IEEE 802.1 Working Group
May 19-22, 2025 Interim Session
Rennes, France – Mixed Mode
Session Minutes

The Working Group (WG) Chair, Glenn Parsons, presided and had requested that any subgroup Chair in remote attendance have on-site an individual acting on their behalf as needed to help conduct proceedings in “mixed mode”, i.e. with 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 attendees in all 802.1 WG and subgroup meetings held in this session.

			Maintenance, Thu May 22, 2025, 16:00 - 18:00 CEST	TSN, Thu May 22, 2025, 13:30 - 15:30 CEST	TSN, Thu May 22, 2025, 10:30 - 12:30 CEST	Nendica, Thu May 22, 2025, 08:00 - 10:00 CEST	YANGsters, Wed May 21, 2025, 16:00 - 18:00 CEST	Security, Wed May 21, 2025, 13:30 - 15:30 CEST	Maintenance, Wed May 21, 2025, 13:30 - 15:30 CEST	TSN, Wed May 21, 2025, 10:30 - 12:30 CEST	Security, Wed May 21, 2025, 10:30 - 12:30 CEST	TSN, Wed May 21, 2025, 08:00 - 10:00 CEST	TSN - IEC/IEEE 60802, Tue May 20, 2025, 16:00 - 18:00 CEST	TSN - IEC/IEEE 60802, Tue May 20, 2025, 13:30 - 15:30 CEST	TSN, Tue May 20, 2025, 10:30 - 12:30 CEST	Maintenance, Tue May 20, 2025, 08:00 - 10:00 CEST	Maintenance, Mon May 19, 2025, 16:00 - 18:00 CEST	Maintenance, Mon May 19, 2025, 13:30 - 15:30 CEST	TSN, Mon May 19, 2025, 10:30 - 12:30 CEST	TSN, Mon May 19, 2025, 08:00 - 10:00 CEST
Last name	**First name**	**Affiliation**																	
Arunarthi[3]	Venkat	Broadcom Corporation			●	●													●
Boiger	Christian	Infineon Technologies	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Bottorff	Paul	Hewlett Packard Enterprise	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●
Chen	Lihao	Huawei Technologies Co., Ltd	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Cheng	Huang	IEIT*														●			
Enzinger[3]	Thomas	B&R Industrial Automation GmbH						●	●										
Farkas	Janos	Ericsson AB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Furch	Andreas	Siemens AG						●	●										
Gilb	James	General Atomics Aeronautical Systems, Inc.		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Last name	First name	Affiliation	Maintenance, Thu May 22, 2025, 16:00 - 18:00 CEST	TSN, Thu May 22, 2025, 13:30 - 15:30 CEST	TSN, Thu May 22, 2025, 10:30 - 12:30 CEST	Nendica, Thu May 22, 2025, 08:00 - 10:00 CEST	YANGsters, Wed May 21, 2025, 16:00 - 18:00 CEST	Security, Wed May 21, 2025, 13:30 - 15:30 CEST	Maintenance, Wed May 21, 2025, 13:30 - 15:30 CEST	TSN, Wed May 21, 2025, 10:30 - 12:30 CEST	Security, Wed May 21, 2025, 10:30 - 12:30 CEST	TSN, Wed May 21, 2025, 08:00 - 10:00 CEST	TSN - IEC/IEEE 60802, Tue May 20, 2025, 16:00 - 18:00 CEST	TSN - IEC/IEEE 60802, Tue May 20, 2025, 13:30 - 15:30 CEST	TSN, Tue May 20, 2025, 10:30 - 12:30 CEST	Maintenance, Tue May 20, 2025, 08:00 - 10:00 CEST	Maintenance, Mon May 19, 2025, 16:00 - 18:00 CEST	Maintenance, Mon May 19, 2025, 13:30 - 15:30 CEST	TSN, Mon May 19, 2025, 10:30 - 12:30 CEST	TSN, Mon May 19, 2025, 08:00 - 10:00 CEST
Haasz	Jodi	IEEE Standards Association (IEEE-SA)	●	●	●		●	●	●	●	●	●	●	●		●	●	●	●	
Haddock	Stephen	Stephen Haddock Consulting, LLC	●	●	●	●	●	●	●		●			●		●	●	●	●	
Hantel	Mark	Rockwell Automation	●	●	●	●	●	●	●	●	●		●	●	●			●	●	●
Hernandez[3]	Marco	National Institute of Information and Communications Technology (NICT)				●														
Jabbar	Abdul	General Electric Company (GE)																	●	
Kehrer	Stephan	Belden	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●
Lai	Gavin	Moxa Inc.	●	●	●	●		●	●	●	●	●	●	●	●	●			●	●
Li	Jieyu	China Mobile	●	●			●	●								●				
Lyu	Yunping(Lily)	Huawei Technologies Co., Ltd	●	●	●	●	●	●	●	●	●	●	●	●		●	●			
Maile	Lisa	Eindhoven University of Technology	●	●	●	●			●	●	●	●	●	●	●		●	●	●	●
Mangin	Christophe	Mitsubishi Electric Corporation	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Mansfield	Scott	Telefon AB LM Ericsson	●	●	●	●		●	●	●	●	●	●	●	●		●			
Mater	Olaf	Marvell	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	
McCall	David	Intel	●	●	●	●	●	●	●	●	●		●	●	●					
Meisinger	Andreas	Siemens AG	●	●	●		●	●	●	●	●		●		●		●	●	●	
Mittelberger	Martin	Siemens AG	●	●	●		●	●	●	●	●	●	●			●	●	●	●	
Nakano	Hiroki	Red Orange Co Ltd, CAHI Corporation	●	●	●	●	●	●	●	●	●		●	●			●		●	●
Niess	Adriaan	Robert Bosch GmbH	●	●	●			●			●	●	●							
Park	Pusik	Korea Electronics Technology Institute	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Parsons	Glenn	Ericsson AB	●	●	●	●	●			●		●	●			●				●
Proell	Dieter	Siemens AG	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●
Ran[3]	Adee	Cisco Systems, Inc.							●											
Randall[3]	Karen	Randall Consulting			●							●	●	●	●					●
Regev	Alon	Keysight Technologies		●	●	●		●	●	●		●	●	●	●			●	●	●
Rodrigues	Silvana	Huawei Technologies Co., Ltd	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Rouyer	Jessy	Nokia	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
Roy	Rajeev	NXP Semiconductors	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Sadler	Jonathan	Nokia													●					
Sato	Atsushi	Yokogawa Electric Corporation	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Seaman	Michael	Individual			●	●				●	●	●	●	●	●				●	
Seewald	Maik	Cisco Systems, Inc.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Sivakolundu	Ramesh	Cisco Systems, Inc.	●				●	●	●	●	●		●	●			●	●	●	
Specht	Johannes	Self	●	●	●	●	●	●		●	●	●	●	●	●		●	●	●	
Stanica[3]	Marius	ABB AB							●	●										
Varga[3]	Balazs	Ericsson AB				●					●	●	●	●	●				●	
Venkatesan	Ganesh	Intel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Wessels	Leon	TSN Systems GmbH	●	●	●	●	●	●	●	●	●	●	●	●		●	●			
Wiemer	Friedrich	Robert Bosch GmbH									●	●	●	●						
Woods[3]	Jordon	None - Self-funded							●	●										

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Last name	**First name**	**Affiliation**																	
Zou	Tingting	IEIT*																	●

(*) Last and first names and affiliation possibly incorrect as based on Webex access information or otherwise.

(1) IEEE 802 LMSC fee waivers - Full week (6.3 of IEEE 802 LMSC WG P&P)

(2) Invited officers of other SDOs - Full week (item 9 in 4.1 of IEEE 802 LMSC Chair's guidelines)

(3) WG Chair designated remote individuals limited to specific topics - Single Meeting (IEEE 802 LMSC Operations Manual, clause 5)

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: Mark Hantel
- Security TG Chair: Mick Seaman
  - Security TG Vice-Chair: Karen Randall
- TSN TG Chair: János Farkas
  - TSN TG Vice-Chair: David McCall
  - TSN TG Secretary: Johannes Specht
  - IEC/IEEE 60802 Joint Project Chair: Dieter Pröll
  - IEC/IEEE 60802 Joint Project Secretary: vacant
  - IEEE P802.1DP/SAE AS6675 joint project co-Chairs: Abdul Jabbar & János Farkas
  - IEEE P802.1DP/SAE AS6675 joint project Secretary: Nader Zein
- NENDICA Chair: Roger Marks
  - Nendica Vice-Chair: Johannes Specht
- YANGsters Chair: Scott Mansfield
  - YANGsters Vice-Chair and Secretary: Stephan Kehrer
- Maintenance of Email exploder: Mark Hantel and Hal Keen
- Maintenance of website: Mark Hantel, Roger Marks, John Messenger

3 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 2025-04-01 11:00 – 12:39 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;a8475392.25&S=
- Minutes of the Maintenance TG meeting held 2025-04-08 11:00 – 12:59 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;dd28c449.25&S=
- Minutes of the Maintenance TG meeting held 2025-04-15 11:00 – 12:55 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;5f14e6d9.25&S=
- Minutes of the Maintenance TG meeting held 2025-04-22 11:04 – 12:59 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;d8e240fe.25&S=

See section 1 for attendance and affiliation information.

Call to order May 19, 2025 at 13:32 CEST by Mark Hantel, IEEE 802.1 Maintenance TG Chair (Chair), who presided and wrote the minutes, assisted by Karen Randall, IEEE 802.1 Liaison Secretary.

Agenda items and dispositions:

1. Meeting introduction and other administrative items. The IEEE SA slides on IEEE SA Patent Policy, IEEE SA Copyright Policy, and Participation Behavior were provided beforehand as part of “MEETING INTRODUCTION” https://www.ieee802.org/1/files/public/templates/admin-TG-intro-0325-v01.pdf.
   The Chair showed this presentation advising that the following, provided beforehand, applies:
   - Participant behavior shall comply with the outlined requirements;
   - IEEE SA’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 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 meeting.
   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 minute taker.

2. Approval of agenda. The Chair presented the agenda in https://1.ieee802.org/may-2025-interim-session-maintenance-tg-agenda/.
   Disposition: The agenda was reviewed, discussed, and agreed (informally, none dissenting) as presented.
3. Liaison Activity. Karen Randall, IEEE 802.1 liaison secretary, provided a verbal update on liaison activity based on https://1.ieee802.org/liaisons/liaisontable/.
   Disposition: For information.
4. Maintenance Project Status. Mick Seaman, P802.1Q-2022-Rev editor, presented "Q-2022-Rev update Status, activity, progress to date, brief report" https://www.ieee802.org/1/files/public/docs2025/q-2022-rev-seaman-update-ppt-0525-v00.pdf. The Chair gave a verbal update on P802.1AC-2016-Revision and P802.1CB-2017-Revision.
   Disposition: For Information.
5. New Maintenance Items. The Chair led discussion on maintenance item 387. Ganesh Venkatesan presented "Maintenance Item #387 IEEE 802.1AS Backwards Compatibility Issue between 2020 and 2011 Editions" https://www.ieee802.org/1/files/public/docs2025/maint-venkatesan-maintenance-item-387-0525-v01.pdf.
   Disposition: For information.
6. Existing Maintenance Items. The Chair led discussion on Maintenance items 374 and 379.
   Disposition: For information.
7. Comment Resolution on P802.1CB-2017/Cor1. Christophe Mangin, P802.1CB-2017/Cor 1 editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/cb-cor-1-drafts/d1/802-1CB-2017-Cor1-d1-0.pdf.
   Disposition: Comments 2, 19 and 26 were resolved.
8. Any other business. No other business was discussed by the Maintenance TG in this meeting.

15:32 CEST recess

Call to order May 19, 2025 at 16:00 CEST by Mark Hantel, IEEE 802.1 Maintenance TG Chair (Chair), who presided and wrote the minutes.

9. Comment Resolution on P802.1AS-2020-REV. Silvana Rodrigues, P802.1AS-2020-REV editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/as-2020-rev-drafts/d1/802-1AS-2020-Rev-d1-1.pdf.
   Disposition: Comments 16, 3, 7, 9, 8, 11, 10, 12, 6, 13, 4, 5 and 18 were resolved.
10. Existing Maintenance Items. The Chair led discussion on Maintenance item 378. Presentations were made pertaining to this maintenance item: Balázs Varga presented "802.1CB FRER maintenance/improvements | Reset of Sequence Recovery Function" https://www.ieee802.org/1/files/public/docs2025/maint-varga-CB-2017-item-378-FRER-seqrecreset-0525-v00.pdf, Johannes Specht presented "FRER Sequence Recovery Reset Cases" https://www.ieee802.org/1/files/public/docs2025/maint-specht-cb-reset-cases-item-378-v00.pdf, and David McCall presented "802.1CB FRER Sequence Recovery – Issues with Resets & Timeouts and Potential Solutions" https://www.ieee802.org/1/files/public/docs2025/maint-mccall-cb-2017-item-378-seq-recovery-options-v01.pdf.
    Disposition: More discussion necessary.
11. Any other business. No other business was discussed by the Maintenance TG in this meeting.

18:00 CEST recess

Call to order May 20, 2025 at 8:00 CEST by Mark Hantel, IEEE 802.1 Maintenance TG Chair (Chair), who presided and wrote the minutes.

12. Comment Resolution on P802.1AS-2020-REV. Silvana Rodrigues, P802.1AS-2020-REV editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/as-2020-rev-drafts/d1/802-1AS-2020-Rev-d1-1.pdf.
    Disposition: Comments 2, 20, 19 and 17 were resolved.
13. Comment Resolution on P802.1AB-2016-REV. Paul Bottorff, P802.1AB-2016-REV editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/ab-2016-rev-drafts/d0/802-1AB-2016-Rev-d0-1.pdf.
    Disposition: Comments 1, 11, 12, 18, 6, 13, 22, 31, 32, 33 and 34 were resolved.
14. Any other business. No other business was discussed by the Maintenance TG in this meeting.

10:00 CEST recess

Call to order May 21, 2025 at 13:30 CEST by Mark Hantel, IEEE 802.1 Maintenance TG Chair (Chair), who presided and wrote the minutes, assisted by Karen Randall, IEEE 802.1 Liaison Secretary.

15. Comment Resolution on P802.1AS-2020-REV. Silvana Rodrigues, P802.1AS-2020-REV editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/as-2020-rev-drafts/d1/802-1AS-2020-Rev-d1-1.pdf.
    Disposition: Comment 18 was resolved. Final disposition: https://www.ieee802.org/1/files/private/as-2020-rev-drafts/d1/802-1AS-2020-Rev-d1-1.pdf.
16. Comment Resolution on P802.1AB-2016-REV. Paul Bottorff, P802.1AB-2016-REV editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/ab-2016-rev-drafts/d0/802-1AB-2016-Rev-d0-1.pdf.
    Disposition: Comments 31, 32, 33, 34, 66, 55, 60, 62, 64, 65, 69, 7, 9, 16, 17, 23, 50, 51, 70, 5, 19, 20, 24, 61, 8, and 2 were resolved. Comment 57 was discussed.
19. Any other business. No other business was discussed by the Maintenance TG in this meeting.

15:33 CEST recess

Call to order May 22, 2025 at 16:00 CEST by Mark Hantel, IEEE 802.1 Maintenance TG Chair (Chair), who presided and wrote the minutes, assisted by Karen Randall, IEEE 802.1 Liaison Secretary.

20. Comment Resolution on P802.1CB-2017/Cor1. Christophe Mangin, P802.1CB-2017/Cor 1 editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/cb-cor-1-drafts/d1/802-1CB-2017-Cor1-d1-0.pdf.
    Disposition: Comment 2 was reopened and was resolved. Final disposition: https://www.ieee802.org/1/files/private/cb-cor-1-drafts/d1/802-1CB-2017-Cor1-d1-0-dis-v01.pdf.
21. Comment Resolution on P802.1AB-2016-REV. Paul Bottorff, P802.1AB-2016-REV editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/ab-2016-rev-drafts/d0/802-1AB-2016-Rev-d0-1.pdf.
    Disposition: Comments 57, 4, 21, 29, 25, 26, 27, 30, 41, 45, 46, 47, 48, 49, 52, 53, 54, 56, 58, 59, 63, 67, 68, 3, 10, 14, 15, 28, 35, and 36 were resolved. Final disposition: https://www.ieee802.org/1/files/private/ab-2016-rev-drafts/d0/802-1AB-2016-Rev-d0-1-dis-v01.pdf.

22. Any other business. No other business was discussed by the Maintenance TG in this meeting.

17:40 CEST adjournment

4 Security Task Group

Between this session and the preceding session, the IEEE 802.1 Security Task Group (Security TG) did not hold electronic meetings.

See section 1 for attendance and affiliation information.

Call to order May 21, 2025 at 10:30 CEST 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 SA Patent Policy, IEEE SA Copyright Policy, and Participation Policies ("Policies") were provided beforehand as part of "MEETING INTRODUCTION" http://www.ieee802.org/1/files/public/templates/admin-TG-intro-0325-v01.pdf.
   The Security TG Chair showed this presentation advising that the following, provided beforehand, applies:
   - Participant behavior shall comply with the outlined requirements;
   - IEEE SA'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 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 as previously made available in https://1.ieee802.org/may-2025-interim-session-security-tg-agenda/
   Disposition: The agenda was reviewed, discussed, and agreed (informally, none dissenting) as presented.

3. Possible MACsec Ascon Cipher Suite

3.1 Suggestion for amendment to IEEE Std 802.1AE. Ascon Cipher Suite. Mick Seaman presented an individual contribution "Suggestion for amendment to IEEE Std 802.1AE: Ascon Cipher Suite" https://www.ieee802.org/1/files/private/ef-drafts/new-seaman-macsec-ascon-ciphersuite-0425-v01.pdf and walked through "NIST SP 800-232 ipd (Initial Public Draft)" https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-232.ipd.pdf. Discussion:

- Contribution based on use of Authenticated Encryption with Associated Data (AEAD) specified as Ascon-AEAD128 in NIST SP 800-232 (Initial Public Draft) "Ascon-Based Lightweight Cryptography Standards for Constrained Devices: Authenticated Encryption, Hash, and Extendable Output Functions" https://csrc.nist.gov/pubs/sp/800/232/ipd.
- Ascon is single-pass/'on-line' which distinguishes it from some other easier-to-implement-for-constrained-lower-bandwidth alternatives to GCM (e.g. GCM-SIV), retaining the significant property of allowing inline transmit/receive processing and ability to begin receive processing before frame completion where delay (and the possibility of fixed-delay processing) is an issue.
- Contribution intended to be fairly complete, since the devil will be in the details, but of course open to revision/contradiction.
- Editorial discussion of significant issues is included as 'Conditional Text', not for inclusion in any resulting final standard, distinguished by a cyan background.
- Exception to intended completeness is the absence of test vectors, which will require multi-source verification. Contributions welcome.
- A Cipher Suite Identifier is needed to identify the Cipher Suite, suggested value is included.
- Preserves on-the-wire bit significance of 'network byte order' i.e. big-endian (most significant octet first) for multi-octet fields including, significantly, PN (packet number) while Ascon specification uses (understandably) little endian significance in 64-bit blocks targeting little-endian CPUs. Contribution attempts to minimize octet reordering, reordering PN octets to support little-endian comparison prior to crypto on receipt, but leaving other field octet order unchanged on storage. Figures are provided to show mapping of SecTAG octets to Ascon Nonce bit significance to supplement text, and intent is test vectors will follow style in existing Annex further to avoid misinterpretation.
- Suggestion is for an XPN (Extended Packet Number) Cipher Suite, i.e. with PN (packet numbers) of more than 32 bits, using the existing XPN logic but restricting the PN space to 48 bits to respect the NIST SP 800-232 limitation on the number of blocks protected by a given data key (SAK, in the case of MACsec).
- The XPN 48-bit limitation and the Ascon-AEAD-128 use of a 128-bit nonce, as opposed to GCM's 96-bit nonce, support explicit partitioning of the nonce-space between CA (Connectivity Association) participants in shared-media (real or virtual) without having to use an SSCI rather than an SCI (participants MAC Address plus Port ID).
- The 128-bit nonce used by each participant is combined with an explicit MKA (MACsec Key Agreement) Key Server provided Salt, reducing the probability of nonce repetition on Key Server power cycling (in which case a fresh data key will, in any case, be distributed). As for the existing GCM-XPN Cipher Suites, the key Number (KN) is included in the Salt, allowing the Key Server to bump up the nonce-space fraction in use when a CA participant joins or rejoins,

protecting that participant from delayed/replayed messages from others until it has recently received from all.

- Interoperability is a potentially significant issue. Current 802.1AE MACsec specification requires implementation of GCM-AES-128 for interoperability throughout the speed range, and with virtual shared-media and point-to-multipoint participants is a single CA can be operating at different speeds. However, it seems unrealistic to require constrained low-cost devices, such as sensors, to implement multiple Cipher Suites, and such a requirement would be likely ignored in any case.
- As for the GCM-AES-XPN Cipher Suites, the suggested Ascon Cipher Suite does not include a Confidentiality Offset, data following the SecTAG is either all plain text or all confidentiality protected. That raises the possibility [post-session thought, no time to examine detail prior to the meeting, point raised at this time in case an opportunity is being missed] that a hash to generate the ICV rather than AEAD might be used when confidentiality is not being provided. The Ascon hash is not keyed, so does not directly support origin authenticity so additional work would be required to add key input to the hash, and could be more work, unclear what saving might be or whether best case might be AEAD equivalent.
- A complete, multi-vendor interoperable, solution also requires MKA support. A continuing dependence on AES-CMAC for MKPDU protection and on an AES Key Wrap for SAK distribution would place a burden on constrained device implementation, both in terms of total code space and potential performance, but also for both implementation and tool chain validation.

Ascon-AEAD128 MKPDU validation together with an Ascon-based KDF using MKPDU conveyed data for SAK generation or an Ascon-based Key Wrap transported in MKPDUs is needed (NIST SP 800 232 currently lacks both KDF and Key Wrap constructs).

Disposition:

- For further discussion.
- PAR required (see following agenda item).
- Participants affiliated with NIST to be contacted for technical discussion before and/or in Jul 2025 plenary session. Schedule in late Jul 2025 plenary session (Madrid, Spain) time slot to ease US remote participation.
- Test vector contributions solicited.
- Supporting MKA work required.

3.2 Draft PAR: 802.1AE-2018: Amendment: Ascon Cipher Suite. Mick Seaman presented https://www.ieee802.org/1/files/public/docs2025/new-seaman-macsec-ascon-draft-par-0425-v01.pdf, an individual contribution in the form of a draft PAR (as provided as a PDF download by the myProject tool which prepopulates some fields and does not include all fields entered into the PAR form in the PDF).

Discussion:

- Inclusion of a note (in “8.1 Additional Explanatory Notes”) regarding PAR item 7.3 is potentially confusing as 7.3 is not included in the myProject-produced PDF, suggestion that this note be removed from 8.1.
- Noted that IEEE Std 802.1AE MAC Security is not restricted to Ethernet. There are potential use cases where stations attached to different media have a peer-to-peer MACsec SA (e.g. where EDEs—Ethernet Data Encryption devices—are used in the path between the stations). MACsec also supports transmission of frames of less than the Ethernet minimum frame size across Ethernet, recovering the original frame size for transmission on media with a lesser minimum.

Disposition: WG authorization to develop a PAR and CSD on this subject (in the Sep 2025 interim session) to be sought in the Jul 2025 plenary session, with a view to submission of the PAR to the LMSC in the Nov 2025 plenary session.

4. Proposed Revision of IEEE Std 802.1AE-2018. Mick Seaman presented https://www.ieee802.org/1/files/public/docs2025/ae-seaman-802-1AE-2018-rev-draft-par-0425-v01.pdf, an individual contribution in the form of a draft PAR (as provided as a PDF download by the myProject tool).
   Discussion:
   - The reason for raising this PAR at the same time as one for the suggested Ascon amendment would be to allow concurrent production of an 802.1AE rollup. Following the same procedure and tools as used for 802.1Q-2022-Rev, this would allow the exact effect of amending the base standard to be visible to the Working Group and reduce the possibility of a disconnect between new and existing work. It should result in the availability of a Revision in good time to meet the 2028 mandated revision date.
   - An editor's rollup of 802.1AE-2018 with the 802.1AEdk-2023 amendment has been produced and can be made available to the WG once the WG has approved a revision PAR.
   - No CSD should be necessary for this rollup project.
   - A maintenance item regarding a YANG construct is believed to be relevant to the revision.

   Disposition: WG permission to develop a PAR (in the Sep 2025 interim session) for the Revision of 802.1AE-2018 to be sought in the Jul 2025 plenary session, with a view to submission of the PAR to the LMSC in the Nov 2025 plenary session.

12:15 – 13:35 CEST recess

5. A.O.B. (Any Other Business)
   5.1 Automotive applications. The Security TG Chair reported that there had been no specific standardization follow up request following the automotive application discussion in the TG meeting during the Mar 2025 plenary session.
   5.2 MKA optimization for Group CAs. Mick Seaman presented "MKA optimization for group CAs | MACsec Key Agreement (MKA): Existing procedures and possibilities for large groups and fast startup." https://www.ieee802.org/1/files/public/docs2025/x-seaman-mka-optimize-ppt-0305-v01.pdf, an individual contribution.
   Discussion:
   - Previously presented in the context of automotive applications in the TG meeting during the Mar 2025 plenary session, but of wider applicability as well, e.g. for sensor/actuator networks.
   - Cryptographic protection of individual packets, e.g. by signing each packet, is not enough. Protection against replay and delay attacks is important. Where simple control devices are involved, there might be a very limited repertoire of messages (e.g. "On" or "Off"). Ensuring timeliness is crucial and involves at least some protected 3-way protocol exchange, e.g. by MKA ensuring liveness and time-bounding of delivery or by securing timeliness of timing protocol frames followed by timestamping of data. Protecting all data frames with MACsec can tighten packet numbering bounds using a minimal replay window, particularly if a frequent keep-alive protocol such as CFM is protected.

   While a general protection against a DoS attack by a local attacker is not possible, detection and subsequent transition to a 'safe system state' is possible in the face of delay attacks. Per-application solutions are likely not viable to scale. Further application space input is welcomed.

- The suggested Ascon Cipher Suite incorporates learning from automotive discussion regarding need to prevent replay exposure for systems that can power cycle soon after system wide power resumption, without redistributing keys to all existing participants.
- Noted that the MKA specification had been misinterpreted by some as requiring MKPDU transmission only at 2 second intervals, with the proposed solution being to require MKPDU transmission at 50 millisecond intervals, thus significantly increasing MKA overhead. The transmission at 2 second intervals is solely to prevent timeout and such a maximum fixed transmission interval is common to many protocols. That periodic transmission in no way prevents more frequent transmission, again as common to most protocols. 802.1X does not specify a transmission rate limiter, as the changes in the information that would require transmission are limited in the point-to-point case, and optimizing transmissions can be largely carried out by the Key Server without CA-wide agreement as noted in the contribution. No change is proposed to the MKA specification on this issue, the general rule for understanding applying: if there are two possible ways to interpret a specification and one assumes it is woefully flawed while the other assumes it makes sense, choose the latter.

Disposition: For future consideration as industry vertical application areas are developed.

5.3 MACsec and Post-Quantum Cryptography. The Security TG Chair led a discussion concerning efforts to start new projects to PQC-protect MACsec and MKA persist, despite the fact that both are based on symmetric key cryptography, which does not suffer from the quantum exposure of asymmetric key cryptography.

Discussion:

- It appears that the project proposals are made in advance of recruiting the necessary technical experts.
- It has been suggested (private communication to the Security TG Chair) that "the IEEE ought to do something about this", although it would be unusual—and some work—to create an amendment to a standard explaining that nothing needs to be done. At least one prominent vendor has public information to this effect, identifying MACsec specifically, but that apparently was not trusted.
- The issue has been previously discussed in the Security TG and minuted [see item 4.2 of the Minutes of the Security TG meetings held during the 2022-03-07 - 2022-03-15 session https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;ab1b006.22&S=a and item 4.1 of the Minutes of the Security TG meetings held during the 2024-03-11 - 2024-03-15 session https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;ec51d99c.24&S=a].
- There is a potential PQC exposure with respect to EAP methods that can be used to provide the CAK (Connectivity Association Key) that is the root of the symmetric key hierarchy used by MKA and MACsec when PSKs/PPKs (Pre-Shared Keys/Pre-Place Keys) are not used. However, the function of MACsec is generally to protect against immediate on-line attacks, rather than long-term end-to-end confidentiality which is likely secure by TLS and a more likely for off-line resource-intensive quantum computing attack. Since there is already work underway on PQC-resistant EAP methods in 802.11, there is little reason to embark on a parallel and potentially duplicative or divergent approach in the hope of obtaining an earlier solution.

Disposition: Consider how to reach a wider audience as to when and when not PQC work is required. Possibility of looking for LMSC help.

6. Future meetings. The Security TG intends to meet next during the Jul 2025 IEEE 802.1 plenary session in Madrid, Spain. A prior electronic meeting in late Jun 2025/early Jul 2025 arranged to facilitate meeting with participants affiliated with NIST is desirable.

14:29 CEST adjournment

5 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 2025-03-17, 11:00 – 13:00 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;190b3d55.25&S=
- Minutes of the TSN TG meeting held 2025-04-07, 11:00 – 11:27 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;468e3bcb.25&S=
- Minutes of the TSN TG meeting held 2025-04-14, 11:00 – 11:42 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;f6ccbdb6.25&S=
- Minutes of the TSN TG meeting held 2025-04-28, 11:00 – 13:00 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;21836470.25&S=

Between this session and the preceding session, the IEEE 802.1 Time-Sensitive Networking (TSN) Task Group (TG) did not hold electronic meetings on P802.1DG.

Between this session and the preceding session, the IEEE P802.1DP/SAE AS 6675 joint project held electronic meetings whose minutes are incorporated to these session minutes by reference as follows:

- Minutes of the IEEE P802.1DP/SAE AS6675 meeting held 2025-04-09 10:01 – 11:26 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;5f90c70e.25&S=
- Minutes of the IEEE P802.1DP/SAE AS6675 meeting held 2025-04-30 10:01 – 12:07 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;3939605f.25&S=

See section 1 for attendance and affiliation information.

Minutes of the IEC/IEEE 60802 Joint Project meetings are in section 7.1.

Call to order May 19, 2025 at 8:00 CEST 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 SA Patent Policy, IEEE SA Copyright Policy, and Participation Behavior (“Policies”) were provided beforehand as part of “MEETING INTRODUCTION” https://www.ieee802.org/1/files/public/templates/admin-TG-intro-0325-v01.pdf.
   The Chair showed this presentation advising that the following, provided beforehand, applies:
   - Participant behavior shall comply with the outlined requirements;
   - IEEE SA’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. Session Host introduction. Christophe Mangin welcomed participants and provided logistical information.
   Disposition: For Information.
3. Approval of agenda. The Chair presented the agenda https://1.ieee802.org/2025-05-interim-tsn-agenda/.
   Disposition: The agenda was reviewed, discussed and agreed (informally, none dissenting) as presented.
4. János Farkas presented "Project Authorization Request (PAR) Development on Traffic Engineering Extensions for Delay Uncertainties (P802.1Qee)" https://www.ieee802.org/1/files/public/docs2025/ee-farkas-PAR-development-0525-v00.pdf.
   Disposition: For information.
5. The Chair led the drafting based on https://www.ieee802.org/1/files/public/docs2025/ee-farkas-draft-PAR-0525-v00.pdf and https://www.ieee802.org/1/files/public/docs2025/ee-farkas-draft-CSD-0525-v00.pdf of draft PAR and CSD for P802.1Qee.
   Disposition:
   - Draft PAR: https://www.ieee802.org/1/files/public/docs2025/ee-farkas-draft-PAR-0525-v01.pdf
   - Draft CSD: https://www.ieee802.org/1/files/public/docs2025/ee-farkas-draft-CSD-0525-v01.pdf

10:00 – 10:30 CEST recess

6. Dominik Rohrmus presented "Liaison – Status Update" https://www.ieee802.org/1/files/public/docs2025/liaison-LNI40-status-update-0525-v01.pdf.
   Disposition: Presentation discussed. Further discussion needed.
7. Andreas Meisinger and Martin Mittelberger presented "802.1DD Architecture" https://www.ieee802.org/1/files/public/docs2025/dd-mittelberger-et-al-architecture-0525-v01.pdf.
   Disposition: Presentation discussed. Further discussion needed.
8. Lihao Chen presented "IEEE 802.1 September 2025 Interim Session Updates" https://www.ieee802.org/1/files/public/docs2025/admin-chen-Sep2025-interim-update-0525-v03.pdf.
   Disposition: For information.

9. Lihao Chen presented “IEEE 802.1 May, 2026 Interim Offer to Host by Huawei” https://www.ieee802.org/1/files/public/docs2025/admin-chen-May2026-interim-proposal-0525-v02.pdf.
   Disposition: For information.
10. Lihao Chen presented “Source Flow Control computation & simulation” https://www.ieee802.org/1/files/public/docs2025/dw-chen-sfc-computation-simulation.pdf.
    Disposition: Presentation discussed. Further discussion needed.

12:30 CEST recess

Call to order May 20, 2025 at 10:30 CEST by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

11. 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.
12. Steve Haddock, P802.1AXdz editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/axdz-drafts/d2/802-1AXdz-d2-0.pdf.
    Disposition: Disposition per agenda item 20.
13. Hiroki Nakano, P802.1Qdq editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/dq-drafts/d1/802-1Qdq-d1-1.pdf.
    Disposition: Final disposition: https://www.ieee802.org/1/files/private/dq-drafts/d1/802-1Qdq-d1-1-dis-v01.pdf.
14. Silvana Rodrigues, P802.1ASds editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/asds-drafts/d1/802-1ASds-d1-1.pdf.
    Disposition: Disposition per agenda item 16.

12:30 CEST recess

Call to order May 21, 2025 at 8:00 CEST by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

15. 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.
16. Silvana Rodrigues, P802.1ASds editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/asds-drafts/d1/802-1ASds-d1-1.pdf.
    Disposition: Final disposition: https://www.ieee802.org/1/files/private/asds-drafts/d1/802-1ASds-d1-1-dis-v00.pdf.
17. Lisa Maile, P802.1CBec editor, presented “Comment Disposition for 1st Task Group Ballot on P802.1CBec/D0.1” https://www.ieee802.org/1/files/public/docs2025/ec-Maile-d0-1-TG-ballot-report-0525-v01.pdf and led the resolution of comments received on https://www.ieee802.org/1/files/private/ec-drafts/d0/802-1CBec-d0-1.pdf
    Disposition: Disposition per agenda item 26.

12:30 CEST recess

Call to order May 22, 2025 at 10:30 CEST by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

18. 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.
19. Andreas Meisinger and Martin Mittelberger presented "802.1DD MSRP-like Architecture" https://www.ieee802.org/1/files/public/docs2025/dd-meisinger-msrp-like-architecture-0525-v01.pdf.
    Disposition: Presentation discussed. Further discussion needed.
20. Steve Haddock, P802.1AXdz editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/axdz-drafts/d2/802-1AXdz-d2-0.pdf.
    Disposition: Final disposition: https://www.ieee802.org/1/files/private/axdz-drafts/d2/802-1AXdz-d2-0-dis-v02.pdf.
21. János Farkas presented "Project Authorization Request (PAR) Development on Traffic Engineering Extensions for Delay Uncertainties (P802.1Qee)" https://www.ieee802.org/1/files/public/docs2025/ee-farkas-PAR-development-0525-v02.pdf.
    Disposition: For information.
22. The Chair led further development of the draft PAR and CSD for P802.1Qee.
    Disposition:
    - Updated draft PAR: https://www.ieee802.org/1/files/public/docs2025/ee-farkas-draft-PAR-0525-v02.pdf
    - Updated draft CSD: https://www.ieee802.org/1/files/public/docs2025/ee-farkas-draft-CSD-0525-v02.pdf

12:30 – 13:30 CEST recess

23. Abdul Jabbar, P802.1DP/SAE AS6675 editor, presented "IEEE P802.1DP/SAE AS6675 Editor's Update" https://www.ieee802.org/1/files/public/docs2025/dp-jabbar-editors-update-0525-v01.pdf.
    Disposition: Presentation discussed. Further discussion needed.
24. Abdul Jabbar, P802.1DP/SAE AS6675 editor, presented "IEEE P802.1ASed Editor's Update" https://www.ieee802.org/1/files/public/docs2025/ed-jabbar-editors-update-0525-v01.pdf.
    Disposition: Presentation discussed. Further discussion needed.
25. Hiroki Nakano, P802.1Qdq editor, presented "P802.1Qdq PAR extension" https://www.ieee802.org/1/files/public/docs2025/dq-nakano-drafting-PAR-extension-0525-v00.pdf.
    Disposition: Presentation discussed and updated post-session as https://www.ieee802.org/1/files/public/docs2025/dq-nakano-draft-PAR-extension-0525-v00.pdf.
26. Lisa Maile, P802.1CBec editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/ec-drafts/d0/802-1CBec-d0-1.pdf.
    Disposition: Final disposition: https://www.ieee802.org/1/files/private/ec-drafts/d0/802-1CBec-d0-1-dis-v01.pdf.
27. The Chair presented incoming liaison and communication:
    - "LS on consent of draft new Recommendation ITU-T Y.3219 (ex Y.FMSC-det) "Fixed, mobile and satellite convergence – Deterministic networking for IMT-2020 networks and beyond"" https://www.ieee802.org/1/files/public/docs2025/liaison-itu-t-SG13-LS21-RecY3219FMSCdet-0425.pdf.

- "LS/r on work items related to deterministic networking in SG13 (reply to IEEE802.1-LS79)" https://www.ieee802.org/1/files/public/docs2025/liaison-itu-t-SG13-LS35-DetermNetwrking-0425.pdf.

Disposition: Liaisons discussed. Further discussion needed.

15:13 CEST adjournment

5.1 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 2025-04-28 9:00 - 11:00 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;eca795c9.ex
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2025-05-05 9:00 - 11:00 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;cd7123dc.ex

See section 1 for attendance and affiliation information.

Call to order May 20, 2025 at 13:30 CEST by János Farkas, IEEE 802.1 TSN TG Chair (TSN TG Chair). Dieter Proell, IEC 65C/WG18 Convenor and IEC/IEEE 60802 Joint Project Chair (60802 Chair) wrote the minutes.

Agenda items and dispositions:

1. Meeting introduction and other administrative items. The IEEE SA slides on IEEE SA Patent Policy, IEEE SA Copyright Policy, and Participant Behavior ("Policies") were provided beforehand as part of "MEETING INTRODUCTION" https://www.ieee802.org/1/files/public/templates/admin-TG-intro-0325-v01.pdf.
   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 explained that the IEC/IEEE 60802 Joint Project also follows the IEC patent and copyright policies, https://www.iec.ch/news-resources/reference-material#policy.
   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.
2. Approval of agenda. The TSN TG Chair presented the agenda in https://1.ieee802.org/2025-05-interim-tsn-agenda.
   Disposition: The agenda was reviewed, discussed, and updated as recorded by these minutes.
3. Editor's update. Jordon Woods, IEC/IEEE 60802 Joint Project Editor (60802 Editor), presented "Editor's Report 60802 Draft 3.3" https://www.ieee802.org/1/files/public/docs2025/60802-woods-D3-3-update-0525-v02.pdf.
   Disposition: For information.
5. 60802/D3.3 SA recirculation ballot comment resolution. The 60802 Editor led the resolution of comments received on https://www.ieee802.org/1/files/private/60802-drafts/d3/60802-d3-3.pdf.
   Disposition: Ballot comments R3-5, R3-4, R3-3, R3-2, R3-1 were resolved. Ballot comment resolution was completed. Final disposition: https://www.ieee802.org/1/files/private/60802-drafts/d3/60802-d3-3-dis-v01.pdf.

6. IEC/IEEE 60802 timeline. The 60802 Chair presented "IEC/IEEE 60802 timeline update rev 19" https://www.ieee802.org/1/files/public/docs2025/60802-Proell-timeline-0525-v19.pdf.
   Disposition: For information.
7. Brainstorming 60802 ED2. János Farkas presented "Kick-off for Brainstorming on Potential Amendment to IEC/IEEE 60802" https://www.ieee802.org/1/files/public/docs2025/60802-farkas-amendment-brainstorming-kick-off-0525-v01.pdf.
   Disposition: More discussion needed.
8. Brainstorming 60802 ED2. Jordon Woods presented "Other considerations for IEC/IEEE 60802, Edition 2" https://www.ieee802.org/1/files/public/docs2025/60802-woods-Edition2-considerations-0525-v02.pdf.
   Disposition: More discussion needed.

15:30 – 16:00 CEST recess

9. Brainstorming 60802 ED2. Mark Hantel presented "IEC/IEEE 60802 EDITION 2 TOPICS" https://www.ieee802.org/1/files/public/docs2025/60802-Hantel-Edition2-considerations-0525-v01.pdf.
   Disposition: More discussion needed.
10. Brainstorming 60802 ED2. Dieter Proell presented "Simplified Standardization Workflows, ISA/IEC 62443 Security for industrial automation and control systems and Mapping of Standards to 62443" https://www.ieee802.org/1/files/public/docs2025/60802-Proell-BrainstormingED2-Cybersecurity-0525-v01.pdf.
    Disposition: More discussion needed.
11. Brainstorming 60802 ED2. Marius Stanica presented "60802 – EDITION 2 Some topics" https://www.ieee802.org/1/files/public/docs2025/60802-stanica-Edition2-sometopics-0525-v02.pdf.
    Disposition: More discussion needed.
12. Brainstorming 60802 ED2. Thomas Enzinger presented "Management proxies for ccA" https://www.ieee802.org/1/files/public/docs2025/60802-enzinger-edition2-sometopics-0525-v01.pdf.
    Disposition: More discussion needed.

18:00 CEST adjournment

6 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 2025-04-03 09:00-11:00 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;670193de.25
- Minutes of the Nendica meeting held 2025-05-15 09:00-11:00 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;1aafe08f.25

See section 1 for attendance and affiliation information.

Call to order May 22, 2025 8:00 CEST by Johannes Specht, Nendica Vice Chair ("Chair") who presided. Jessy Rouyer, IEEE 802.1 Recording 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" https://www.ieee802.org/1/files/public/templates/admin-prePAR-intro-0325-v01.pdf. The Chair showed this presentation advising that the following applies:

- Participant behavior shall comply with the outlined requirements;
- 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 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-2025-05-22/.
3. Minutes. The Chair reviewed the draft "Minutes of the Nendica meeting held 2025-05-15 09:00-11:00 ET" https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;1aafe08f.25
   Disposition: It was agreed (informally, none dissenting) to approve the minutes.
4. Study Items. AI Computing Networks (AICN)
   Jieyu Li and Lily Lyu presented "Liaison Proposal to UEC" https://mentor.ieee.org/802.1/dcn/25/1-25-0007-00-ICne-liaision-proposal.pdf.
   Discussion:
   - Clarification that "Anticipate" means "we want to anticipate a request" rather than "we anticipate that UEC will request".
   - It was observed that IEEE SA rules on relationships with other organizations apply per clause 7 of the IEEE SASB Operations Manual, and that the proposal would require IEEE 802.1 and LMSC approvals and would need to go through IEEE SA to form a liaison relationship.
   - It was observed that UEC has liaised 802.3, but not 802.1.

   Disposition: For information.
   Lily Lyu showed IEEE 802.3's "Liaison reply to "Ultra Ethernet Consortium introduction", 6 September 2023" https://www.ieee802.org/1/files/public/docs2023/liaison-UEC-IntroToUECFrom8023-1023.pdf.
   Discussion:
   - It was observed that this liaison already invited UEC to liaise 802.1; however, it was suggested that 802.1 could proactively liaise additional information.

   Disposition: For information.
   Lily Lyu presented a draft "Liaison to Ultra Ethernet Consortium" https://mentor.ieee.org/802.1/dcn/25/1-25-0008-00-ICne-proposed-draft-liaison-statement.pdf as an individual contribution.
   Discussion:
   - The value of liaising UEC was debated considering that UEC 1.0 may be published by July 2025 and may want to liaise 802.1 then.
   - Four participants expressed an interest in 802.1 liaising UEC.
   - The possibility of Nendica drafting a liaison for 802.1 to consider at its July 2025 plenary session was discussed as were the use of an ePoll and the liaison drafting process typically used by 802.1 at a plenary session.
   - The meaning of the word "report" was discussed in the context of AICN being a Nendica study item rather than a Nendica work item.
   - Various methods to alleviate the risk of the presented material being considered as an official draft liaison from 802.1 were suggested.

- It was observed that “you are invited to join and contribute” is incompatible with the IEEE SA individual process.
- Potential next steps for Nendica consideration during the intersession period following this session were discussed.

Disposition: More discussion needed.

5. Vetting and New Topics. No activity.
6. Next Meeting. Agreed (informally, none dissenting) to cancel the May 29, 2025 Nendica meeting. Nendica intends to meet next on June 12, 2025 9:00–11:00 ET, the meeting being subject to cancellation two days prior in the absence of contributions.
7. Other Business. No other business was discussed by Nendica in this meeting.

9:19 CEST adjournment

7 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 2025-03-25 10:00 –10:27 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;acd8a1c3.25&S=
- Minutes of the YANGsters meeting held 2025-04-22 10:00 –10:56 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;deccbcd4.25&S= https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;ced61f0f.25&S=

See section 1 for attendance and affiliation information.

Call to order May 21, 2025 at 16:00 CEST by Jessy Rouyer, 802.1 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 SA Patent Policy, IEEE SA Copyright Policy, and Participant Behavior (“Policies”) were provided beforehand as part of “MEETING INTRODUCTION” https://www.ieee802.org/1/files/public/templates/admin-prePAR-intro-0325-v01.pdf.
   The YANGsters Chair showed this presentation advising that the following, provided beforehand, applies:
   - Participant behavior shall comply with the outlined requirements;
   - 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 YANGsters 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 YANGsters Chair presented the agenda in https://1.ieee802.org/may-2025-interim-session-in-rennes-france-yangsters-agenda/.
   Disposition: The agenda was reviewed, discussed, and agreed (informally, none dissenting) as presented.
3. Introduction to YANGsters. The YANGsters Chair presented the “Introduction” slide of “YANGsters” https://www.ieee802.org/1/files/public/docs2025/yangsters-smansfield-rennes-status-0525-v01.pdf to introduce the following:
   - https://1.ieee802.org/yangsters/, and

- https://1.ieee802.org/yangsters/yangsters-guidelines/yangsters-faq/.

Disposition: For information.

4. Status. The YANGsters Chair presented slide 4 of the presentation in agenda item 3.
   - The table on the "YANG Status" slide provides an overview of all currently open IEEE 802.1 projects that contain or are expected to contain YANG.
   - An online version of this table is provided at "YANG Sanity" https://1.ieee802.org/yang-sanity/.

   Disposition: For information.
5. Recap since the last Plenary meeting. The YANGsters Chair provided an overview of the topics covered in electronic meetings since the last plenary session.
   - It was pointed out that YANGsters is contribution driven and participants are encouraged to bring forward any YANG related questions or issues they encounter in their projects.

   Disposition: For information.
6. IEEE Open Source Status. The YANGsters Chair presented "IEEE 802.3 YANG Model Open-Source Proposal" https://www.ieee802.org/1/files/public/docs2025/yangsters-jones-opensource-proposal-0525-v01.pdf and led the discussion.
   - Slide 4 of the presentation provides a proposal on how to handle 802.3 YANG data model development in IEEE 802.3 in the future.
   - The proposal is to create a Tier 3 IEEE Open Source project. If this path is taken, YANG modules created in the scope of the project cannot be normatively referenced in an IEEE 802 standard.
   - To address this, one approach, described on slide 5, is to periodically run a project to update IEEE 802.3.2 to the latest stable "IEEE Open Source Release".
   - It was pointed out that, if this approach is taken, it needs to be ensured that changes to the YANG during such a project are fed back to the open-source project so that the YANG in the published standard and the open-source project do not diverge.
   - Currently Tier 4 IEEE Open Source projects are not possible in IEEE 802. A P&P change is needed in the LMSC to support them.

   Disposition: For information.
7. Next meeting. YANGsters intend to meet next electronically on Jun 3, 2025.
8. Any Other Business. No other business was discussed by YANGsters in this session.

16:58 CEST adjournment

8 Next Session

July 28-31, 2025 mixed mode plenary session in Madrid, Spain.