

IEEE 802.1 Working Group

September 12-16, 2022 Interim Session

Albany, NY, USA (Hybrid)

Session Minutes

The Working Group (WG) Chair, Glenn Parsons, presided and had requested that subgroup Chairs in remote attendance had on-site individuals acting on their behalf as needed to help conduct proceedings with both local and remote participants.

The Recording Secretary, Jessy Rouyer, wrote and/or edited the minutes in part based on input from subgroup Chairs and their Secretaries.

Note that, throughout this document, minuted/recorded inputs from any attendee can not/shall not be assumed to represent a position of their employer or affiliated organization. Discussion points captured do not necessarily reflect the views of the presenter, discussion leader or minute taker, and do not imply consensus unless that is explicitly minuted. The content of draft standards is determined by the ballot process; other formal decisions are the subject of Working Group motions.

1 Attendance and affiliation

The table in this section reflects the attendance (denoted by the ● symbol) and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

			TSN, Fri Sep 16, 2022, 13:30-17:00 ET																			
			TSN - IEC/IEEE 60802, Fri Sep 16, 2022, 08:00-13:00 ET																			
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			TSN, Mon Sep 12, 2022, 08:00-10:00 ET																			
Last name	First name	Affiliation																				
Akifumi	Kasamatsu	NICT*																				
Alexandris	Konstantinos	Huawei Technologies Duesseldorf GmbH	●	●	●	●	●			●	●											
Andre	Jean-Marie	ST micro																				
Anzai	Daisuke	Nagoya Institute of Technology*																				
Arunarathi	Venkat	Broadcom Corporation																				
Assmann	Ralf	Marvell Semiconductor, Inc.																				
Bahn	Christy	IEEE STAFF																				
Bansal	Ankur	SAMSUNG																				
Bao	Huajie	Huawei Technologies Co., Ltd	●	●	●																	
Barras	David	3db Access AG																				
Becker	Alie	NSA*																				
Beecher	Philip	Wi-SUN Alliance																				

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Last name	First name	Affiliation																			
Behnamfar	Firouz	Apple Inc.																			
Belliardi	Rudy	Schneider Electric
Bernier	Eric	HUAWEI		.																	
Bettesh	Ido	Apple Inc.							.												
Bierschenk	Jens	Robert Bosch GmbH
Birdi	Amarjot	Ericsson AB	.	.				.													
Blendin	Jeremias	Intel Corporation
Boiger	Christian	Infineon Technologies
Bottorff	Paul	Hewlett-Packard Development Company, L.P.
Boyle	Vincent	NSA Center for Cybersecurity Standards							.	.											
Canchi	Radhakrishna	Kyocera International Inc
Castro	Jose	Panduit															.				
Chaine	Pierre-Julien	Airbus*												.							
Chen	Feng	Siemens AG
Chen	Run	New Radio Technology Co., Ltd.								.											
Chen	Shuang	Huawei*																		.	
Choi	Sangsung	Kookmin University							.												
Choudhury	Abhijit	Broadcom Corporation
Coelho	Rodrigo	Siemens AG
Congdon	Paul	Huawei Technologies Co., Ltd
Cummings	Rodney	National Instruments Corporation
De Ruijter	Hendricus	Silicon Laboratories							.												
DeLaOlivaDelgado	Antonio	Universidad Carlos III Madrid		.																	
Donnelly	Rob	NASA-JPL															
Dorr	Josef	Siemens AG
Dotlic	Igor	Qorvo							.												
Ekrem	Ersen	*							.												
Engelmann	Anna	Volkswagen AG
Enzinger	Thomas	B&R Industrial Automation GmbH		.																.	
Farkas	Janos	Ericsson AB
Fedyk	Donald	LabN Consulting, L.L.C.
Finn	Norman	Huawei Technologies Co., Ltd
Fischer	Kai	Siemens AG							.												
Franchuk	Brian	Emerson Process Management
Furch	Andreas	Siemens AG							.	.											
Garner	Geoffrey	Huawei Technologies Co., Ltd
Gelish	Joseph	ANSI, SAE, NIST, DOE, ITS America
Ghosh	Chittabrata	Facebook, Inc.							.												
Gilb	James	University of San Diego							.												
Gonzalez	Angela	Huawei Technologies Duesseldorf GmbH						.			.										
Gravel	Mark	Hewlett Packard Enterprise
Grosswindhager	Bernhard	NXP Semiconductors							.												
Gu	Chengyu	Aptiv*	.	.	.																
Guimond	Raphael	SPARK Microsystems							.												
Gunther	Craig	LabN Consulting, L.L.C.						
Guo	Jianlin	Mitsubishi Electric Research Labs (MERL)							.												
Guo	Ziyang	Huawei Technologies Co., Ltd							.												
Gutierrez	Marina	RealTime-at-Work (RTaW)						.	.												
Haddock	Stephen	Stephen Haddock Consulting, LLC

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Last name	First name	Affiliation																		
Lv	Jingfei	Huawei Technologies Co., Ltd	.	.																
Lv	Lily	Huawei Technologies Co., Ltd
Lyalikov	Vlad	Microchip Technology, Inc.								
Maetzu	David	SoC-e			.															
Mangin	Christophe	Mitsubishi Electric Corporation
Mansfield	Scott	Telefon AB LM Ericsson
Markham	Steve	GE; General Electric							.											
Marks	Roger	EthAirNet Associates;Huawei	
Masthi Parthasarathi	Srivathsa	NXP Semiconductors							.											
Mater	Olaf	Marvell Semiconductor, Inc.
McCall	David	Intel
McIntosh	James	Microchip Technology, Inc.
McMillan	Larry	Western Digital Corporation	
Meisinger	Andreas	Siemens AG																	.	.
Miquel Jornet	Josep	Northeastern University								.										
Mittelberger	Martin	Siemens AG
Mueller	Robert	Technische Universitaet Ilmenau								.										
Nabki	Frederic	SPARK Microsystems								.										
Nagai	Yukimasa	Mitsubishi Electric Corporation								.										
Nakano	Hiroki	CAHI Corporation; Kyoto University; National Institute of Information and Communications Technology
Naves	Raphael	Dassault-aviation			.					.										
Noseworthy	Bob	University of New Hampshire InterOperability Laboratory (UNH-IOL)
Orlando	Christian	IEEE STAFF
Ostertag	Martin	Zurich University of Applied Sciences
Osuga	Toru	National Institute of Information and Communications Technology (NICT)																	.	
Palmer	Clark	Meteorcomm LLC								.										
Pannell	Donald	NXP Semiconductors
Parkholm	Ulf	Ericsson AB								.				.						
Parsons	Glenn	Ericsson AB
Patel	Tushar	Teradyne, Inc.								.										
Peng	Xiaohui	Huawei Technologies Co., Ltd								.										
Peters	Kevin	Inneos																.		
Pfaff	Oliver	Siemens AG							.											
Powell	Clinton	Powell Wireless Consulting, LLC								.										
Prieux	Philippe	Airbus*			.					.										
Proell	Dieter	Siemens AG
Rahmani	Mohammad	SPARK Microsystems								.										
Randall	Karen	Randall Consulting
Rang	John	GE Aviation
Redlich	Oded	Huawei Technologies Co., Ltd								.										
Rodrigues	Silvana	Huawei Technologies Co., Ltd
Rolfe	Benjamin	Blind Creek Associates								.										
Rouyer	Jessy	Nokia
Roy	Rajeev	NXP Semiconductors
Saito	Hiroki	ARIS Inc.								.										
Sand	Stephan	German Aerospace Center (DLR)								.										

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Last name	First name	Affiliation																				
Santulli	Jennifer	IEEE STAFF																				
Sato	Atsushi	Yokogawa Electric Corporation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sayrafian	Kamran	National Institute of Standards and Technology																				
Schroeder	Christian	GE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Seaman	Michael	Individual	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Seewald	Maik	Cisco Systems, Inc.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sekine	Norihiko	NICT, Japan*																				
Sever	Fatih	ASELSAN																				
Shilo	Shimi	Huawei Technologies Co., Ltd																				
Sivakolundu	Ramesh	Cisco Systems, Inc.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
So	Youngwan	Samsung Electronics Co., Ltd.																				
Specht	Johannes	Self; Analog Devices, Inc.; Mitsubishi Electric Corporation; Phoenix Contact GmbH & Co. KG; PROFIBUS Nutzerorganisation e.V.; Siemens AG; Texas Instruments, Inc.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Stamenic	Nemanja	Siemens AG	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Stanica	Marius	ABB AB	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Steindl	Guenter	Siemens AG	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Stewart	Ethan	University of New Hampshire InterOperability Laboratory (UNH-IOL)*																				
Stuebing	Gary	Cisco Systems, Inc.																				
Takita	Daisuke	Mitsubishi Electric Corporation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
traore	karim	Microchip/Microsemi Corporation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tse	Richard	Microchip Technology, Inc.																				
Turner	Max	Ethernova, BMW, Ruetz System Solutions	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Varga	Balazs	Ericsson AB	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Venkatesan	Ganesh	Intel	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Waimeo	Nels	Collins Aerospace																				
Wang	Tongtong	Huawei Technologies Co., Ltd																				
Wang	Xinyuan	Huawei Technologies Co., Ltd																				
Weber	Karl	Beckhoff Automation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Wentink	Menzo	Qualcomm Incorporated																				
Winkel	Ludwig	PNO e.V.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Woods	Jordon	Analog Devices Inc.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Xiao	Libra	NewRadio Technology Co., Ltd.																				
Yin	Yue	Huawei Technologies Co., Ltd																				
Yong	SuKhiong	Apple, Inc.																				
Young	Ethan	Raytheon Company																				
Yu	Yi	Rockwell Automation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Zaehring	Jamie	The Boeing Company																				
Zein	Nader	NEC Europe (NLE)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Zou	Qiyue	Meta																				

Not including IMAT attendance verified to have been recorded in error.
 (*) Last name, first name and affiliation possibly incorrect as derived from Webex access information or otherwise, and not provided in IMAT.

2 802.1 Officers and Leadership

- Chair: Glenn Parsons
- Vice-Chair and Recording Secretary: Jessy Rouyer
- Executive Secretary: Stephan Kehrer
- Liaison Secretary: Karen Randall
- Maintenance TG Chair: Paul Congdon
- Security TG Chair: Mick Seaman
 - Security TG Vice-Chair: Karen Randall
- TSN TG Chair: János Farkas
 - TSN TG Vice-Chair: Craig Gunther
 - TSN TG Secretary: Johannes Specht
 - IEC/IEEE 60802 Joint Project Chair: Ludwig Winkel
 - IEC/IEEE 60802 Joint Project Secretary: Josef Dorr
 - IEEE P802.1DP/SAE AS6675 joint project co-Chairs: Abdul Jabbar & János Farkas
 - IEEE P802.1DP/SAE AS6675 joint project Secretary: Marina Gutiérrez
- Nendica Chair: Roger Marks
- YANGsters Chair: Scott Mansfield
 - YANGsters Vice-Chair and Secretary: Stephan Kehrer
- Maintenance of Email exploder: Mark Hantel and Hal Keen
- Maintenance of website: Roger Marks

3 802.1/802.15 Joint Meeting

Between this session and the preceding session, 802.1/802.15 joint meetings were held whose minutes are incorporated to these session minutes by reference as follows:

- None

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

At this session, an 802.1/802.15 joint meeting was held whose minutes are incorporated to these session minutes by reference as follows:

- Page 7 of “802.15 WG & CAC Minutes September 2022 Hybrid Mtg”
<https://mentor.ieee.org/802.15/dcn/22/15-22-0529-01-0000-802-15-wg-cac-min-sept-2022-hybrid-plenary.docx>

4 Maintenance Task Group

Between this session and the preceding session, the IEEE 802.1 Maintenance Task Group (TG) held electronic meetings whose minutes are incorporated to these session minutes by reference as follows:

- Minutes of the Maintenance TG meeting held 2022-08-09 13:01 – 14:29 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;60a7c1b7.22>

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

Call to order Sep 13, 2022 at 8:00 ET by Mick Seaman, acting locally for remote Paul Congdon, IEEE 802.1 Maintenance TG Chair, who presided and wrote the minutes.

Agenda items and dispositions:

1. Meeting introduction. The IEEE SA slides on IEEE Patent Policy and IEEE SA Copyright and Participation Policies were provided beforehand as part of “MEETING INTRODUCTION” <http://www.ieee802.org/1/files/public/templates/admin-TG-intro-0721-v01.pdf>.

The Maintenance TG Chair showed this presentation advising that the following, provided beforehand, applies:

- 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.
- IEEE SA’s copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
- Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy.

The acting Maintenance TG Chair made the Calls for Potentially Essential Patents at the beginning of each TG meeting during this session 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 these Calls prior to the end of the session.

The acting Maintenance TG Chair asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the minute taker.

2. Approval of agenda. The acting Maintenance TG Chair presented the agenda in <https://1.ieee802.org/september-2022-interim-session-electronic-maintenance-tg-agenda/>

Disposition: The agenda was reviewed, discussed, and updated as recorded by these minutes.

3. Existing project status. The Maintenance TG Chair presented “Existing project status” in “Maintenance Task Group Electronic Meetings”
<https://www.ieee802.org/1/files/public/docs2022/maint-congdon-em-0922-1-v01.pdf>.

Disposition: For information. An EC ad hoc has been formed to define the process for other WG participation in P802-REVC WG ballots. The Maintenance TG Chair is requested to email Geoff Thompson and request membership in the ad hoc. NesCom had

two comments on P802.1CS-2020/Cor1 and those comments were sent to the Maintenance TG Chair.

4. P802.1ASdr editor's Update. Silvana Rodrigues, P802.1ASdr editor, presented "802.1ASdr editor's Update" <https://www.ieee802.org/1/files/public/docs2022/dr-Rodrigues-editors-update-0922-v02.pdf>.

Disposition: For information. It was agreed to change grandmaster to grandtimeTransmitter, which is different from IEEE 1588g. It was suggested to use the abbreviation 'gtt' to represent grandtimeTransmitter. It was agreed to make the MIB changes and generate a new v2 MIB instead of making updates to the existing MIB. It was agreed to include the 802.1AS-2020/Cor1 in the amendment to remain consistent with other 802.1AS amendments.

5. SC6 Status. Karen Randall presented "ISO/IEC JTC1 SC6 STATUS September 2022" slides in "Maintenance Task Group Electronic Meeting" <https://www.ieee802.org/1/files/public/docs2022/maint-congdon-em-0922-1-v01.pdf>.

Disposition: For information.

6. Liaison Activity. Karen Randall led a discussion on liaison activity since the July 2022 plenary session including:

- Invitation to update the information in the IMT2020 roadmap in <https://www.ieee802.org/1/files/public/docs2022/liaison-ITU-T-JCA-IMT2020roadmap-0722.pdf>

Received comment on IEEE 802.1AS-2020/Cor-1 (SC6 N17841).

Disposition: For information. Liaison responses will be developed and reviewed prior to the Nov 2022 plenary session.

7. Document Vehicle Status. The Maintenance TG Chair presented "Document Vehicle Status" in "Maintenance Task Group Electronic Meeting" <https://www.ieee802.org/1/files/public/docs2022/maint-congdon-em-0922-1-v01.pdf>.

Disposition: For information.

8. New Maintenance requests: the Maintenance TG Chair led the discussion of new maintenance requests:

- 0342: StreamID, StreamID Group, StreamID TLV – Max Turner
- 0343: Handling of stream_handle in Active Stream – Max Turner
- 0344: Handling of R-TAG in IP Stream Identification – Max Turner

Disposition: Details for discussion on all items are 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'.

9. Existing Maintenance requests: The Maintenance TG Chair led the discussion of the following existing maintenance requests:

- 0248: Managed objects for ECP in 802.1Q-2018 – Norman Finn

Disposition: Details for discussion on all items are 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'.

13. Any Other Business. None discussed.

14. Future meetings. It was agreed to hold two electronic meetings prior to the Nov 2022 plenary session. A meeting to work on maintenance requests is scheduled for Oct 11, 2022, 11:00 ET with agenda <https://1.ieee802.org/maintenance-tg-electronic-meeting-agenda-october-11-2022-11-am-et/>. A meeting dedicated to liaisons and 802 PAR comments is scheduled for Nov 1, 2022, 11:00 ET with agenda <https://1.ieee802.org/maintenance-tg-electronic-meeting-agenda-november-01-2022-11-am-et/>.

10:04 ET adjournment

5 Security Task Group

Between this session and the preceding session, the IEEE 802.1 Security Task Group (Security TG) held electronic meetings whose minutes are incorporated to these session minutes by reference as follows:

- None

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

Call to order Sep 14, 2022 at 10:30 ET by Mick Seaman, IEEE 802.1 Security TG Chair, who presided and wrote the minutes assisted by Karen Randall, Security TG Vice-Chair.

Agenda items and dispositions:

1. Meeting introduction. The IEEE SA slides on IEEE Patent Policy and IEEE SA Copyright and Participation Policies were provided beforehand as part of "MEETING INTRODUCTION"

<http://www.ieee802.org/1/files/public/templates/admin-TG-intro-0721-v01.pdf>.

The Security TG Chair showed this presentation advising that the following, provided beforehand, applies:

- 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.
- IEEE SAs copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
- Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy.

The Security TG Chair made the Calls 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 these Calls prior to the end of the session.

The Security TG Chair asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the minute taker.

2. Approval of agenda. The Security TG Chair presented the agenda in <https://1.ieee802.org/may-2022-interim-session-electronic-security-tg-agenda/>
Disposition: The agenda was reviewed, discussed and updated as recorded by these minutes.
3. P802.1AEdk MAC Privacy protection. The Security TG Chair reminded the meeting that P802.1AEdk MAC Privacy protection is out for SA ballot, closing Sep 20, 2022.
4. P802.1Qdt Priority-based Flow Control Enhancements. Lily Lv led a discussion of an initial draft of P802.1Qdt <https://www.ieee802.org/1/files/private/dt-drafts/d0/802-1Qdt-d0-0.pdf>.
Discussion:
 - Reviewed Clauses 1 through 5.
 - May need reference to IEEE 1588, check for explicit/normative references in the text.

- 1588 referenced for medium delay as part of headroom calculation. Very difficult aspect of the project.
- May not need ultra-precise timestamp. Do we need statement about accuracy?
- PFC preemption may lower headroom. PFC frames not envisaged as express frames.
- 12:30 -13:30 ET recess
- Adaptive headroom calculation. What is actually required is knowledge of the maximum amount of data that will be received after the decision to send a PFC has been made. This includes data that the remote system has already transmitted and is “in flight” at that decision time plus data sent during the time from decision time to PFC transmit plus PFC transmit delay, PFC recognition and processing by the remote system, and time to halt transmission. This is effectively the “round trip” from the receiving systems PFC transmitter back to the receiving system’s reception of data controlled by the PFC. It is actually independent of delay symmetry on the physical communication medium.
- The “round trip delay” is a better measure of the headroom as it avoids the need to add in a worst-case estimate of the internal transmission and processing delays in the remote system and its peer. A ping type protocol from PFC transmitter to a queue controlling entity should provide a fair measurement of the round trip, assuming that the time taken by the remote system to respond is close to the time that system would take to halt transmission of the PFC-affected traffic. DCBX (or the measurement protocol) could carry an adjustment parameter if the remote system knows an adjustment should be made. The PFC originator can make its own adjustment as necessary.
- The “round trip delay measurement” would naturally account for any additional internal delays, such as the use of MACsec to protect the PFC frames themselves. The measurement should use the same protection (or lack of it) as the PFC (in one direction) and the data in the other.
- MACsec enabled PFC frame transmission desirable to reduce potential for disruption.
- MACsec Privacy protection on PFCs probably not required. Timeliness would (in almost all cases) require transmission as Individual Privacy Frames (not in a Privacy Channel) to minimize headroom. Some adjustment of frame size could therefore be provided, which might provide a degree of obscurity if other traffic is being conveyed in Individual Privacy Frames. The problem is that the observable presence of PFC frames can reveal the fact that a large amount of real traffic is being carried, or that the priority mix of traffic has changed. Target environments for PFC may not be that sensitive.
- Plan a new presentation to the TSN TG to discuss headroom timing options again. Recommended to be more “Here’s what we think we should do” (round trip measurement) rather than a restart.
- Clause 38 DCBX. Goal statement needs modification.
- Clause 48 YANG Data model. Security considerations primarily concerned with denial of service. List the read-write objects.
- Annex D TLV Definitions.

Disposition: Next steps: work on overview required. Presentation to the TSN TG on round-trip measurement for headroom calculation. UML for management variables (concise one-page view). Security TG to review P802.1Qdt/D0.2

<https://www.ieee802.org/1/files/private/dt-drafts/d0/802-1Qdt-d0-2.pdf>

5. A.O.B (Any other business). No other business at this meeting.

6. Future meetings. The Security TG will not meet at the Nov 2022 plenary session in Bangkok, Thailand. Electronic meetings will be held separately to address the following topics:
 - P802.1AEdk SA ballot resolution.
 - P802.1Qdt status updates and a presentation on headroom timing for the TSN TG.
 - Continued discussion on the BBF liaison re: 802.1X YANG.

15:27 ET adjournment

6 Time-Sensitive Networking Task Group

Between this session and the preceding session, the IEEE 802.1 Time-Sensitive Networking (TSN) Task Group (TG) held electronic meetings on generic TSN topics whose minutes are incorporated to these session minutes by reference as follows:

- Minutes of the TSN TG meeting held 2022-08-29 11:00 - 12:58 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;8d933916.22&S=>
- Minutes of the TSN TG meeting held 2022-08-22, 11:00 - 13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;5919920e.22&S=>
- Minutes of the TSN TG meeting held 2022-08-15 11:00 - 13:10 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;52ff61c8.22&S=>
- Minutes of the TSN TG meeting held 2022-08-09 11:00 - 13:09 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;abe5ea72.22&S=>
- Minutes of the TSN TG meeting held 2022-08-08 11:00 - 12:39 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;d24421fa.22&S=>
- Minutes of the TSN TG meeting held 2022-08-01 11:00 - 13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;4894cb33.22&S=>
- Minutes of the TSN TG meeting held 2022-07-25, 11:00 - 13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;7a19b1d3.22&S=>
- Minutes of the TSN TG meeting held 2022-07-18, 11:00 - 12:49 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;e21b2ae3.22&S=>

Between this session and the preceding session, the IEEE 802.1 Time-Sensitive Networking (TSN) Task Group (TG) held electronic meetings on P802.1DG whose minutes are incorporated to these session minutes by reference as follows:

- Minutes of the IEEE P802.1DG meeting held 2022-08-30 9:00 - 10:56 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;777346ee.22&S=>
- Minutes of the IEEE P802.1DG meeting held 2022-08-16 9:00 - 10:33 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;4923b0b5.22&S=>

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

Minutes of the IEC/IEEE 60802 Joint Project electronic meetings are in section 6.1.

Minutes of the IEEE P802.1DP/SAE AS 6675 joint project electronic meeting are in section 6.2.

Call to order September 12, 8:05 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

Agenda items and dispositions:

1. Meeting introduction. The IEEE SA slides on IEEE Patent Policy and IEEE SA Copyright and Participation Policies were provided beforehand as part of “MEETING INTRODUCTION” <http://www.ieee802.org/1/files/public/templates/admin-TG-intro-0721-v01.pdf>.

The Chair showed this presentation advising that the following, provided beforehand, applies:

- 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.
- IEEE SA’s copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
- Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy.

The Chair made the Calls for Potentially Essential Patents at the beginning of each TG meeting during this session 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 these Calls prior to the end of the session.

The Chair asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.

2. Approval of agenda. The Chair presented the agenda in <https://1.ieee802.org/2022-07-plenary-tsn-agenda/>

Disposition: The agenda was reviewed, discussed, and updated as recorded by these minutes.

3. Stephan Kehrer, P802.1Qdj editor, presented “IEEE P802.1Qdj editor’s Report for Draft D0.3 Ballot Comment Resolution (v1)” <https://www.ieee802.org/1/files/public/docs2022/dj-kehrer-editors-report-d0-3-0722-v01.pdf> and led the resolution of comments received on <https://www.ieee802.org/1/files/private/dj-drafts/d0/802-1Qdj-d0-3.pdf>.

Disposition: Comments 27,54,63,68,81,126,133 were resolved as documented in <https://www.ieee802.org/1/files/private/dj-drafts/d0/802-1Qdj-d0-3-dis-v01.pdf>.

10:00 ET recess

Call to order September 12, 13:32 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

4. The Chair announced that this meeting remains subject to the Policies mentioned in agenda item 1 and asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.
5. Geoffrey Garner, P802.1ASdm editor, presented “P802.1ASdm-Rev/D0.7 editor’s Report Proposed Comment Resolution for TG Ballot Version 0”
<https://www.ieee802.org/1/files/public/docs2022/dm-garner-d0-7-tg-ballot-editors-report-0922-v00.pdf> and led the resolution of comments received on
<https://www.ieee802.org/1/files/private/asdm-drafts/d0/802-1ASdm-d0-5.pdf>.
Disposition: Partial comments resolution; see agenda item 18.

15:36 - 16:01 ET recess

6. Roger Marks, P802.1CQ editor, led the resolution of comments received on
<http://www.ieee802.org/1/files/private/cq-drafts/d0/802-1CQ-d0-8.pdf>.
Disposition: No comments concluded.
7. Stephan Kehrer, P802.1Qdj editor, led the resolution of comments received on
<https://www.ieee802.org/1/files/private/dj-drafts/d0/802-1Qdj-d0-3.pdf>.
Disposition: The comment resolution was concluded by resolving comments 12,56,77,92,135 as documented <https://www.ieee802.org/1/files/private/dj-drafts/d0/?C=M;O=D>.
8. Geoffrey Garner, P802.1ASdm editor, led the resolution of comments received on
<https://www.ieee802.org/1/files/private/asdm-drafts/d0/802-1ASdm-d0-5.pdf>.
Disposition: Partial comments resolution; see agenda item 18.

18:05 ET recess

Call to order September 14, 8:00 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

9. The Chair announced that this meeting remains subject to the Policies mentioned in agenda item 1 and asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.
10. Max Turner presented “Update on “Announce””
<https://www.ieee802.org/1/files/public/docs2022/dg-Turner-Announce-0922-v01.pdf>.
Disposition: Presentation discussed.
11. Geoffrey Garner, P802.1ASdm editor, led the resolution of comments received on
<https://www.ieee802.org/1/files/private/asdm-drafts/d0/802-1ASdm-d0-5.pdf>.
Disposition: Partial comments resolution; see agenda item 18.

10:10 ET recess

Call to order September 14, 13:30 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

12. The Chair announced that this meeting remains subject to the Policies mentioned in agenda item 1 and asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.
13. Norman Finn, P802.1DC editor, presented <https://www.ieee802.org/1/files/private/dc-drafts/d1/802-1DC-d1-3.pdf>.
Disposition: Draft presented.
14. Jeremias Blendin presented “Source Flow Control Design: Caching”
<https://www.ieee802.org/1/files/public/docs2022/dw-blendin-sfc-caching-0922-v02.pdf>.
Disposition: Presentation discussed.
15. Paul Bottorff, P802.1Qcj editor, led the resolution of comments received on <https://www.ieee802.org/1/files/private/cj-drafts/d1/802-1Qcj-d1-5.pdf>.
 - 15:01 - 16:01 ET recess**Disposition:** Comments 74, 79, 119, 112, 124, 81, 84, 85, 72, 80, 123, 107, 108, 109, 110, 111, 112, 113, 114, 116, 117, 75, 102, 129, 103, 88, 91, 92, 95, 96, 97, 98, 105, 106 were resolved as documented in <https://www.ieee802.org/1/files/private/cj-drafts/d1/802-1Qcj-d1-5-dis-v01.pdf>.

18:00 ET recess

Call to order September 15, 8:00 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

16. The Chair announced that this meeting remains subject to the Policies mentioned in agenda item 1 and asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.
17. Don Panell presented “P802.1ASds – Use Cases & Requirements”
<https://www.ieee802.org/1/files/public/docs2022/ds-pannell-Avnu-Automotive-UseCase-Requirements-0922-v01.pdf>.
Disposition: Presentation discussed.
18. Geoffrey Garner, P802.1ASdm editor, led the resolution of comments received on <https://www.ieee802.org/1/files/private/asdm-drafts/d0/802-1ASdm-d0-5.pdf>.
 - 10:00 - 10:30 ET recess**Disposition:** Comments 6,25,60,24,51,52,67,68,10,11,86 were resolved during this session as documented in <https://www.ieee802.org/1/files/private/asdm-drafts/d0/802-1ASdm-d0-7-pdis-v01.pdf>.

12:45 ET recess

Call to order September 15, 13:30 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

19. The Chair announced that this meeting remains subject to the Policies mentioned in agenda item 1 and asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.

20. Johannes Specht presented “P802.1CQ-D0.8, Comment 3 - Supportive Slides”
<https://www.ieee802.org/1/files/public/docs2022/cq-specht-d08comment03-0922-v02.pdf>.

Disposition: Presentation discussed.

21. Roger Marks, P802.1CQ editor, led the resolution of comments received on
<http://www.ieee802.org/1/files/private/cq-drafts/d0/802-1CQ-d0-8.pdf>.

- 16:03 - 16:30 ET recess

Disposition: The comment resolution was concluded by resolving comments 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 15, 17, 19, 20, 21 were resolved as documented in

<https://www.ieee802.org/1/files/private/cq-drafts/d0/802-1CQ-d0-8-dis.pdf>.

17:45 ET recess

Call to order September 16, 08:00 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

22. The Chair announced that this meeting remains subject to the Policies mentioned in agenda item 1 and asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.

23. Toru Osuga presented “Text Contribution to P802.1Qdq”
<https://www.ieee802.org/1/files/public/docs2022/dq-osuga-text-contribution-0922-v00.pdf>.

Disposition: Presentation discussed.

24. Shuang Chen presented “Considerations on stream aggregation in enhanced CQF scheme” <https://www.ieee802.org/1/files/public/docs2022/dv-SChen-StreamAggregationEnhancedCQF-0916-v01.pdf>.

Disposition: Presentation discussed.

25. Yizhou Li presented “Cycle Identification”
<https://www.ieee802.org/1/files/public/docs2022/dv-yizhou-cycle-identification-0922-v02.pdf>.

Disposition: Presentation discussed.

26. Paul Bottorff, P802.1Qcj editor, led the resolution of comments received on
<https://www.ieee802.org/1/files/private/cj-drafts/d1/802-1Qcj-d1-5.pdf>.

Disposition: The comment resolution was concluded by resolving comments 100, 101, 118, 120, 121, 125, 76, 77, 78, 82, 83, 85, 73, 86, 89, 90, 93, 94, 99, 104, 110, 127, 128, 130, 131, 132, 133 as documented in <https://www.ieee802.org/1/files/private/cj-drafts/d1/802-1Qcj-d1-5-dis-v01.pdf>.

10:02 ET recess

Call to order September 16, 13:30 ET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

27. The Chair announced that this meeting remains subject to the Policies mentioned in agenda item 1 and asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the Secretary.

28. Feng Chen, P802.1Qdd editor, led the resolution of comments received on <https://www.ieee802.org/1/files/private/dd-drafts/d1/802-1Qdd-d0-6.pdf>.
Disposition: The comment resolution was concluded by resolving comments 10, 11, 14, 15, 16, 17, 18, 19, 21, 22, 23, 34, 31, 54, 62, 35, 36, 72, 73, 78 as documented in <https://www.ieee802.org/1/files/private/dd-drafts/d0/?C=M;O=D>.
15:02 - 15:15 ET recess
29. Johannes Specht presented “Cut-Through Forwarding (CTF) - Updates since July 2022” <https://www.ieee802.org/1/files/public/docs2022/new-specht-ctfstatus-0922-v01.pdf>.
Disposition: Presentation discussed.

16:42 ET adjournment

6.1 IEC/IEEE 60802 Joint Project

Between this session and the preceding session, the IEC/IEEE 60802 Joint Project held electronic meetings whose minutes are incorporated to these session minutes by reference as follows:

- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-07-22 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;6916b739.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-01 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;2c4b60ff.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-05 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;81331d85.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-08 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;4d54e39d.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-12 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;3094da1b.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-15 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;70294e97.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-19 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;5063ba91.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-22 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;7cd594fc.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-26 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;e540a576.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-08-29 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;e64ba1df.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-09-02 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;c98ef883.22&S=>
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2022-09-09 9:00 - 11:00 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;28812ca2.22&S=>

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

Call to order Sep 12, 2022 at 10:30 ET by János Farkas, IEEE 802.1 TSN TG Chair (TSN TG Chair) acting locally for and presiding together with remote Ludwig Winkel, IEC/IEEE 60802 Joint Project Chair (60802 Chair). Ludwig Winkel is also IEC 65C/WG18 Convenor. Josef Dorr, IEC/IEEE 60802 Joint Project Secretary (60802 Secretary), wrote the minutes.

Agenda items and dispositions:

1. Meeting introduction and other administrative items. The IEEE SA slides on IEEE Patent Policy and IEEE SA Copyright and Participation Policies were provided beforehand as part of "MEETING INTRODUCTION" <http://www.ieee802.org/1/files/public/templates/admin-TG-intro-0721-v01.pdf>.

The TSN TG Chair showed this presentation advising that the following, provided beforehand, applies:

- 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.

The TSN TG Chair 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 this Call prior to the end of the session.

The TSN TG Chair asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the minute taker.

The TSN TG Chair explained that the IEC/IEEE 60802 Joint Project also follows the usual IEC patent https://www.iec.ch/members_experts/tools/patents/patent_policy.htm and copyright https://www.iec.ch/standardsdev/resources/draftingpublications/overview/rules_requirements/copyright.htm policies.

2. Approval of agenda. The 60802 Chair presented the agenda in https://1.ieee802.org/2022-09-interim-tsn-agenda/#TSN_8211_IECIEEE_60802.

Disposition: The agenda was reviewed, discussed, and updated as recorded by these minutes.

3. Update on the IEC 61802 conformity assessment project. Mark Hantel provided on update. The steering committee for the TIACC (TSN Industrial Automation Conformance Collaboration) conformity assessment project convened and started work.

Disposition: For information.

4. editor's report. Jordon Woods, IEC/IEEE 60802 Joint Project editor (60802 editor), presented "editor's Report 60802 Draft 1.4" <https://www.ieee802.org/1/files/public/docs2022/60802-woods-D1-4-update-0922-v01.pdf>.

Disposition: For information.

5. P802.3cx introduction. Jingfei Lv presented "P802.3cx introduction" <https://www.ieee802.org/1/files/public/docs2022/60802-Lv-Rodrigues-802-3-cx-V00.pdf>.

The presentation and the implications on IEC/IEEE 60802 were discussed.

Disposition: More discussion is needed.

6. Status update on time sync discussion. David McCall, IEC/IEEE 60802 Joint Project Time Sync ad hoc Chair (Time Sync ad hoc Chair) presented “60802 Time Sync Ad Hoc Status Update” <https://www.ieee802.org/1/files/public/docs2022/60802-McCall-Time-Sync-Ad-Hoc-Status-Update-0922-v2.pdf>.

The email reflector STDS-802-1-60802-TS was created for the Time Sync ad hoc. An email to the main STDS-802-1-L reflector announced its readiness for subscription and use (<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-L;70e1f168.22&S=>).

Disposition: For information.

12:30 ET recess

Call to order Sep 13, 2022 at 13:30 ET by remote Ludwig Winkel, 60802 Chair, who presided with Mark Hantel acting locally for the former. Josef Dorr, 60802 Secretary, wrote the minutes.

7. Secure Device Identity Profile for IEC/IEEE 60802 contribution and presentation. Oliver Pfaff presented “Secure Device Identity Profile for TSN-IA” <https://www.ieee802.org/1/files/public/docs2022/60802-Pfaff-et-al-Secure-Device-Identity-Profile-0922-v05.pdf> together with the textual contribution <https://www.ieee802.org/1/files/public/docs2022/60802-Pfaff-et-al-Secure-Device-Identity-Profile-0922-v04.pdf>. The presentation was discussed.

Disposition: More discussion is needed. An updated revision of the contribution is expected based on the discussion.

8. Review of minutes. The minutes were reviewed under the lead of the 60802 Secretary.

15:30 ET recess

Call to order Sep 14, 2022 at 10:30 ET by János Farkas, TSN TG Chair, acting locally for and presiding together with remote Ludwig Winkel, 60802 Chair. Josef Dorr, 60802 Secretary, wrote the minutes.

9. Update of former contribution and Further 60802 Time Sync Simulation Results using Offset Compensation Factor.
 - Geoffrey Garner presented Revision 2 of “New Simulation results for Base Case and Case 1 of the Time Sync Breakout held during the IEC/IEEE 60802 Ad Hoc Session” <https://www.ieee802.org/1/files/public/docs2022/60802-garner-new-simul-results-base-case-case-1-of-June2022-ad-hoc-0722-v02.pdf> providing some corrected plots compared to the 1st revision of the presentation <https://www.ieee802.org/1/files/public/docs2022/60802-garner-new-simul-results-base-case-case-1-of-June2022-ad-hoc-0722-v01.pdf>.
 - Geoffrey Garner then presented “Further 60802 Time Sync Simulation Results using Offset Compensation Factor” <https://www.ieee802.org/1/files/public/docs2022/60802-garner-further-time-sync-simulation-results-using-ocf-0922-v02.pdf> based on an alternative synchronization scheme described in <https://www.ieee802.org/1/files/public/docs2022/60802-Obradovic-Controller-for-ClockSlaves-0622.pdf>.

Disposition: More discussion is needed in the Time Sync ad hoc Group. Further analysis is expected based on the Whitepaper

<https://www.ieee802.org/1/files/public/docs2022/60802-Obradovic-Simulation-WhitePaper-0922.pdf>.

10. 60802 Time Synchronization – Monte Carlo Analysis. David McCall presented “60802 Time Synchronization – Monte Carlo Analysis: 100-hop Model, ‘Linear’ Clock Drift, NRR Accumulation - Overview & Details, Including Equations”
<https://www.ieee802.org/1/files/public/docs2022/60802-McCall-Monte-Carlo-Multi-Hop-Overview-and-Details-0922-v02.pdf>.

Disposition: To be continued after recess.

12:30 – 13:30 ET recess

Mark Hantel took over as acting 60802 Chair.

11. 60802 Time Synchronization – Monte Carlo Analysis. David McCall continued the presentation that was started before recess. The presentation was discussed.

Disposition: Discussion is to be continued in the Time Sync ad hoc group.

12. D1.4 TG ballot comment resolution. The IEC/IEEE 60802 editor continued the resolution of comments received on <https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4.pdf>.

Disposition: to be continued after recess.

15:30 – 16:00 ET recess

13. D1.4 TG ballot comment resolution. The IEC/IEEE 60802 editor continued the resolution of comments received on <https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4.pdf>.

Disposition: Partial disposition.

- Ballot comments 437, 439, 440, 426, 142, 427, 192, 80 were resolved.
- The comment dispositions are documented in

<https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4-pdis-v16.pdf>.

14. Review of minutes. The minutes were reviewed under the lead of the 60802 Secretary.

18:00 ET recess

Call to order Sep 15, 2022 at 13:30 ET by Mark Hantel acting locally for and presiding together with remote Ludwig Winkel, 60802 Chair. Josef Dorr, 60802 Secretary, wrote the minutes.

15. D1.4 TG ballot comment resolution. The 60802 editor continued the resolution of comments received on <https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4.pdf>.

For resolution of comments #446 and #447 Thomas Enzinger presented “Requirements for Digital Data Sheets: Filename conventions”

<https://www.ieee802.org/1/files/public/docs2022/60802-Enzinger-Filename-conventions-0922-v01.pdf>.

Disposition: To be continued after recess.

15:30 – 16:00 ET recess

16. Time Sync - discussion of acceptable balance for solution, between complexity of implementation and other factors. David McCall presented “Addressing Errors – Complexities & Tradeoffs – Ad Hoc Next Steps”

<https://www.ieee802.org/1/files/public/docs2022/60802-McCall-Time-Sync-Errors-Complexity-Tradeoffs-Ad-Hoc-Next-Steps-0922-v02.pdf>.

Disposition: To be processed in the Time Sync ad hoc Group with next steps as described in the contribution. More discussion is needed in the Time Sync ad hoc group.

17. D1.4 TG ballot comment resolution. The IEC/IEEE 60802 editor continued the resolution of comments received on <https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4.pdf>.

Disposition: Partial disposition.

- Ballot comments 446, 447, 302, 301, 300, 86, 250, 251, 104, 173, 213, 174, 175, 349, 176, 383, 214, 62 were resolved.
- The comment dispositions are documented in <https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4-pdis-v16.pdf>.

18:00 ET recess

Call to order Sep 16, 2022 at 8:00 ET by Mark Hantel acting locally for and presiding together with remote Ludwig Winkel, 60802 Chair. Josef Dorr, 60802 Secretary, wrote the minutes.

18. Naming Convention for interfaces. Stephan Kehrer presented “IEC/IEEE 60802 internal LAN connection model” <https://www.ieee802.org/1/files/public/docs2022/60802-kehrer-interface-naming-0922-v01.pdf>. The presentation was discussed.

Disposition: The proposed changes of D1.4 Figure 21 and the l2vlan interface naming scheme were accepted. The response to D1.4 comment #258 is to be revised accordingly.

19. Digital Datasheet. Stephan Kehrer presented “IEC/IEEE 60802 Digital Datasheet” <https://www.ieee802.org/1/files/public/docs2022/60802-kehrer-digital-datasheet-0922-v01.pdf>. The presentation was discussed. It was proposed to identify in the YANG data selection subclauses of 60802 (6.7.10 YANG representation of managed objects) data, which is considered necessary, irrelevant, or missing for the data sheet.

Disposition: More discussion and further analysis of IETF RFC 9195 “A File Format for YANG Instance Data” are needed.

10:00 – 10:30 ET recess

20. Stream request and response dynamics for IA. Rodrigo Ferreira Coelho presented “Stream request and response dynamics for IA”

<https://www.ieee802.org/1/files/public/docs2022/60802-coelho-stream-req-resp-dynamics.pdf>. It was discussed where the presented management system should be described.

Disposition: More discussion is needed.

21. D1.4 TG ballot comment resolution. The 60802 editor continued the resolution of comments received on <https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4.pdf>.

Disposition: Partial disposition.

- Ballot comments 215, 216 were resolved.
- Ballot comment 258 was revised based on the presentation of agenda item 19. Naming Convention for interfaces.
- The comment dispositions are documented in <https://www.ieee802.org/1/files/private/60802-drafts/d1/60802-d1-4-pdis-v16.pdf>.

22. Review of minutes. The minutes were reviewed under the lead of the 60802 Secretary.

12:30 ET adjournment

6.2 IEEE P802.1DP/SAE AS6675 joint project

Between this session and the preceding session, the IEEE 802.1 Time-Sensitive Networking (TSN) Task Group (TG) held electronic meetings on P802.1DP/SAE AS6675 whose minutes are incorporated to these session minutes by reference as follows:

- None

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

Call to order Sep 13, 2022 at 10:32 ET by János Farkas, IEEE 802.1 TSN TG Chair. Abdul Jabbar and János Farkas, IEEE P802.1DP/SAE AS6675 joint project co-Chairs, presided. Marina Gutiérrez, IEEE P802.1DP/SAE AS6675 Secretary, wrote the minutes.

Agenda items and dispositions:

1. Meeting introduction. The IEEE SA slides on IEEE Patent Policy and IEEE SA Copyright and Participation Policies were provided beforehand as part of "MEETING INTRODUCTION" <http://www.ieee802.org/1/files/public/templates/admin-TG-intro-0721-v01.pdf>.

János Farkas, IEEE P802.1DP/SAE AS6675 co-Chair, announced that the meeting is subject to these Policies as read and displayed at the opening plenary meeting.

János Farkas, IEEE P802.1DP/SAE AS6675 co-Chair, asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the minute taker.

János Farkas, IEEE P802.1DP/SAE AS6675 co-Chair, explained that the IEEE P802.1DP/SAE AS6675 Joint Project also follows the usual SAE IP and copyright <https://www.sae.org/about/legal-policies/intellectual-property> policies.

2. Approval of agenda. János Farkas, IEEE P802.1DP/SAE AS6675 co-Chair, presented the agenda in https://1.ieee802.org/2022-09-interim-tsn-agenda/#TSN_8211_P8021DPAS6675.

Disposition: The agenda was reviewed, discussed and agreed (informally, none dissenting) as presented.

3. Abdul Jabbar presented "IEEE SAE Joint Development Procedure Document"
<https://www.ieee802.org/1/files/public/docs2022/dp-IEEE-SAE-joint-development-procedure-0922-v01.pdf>.
Disposition: For information only.
4. Abdul Jabbar presented "P802.1DP Editors Update"
<https://www.ieee802.org/1/files/public/docs2022/dp-jabbar-editors-update-0922-v01.pdf>.
Disposition: Presentation was discussed. More discussion is needed.
5. David Modroño presented "Time Sync Simplification For Safety Critical Applications"
<https://www.ieee802.org/1/files/public/docs2022/dp-Modrono-time-sync-safety-applications-0922-v01.pdf>.
Disposition: Presentation was discussed. More discussion is needed.

12:33 - 13:32 ET recess.

6. Abdul Jabbar presented "Time Sync Integrity"
<https://www.ieee802.org/1/files/public/docs2022/dp-jabbar-Time-Sync-Integrity-0922-v03.pdf>.
Disposition: Presentation was discussed. More discussion is needed.

15:32 ET adjournment

7 Nendica

Between this session and the preceding session, the IEEE 802 "Network Enhancements for the Next Decade" Industry Connections Activity (Nendica) held electronic meetings whose minutes are incorporated to these session minutes by reference as follows:

- Minutes of the Nendica meeting held 2022-07-28 09:00-13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-Minutes;53df2938.22>
- Minutes of the Nendica meeting held 2022-08-04 09:00-13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-Minutes;10d6161e.22>
- Minutes of the Nendica meeting held 2022-08-18 09:00-13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-Minutes;7879e29d.22>
- Minutes of the Nendica meeting held 2022-08-25 09:00-13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-Minutes;45577dc9.22>
- Minutes of the Nendica meeting held 2022-09-01 09:00-13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-Minutes;ba82c1a3.22>
- Minutes of the Nendica meeting held 2022-09-08 09:00-13:00 ET
<https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;f6e5c26b.22>

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

Call to order Sep 15, 2022 at 8:05 ET by Jessy Rouyer, acting locally for remote Roger Marks, Nendica Chair, who presided and wrote the minutes.

Agenda items and dispositions:

1. Meeting introduction and other administrative items. The IEEE SA slides on IEEE Patent Policy and IEEE SA Copyright and Participation Policies were provided beforehand as part of "MEETING INTRODUCTION" "<http://www.ieee802.org/1/files/public/templates/admin-prePAR-intro-0721-v01.pdf>". The acting Chair showed this presentation advising that the following applies:
 - IEEE SA's copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
 - Any material submitted during the Nendica meeting, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy.The acting Chair asked the Nendica Chair to preside over the remainder of the meeting. The Nendica Chair asked participants to record their attendance in IMAT and, if they are unable to do so, to promptly provide their affiliation to the minute taker.
2. Approval of agenda. The Mentor server document list was noted.
Disposition: The agenda was reviewed and agreed (informally, none dissenting) as <https://1.ieee802.org/802-nendica-agenda-2022-09-15/>.
3. Minutes. The Nendica Chair reviewed the draft "Minutes of the Nendica meeting held 2022-09-08 09:00-11:00 ET" <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;74d17705.22>.
Disposition: It was agreed (informally, none dissenting) to approve the minutes, revised to indicate the affiliation of a participant.
Note: the approved revised minutes are at <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;f6e5c26b.22>.
4. Update. No discussion.
5. Nendica organization. No discussion.
6. CTF Study Item.
 - Roger Marks presented "Generic Serial Convergence Function (GSCF)" (Rev. 3) https://mentor.ieee.org/802.1/documents?is_group=ICne&is_year=2022&is_dcn=0040 with a focus on the new slides (21 and 22). He also addressed comments raised by participants on some prior slides.
 - Johannes Specht presented "Technical Descriptions for Cut-Through Forwarding in Bridges (Rev. 2)" https://mentor.ieee.org/802.1/documents?is_group=ICne&is_year=2022&is_dcn=0042, noting a large amount of new material. Aspects of the contribution were discussed.
7. CPF12 Forwarding Study Item. The Study Item leader, Huajie Bao, noted that no contributions had been received but that a contribution to the following week's Nendica meeting may address the interest expressed earlier in further details regarding slides 8 and 10 of the contribution "EtherCAT Relay Function" (Rev. 1) https://mentor.ieee.org/802.1/documents?is_group=ICne&is_year=2022&is_dcn=0041.
8. ELLA Study Item. The ELLA Study Item leader noted no contributions.
9. Vetting and New Topics. No discussion.

10. Future Meetings. The Nendica Chair noted that the draft agenda of the Nendica meeting of Sep 22, 2022 09:00-11:00 ET <https://1.ieee802.org/802-nendica-agenda-2022-09-22> is available. Those seeking agenda time should notify the Nendica Chair at least six days in advance.

11. Any Other Business. No other business was discussed by Nendica in this meeting.

9:25 ET adjournment

8 YANGsters

Between this session and the preceding session, YANGsters held electronic meetings whose minutes are incorporated to these session minutes by reference as follows:

- Minutes of the YANGsters meeting held 2022-07-26 10:00-10:52 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;2f453bff.22&S=>
- Minutes of the YANGsters meeting held 2022-08-09 10:06-10:54 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;744df4b8.22&S=>
- Minutes of the YANGsters meeting held 2022-09-06 10:04 –10:45 ET <https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;9849d436.22&S=>

The table in section 1 reflects the attendance and affiliation of all participants in all 802.1 WG and subgroup meetings held in this session.

Call to order Sep 13, 2022, at 16:00 ET by Stephan Kehrer, YANGsters Vice-Chair, acting locally for remote Scott Mansfield, YANGsters Chair, who presided. Stephan Kehrer, YANGsters Secretary, wrote the minutes.

Agenda items and dispositions:

1. Meeting introduction. The IEEE SA slides on IEEE Patent Policy and IEEE SA Copyright and Participation Policies were provided beforehand as part of “MEETING INTRODUCTION” <http://www.ieee802.org/1/files/public/templates/admin-prePAR-intro-0721-v01.pdf>.

The acting YANGsters Chair showed this presentation advising that the following, provided beforehand, applies:

- IEEE SA’s copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
 - Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy.
2. Approval of agenda. The YANGsters Chair presented the agenda in <https://1.ieee802.org/september-2022-interim-session-electronic-yangsters-agenda/>.
- A new P802.1DC draft 1.3 (<https://www.ieee802.org/1/files/private/dc-drafts/d1/802-1DC-d1-3.pdf>, updated post-meeting as <https://www.ieee802.org/1/files/private/dc-drafts/d1/802-1DC-d1-4.pdf>) is available. YANGsters are asked to take a look at the draft with a special focus on the YANG that is part of the project.
 - Liaison from BBF on the “Use of IEEE 802.1X YANG model in BBF-specified Access Nodes” <https://www.ieee802.org/1/files/public/docs2022/liaison-BBF-1X-YANGmodel-0322.pdf>. It was requested that YANGsters take a look at this liaison and provide guidance in a future meeting.

Disposition: The agenda was reviewed, discussed, and updated as recorded by these minutes.

3. Introduction to YANGsters. The YANGsters Chair introduced YANGsters by presenting
 - <https://1.ieee802.org/yangsters/>,
 - <https://1.ieee802.org/yangsters/yangsters-call-information/>, and
 - <https://1.ieee802.org/category/yangsters-agenda/>.

Disposition: For information.

4. Introduction to YANGsters: Achievements since last Plenary meeting. The YANGsters Chair presented the topic.

- <https://github.com/YangModels/yang/tree/main/standard/ieee> clean up and YANG Status <https://www.ieee802.org/1/files/public/docs2022/yangsters-smansfield-yang-status-tracker-0922-v02.pdf> have been done.
- A CORECONF Tutorial <https://www.ieee802.org/1/files/public/docs2022/yangsters-bormann-coreconf-0722-v01.pdf> was presented and discussed.
- YANGsters has been monitoring and intends to continue the IETF work on YANG Semantic Versioning.

Disposition: For information.

5. Introduction to YANGsters: Status of YANG Projects. The YANGsters Chair presented the topic by showing the YANG status tracker

<https://www.ieee802.org/1/files/public/docs2022/yangsters-smansfield-yang-status-tracker-0922-v02.pdf>.

- The status tracker provides an overview of all YANG files in active projects and shows conflicts where several projects concurrently modify the same YANG file.

Disposition: For information.

6. Qcj Status (LLDP TLV YANG for AutoAttach). Paul Congdon introduced the topic.

- The following YANG modules for P802.1Qcj have been created and made available:
 - <https://www.ieee802.org/1/files/public/docs2022/cj-congdon-pbbn-aa-tlv-tree-0922-v01.pdf>
 - <https://www.ieee802.org/1/files/public/docs2022/cj-congdon-pbbn-aa-tlv-yang-0922-v01.pdf>
 - <https://www.ieee802.org/1/files/public/docs2022/cj-congdon-dot1q-types-yang-0922-v01.pdf>

- YANGsters are encouraged to take a look at these modules and provide feedback.

Disposition: Agreed (informally, none dissenting) that feedback by YANGsters on the proposed YANG modules would be helpful.

7. DP Items: CBS YANG model proposal. Abdul Jabbar and Steve Markham presented “Credit Based Shaper Configuration | YANG Model Proposal”

<https://www.ieee802.org/1/files/public/docs2022/dp-markham-CBS-YANG-Model-0922-v01.pdf> and led the discussion.

- The updates and requirements from the previous contribution “Credit Based Shaper Configuration | YANG Model Requirement” <https://www.ieee802.org/1/files/public/docs2022/new-jabbar-YANG-for-CBS-0722-v01.pdf> have been updated after review and discussion.
- The updated suggested approach is to only define a YANG model for the CBS configuration interface based on the FQTSS MIBs.
- There was a discussion on what the preferred way to standardize a CBS model for interfaces is.

Disposition: Agreed (informally, none dissenting) that the preferred way forward is to create a PAR and CSD for this and have a dedicated project with a very focused scope.

8. DP Items: End station YANG model proposal. Abdul Jabbar and Steve Markham presented “End Station Configuration for Aerospace Profile”
<https://www.ieee802.org/1/files/public/docs2022/dp-markham-end-station-YANG-Config-0922-v02.pdf> and led the discussion.
 - For the offline configuration scenarios required in aerospace, configuration of the end station beyond what is currently available from IEEE 802.1 standards is desired.
 - Two options were presented on how to solve the problem.**Disposition:** Agreed (informally, none dissenting) that more discussion on the topic is needed.
9. Open Discussion: What is new, upcoming, or topics that need investigation in the YANG area?
 - No new topics were discussed.
10. Future meetings. The next YANGsters meeting is planned for Oct 4, 2022.
 - Information on YANGsters electronic meetings can be found at <https://1.ieee802.org/yangsters/yangsters-call-information/>.
11. Any Other Business. No other business was discussed by YANGsters in this session.

17:30 ET adjournment

9 Next Session

Nov 14-18, 2022 hybrid plenary session in Bangkok, Thailand.