat-model-0719-v1.pdf>.

Disposition: Presentation discussed.

Jerome Henry, P802E editor, led the resolution of comments received on <http://www.ieee802.org/1/files/private/802-e-drafts/d1/802E-d1-4.pdf> using the MyBallot comment tool.

Disposition: All the comments were reviewed. Proposed disposition recorded in <http://www.ieee802.org/1/files/private/802-e-drafts/d1/802E-d1-4-pdis3-final.pdf>.

The meeting agreed (none dissenting) to hold a teleconference to review the final disposition of comments and the resulting changes to the draft, prior to a WG recirculation ballot. A WG recirculation ballot would be held in time to allow for a further WG recirculation ballot if necessary prior to the November 2019 802.1 plenary session, with the intention of requesting permission to proceed to Standards Association ballot at that meeting. An updated draft *P802E/D1.5* <http://www.ieee802.org/1/files/private/802-e-drafts/d1/802E-d1-5.pdf> shows the changes corresponding to the recorded proposed disposition of comments.

The TG chair reported that the P802E PAR would expire in December 2019, before the project could complete. A PAR extension would be requested.

4:45 PM recess

Wednesday 21 May 2019

9:05 AM call to order by the TG Chair, 9:55 – 10:30 AM recess

MACsec Privacy Protection (formerly Traffic flow privacy)

Don Fedyk continued his Tuesday presentation of MACsec related YANG models using YUMA (open source) running under Linux and loading 802.1AX, bridge, provider bridge, and link aggregation models and configuring their components.

Future meetings/teleconferences

Agreed (informally, none dissenting) to hold teleconferences for progression of work as identified during this session and to address TG matters arising, subject to the usual required notice.

The TG will meet during the September 2019 802.1 interim session in Edinburgh, UK. The initial Standards Association ballot of P802.1X-Rev should conclude prior to that meeting, so comment resolution is anticipated. The TG will also prepare a PAR and CSD for MACsec Privacy protection, starting with the draft discussed in the May 2019 interim session: *Amendment to IEEE Standard 802.1AE-2018 Media Access Control (MAC) Security -*

Amendment 4: Media Access Control (MAC) Privacy protection

<http://www.ieee802.org/1/files/public/docs2019/dk-seaman-mac-privacy-protection-draft-par-0519-v00.pdf>.

P802E will not be discussed at the September 2019 802.1 interim session; WG recirculation ballot processing will be addressed by teleconference.

Any Other Business

No further business was discussed in this session.

12:05 PM adjournment

6 Time-Sensitive Networking Task Group

The Time-Sensitive Networking (TSN) Task Group Chair, János Farkas, presided. The TSN TG Secretary, Marina Gutiérrez, wrote the minutes.

Minutes of TG conference calls are available at <https://1.ieee802.org/tsn-calls/>.

At the beginning of the meetings on Monday, Tuesday, Wednesday, Thursday, and Friday the TG Chair or Vice-Chair presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings, the IEEE 802 Participation slide, decorum and IMAT information per <http://www.ieee802.org/1/files/public/docs2019/admin-farkas-TSN-meeting-intro-0719-v01.pdf>, and made the Call for Potentially Essential Patents. There were no responses to the calls prior to the end of the week's meetings.

Monday 15 July 2019

8:04 AM call to order by the TG Chair

The TG Chair presented the agenda in <https://1.ieee802.org/july-2019-plenary-meeting-in-vienna-austria-tsn-tg-agenda/>. <https://1.ieee802.org/july-2019-plenary-meeting-in-vienna-austria-tsn-tg-agenda/>

Disposition: The agenda was reviewed, discussed and approved.

Marc Holness, P802.1Qcx editor, led the resolution of comments received on <http://www.ieee802.org/1/files/private/cx-drafts/d1/802-1Qcx-d1-2.pdf>.

Disposition: Ballot comments discussed. Disposition recorded in <http://www.ieee802.org/1/files/private/cx-drafts/d1/802-1Qcx-d1-2-dis-v03.pdf>.

Marina Gutiérrez, P802.1Qcw editor, led the resolution of comments received on <http://www.ieee802.org/1/files/private/cw-drafts/d0/802-1Qcw-d0-4.pdf>.

Disposition: Ballot comments discussed. Disposition recorded in <http://www.ieee802.org/1/files/private/cw-drafts/d0/802-1Qcw-d0-4-dis-v01.pdf>.

10:08 AM – 1:33 PM recess

Roger Marks presented a draft response to *Liaison to IEEE 802.1 regarding IEEE 1722's new work and our willingness to transfer ownership of the MAAP (MAC Address Acquisition Protocol) to 802.1* <http://www.ieee802.org/1/files/public/docs2019/liaison-ieee-1722-to-802-1-and-omniran-0719.pdf>.

Disposition: Liaison and draft response discussed for 802.1 closing plenary approval.

The TG Chair presented draft responses to:

- Liaison <http://www.ieee802.org/1/files/public/docs2019/liaison-lni4-0-14-11-56-47-0619.pdf>.
- *LS on RoHC utilization for Ethernet header compression* http://ieee802.org/3/minutes/may19/incoming/3GPP_R2-1902372_to_IEEE_802_Mar_2019.pdf.
- *LS on 3GPP 5G System support for integration with IEEE TSN networks* <http://www.ieee802.org/1/files/public/docs2019/liaison-3gppsa2-1908630-5g-integration-with-tsn-0719.pdf>.
- *LS on clarification on synchronization requirements applicable in IEEE 802.1CM and CPRI related documents* <http://www.ieee802.org/1/files/public/docs2019/liaison-sq15-LS187-clarification-on-sync-requirements-0719.pdf>.

Disposition: Liaisons and draft responses discussed for 802.1 closing plenary approval.

The TG Chair presented the draft liaison finalized as *Liaison letter to inform O-RAN Alliance Open Fronthaul Interface Workgroup on P802.1CMde*

<http://www.ieee802.org/1/files/public/docs2019/liaison-ORAN-CM-update-0719-v01.pdf>

Disposition: Draft liaison discussed for 802.1 closing plenary approval.

15:11 – 15:41 AM recess

Scott Mansfield presented *LS on coordination on information and data modelling*

<http://www.ieee802.org/1/files/public/docs2019/liaison-sq15-LS188-management-coordination-0719.docx>.

Disposition: Liaison and draft response discussed for 802.1 closing plenary approval.

Jessy Rouyer presented the draft liaison finalized as *Liaison letter on IEEE P802.1Qcx (YANG for CFM)* <http://www.ieee802.org/1/files/public/docs2019/liaison-MEF-CFM-YANG-update-v01.pdf>

Disposition: Draft liaison discussed for 802.1 closing plenary approval.

Craig Gunther presented draft liaisons finalized as:

- *Liaison request to Avnu Alliance* <http://www.ieee802.org/1/files/public/docs2019/liaison-Avnu-Automotive-v01.pdf>
- *Liaison request to AUTOSAR* <http://www.ieee802.org/1/files/public/docs2019/liaison-AUTOSAR-v01.pdf>
- *Liaison request to JASPAR* <http://www.ieee802.org/1/files/public/docs2019/liaison-JASPAR-v01.pdf>

Disposition: Draft liaisons discussed for 802.1 closing plenary approval.

The TG Chair presented draft motions for 802.1 closing plenary approval.

Disposition: Draft motions reviewed for 802.1 closing plenary approval.

Jessy Rouyer presented *Liaison announcing latest working draft amendment to MEF 22.3 – Transport for 5G Mobile Networks* <http://www.ieee802.org/1/files/public/docs2019/liaison-mef-tsmn-mef23-amendment-0619.pdf> and the accompanying WD 12.

Disposition: Liaison discussed. No response needed.

Scott Mansfield, P802.1ABcu editor, presented *DRAFT YANG 802.1ABcu*

<http://www.ieee802.org/1/files/public/docs2019/cu-mansfield-draft-status-0719-v01.pdf>.

Disposition: Presentation discussed.

Johannes Specht, P802.1Qcr editor, led the resolution of comments received on <http://www.ieee802.org/1/files/private/cr-drafts/d1/802-1Qcr-d1-1.pdf>.

Disposition: Continued later.

6:02 PM recess

Tuesday 16 July 2019

10:31 AM call to order by the TG Chair

Steve Haddock, P802.1AX-Rev editor, led the resolution of comments received on <http://www.ieee802.org/1/files/private/ax-rev-drafts/d2/802-1AX-Rev-d2-0.pdf>.

Disposition: Continued later.

12:21 – 1:32 PM recess

Steve Haddock, P802.1AX-Rev editor, continued the resolution of comments received on <http://www.ieee802.org/1/files/private/ax-rev-drafts/d2/802-1AX-Rev-d2-0.pdf>.

Disposition: Continued later.

15:10 – 15:44 PM recess

Steve Haddock, P802.1AX-Rev editor, continued the resolution of comments received on <http://www.ieee802.org/1/files/private/ax-rev-drafts/d2/802-1AX-Rev-d2-0.pdf>.

Disposition: Continued later.

The TG Chair presented updated draft responses to:

- *LS on 3GPP 5G System support for integration with IEEE TSN networks* <http://www.ieee802.org/1/files/public/docs2019/liaison-3gppsa2-1908630-5g-integration-with-tsn-0719.pdf>.
- *LS on clarification on synchronization requirements applicable in IEEE 802.1CM and CPRI related documents* <http://www.ieee802.org/1/files/public/docs2019/liaison-sq15-LS187-clarification-on-sync-requirements-0719.pdf>.

Disposition: Updated draft responses discussed for 802.1 closing plenary approval.

The TG Chair presented an update to the draft liaison finalized as *Liaison letter to inform O-RAN Alliance Open Fronthaul Interface Workgroup on P802.1CMde*

<http://www.ieee802.org/1/files/public/docs2019/liaison-ORAN-CM-update-0719-v01.pdf>

Disposition: Updated draft liaison discussed for 802.1 closing plenary approval.

János Farkas, P802.1CMde editor, led the resolution of comments received on

<http://www.ieee802.org/1/files/private/de-drafts/d0/802-1CMde-d0-2.pdf>

Disposition: Ballot comments discussed. Disposition recorded in

<http://www.ieee802.org/1/files/private/de-drafts/d0/802-1CMde-d0-2-dis-v01.pdf>

Christophe Mangin, P802.1CBdb editor, led the resolution of comments received on

<http://www.ieee802.org/1/files/private/db-drafts/d0/802-1CBdb-d0-1.pdf>.

Disposition: Continued later.

6:00 PM recess

Wednesday 17 July 2019

8:00 AM call to order by the TG Chair and the IEC/IEEE 60802 Joint Project Chair

Minutes of this meeting, a joint meeting of the TSN TG and IEC/IEEE 60802 Joint Project, are provided in section 0.

10:03 PM recess

10:34 PM call to order by the TG Chair

The TG Chair presented *P802.1AS-Rev PAR Extension Timing and Synchronization for Time-Sensitive Applications Resolution of Comments on Project Authorization Request (PAR)* <http://www.ieee802.org/1/files/public/docs2019/as-PAR-extension-comments-0719-v01.pdf> to resolve comments received on the proposed PAR extensions for P802.1AS-Rev <http://www.ieee802.org/1/files/public/docs2019/as-PAR-extension-0719-v01.pdf>.

Disposition: PAR unmodified.

The TG Chair presented *P802.1Qcj PAR Extension Amendment: Automatic Attachment to Provider Backbone Bridging (PBB) services Resolution of Comments on Project Authorization Request (PAR)* <http://www.ieee802.org/1/files/public/docs2019/cj-PAR-extension-comments-0719-v01.pdf> to resolve comments received on the proposed PAR extensions for P802.1Qcj <http://www.ieee802.org/1/files/public/docs2019/cj-PAR-extension-0519-v01.pdf>.

Disposition: Updated PAR: <http://www.ieee802.org/1/files/public/docs2019/cj-PAR-extension-0719-v01.pdf>

Paul Congdon presented *P802.1ABdhStation and Media Access Control Connectivity Discovery - Amendment: Support for Multiframe Protocol Data Units* <http://www.ieee802.org/1/files/public/docs2019/dh-PAR-CSD-comments-0719-v01.pdf> to resolve comments received on the proposed PAR <http://www.ieee802.org/1/files/public/docs2019/dh-draft-PAR-0519-v01.pdf> and CSD <http://www.ieee802.org/1/files/public/docs2019/dh-draft-CSD-0519-v01.pdf>.

Disposition:

- Updated PAR: <http://www.ieee802.org/1/files/public/docs2019/dh-PAR-0719-v01.pdf>
- Updated CSD: <http://www.ieee802.org/1/files/public/docs2019/dh-CSD-0719-v01.pdf>

Johannes Specht, P802.1Qcr editor, led the resolution of comments received on <http://www.ieee802.org/1/files/private/cr-drafts/d1/802-1Qcr-d1-1.pdf>.

Disposition: Continued later.

12:31 – 1:31 PM recess

Johannes Specht, P802.1Qcr editor, continued the resolution of comments received on <http://www.ieee802.org/1/files/private/cr-drafts/d1/802-1Qcr-d1-1.pdf>.

Disposition: Continued later.

3:09 – 3:31 PM recess

Johannes Specht, P802.1Qcr editor, continued the resolution of comments received on <http://www.ieee802.org/1/files/private/cr-drafts/d1/802-1Qcr-d1-1.pdf>.

Disposition: Ballot comments discussed. Proposed disposition recorded in <http://www.ieee802.org/1/files/private/cr-drafts/d1/802-1Qcr-d1-1-pdis-v02.pdf>.

Norman Finn, P802.1DC editor, presented <http://www.ieee802.org/1/files/private/dc-drafts/d1/802-1DC-d1-0.pdf>.

Disposition: Draft discussed.

Norman Finn, P802.1CS editor, presented <http://www.ieee802.org/1/files/private/cs-drafts/d2/802-1CS-d2-2.pdf>.

Disposition: Draft discussed.

Stephan Kehrer, P802.1CBcv editor, presented *IEEE P802.1CBcv - FRER YANG Data Model and Management Information Base Module Editor's report: July 2019*

<http://www.ieee802.org/1/files/public/docs2019/cv-kehrer-editors-report-0719-v01.pdf>.

- Editor's draft: <http://www.ieee802.org/1/files/private/cv-drafts/d0/802-1CBcv-d0-0.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

Christophe Mangin, P802.1CBdb editor, led the resolution of comments received on

<http://www.ieee802.org/1/files/private/db-drafts/d0/802-1CBdb-d0-1.pdf>.

Disposition: Ballot comments discussed. Proposed disposition recorded in

<http://www.ieee802.org/1/files/private/db-drafts/d0/802-1CBdb-d0-1-pdis-v02.pdf>.

Paul Congdon, P802.1Qcz editor, presented *P802.1Qcz Status*

<http://www.ieee802.org/1/files/public/docs2019/cz-congdon-d0-2-status-0719-v01.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

Max Riegel presented *P802.1CQMulticast and Local Address Assignment History and status*

<http://www.ieee802.org/1/files/public/docs2019/cq-riegel-omniran-history-status-0719.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

Roger Marks, P802.1CQ editor, presented *Background to P802.1CQ/D0.2*

<http://www.ieee802.org/1/files/public/docs2019/cq-marks-background-to-p802-1cq-d02-0719-v01.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

Antonio de la Oliva presented *Protocol for Assignment of Local and Multicast Addresses*

(PALMA) <http://www.ieee802.org/1/files/public/docs2019/cq-aoliva-short-summary-PALMA-0719-v01.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

Roger Marks, P802.1CQ editor, presented <http://www.ieee802.org/1/files/private/cq-drafts/d0/802-1CQ-d0-2.pdf>.

Disposition: Draft discussed.

6:00 PM recess

Thursday 18 July 2019

8:00 AM call to order by the TG Vice-Chair

The TG Vice-Chair presented the agenda in <https://1.ieee802.org/july-2019-plenary-meeting-in-vienna-austria-tsn-tg-agenda/>.

Disposition: The agenda was reviewed, discussed and approved.

William Lo presented *Asymmetrical Use Case Is There a Need for a PHY Operating High Speed In One Direction and Constant Low Speed In the Other?*

<http://www.ieee802.org/1/files/public/docs2019/dg-lo-asymmetrical-use-case-0719-v01.pdf>

Disposition: Presentation discussed. Related to an ongoing project.

Daniel Hopf presented *Automotive TSN profile based on features, architectures or requirements?* <http://www.ieee802.org/1/files/public/docs2019/dg-hopf-features-architectures-requirements-0719-v02.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

Lihao Chen presented *Automotive In-Vehicle Traffic Type* <http://www.ieee802.org/1/files/public/docs2019/dg-chen-automotive-traffic-type-0719-v01.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

10:05 – 10:35 PM recess

Allan Zhu presented *Use Case – Network Reliability from the Perspective of Autonomous Driving* <http://www.ieee802.org/1/files/public/docs2019/dg-zhu-reliability-use-case-0719-v01.pdf>.

Disposition: Presentation discussed. Related to an ongoing project.

Don Pannell presented *Use Cases –IEEE P802.1DG V0.3* <http://www.ieee802.org/1/files/public/docs2019/dg-pannell-automotive-use-cases-0719-v03.pdf>.

Disposition: Document discussed. Related to an ongoing project.

Steve Haddock, P802.1AX-Rev editor, continued the resolution of comments received on <http://www.ieee802.org/1/files/private/ax-rev-drafts/d2/802-1AX-Rev-d2-0.pdf>.

Disposition: Ballot comments discussed. Proposed disposition recorded in <http://www.ieee802.org/1/files/private/ax-rev-drafts/d2/802-1AX-Rev-d2-0-pdis-v01.pdf>.

Ruibo Han and Tongtong Wang presented *High Reliability in WAN Network* <http://www.ieee802.org/1/files/public/docs2019/df-rbh-highReliabilityRequirement-0719-v03.pdf>.

Disposition: Presentation discussed. Related to ongoing project.

Tongtong Wang, P802.1DF editor, gave an update on the project.

Disposition: For information only.

Paul Bottorff presented *Protocol for Extending LLDP* <http://www.ieee802.org/1/files/public/docs2019/dh-bottorff-alt-0719-v03.pdf>.

Disposition: Presentation discussed. Related to a proposed project.

12:39 PM recess

Friday 19 July 2019

8:30 AM call to order by the TG Chair and the IEC/IEEE 60802 Joint Project Chair

Minutes of this meeting, a joint meeting of the TSN TG and IEC/IEEE 60802 Joint Project, are provided in section 0.

12:00 PM adjournment

7 IEC/IEEE 60802 Joint Project

Ludwig Winkel, IEC WG9/PT60802 Convenor and IEC/IEEE 60802 Joint Project Chair (60802 Chair), and János Farkas, IEEE 802.1 TSN Task Group Chair (TG Chair), presided. Josef Dorr, IEC/IEEE 60802 Joint Project Secretary (60802 Secretary) wrote the minutes.

At the beginning of the meetings on each day:

- The IEEE-SA PatCom Patent Slides for Standards Development Meetings and the IEEE 802 Participation slide were presented (<http://standards.ieee.org/about/sasb/patcom/materials.html>).
- The Call for Potentially Essential Patents was made. There were no responses to the calls prior to the end of the week's session.
- The IEC WG9/PT60802 Convenor reminded the IEC participants that patent rules similar to those of IEEE-SA apply in IEC, reminded all that patents required for use of the IEC/IEEE 60802 profile must be announced to IEC and IEEE and made available using the IEC licensing form, and reminded that presentations shall not have copyright marks or confidentiality information.
- The agenda and the expected results of the day were reviewed and approved. The final agenda is in <http://www.ieee802.org/1/files/public/docs2019/admin-TSN-agenda-0719-v03.pdf> and also available at <https://1.ieee802.org/july-2019-plenary-meeting-in-vienna-austria-tsn-tg-agenda/>.

Draft minutes were reviewed at the end of the week's meetings under the lead of the 60802 Secretary.

Wednesday 17 July 2019

8:00 AM call to order by the TG Chair and the 60802 Chair

The TSN TG and IEC/IEEE 60802 Joint Project had a joint meeting.

The TG Chair and the 60802 Chair:

- Welcomed the participants of the IEC/IEEE 60802 Joint Project, a joint effort of the:
 - IEC 65C WG9/PT 60802 (TSN) Project Team, led by Ludwig Winkel; and
 - IEEE 802.1 Time-Sensitive Networking Task Group, led by the TG Chair.
- Provided information about internet access, lunch, attendance log to the IEC/IEEE 60802 Joint Project.

Mark Hantel and the 60802 Chair reported on the IEC/IEEE Conformity Assessment (CA) status and activities. The CA activities will be continued with a July 22-24, 2019 face-to-face meeting in Vienna, Austria.

The 60802 Chair noted that the next IEC/IEEE 60802 Joint Project meeting will take place September 18-20, 2019 during the September 2019 IEEE 802.1 interim session in Edinburgh, UK. The meeting after that will take place November 12-15, 2019 during the November 2019 IEEE 802.1 plenary session in Waikoloa, HI, USA.

Jordon Woods, 60802 editor, presented *Editor's Report 60802 Draft 1.1* <http://www.ieee802.org/1/files/public/docs2019/60802-woods-d1-1-update-0719-v01.pdf>

Stephan Kehrer presented *P802.1Qdj Amendment: Configuration Enhancements* <http://www.ieee802.org/1/files/public/docs2019/dj-PAR-CSD-comments-0719-v01.pdf> to resolve comments received on the proposed PAR

<http://www.ieee802.org/1/files/public/docs2019/dj-draft-PAR-0519-v01.pdf> and CSD <http://www.ieee802.org/1/files/public/docs2019/dj-draft-CSD-0519-v01.pdf>. led the discussion on the received comments on P802.1Qdj [PAR](#) and [CSD](#).

Disposition:

- Updated PAR: <http://www.ieee802.org/1/files/public/docs2019/dj-PAR-0719-v01.pdf>
- Updated CSD: <http://www.ieee802.org/1/files/public/docs2019/dj-CSD-0719-v01.pdf>

Thomas Enzinger presented *OPC FLC Field Level Communications* <http://www.ieee802.org/1/files/public/docs2019/60802-Enzinger-FLC-Introduction-0519-v03.pdf> and *FLC's needs and expectations of the IEC/IEEE 60802 profile (V1.0)* <http://www.ieee802.org/1/files/public/docs2019/60802-Enzinger-FLC-Expectations-0719-v04.pdf>.

Disposition: Contributions and Draft comments from individuals working on OPC FLC are welcome. The presentation was continued on Thursday.

10:00 AM recess

10:30 AM call to order by the 60802 Chair

The IEC/IEEE 60802 Joint Project met separately from the TSN TG until Friday.

Günter Steindl presented *Topics from the Vienna preparation meeting* <http://www.ieee802.org/1/files/public/docs2019/60802-Steindl-WhyQuantities-0719-v01.pdf> and *Conformance Class IEC/IEEE 60802 V0.5* <http://www.ieee802.org/1/files/public/docs2019/60802-Steindl-et-al-ExampleSelection-0719-v05.pdf>.

Disposition: The latter contribution was discussed. The meeting agreed (none dissenting) to continue discussing and updating it in the afternoon.

12:00 – 1:30 PM recess

Günter Steindl continued leading the discussion on, and updating *Conformance Class IEC/IEEE 60802 V0.5* <http://www.ieee802.org/1/files/public/docs2019/60802-Steindl-et-al-ExampleSelection-0719-v05.pdf>.

Disposition: Continued later.

3:30 – 4:00 PM recess

Günter Steindl continued leading the discussion on, and updating *Conformance Class IEC/IEEE 60802 V0.5* <http://www.ieee802.org/1/files/public/docs2019/60802-Steindl-et-al-ExampleSelection-0719-v05.pdf>.

Disposition: Continued later.

6:00 PM recess

Thursday 18 July 2019

8:00 AM call to order by the 60802 Chair, 10:00 – 10:30 AM recess

Feng Chen presented *IEEE P802.1Qdd Resource Allocation Protocol (RAP) Introduction to Draft 0.0* <http://www.ieee802.org/1/files/public/docs2019/dd-chen-D0-0-introduction-0719-v01.pdf>.

Disposition: Further discussion needed.

Steve Zuponic and Mark Hantel presented *Data Sheets*

<http://www.ieee802.org/1/files/public/docs2019/60802-Zuponic-Data-Sheet-Discussion-0719-v00.pdf>.

- The 60802 Chair noted that a normative example of an electronic data sheet is provided by the work of IEC SC3D with project number IEC 61360 describing the Common Data Dictionary (CDD). This database is hosted by the IEC Central office and is also used in collaboration with ISO. IEC SC3D also has a liaison with eCI@ss <https://www.eclass.eu/>. IEC TC65 ahG4 is promoting this CDD to be used for industrial automation including communication networks. *IEC 61987 - SC 65E/WG 2 - Common Data Dictionary (CDD - V2.0014.0016)* https://cdd.iec.ch/cdd/iec61987/iec61987.nsf/TreeFrameset?OpenFrameSet&on_gletactif=1 is a CDD example.

Disposition: Further discussion needed.

Thomas Enzinger continued presenting *FLC's needs and expectations of the IEC/IEEE 60802 profile* <http://www.ieee802.org/1/files/public/docs2019/60802-Enzinger-FLC-Expectations-0719-v04.pdf>.

Disposition: Contributions and Draft comments from people working on OPC FLC are welcome.

Günter Steindl continued leading the discussion on, and updating *Conformance Class IEC/IEEE 60802 V0.5* <http://www.ieee802.org/1/files/public/docs2019/60802-Steindl-et-al-ExampleSelection-0719-v05.pdf>.

Disposition: Continued later.

12:00 PM recess

Friday 19 July 2019

8:30 AM call to order by the TG Chair and the 60802 Chair, 10:00 – 10:30 AM recess

The TSN TG and IEC/IEEE 60802 Joint Project had a joint meeting.

The TG Chair and the 60802 Chair summarized the work performed so far in this session.

Jordon Woods, 60802 editor, presented and led a *discussion* on Annex Z of <http://ieee802.org/1/files/private/60802-drafts/d1/60802-d1-0.pdf>.

Disposition: Annex Z was updated.

Lihao Chen presented *TSN Configuration Interaction* <http://www.ieee802.org/1/files/public/docs2019/new-chen-TSN-Configuration-Interaction-0719-v01.pdf>.

Disposition: Further discussion needed.

Mark Hantel presented *TSN Domains vs. TSN-IA Domains* <http://www.ieee802.org/1/files/public/docs2019/60802-Hantel-TSN-Domains-vs-TSN-IA-Domains-0719-v00.pdf>.

Disposition: Further discussion needed.

12:00 PM recess

1:00 PM call to order by the 60802 Chair, 3:00 - 3:45 PM recess

Jordon Woods, 60802 editor, presented *Management Model*

<http://www.ieee802.org/1/files/public/docs2019/60802-woods-ManagementModel-0719-v00.pdf>.

Disposition: Further discussion needed.

Günter Steindl continued leading the discussion on, and updating *Conformance Class IEC/IEEE 60802 V0.5* <http://www.ieee802.org/1/files/public/docs2019/60802-Steindl-et-al-ExampleSelection-0719-v05.pdf>.

Disposition: Further discussion needed. Updated *Conformance Class IEC/IEEE 60802 V1.0*: <http://www.ieee802.org/1/files/public/docs2019/60802-Steindl-et-al-ExampleSelection-0719-v10.pdf>.

Future meetings/teleconferences

The next teleconference will be held August 5, 2019.

Any Other Business

No further business was discussed in this session.

4:10 PM adjournment

8 Nendica

The IEEE 802 Network Enhancements for the Next Decade Industry Connections Activity (Nendica) Chair, Roger Marks, presided. Harry Bims wrote the minutes.

Minutes of Nendica conference calls are available at <https://1.ieee802.org/802-nendica/>.

In addition to the participants listed in section 1 who registered in IMAT, the following individuals also participated:

- Jesus Escudero-Sahuquillo, University of Castilla-La Mancha, Spain (remotely, second meeting)

At the beginning of the Nendica meetings on Monday and Thursday, the Nendica Chair presented the IEEE-SA Guidelines for IEEE-SA Meetings <https://development.standards.ieee.org/myproject/Public/mytools/mob/preparslides.pdf>, the IEEE 802 Participation slide <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180.pdf>, and IEEE ICCOM requirements <https://1.ieee802.org/802-nendica/ieee-iccom-requirements/>.

Monday 15 July 2019

7:30 PM call to order by the Nendica Chair

The Nendica Chair discussed how to record attendance for the meeting, using the link embedded in the agenda. The participant list in section 1 is provided from the logs.

Agenda Approval

The Nendica Chair presented the previously-available draft agenda.

Disposition: The agenda was reviewed, discussed and approved, as recorded in *Approved Nendica Agenda: 2019-07-15/18* <https://mentor.ieee.org/802.1/dcn/19/1-19-0060-00-ICne.pdf>.

Update

The Nendica Chair:

- Showed the Nendica webpage <https://1.ieee802.org/802-nendica/>, the documents on the Mentor server to be discussed, and how to record attendance in IMAT.
- Presented *IEEE 802 Network Enhancements for the Next Decade” Industry Connections Activity (Nendica): Status Report* <https://mentor.ieee.org/802.1/dcn/19/1-19-0053-00-ICne.pptx>, updated post-meeting as <https://mentor.ieee.org/802.1/dcn/19/1-19-0053-01-ICne.pptx>).

Review of Minutes

The Nendica Chair reviewed the minutes of the teleconferences held:

- June 5, 2019 <https://mentor.ieee.org/802.1/dcn/19/1-19-0049-00-ICne.docx>; and
- June 17, 2019 <https://mentor.ieee.org/802.1/dcn/19/1-19-0050-00-ICne.docx>.

Disposition: The minutes were reviewed and approved by unanimous consent.

The Nendica Chair reviewed *Draft Minutes of Nendica meeting of 2019-05-20/21*.

Disposition: No comments arose.

Flexible Factory IoT: Use Cases and Communication Requirements for Wired and Wireless Bridged Networks (FFIoT)

Nader Zein presented:

- *FFIoT Status Report – IEEE 802 Nendica* <https://mentor.ieee.org/802.1/dcn/19/1-19-0054-00>
- Consolidated FFIOT comments in <https://mentor.ieee.org/802.1/dcn/19/1-19-0033-07>

Disposition: There was a group discussion on the presentation, on the format for the updated draft, and about the next Call for Comments. A decision on the Call for Comments was deferred to the “Motions” item on the Thursday agenda.

Lossless Data Networks

Paul Congdon presented *Nendica at Nanog-76* <https://mentor.ieee.org/802.1/dcn/19/1-19-0055-00>, discussing his experience attending NANOG and the presentations that he and the Nendica Chair made at this conference.

Disposition: The Nendica Chair noted that neither the track nor the presentations at NANOG had been from Nendica formally but were from individuals sharing information about Nendica activity. He also encouraged Nendica participants to consider presenting at NANOG in the future.

Future Directions

New Network Requirements for Service Provider Managed-LAN

Wei Qiu presented *New network Requirements for Service Provider Managed-LAN* <https://mentor.ieee.org/802.1/dcn/19/1-19-0051-02>.

Disposition: Presentation discussed. Following discussion, the Nendica Chair suggested that a potential next step from this presentation could be the creation of a new Nendica Work Item or Study Item, reviewing the relevant Nendica procedures. There was a group discussion on this, with a decision deferred to the “Motions” item on the Thursday agenda (which was later expanded to include the “Initiating a new Study Item” line).

Lossless Network for RDMA in ODCC

Jie Li presented *LOSSLESS Network for RDMA in ODCC*
<https://mentor.ieee.org/802.1/dcn/19/1-19-0056-00>.

Disposition: Presentation discussed.

Testing Lossless Network for RDMA

Liang Guo presented *Testing LOSSLESS Network for RDMA*
<https://mentor.ieee.org/802.1/dcn/19/1-19-0057-00>.

Disposition: Presentation discussed. Additional details would be provided in a forthcoming contribution.

Any Other Business

The Nendica Chair noted that many attendees had not logged their attendance and affiliation, based on a count of those present compared to those registered. He encouraged all attendees to record their attendance.

9:06 PM recess

Thursday 18 July 2019

8:00 AM call to order by the Nendica Chair

Future Directions (continued)

Congestion Control Strategies

Jesus Escudero Sahaquillo joined the meeting via teleconference and presented *Strategies to drastically improve congestion control in high performance data centers: next steps for RDMA*
<https://mentor.ieee.org/802.1/dcn/19/1-19-0052-03>.

Disposition: Presentation discussed.

Motions

FFIoT Report and Call for Comments

Nader Zein presented FFIoT Status Report – IEEE 802 Nendica
<https://mentor.ieee.org/802.1/dcn/19/1-19-0054-01> emphasizing a motion proposed on the last slide.

Disposition: The proposed motion was discussed and revised as follows.

Motion (9:31 AM):

- “To accept the Flexible Factory IoT report titled “Flexible Factory IoT: Use Cases and Communication Requirements for Wired and Wireless Bridged Networks” in 1.19-0026-02-Icne as the new “Nendica Draft Report” and initiate a 30-days Final Call for Comments restricted to modified text only”
- Moved by Nader Zein, seconded by Hajime Koto
- Passed by unanimous consent.

New Managed LAN

Wei Qiu presented *Proposal for Nendica Study Item: New Managed LAN*
<https://mentor.ieee.org/802.1/dcn/19/1-19-0059-00>.

Disposition: Discussion ensued regarding the detailed text of the proposal and the following motion was made by.

Motion (9:46 AM):

- “To initiate a Nendica Study Item to lead to a Nendica Report on Managed LAN as a Service, developing within the Study item:
 - Documented Requirements,
 - Demonstration of current gaps,
 - Demonstration of feasible approaches to closing gaps
 - with a focus on the scenario where LAN is planned, implemented, operated and maintained by a remote service provider and a focus on Layer 2 and up.”
- Moved by Wei Qiu, seconded by Paul Congdon
- Approved by unanimous consent

The Nendica Chair asked Qiu to lead the Study Item, and he agreed.

Future Meetings

The Nendica Chair reminded that Nendica will meet at the September 2019 IEEE 802.1 interim session in Edinburgh, UK. The Nendica Chair will attempt to arrange for the meetings to be held in the morning to promote participation from those attending the IEEE 802 Wireless interim session the same week in Hanoi, Vietnam.

Nendica decided to schedule the following teleconference calls:

- August 28, 2019 9-11 AM ET (focus: “Managed LAN as a Service” Study Item)
- September 4, 2019 9-11 AM ET (focus: FFiOT Comment Resolution)
- August 21, 2019 9-11 AM ET (focus: FFiOT Comment Resolution)

Any Other Business

No further business was discussed in this session.

10:06 AM adjournment

9 YANGsters

The YANGsters Chair, Scott Mansfield, presided and wrote the minutes.

Monday 15 July 2019

6:05 PM call to order by the YANGsters Chair

The YANGsters Chair presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>, the IEEE 802 Participation slide <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0093-05-0PNP-ieee-802-participation-slide-ppt.ppt>, and made the “Call for Potentially Essential Patents”. There were no responses to the call prior to the end of the meeting.

The YANGsters Chair presented the agenda slides in *YANGster Meeting #23 IEEE 802 Plenary Vienna* <http://www.ieee802.org/1/files/public/docs2019/yangsters-smansfield-meeting-23-agenda-0719r2.pdf>.

Disposition: The agenda on slide 2 of the agenda slides was reviewed, discussed and approved.

The YANGsters Chair presented an overview of current *IEEE YANG Work* per slide 3 of the agenda slides and showed the YANG modules currently existing on the GitHub repository as well as the current structure that is used there.

- It was pointed out that all YANG files that are touched by a project need to be in the respective subdirectory of the project.

Disposition: The table on slide 3 of the agenda slides needs to be updated to include the `ieee802-dot1qats.yang` module located in the `.1Qcr` directory.

The YANGsters Chair gave a YANG Catalog GitHub update and showed the *YANG Catalog Structure Implemented* currently in the catalog (slide 4 of the agenda slides).

Disposition: None.

The YANGsters Chair gave an overview of *Git Commands* and *Git Terms* that are useful and should be used by editors working with YANG and the GitHub repository (slides 5-6 of the agenda slides).

Disposition: Several sets of commands for working with GitHub were provided and will be made available on the YANGsters page on the 802.1 website. Add scripts to the YANGsters wiki.

The YANGsters Chair gave an update on the *YANG Catalog Meta-Data*, providing an overview of the different pieces of metadata along with information on how the metadata should be filled in (slide 7 of the agenda slides). Relevant pieces of metadata are: reference, author-email, document-name, module-classification and maturity-level.

Disposition: Opinions related to more granular maturity-level values may be discussed on the 802.1 mailing list.

The YANGsters Chair started a discussion on *Diagramming Conventions* that are suggested to be used in UML diagrams drawn for use in 802.1 projects (slides 8-9 of the agenda slides).

Disposition: The meeting agreed (none dissenting) that 802.1 projects should use a consistent way of drawing UML diagrams.

The YANGsters Chair summarized information about the IETF EtherTypes YANG module that currently contains a sentence indicating that the module is intended to be used “till such time as the IEEE takes up the task of publication of the model that defines those EtherTypes” (slides 10-11 of the agenda slides).

- Based on ongoing discussion and as a solution to the problem that no IEEE EtherTypes YANG module currently exists, a suggestion was made to start an 802.1 PAR for an 802.1 EtherTypes YANG module.

Disposition: The meeting suggested starting the PAR as soon as possible and agreed (none dissenting) to have a motion at the 802.1 closing plenary for 802.1 to authorize the September 2019 Interim to generate PAR and CSD for precirculation to LMSC for a standard specifying an IEEE YANG data model for EtherTypes.

The YANGsters Chair gave a brief overview of *Upcoming YANGsters Calls* and showed the corresponding draft *MOTION* for the 802.1 closing plenary (slides 12-13 of the agenda slides).

Disposition: The meeting agreed (none dissenting) to submit the motion for 802.1 closing plenary approval.

Any Other Business

Don Fedyk gave an overview of Yuma123 http://yuma123.org/wiki/index.php/Main_Page, an open source tool for running and verifying YANG modules that provides a command line

interface to run commands on these modules.

- To create tables and so on, the corresponding commands have to be entered. It was suggested to script this for regular commands for ease of use.
- Currently the tool can only display read-write objects because it lacks the means to fill read-only objects with values. It can correctly use conditional objects.
- It was suggested that it would be helpful to provide a virtual machine image containing Yuma123 and other useful YANG tools like pyang to make it easier for people working with YANG to use them.

Disposition: The tool seems very useful for people working with YANG. It would be a good idea to put up corresponding information on the 802.1 YANGsters webpage.

7:10 PM adjournment

10 Joint 802.1/802.11 TGbe Meeting

802.1 and 802.11 TGbe had a joint meeting in the evening of Tuesday July 16, 2019. Minutes of this meeting are on pages 6 to 8 of *Minutes for Task Group (TG) 802.11 be Extremely High Throughput July 2019 Meeting, in Vienna, Austria* <https://mentor.ieee.org/802.11/dcn/19/11-19-1356-00-00be-meeting-minutes-july-2019.docx>.

11 Closing Plenary Meeting

Thursday July 18, 2019

1:46 PM (call to order by the TSN TG Chair)

The TSN TG Chair, János Farkas, presided until delayed arrival of the acting Chair, John Messenger.

The Recording Secretary, Jessy Rouyer, wrote the minutes.

The TSN TG Chair presented <http://www.ieee802.org/1/files/public/docs2019/admin-farkas-TSN-meeting-intro-0719-v01.pdf>. During this presentation, the TSN TG Chair:

- Presented information on these slides including:
 - Instructions for the WG Chair (and TG Chairs);
 - Participants' duty to inform the IEEE;
 - Ways to inform IEEE;
 - Other guidelines for IEEE WG meetings; and
 - Patent-related information.
- 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.
- Presented the IEEE 802 Participation slide.
- Reviewed meeting "Decorum" or rules, including the policies on public reporting, and on photography or recording;
 - The TSN TG Chair called for any members of the press (i.e., anyone reporting publicly on this meeting) to announce their presence.
 - There were no responses to the call.

Starting from 1:54 PM, the acting Chair presided and presented the *Closing Agenda* slides finalized as <http://www.ieee802.org/1/files/public/minutes/2019-07-closing-plenary-slides-v6.pdf>. During this presentation, the acting Chair:

- Introduced the agenda on slide 2, which was approved.
- Skipped to slide 9 to show the list of 802.1 Officers that remained unchanged from the opening plenary meeting.
- Reviewed the list of 802.1 voters (slide 10), including information about individuals who gained (slide 11), may gain (slides 12 and 13), may lose (slide 14), will lose (slide 15) 802.1 voting membership.
- Reminded individual participants of 802.11 reciprocal credit, which was continued at this meeting (slide 16).
- Reviewed the schedule for future 802.1 interim sessions (slide 17), which remained unchanged from the opening plenary meeting:
 - John Messenger gave a verbal update on the September 16-20, 2019 meeting venue.
- Reviewed information on the January 2020 interim session and workshop to be held in Geneva, Switzerland (slides 18-19).
- Reviewed the schedule for future 802.1 plenary sessions (slide 20), which remained unchanged from the opening plenary meeting, except that the indicated location of the March 2021 plenary session should have been as confirmed on slide 22, i.e. Denver, CO, USA.
- Conducted the plenary survey (slide 21):
 - Would you like to return to this venue? (Do you like this venue?)
 - Yes: 45 No: 14
 - For a July Plenary, would you prefer
 - a) Conference center independent from a Hotel
 - Count: 9
 - B) Combined Hotel/conference Center (1 night min mtg hotel)
 - Count: 50
- Skipped slide 22.
- Introduced promotional activities (slide 23) with upcoming relevant events including:
 - ISPCS, September 22-27, 2019 in Portland, OR, USA: [Presentation](#)
 - Bob Noseworthy gave a verbal update.
 - IEEE-SA Ethernet & IP Automotive Technology Day: September 24-25, 2019 in Detroit, MI, USA
 - TSN/A Conference 2019, October 8-9, 2019 in Bad Homburg, Germany: [Presentation](#)
- Reviewed the WG's current workload (slide 24) with indication that:
 - The following EC Consent agenda motions were withdrawn:
 - P802.1Qcx to/D2.0 SA ballot (conditional)
 - P802.1AS-Rev to RevCom (conditional)
 - The "Last Motion" for P802.1Qdd should have been TG ballot rather than PAR approval.
- Showed the 802.1 plenary schedule/agenda for this session (slide 25).
- Introduced 802 Standing Committees (SCs) reports (slide 26):
 - The acting Chair reported on the IETF SC that did not meet.
 - The acting Chair reported on the [JTC1 SC](#).
 - The acting Chair reported on the ITU SC. that did not meet.
- Reported on the following 802 Task Force topics (slide 27):
 - Web conferencing: Proposal for 802 to provide a Webex service shared amongst the LMSC, LMSC study groups, and 802 groups having no treasury: 802.1, 802.18, 802.19, 802.21, 802.22, 802.24
 - 802.21 and 802.22 are planning to hibernate soon
 - Would this provide sufficient meeting time for 802.1?

- Bulk Framemaker licensing will be investigated by IEEE
- Requested that the sub group Chairs provide reports on the activities of their sub groups (slide 29 – skipping slide 28 that does not exist) (see individual sub group minutes above for details):
 - The Maintenance TG Chair, Paul Congdon, presented the report on slides 30-33.
 - The Nendica Chair, Roger Marks, presented the report on slide 34.
 - The Security TG Chair, Mick Seaman, presented the report on slide 35.
 - The TSN TG Chair, János Farkas, and the IEC/IEEE 60802 Joint Project Chair, Ludwig Winkel, presented the report on slide 36.
 - Stephan Kehrer presented the YANGsters report on slide 37.
- Asked (slide 38) for brief presentations of draft outgoing liaisons (slide 40), some of which were in response to the incoming liaisons of slide 39.
 - The P802.1CQ editor, Roger Marks, presented the draft response to IEEE 1722 finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-response-IEEE-1722-MAC-allocation-0719-v01.pdf>.
 - The TSN TG Chair presented the draft responses to:
 - 3GPP SA2 finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-response-3GPP-SA2-5G-integration-with-TSN-0719-v01.pdf>.
 - ITU-T Q13/15 and CPRI Cooperation finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-response-SG15-LS187-clarifications-on-fronthaul-sync-requirements-0719-v01.pdf>.
 - ITU-T Q13/15 finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-response-SG15-LS187-CMde-draft-sharing-0719-v01.pdf>.
 - 3GPP RAN2 finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-response-3GPP-RAN2-Ethernet-header-compression-0719-v01.pdf>.
 - The TSN TG Chair presented the draft liaison to O-RAN Alliance Open Fronthaul Interface Workgroup finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-ORAN-CM-update-0719-v01.pdf>.
 - The TSN TG Chair presented the draft liaison to MEF finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-MEF-CFM-YANG-update-v01.pdf>.
 - The TSN TG Chair and Vice-Chair presented the draft liaison to:
 - Avnu Alliance finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-Avnu-Automotive-v01.pdf>.
 - AUTOSAR finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-AUTOSAR-v01.pdf>.
 - JASPAR finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-JASPAR-v01.pdf>.
 - The TSN TG Chair presented the draft response to ITU-T SG15 finalized as <http://www.ieee802.org/1/files/public/docs2019/liaison-response-SG15-LS188-management-coordination-0719-v01.pdf>.

3:13 – 3:30 PM recess

The acting Chair:

- Resumed presentation of the *Closing Agenda* slides finalized as <http://www.ieee802.org/1/files/public/minutes/2019-07-closing-plenary-slides-v6.pdf> at slide 41.
- Showed the 802.1 consent agenda items for LMSC Closing Plenary (slides 42-45).
- Conducted votes on the following motions that all passed (slide 46 to last slide). (Supporting information is available in *Closing Agenda* slides finalized as <http://www.ieee802.org/1/files/public/minutes/2019-07-closing-plenary-slides-v6.pdf>.)
 - LMSC consent agenda motions:

- Motion
 - Approve forwarding P802E PAR extension in <http://www.ieee802.org/1/files/public/docs2019/802e-par-extension-request-0719-v2.pdf> to NesCom
 - Approve (unmodified) CSD documentation in <https://mentor.ieee.org/privsecsq/dcn/15/privsecsq-15-0029-01-0000-privacy-ec-sq-csd-proposal.docx>
 - In the WG, Proposed: János Farkas, Second: Craig Gunther
 - PAR (y/n/a): 26, 0, 0
 - CSD (y/n/a): 24, 0, 0
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Motion
 - Approve forwarding P802.1Qcj PAR extension in <http://www.ieee802.org/1/files/public/docs2019/cj-PAR-extension-0719-v01.pdf> to NesCom
 - Approve (unmodified) CSD documentation in <http://www.ieee802.org/1/files/public/docs2019/cj-CSD-0719-v01.pdf>
 - In the WG, Proposed: János Farkas, Second: Craig Gunther
 - PAR (y/n/a): 27, 0, 0
 - CSD (y/n/a): 26, 0, 0
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Motion
 - Approve forwarding P802.1ABdh PAR documentation in <http://www.ieee802.org/1/files/public/docs2019/dh-PAR-0719-v01.pdf> to NesCom
 - Approve CSD documentation in <http://www.ieee802.org/1/files/public/docs2019/dh-CSD-0719-v01.pdf>
 - In the WG, Proposed: Paul Congdon, Second: János Farkas
 - PAR (y/n/a): 26, 0, 0
 - CSD (y/n/a): 28, 0, 0
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Motion
 - Approve forwarding P802.1Qdj PAR documentation in <http://www.ieee802.org/1/files/public/docs2019/dj-PAR-0719-v01.pdf> to NesCom
 - Approve CSD documentation in <http://www.ieee802.org/1/files/public/docs2019/dj-CSD-0719-v01.pdf>
 - In the WG, Proposed: Stephan Kehrer, Second: János Farkas
 - PAR (y/n/a): 29, 0, 0
 - CSD (y/n/a): 29, 0, 0
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Consent Agenda drafts to SA ballot
 - Motion
 - Approve sending P802.1X-Rev-D1.4 to Standards Association Ballot
 - [Maintenance PAR, no CSD]
 - P802.1X-Rev Port-Based Network Access Control
 - Working Group Recirculation Ballot closed 6/29/2019. 100% Approval. 85% Response Approve: 19 Disapprove: 0 Abstain: 27 Voters: 54

- Comment resolution <http://www.ieee802.org/1/files/private/x-rev-drafts/d1/802-1X-rev-d1-4-dis.pdf>
- In the WG, Proposed: Congdon Second: Fedyk
 - Sending draft (y/n/a): 28, 0, 0
- In the EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>, <n>, <a>
- Motion withdrawn
 - Conditionally approve sending P802.1Qcx D2.0 to Standards Association ballot
 - Confirm the CSD for P802.1Qcx in <https://mentor.ieee.org/802-ec/dcn/17/ec-17-0159-00-ACSD-802-1qcx.pdf>
 - P802.1Qcx D1.2 had 100% approval at the end of the last WG ballot
 - In the WG, Proposed: János Farkas Second: Craig Gunther
 - Sending draft (y/n/a): <y>,<n>,<a>
 - CSD (y/n/a): <y>,<n>,<a>
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Consent Agenda Drafts to RevCom
 - Motion withdrawn
 - Conditionally approve sending P802.1AS-Rev to RevCom
 - Approve CSD documentation in <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0243-00-ACSD-p802-1as.pdf>
 - P802.1AS-Rev D8.0 had 94% approval at the end of the initial sponsor ballot
 - In the WG, Proposed: Craig Gunther, Second: János Farkas
 - Sending draft (y/n/a): <y>,<n>,<a>
 - CSD (y/n/a): <y>,<n>,<a>
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Consent Agenda Liaisons and external communications
 - Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-response-SG15-LS187-clarifications-on-fronthaul-sync-requirements-0719-v01.pdf> as communication to ITU-T SG15 and CPRI Cooperation, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - This approval is under LMSC OM “Procedure for public statements to government bodies”
 - In the WG (y/n/a): 29, 0, 1
 - Proposed: János Farkas Second: Jessy Rouyer
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
 - Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-response-SG15-LS187-CMde-draft-sharing-0719-v01.pdf> as communication to ITU-T SG15, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - This approval is under LMSC OM “Procedure for public statements to government bodies”
 - In the WG (y/n/a): 30,0,0
 - Proposed: János Farkas Second: Jessy Rouyer
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Motion

- Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-response-SG15-LS188-management-coordination-0719-v01.pdf> as communication to ITU-T SG15 granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - This approval is under LMSC OM “Procedure for public statements to government bodies”
- In the WG (y/n/a): 30, 0, 0
 - Proposed: János Farkas Second: Jessy Rouyer
- In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-response-3GPP-RAN2-Ethernet-header-compression-0719-v01.pdf> as communication to 3GPP RAN WG2, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - In the WG (y/n/a): 29, 0, 1
 - Proposed: János Farkas Second: Jessy Rouyer
 - In EC, for information
 - Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-response-3GPP-SA2-5G-integration-with-TSN-0719-v01.pdf> as communication to 3GPP SA WG2, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - In the WG (y/n/a): 30, 0, 0
 - Proposed: János Farkas Second: Jessy Rouyer
 - In EC, for information
- 802.1 Motions for LMSC agenda, including supporting material
 - Motion
 - Approve forwarding P802.1AS-Rev PAR extension in <http://www.ieee802.org/1/files/public/docs2019/as-PAR-extension-0719-v01.pdf> to NesCom
 - Approve (unmodified) CSD documentation in <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0243-00-ACSD-p802-1as.pdf> [This PAR was submitted under the 48-hour rule (OM 9.2)]
 - In the WG, Proposed: János Farkas, Second: Craig Gunther
 - PAR (y/n/a): 35, 0, 0
 - CSD (y/n/a): 35, 0, 0
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- External Communications (ME)
 - Motion
 - Approve liaison of the following comment responses to ISO/IEC JTC1/SC6 under the PSDO agreement:
 - IEEE 802.1AE-2018
 - <http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResp1AE-0719-v03.pdf>
 - IEEE 802.1Xck-2018
 - <http://www.ieee802.org/1/files/public/docs2019/maint-randall-SC6CommentResponse1Xck-0719-v01.pdf>
 - In the WG, Proposed: Paul Congdon Second: Mick Seaman
 - (y/n/a): 34, 0, 1
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>

- Motion
 - Approve submission of the following draft(s) to ISO/IEC JTC1/SC6 for information under the PSDO agreement
 - P802.1X-Rev
 - P802.1Qcxconditional on the draft entering SA ballot
 - In the WG, Proposed: Paul Congdon Second: Mick Seaman
 - Sending draft (y/n/a): 35, 0, 0
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- Motion withdrawn
 - Approve submission of the following draft(s) to ISO/IEC JTC1/SC6 for adoption under the PSDO agreement, once approved and published.
 - IEEE 802.1AS-2019
 - In the WG, Proposed: Paul Congdon Second: János Farkas
 - (y/n/a): <y>,<n>,<a>
 - In EC, mover: Jessy Rouyer Second: David Law
 - (y/n/a): <y>,<n>,<a>
- 802.1 Internal motions
 - Motion
 - 802.1 approves the March 2019 (Plenary), and May 2019 (Interim) minutes:
 - <http://www.ieee802.org/1/files/public/minutes/2019-03-minutes-v1.pdf>
 - <http://www.ieee802.org/1/files/public/minutes/2019-05-minutes-v2.pdf>
 - Proposed: Jessy Rouyer Seconded: János Farkas
 - Approved by Acclamation
 - Motion
 - 802.1 authorizes Nendica to hold teleconferences on 2019-08-21 (09:00 ET), 2019-08-28 (09:00 ET), and 2019-09-04 (09:00 ET), with additional teleconferences to be announced at least 10 days in advance
 - Access information is posted on the <https://1.ieee802.org/802-nendica> page.
 - Agenda will be provided at least five days before the call to the Nendica reflector.
 - Proposed: Zein Second: Marks
 - Approved by acclamation
- Maintenance TG motions
 - Motion
 - 802.1 authorizes the Maintenance TG to hold teleconferences on 3rd September 2019 and 5th November 2019 at 11am EST if necessary. Access information will be posted to the 802.1 reflector in advance. Agenda will be posted at least 5 days in advance.
 - Proposed: Paul Congdon
 - Second: Jessy Rouyer
 - Approved by acclamation
- Security TG motions
 - Motion
 - Authorize the editor of P802.1AE-Cor1, Mick Seaman, to prepare drafts for Working Group balloting.
 - Proposed: Seaman Second: Fedyk
 - For: 33 Against: 0 Abstain: 0
 - Motion

- Authorize the September 2019 Interim to generate a PAR and CSD for an amendment to IEEE Std 802.1AE specifying MACsec Privacy Protection and authorize pre-circulation to LMSC for approval in November.
- Proposed: Seaman Second: Fedyk
 - For: 32 Against: 0 Abstain: 0
- [A summary of the proposed work is available at
<http://www.ieee802.org/1/files/public/docs2019/new-seaman-mac-privacy-summary-0519-v00.txt>
A provisional draft PAR was developed during the May interim and should serve as a starting point for our September discussion
<http://www.ieee802.org/1/files/public/docs2019/dk-seaman-mac-privacy-protection-draft-par-0519-v00.pdf>]
- Motion
 - Authorize the Security Task Group to hold teleconferences to progress P802E, P802.1X-Rev, P802.1AE-Cor1, MACsec Privacy Protection 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: Fedyk
 - Approved by acclamation
- TSN TG motions
 - Motion
 - 802.1 authorizes the September 2019 Interim to generate PAR and CSD for precirculation to LMSC for a standard specifying an IEEE YANG data model for EtherTypes.
 - Proposed: Stephan Kehrer
 - Second: Jessy Rouyer
 - In the WG (y/n/a): 35 / 0 / 1
 - Motion
 - Authorize the editor of P802.1CMde, Janos Farkas, to prepare drafts for and conduct Working Group balloting.
 - Proposed: Stephan Kehrer
 - Second: Jessy Rouyer
 - In the WG (y/n/a): 33 / 0 / 1
 - Motion
 - Authorize the editor of P802.1ABcu, Scott Mansfield, to prepare drafts for Working Group balloting.
 - Proposed: Janos Farkas
 - Second: Gunter Steindl
 - In the WG (y/n/a): 34 / 0 / 0
 - Motion
 - Authorize the editor of P802.1Qcw, Marina Gutierrez, to prepare drafts for Working Group balloting.
 - Proposed: Janos Farkas
 - Second: Ludwig Winkel
 - In the WG (y/n/a): 36 / 0 / 0
 - Motion
 - Authorize the September 2019 interim meeting to prepare a PAR and/or CSD modification for precirculation to the LMSC, for P802.1CS (Link-Local Registration Protocol) to add provision for a proxy system to operate LRP on behalf of a controlled system.
 - Proposed: Norm Finn

- Second: Feng Chen
- In the WG (y/n/a): 32 / 0 / 1
- Motions – Any others?
 - Motion
 - 802.1 authorizes Roger Marks, the Editor of P802.1CQ Multicast and Local Address Assignment to prepare drafts for and conduct Task Group balloting.
 - Proposed: János Farkas
 - Second: Max Riegel
 - In the WG (y/n/a): 36, 0, 1
 - Motion
 - 802.1 authorizes the TSN Task Group to hold pre-meeting on the Monday morning of the November 2019 Plenary session.
 - Proposed: János Farkas
 - Second: Craig Gunther
 - In the WG (y/n/a): 35, 0, 1
 - Motion
 - 802.1 authorizes the TSN Task Group to hold an Interim meeting on November 15, 2019 (i.e., the Friday after the IEEE 802.1 Closing Plenary) together with IEC/IEEE 60802 Joint Project and P802.1DG work.
 - Proposed: János Farkas
 - Second: Ludwig Winkel
 - In the WG (y/n/a): 33, 2, 2
 - Motion
 - 802.1 authorizes the TSN Task Group to hold an Interim meeting on September 23, 2019, to progress the IEEE P802.DG Project. The meeting is hosted by General Motors.
 - no registration fee
 - location: Location: Detroit, MI, USA (see <http://www.ieee802.org/1/meetings/> for details)
 - Proposed: Craig Gunther
 - Second: János Farkas
 - In the WG (y/n/a): 36, 0, 0
 - Motion
 - 802.1 authorizes the TSN Task Group to hold teleconferences weekly on Mondays from 11AM (US- Eastern) to 1PM (US-Eastern).
 - Access information is posted on the <http://www.ieee802.org/1/tsn> page and will be updated as necessary.
 - Agenda will be announced on the 802.1 email reflector at least 5 days before the call.
 - Proposed: János Farkas
 - Second: Craig Gunther
 - In the WG (y/n/a): 36, 0, 0
 - Motion
 - 802.1 authorizes the TSN Task Group to hold bi-weekly teleconferences weekly on Mondays from 11AM (US-Eastern) to 1PM (US-Eastern).
 - Access information is posted on the <http://www.ieee802.org/1/tsnpage> and will be updated as necessary.
 - Agenda will be announced on the 802.1 email reflector at least 5 days before the call.
 - Proposed: János Farkas
 - Second: Craig Gunther

- Approved by acclamation
- Motion
 - 802.1 authorizes the TSN Task Group to hold bi-weekly teleconferences together with IEC 65C/WG9 to progress the IEC/IEEE 60802 Joint Project on Mondays from 9AM (US-Eastern) to 11AM (US-Eastern); starting with August 5th, 2019.
 - Access information is posted on the <http://www.ieee802.org/1/tsnpage> and will be updated as necessary.
 - Agenda will be announced on the 802.1 email reflector at least 5 days before the call.
 - Proposed: János Farkas
 - Second: Ludwig Winkel
 - Approved by acclamation
- Motion
 - 802.1 authorizes the TSN Task Group to hold bi-weekly teleconferences to progress the P802.1DG project on Tuesdays from 9AM (US-Eastern) to 10AM (US-Eastern) starting with August 6th, 2019.
 - Access information is posted on the <http://www.ieee802.org/1/tsnpage> and will be updated as necessary.
 - Agenda will be announced on the 802.1 email reflector at least 5 days before the call.
 - Proposed: Craig Gunther
 - Second: János Farkas
 - Approved by acclamation
- Motion
 - 802.1 authorizes monthly teleconferences for the YANGsters group convening on the last Tuesday of every month from 10AM (US-Eastern) to 11AM (US-Eastern), starting with July 30, 2019.
 - Access information is posted on the <https://1.ieee802.org/yangsters/yangsters-call-information/page> and will be updated as necessary.
 - Agenda will be announced at least 5 days before the call.
 - Proposed: Ludwig Winkel
 - Second: Stephan Kehrer
 - Approved by acclamation
- TSN Liaisons and Communication
 - Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-response-IEEE-1722-MAC-allocation-0719-v01.pdf> as communication to IEEE 1722, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - Proposed: Roger Marks
 - Second: Max Riegel
 - In the WG (y/n/a): 35, 0, 0
 - Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-ORAN-CM-update-0719-v01.pdf> as communication to O-RAN Alliance Open Fronthaul Interface Workgroup, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - Proposed: János Farkas
 - Second: Jessy Rouyer
 - In the WG (y/n/a): 30, 0, 0
 - Motion

- Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-MEF-CFM-YANG-update-v01.pdf> as communication to MEF Forum, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
- Proposed: Jessy Rouyer
- Second: János Farkas
- In the WG (y/n/a): 38, 0, 0
- Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-Avnu-Automotive-v01.pdf> as communication to Avnu Alliance, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - Proposed: Craig Gunther
 - Second: János Farkas
 - In the WG (y/n/a): 37, 0, 1
- Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-AUTOSAR-v01.pdf> as communication to AUTOSAR, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - Proposed: Craig Gunther
 - Second: János Farkas
 - In the WG (y/n/a): 37, 0, 0
- Motion
 - Approve <http://www.ieee802.org/1/files/public/docs2019/liaison-JASPAR-v01.pdf> as communication to JASPAR, granting the IEEE 802.1 WG chair (or his delegate) editorial license.
 - Proposed: Craig Gunther
 - Second: János Farkas
 - In the WG (y/n/a): 37, 0, 0

5:05 PM adjournment

12 Next Session

September 16-20, 2019, Edinburgh, UK