IEEE 802.1 Working Group
January 22-26, 2024 Interim Session
Heidelberg, Germany – 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.

Columns (left to right):

1. TSN - P802.1DG, Mon Jan 22, 2024, 8:00-10:00 CET
2. TSN, Mon Jan 22, 2024, 10:30-12:30 CET
3. TSN - IEC/IEEE 60802, Mon Jan 22, 2024, 13:30-15:30 CET
4. TSN - IEC/IEEE 60802, Mon Jan 22, 2024, 16:00-18:00 CET
5. Maintenance, Tue Jan 23, 2024, 8:00-10:00 CET
6. TSN - P802.1DP/AS6675, Tue Jan 23, 2024, 10:30-12:30 CET
7. TSN - IEC/IEEE 60802, Tue Jan 23, 2024, 13:30-15:30 CET
8. TSN, Tue Jan 23, 2024, 13:30-15:30 CET
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Last name	First name	Affiliation
Ahmed	Mahin	Silicon Austria Labs GmbH
Alexandris	Konstantinos	Huawei Technologies Duesseldorf GmbH
Assmann	Ralf	Marvell Semiconductor, Inc.
Bao	Huajie	Huawei Technologies Co., Ltd
Belliardi	Rudy	Schneider Electric
Bierschenk	Jens	Robert Bosch GmbH
Boiger	Christian	Infineon Technologies
Bottorff	Paul	Hewlett-Packard Development Company, L.P.
Canchi	Radhakrishna	Kyocera International Inc
Chen	Feng	Siemens AG
Cheng	Weiqiang	China Mobile Limited

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Dorr	Josef	Siemens AG	•	•	•	•			•		•		•	•		•		•		•	•				•	•	•			•
Engelmann	Anna	Volkswagen AG																•	•											
Farkas	Janos	Ericsson AB	•	•	•	•	•	•		•	•		•	•		•		•		•		•	•	•	•		•	•	•	•
Fedyk	Donald	LabN Consulting, L.L.C.			•		•		•	•		•		•		•				•			•	•						
Finn	Norman	Huawei Technologies Co., Ltd	•	•	•	•			•	•	•		•	•		•		•		•		•	•		•	•	•	•	•	•
Garner	Geoffrey	Analog Devices	•	•	•	•	•	•	•		•		•	•		•		•		•		•	•	•		•	•	•	•	•
Gilb	James	GA-ASI, USD, Gilb Consulting, Inc.									•					•														
Gunther	Craig	LabN Consulting, L.L.C.	•	•	•	•	•	•		•	•	•		•		•		•		•		•			•	•				
Gutierrez	Marina	L-Acoustics;RealTime-at-Work (RTaW)	•	•	•	•	•	•		•	•		•	•		•		•		•		•	•		•	•	•	•	•	•
Haasz	Jodi	IEEE Standards Association (IEEE-SA)	•	•	•	•	•	•		•	•		•	•		•		•			•		•		•	•	•	•	•	•
Haddock	Stephen	Stephen Haddock Consulting, LLC	•	•			•	•	•		•		•		•		•			•	•				•	•		•	•	•
Hamilton	Mark	Ruckus Wireless									•						•													
Hantel	Mark	Rockwell Automation	•	•	•	•	•	•	•			•		•		•		•			•	•	•	•	•			•	•	
Hernandez	Marco	National Institute of Information and Communications Technology (NICT)									•						•													
Hhy	Hongyi (Howie)	Self*																				•								
hu	mark zhuomin	Aptiv			•						•		•			•		•	•				•	•	•					•
Huh	Woojung	Microchip Technology, Inc.	•													•		•	•	•									•	•
Ito	Yoshihiro	Nagoya Institute of Technology	•	•	•		•			•	•		•	•		•		•							•		•	•	•	•
Jabbar	Abdul	General Electric Company (GE)			•			•			•		•					•								•				
Jonestrask	Kevin	Wind River*																•												
Kehrer	Stephan	Hirschmann Automation and Control, Inc.	•	•	•	•	•	•	•		•		•	•		•		•			•	•		•		•	•	•	•	•
Kiessling	Marcel	Beckhoff Automation	•	•	•	•	•	•	•			•		•		•	•	•		•	•	•		•	•		•	•	•	•
Lai	Gavin	Moxa Inc.	•	•	•	•	•	•	•		•	•		•		•		•		•		•	•		•	•	•	•	•	•
Levy	Joseph	InterDigital, Inc.									•						•													
Li	Yizhou	Huawei Technologies Co., Ltd	•	•	•			•		•	•	•		•	•		•					•	•	•		•	•	•		
Lyu	Yunping(Lily)	Huawei Technologies Co., Ltd		•			•	•		•	•	•		•		•	•	•				•	•	•				•		
Mangin	Christophe	Mitsubishi Electric Corporation	•	•	•	•	•	•	•			•	•		•		•		•		•	•	•	•		•	•	•		
Mansfield	Scott	Telefon AB LM Ericsson							•		•	•		•								•	•							
Marks	Roger	EthAirNet Associates									•					•														
Mater	Olaf	Marvell Semiconductor, Inc.	•	•	•	•	•	•		•	•		•		•		•		•		•		•	•	•		•	•	•	•
McCall	David	Intel		•	•	•		•									•		•		•		•		•		•		•	
Mittelberger	Martin	Siemens AG	•	•	•	•		•	•	•		•	•		•		•		•		•	•	•		•	•	•			
Nakano	Hiroki	CAHI Corporation;Kyoto University; National Institute of Information and Communications Technology (NICT)	•	•	•	•	•	•		•	•		•	•		•		•		•		•	•	•		•		•	•	
Niess	Adriaan	Robert Bosch GmbH	•	•	•			•					•		•		•		•		•		•	•	•	•	•	•	•	•
Ostertag	Martin	Zurich University of Applied Sciences	•	•	•	•		•	•	•				•		•		•		•		•		•	•	•		•	•	•
Pannell	Donald	NXP Semiconductors	•	•	•	•		•	•		•		•		•		•		•		•				•	•		•	•	•
Parsons	Glenn	Ericsson AB							•	•	•		•		•		•		•		•									
Proell	Dieter	Siemens AG	•	•	•	•	•	•	•			•	•		•		•		•		•	•	•	•		•		•	•	
Randall	Karen	INDEPENDENT; Tallac Networks, Inc; Tallac/Self					•					•						•						•						
Regev	Alon	Keysight Technologies	•	•	•	•		•		•					•		•		•		•		•	•			•			•
Rodrigues	Silvana	Huawei Technologies Co., Ltd	•	•	•	•	•	•				•		•		•		•		•		•	•	•		•	•	•	•	•
Rouyer	Jessy	Nokia		•	•	•	•	•		•	•		•	•	•	•	•	•		•			•	•		•	•	•	•	•
Roy	Rajeev	NXP Semiconductors	•	•	•	•	•	•	•		•		•		•		•		•				•	•	•		•	•	•	•
Sato	Atsushi	Yokogawa Electric Corporation	•	•	•	•	•	•		•	•		•	•		•		•		•		•	•	•		•		•	•	•
Seaman	Michael	Individual	•					•	•				•	•	•		•					•							•	
Seewald	Maik	Cisco Systems, Inc.	•	•	•	•	•	•	•			•		•		•		•		•		•	•	•		•	•	•	•	
Sivakolundu	Ramesh	Cisco Systems, Inc.	•		•		•		•	•			•		•		•		•			•	•		•	•	•			

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Specht	Johannes	Analog Devices, Inc.; Mitsubishi Electric Corporation; Phoenix Contact GmbH & Co. KG; PROFIBUS Nutzerorganisation e.V.; Self; Self Employed; Siemens AG; Texas Instruments, Inc.	•	•	•	•		•			•	•			•		•			•	•	•		•	•		•	•	•	
Stamenic	Nemanja	Siemens AG		•	•	•	•	•	•		•		•	•		•		•			•		•	•	•			•	•	
Stanica	Marius	ABB AB		•	•	•			•		•		•	•		•		•	•				•	•			•	•	•	
Steindl	Guenter	Siemens AG																							•				•	•
Thompson	Geoffrey	GraCaSI S.A.																		•										
Tse	Richard	Microchip Technology, Inc.	•			•		•			•	•		•																
Turner	Max	Ethernovia	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•		•		•		•	•	•	•	•	•	•
Varga	Balazs	Ericsson AB	•	•		•	•	•		•		•		•		•	•		•			•	•	•				•	•	
Venkatesan	Ganesh	Intel	•	•	•	•			•			•	•		•		•			•	•	•		•						
Wang	Ruixue	China Mobile Limited*																						•						
Winkel	Ludwig	PNO e.V.	•	•	•	•		•	•		•		•			•		•			•	•	•	•		•	•	•	•	•
Woods	Jordon	Analog Devices Inc.			•	•		•												•					•					
Zeh	Alexander	Infineon Technologies	•	•	•	•	•	•	•		•		•	•	•		•			•	•		•	•	•			•	•	•
Zein	Nader	NEC Europe (NLE)	•	•	•	•	•	•		•	•	•		•		•	•		•	•		•	•	•	•	•		•	•	•

(*) Last and first names and affiliation possibly incorrect as based on Webex access information or otherwise, and either outdated or 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: Mark Hantel
- 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: Dieter Pröll
  - IEC/IEEE 60802 Joint Project Time Sync ad hoc Chair: David McCall
  - 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: 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 2023-12-12 11:00-11:05 ET
  https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;104d7ea8.24&S=
- Minutes of the Maintenance TG meeting held 2023-12-19 11:00-12:19 ET
  https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;65374744.24&S=
- Minutes of the Maintenance TG meeting held 2023-12-20 11:00 - 11:25 ET
  https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;4ef9b7ff.24&S=
- Minutes of the Maintenance TG meeting held 2024-01-09 11:00 - 12:05 ET
  https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;77481d06.24&S=

See section 1 for attendance and affiliation information.

Call to order Jan 23, 2024 at 8:00 CET 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. 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-0323-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 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/january-2024-interim-session-maintenance-tg-agenda/.
   Disposition: The agenda was reviewed, discussed, and agreed (informally, none dissenting) as presented.
3. Maintenance Project Status. The Chair noted that:
   - The Maintenance TG's work on P802.1CS-2020/Cor-1 and P802.1ASdr has finished.
   - The Maintenance TG will begin work on P802.1Q-2022-Revision and P802.1AS-2020-Revision.
   - The PAR for P802.1CB-2017/Cor1 has been approved for NesCom consideration.
   Disposition: For information.
4. Review of Maintenance Motions from November 2023. Karen Randall, IEEE 802.1 Liaison Secretary, led the review of actions taken per Nov 2023 IEEE 802.1 closing plenary meeting motions.
   Disposition: Sent liaison responses to ISO/IEC JTC1 SC6.
5. Review Liaisons for March. Karen Randall, IEEE 802.1 Liaison Secretary, presented liaisons that are:
   - Incoming
     - ITU-T SG13-LS139: LS on work items related deterministic networking.
     - ITU-T SG15-LS92: LS on Initiation of approval process for G.8021 amendment and G.8013/Y.1731 corrigendum.
     - ITU-T SG15-LS93: LS on IM/DM modelling coordination.
     - ITU-T JCA: LS to update the information in the IMT2020 roadmap.
     - ITU-T SG15-LS89: LS on OTNT Standardization Work Plan Issue 33.
   - Outgoing
     - Would be determined at the Mar 2024 IEEE 802.1 session
   Disposition: For information.
6. New Maintenance Requests. No new maintenance requests received.
7. Existing Maintenance Requests. The Chair led the discussion on existing maintenance items:
   - 0312: StreamID as a key for YANG lists
   - 0343: Handling of stream_handle in Active Stream
   - 0362: IEEE 802.1AS Revision Request on invoking the MDpDelay Sms w/o CMLDS
   - 0363: IEEE 802.1Q-2022 maximum SDU size
   - 0364: Stream split table in IEEE 802.1CBcv-2021 FRER
   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'.
8. Any Other Business. No other business was discussed by the Maintenance TG in this meeting.

8:51 CET recess

Call to order Jan 23, 2024 at 16:00 CET 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.

9. Meeting introduction. The Chair announced that the meeting remains subject to the Policies mentioned in agenda item 1.
    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.
10. Approval of agenda. The Chair presented the agenda in https://1.ieee802.org/january-2024-interim-session-maintenance-tg-agenda-p802-revc-comment-resolution/.
    Disposition: The agenda was reviewed, and agreed (informally, none dissenting) as presented.
11. EPD/LPD Discussion.
    *   Norm Finn presented "IEEE 802 LLC Stack Architecture" https://www.ieee802.org/1/files/public/docs2024/802-finn-LLC-stack-0124-v01.pdf.
    *   James Gilb, P802-REVc editor, led the discussion on EPD/LPD.
    Disposition: More discussion needed.
12. P802-REVc comment resolution. James Gilb, P802-REVc editor, presented https://mentor.ieee.org/802.1/dcn/24/1-24-0002-01-Mntg-p802-revc-d1-2-comments-pdis.ods and led the resolution of comments received on https://www.ieee802.org/1/files/private/802-REVc-drafts/d1/P802-REVc-d1.2.pdf.
    Disposition: Comments 2, 3, 4, 5, 6, 7, 10, 12, 13 were discussed.
13. Any Other Business. No other business was discussed by the Maintenance TG in this meeting.

18:00 CET recess

Call to order Jan 24, 2024 at 16:00 CET 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.

14. Meeting introduction. The Chair announced that the meeting remains subject to the Policies mentioned in agenda item 1.
    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.
15. Approval of agenda. The Chair presented the agenda in https://1.ieee802.org/january-2024-interim-session-maintenance-tg-agenda-p802-revc-comment-resolution/.
    Disposition: The agenda was reviewed, and agreed (informally, none dissenting) as presented.

16. P802-REVc comment resolution. James Gilb, P802-REVc editor, presented
https://mentor.ieee.org/802.1/dcn/24/1-24-0002-01-Mntg-p802-revc-d1-2-comments-pdis.ods .
and led the resolution of comments received on
https://www.ieee802.org/1/files/private/802-REVc-drafts/d1/P802-REVc-d1.2.pdf.
Disposition: Comments 1, 3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 38 were discussed.
17. Any Other Business. No other business was discussed by the Maintenance TG in this meeting.
18. Future Meetings. The Maintenance TG is scheduled to meet to discuss P802-REVc on Feb 14, 2024 10:00 - 12:00 ET and Feb 27, 2024 10:00 - 12:00 ET.

18:00 CET 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 Jan 24, 2024 at 10:30 CET (Heidelberg time) by Mick Seaman, IEEE 802.1 Security 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 Security TG Chair showed this presentation advising that the following, provided beforehand, applies:
   - IEEEs 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 as previously made available in https://1.ieee802.org/january-2024-interim-session-security-tg-agenda/.
   Disposition: The agenda was reviewed, discussed, and agreed (informally, none dissenting) as presented.
3. P802.1Qdt Priority-based Flow Control Enhancements
3.1 Draft development. Mick Seaman presented "Priority-based Flow Control - Proposed Clause 36 changes" https://www.ieee802.org/1/files/public/docs2024/dt-seaman-clause-36-proposal-0124-v1.pdf for discussion.
   Discussion:
   - This presented document is an update of the document with the same name presented in the Nov 2023 plenary session, minor changes to clauses prior to 36.9 reflect feedback received at that session, 36.9 "PFC headroom measurement protocol" details are new, still lacking details of PFC management (proposed 36.10) including information obtained from DCBX/LLDP exchanges.
   - Walk through from the front of the document.
   - A number of additional points could be made in 36.2.1 "Data center network protocol support": Incasting is not mentioned, this can be severe (perhaps network topology dependent), with synchronized events resulting in thousands of flows converging at a synchronized time. PFC can provide transient squelching where it takes too long to signal through multiple intermediate systems to the flow sources, and the number of flows to be signaled is too great for individual source signaling. These points are particularly relevant for AI applications. The loss of frames for a single flow can result in the need to recompute for all flows.
   - The suggested headroom measurement protocol accuracy of 8 pause quanta (512 octets) is just a starting point for discussion. In the context of the ~17 kB for 10 Gb/s operation (Annex N of IEEE Std 802.1Q-2022) it may be too tight, always requiring adjustment for interfering frames at turn around.
   Disposition: Discussion to be continued.

12:23 CET recess

Call to order Jan 24, 2023 at 13.30 CET by the Security TG Chair, who presided and wrote the minutes.

3.1 Draft development. Mick Seaman presented an initial draft of a Headroom Measurement Protocol state machine https://www.ieee802.org/1/files/public/docs2024/dt-seaman-hrm-state-machine-0124-v00.pdf for discussion.
   Discussion:
   - The machine covers both use of the same path for measurement requests and measurement responses and use of separate paths. The former case, which allows requests and responses to be encoded in the same HMPDU, is rather simpler. It might be clearer to separate that case.
   - An alternative way of presenting the information is to use state tables, with states as columns and events as rows, action {Action, Next State} in each table cell. That method has the disadvantage of being sparse in expected operation, with many repeated entries. The machines shown do reduce the number of times common actions are shown, although the method tends toward a flow chart description ("code in boxes") with the 'real state' in variable values, which makes analysis a little more difficult, but is more likely to support faithful implementation.

- There are some naming inconsistencies in this initial draft, and some names might benefit from being unique in a wider context.

   Disposition: Discussion to be continued.

4. A.O.B (Any other business). No other Security TG business was discussed in this meeting.
5. Future meetings. An electronic meeting is expected prior to the Mar 2024 802 plenary session, and the Security TG will meet during that session.

14:35 CET 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 2023-12-18, 11:00 – 13:00 ET
   https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;1e8dfa5c.24&S=
- Minutes of the TSN TG meeting held 2024-01-08, 11:00 – 13:06 ET
   https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;84010721.24&S=
- Minutes of the TSN TG meeting held 2024-01-15, 11:00 – 13:03 ET
   https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;ba41a003.24&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 2023-12-05 9:00 - 09:12 ET
   https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;22ae15f5.23&S=

See section 1 for attendance and affiliation information.

Minutes of the IEC/IEEE 60802 Joint Project meetings are in section 5.1.

Minutes of the IEEE P802.1DP/SAE AS 6675 joint project meeting are in section 5.2.

Call to order Jan 22, 2024 at 8:00 CET by Craig Gunther, IEEE 802.1 TSN TG Vice-Chair (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 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 IEEE 802.1 TSN TG Vice-Chair presented the agenda in https://1.ieee802.org/2024-01-interim-tsn-agenda/#TSN_8211_P8021DG
   Disposition: the agenda was reviewed, discussed, and agreed (informally, none dissenting) as presented.

3. Nader Zein, the session host, presented "IEEE802.1 January 2024 Interim Session, Heidelberg Germany, Logistics Travel and Useful Information" https://www.ieee802.org/1/files/public/docs2024/admin-Zein-Heidelberg-interim-Session-Logistics-Travel-Information-0124-v01.pdf.
   Disposition: For information.

4. Max Turner, P802.1DG Editor, presented "P802.1DG-D2.3 Editor's Report V1" https://www.ieee802.org/1/files/public/docs2024/dg-Turner-EditorsReport-0124-v00.pdf (updated as https://www.ieee802.org/1/files/public/docs2024/dg-Turner-EditorsReport-0124-v02.pdf post-session) and led the resolution of comments received on https://www.ieee802.org/1/files/private/dg-drafts/d2/802-1DG-d2-3.pdf.
   Disposition: Comments 1, 37, 35, 36, 31, 33, 34, 3, 5, 6, 7, 9, 10, 11, 29 in resolved. Partial disposition: https://www.ieee802.org/1/files/private/dg-drafts/d2/802-1DG-d2-3-pdis-v1.pdf. Agreed (informally, none dissenting) to have one more TG ballot, then a motion at the Mar 2024 closing plenary meeting to authorize the project for WG balloting.

10:00 CET recess

Call to order Jan 22, 2024 at 10:30 CET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

5. 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.

6. Approval of agenda. The Chair presented the agenda in https://1.ieee802.org/2024-01-interim-tsn-agenda/.
   Disposition: The agenda was reviewed, and updated as recorded by these minutes.

7. Stephan Kehrer, P802.1Qdj editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/dj-drafts/d2/802-1Qdj-d2-0.pdf.
   Disposition: Disposition per agenda item 34.

8. Martin Mittelberger, P802.1Qdy editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/dy-drafts/d1/802-1Qdy-d1-0.pdf.
   Disposition: Disposition per agenda item 27.
9. Martin Mittelberger, P802.1Qdy editor, presented "P802.1Qdy – Proposed new YANG model" https://www.ieee802.org/1/files/public/docs2024/dy-mittelberger-rstp-mstp-YANG-0124-v01.pdf.
   Disposition: Presentation discussed.

12:30 CET recess

Call to order Jan 23, 2024 at 13:30 CET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

10. 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.
11. Norm Finn, P802.1DC editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/dc-drafts/d3/802-1DC-d3-0.pdf.
    Disposition: Disposition per agenda item 31.
12. Norm Finn, P802.1Qdv editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/dv-drafts/d0/802-1Qdv-d0-4.pdf.
    Disposition: Disposition per agenda item 32.

15:30 - 16:00 CET recess

13. Stephan Kehrer, P802.1Qdj editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dj-drafts/d2/802-1Qdj-d2-0.pdf.
    Disposition: Disposition per agenda item 34.
14. Mick Seaman presented "Draft Standard for Local and metropolitan area networks— Bridges and Bridged Networks" (individual contribution on clause 46) https://www.ieee802.org/1/files/public/docs2024/dj-seaman-d2-0--comments-I-57-and-I-51-clause-46-1-extract-markup-0124-v01.pdf.
    Disposition: Presentation discussed. Further discussion needed.

17:00 CET recess

Call to order Jan 24, 2024 at 8:00 CET 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. The chair showed the incoming liaisons and communication:
    * "LS on Consented Recommendations" https://www.ieee802.org/1/files/public/docs2023/liaision-itu-t-SG15-LS94-ConsentedRecs-dec23.pdf
    * "LS on Inclusive Terminology and YANG" https://www.ieee802.org/1/files/public/docs2023/liaison-itu-t-sg15-LS95-InclusiveTerminologyandYANG-dec23.pdf

Disposition: Incoming liaisons discussed.

17. Don Pannell presented draft PAR "IEEE Standard for Local and Metropolitan Area Networks--Timing and Synchronization for Time-Sensitive Applications Amendment: Optional Use of Announce" https://www.ieee802.org/1/files/public/docs2024/eb-Pannell-draft-PAR-0124-v02.pdf.
Disposition: Presentation discussed. Further discussion needed.

10:00 – 10:30 CET recess.

18. Don Pannell presented draft CSD "IEEE Standard for Local and Metropolitan Area Networks--Timing and Synchronization for Time-Sensitive Applications Amendment: Optional Use of Announce" https://www.ieee802.org/1/files/public/docs2024/eb-Pannell-draft-CSD-0124-v02.pdf.
Disposition: Presentation discussed. Further discussion needed.

19. Feng Chen, P802.1Qdd editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/dd-drafts/d0/802-1Qdd-d0-8.pdf.
Disposition: Disposition per agenda item 29.

12:40 – 13:30 CET recess

20. Feng Chen, P802.1Qdd editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dd-drafts/d0/802-1Qdd-d0-8.pdf.
Disposition: Comments 1 - 8, 97 resolved. Disposition per agenda item 29.

21. Silvana Rodrigues, P802.1ASds editor, led the resolution of comments received on https://www.ieee802.org/1/files/private/asds-drafts/d0/802-1ASds-d0-1.pdf.
Disposition: Comments 22, 24, 31, 32, 44, 69, 77 - 78 resolved. Disposition per agenda item 39.

15:30 – 16:00 CET recess

22. János Farkas presented draft PAR "IEEE Standard for Local and Metropolitan Area Networks--Timing and Synchronization for Time-Sensitive Applications Amendment: Optional Use of Announce" https://www.ieee802.org/1/files/public/docs2024/eb-draft-PAR-0124-v01.pdf.
Disposition: Presentation discussed.

23. János Farkas presented draft CSD "IEEE Standard for Local and Metropolitan Area Networks--Timing and Synchronization for Time-Sensitive Applications Amendment: Optional Use of Announce" https://www.ieee802.org/1/files/public/docs2024/eb-draft-CSD-0124-v01.pdf.
Disposition: Presentation discussed.

24. Stephan Kehrer, P802.1Qdj editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dj-drafts/d2/802-1Qdj-d2-0.pdf.
Disposition: Disposition per agenda item 34.

25. Mick Seaman presented "Draft Standard for Local and metropolitan area networks—Bridges and Bridged Networks" (individual contribution on clause 46) https://www.ieee802.org/1/files/public/docs2024/dj-seaman-d2-0--comments-I-57-and-I-51-clause-46-1-extract-markup-0124-v01.pdf.
Disposition: Presentation discussed. Further discussion needed.

17:45 CET recess

Call to order Jan 25, 2024 at 10:30 CET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

26. 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.
27. Martin Mittelberger, P802.1Qdy editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dy-drafts/d1/802-1Qdy-d1-0.pdf.
    Disposition: Partial disposition: https://www.ieee802.org/1/files/private/dy-drafts/d1/802-1Qdy-d1-0-pdis-v02.pdf.
28. Feng Chen, P802.1Qdd editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dd-drafts/d0/802-1Qdd-d0-8.pdf.
    Disposition: Disposition per agenda item 29.

12:30 – 13:30 CET recess

29. Feng Chen, P802.1Qdd editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dd-drafts/d0/802-1Qdd-d0-8.pdf.
    Disposition: Comments 10 - 21, 23, 25, 27, 28, 30 - 32, 37 - 39, 48, 49, 55, 57, 59, 60, 69, 71, 73, 74, 76, 77, 82, 91, 92, 98 – 100 resolved. Partial disposition https://www.ieee802.org/1/files/private/dd-drafts/d0/802-1Qdd-d0-8-pdis-v02.pdf.
30. Silvana Rodrigues, P802.1ASds editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/asds-drafts/d0/802-1ASds-d0-1.pdf.
    Disposition: Comments 1 - 4, 6, 7, 10, 29, 33, 43, 55, 65, 72, 88 - 89 resolved. Disposition per agenda item 39.

15:30 – 16:00 CET recess

31. Norm Finn, P802.1DC editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dc-drafts/d3/802-1DC-d3-0.pdf.
    Disposition: Final disposition: https://www.ieee802.org/1/files/private/dc-drafts/d3/802-1DC-d3-0-dis-v1.pdf.
32. Norm Finn, P802.1Qdv editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dv-drafts/d0/802-1Qdv-d0-4.pdf.
    Disposition: All comments resolved. Final disposition (provided post-session): https://www.ieee802.org/1/files/private/dv-drafts/d0/802-1Qdv-d0-4-dis.pdf.

18:05 CET recess

Call to order Jan 26, 2024 at 8:00 CET by János Farkas, IEEE 802.1 TSN TG Chair (Chair), who presided. Johannes Specht, IEEE 802.1 TSN TG Secretary (Secretary), wrote the minutes.

33. 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.
34. Stephan Kehrer, P802.1Qdj editor, continued the resolution of comments received on https://www.ieee802.org/1/files/private/dj-drafts/d2/802-1Qdj-d2-0.pdf.
    Disposition: Final disposition: https://www.ieee802.org/1/files/private/dj-drafts/d2/802-1Qdj-d2-0-dis-v01.pdf.

35. Abdul Jabbar, P802.1Qdx editor, led the resolution of comments received on
https://www.ieee802.org/1/files/private/dx-drafts/d1/802-1Qdx-d1-4.pdf.
Disposition: Final disposition: https://www.ieee802.org/1/files/private/dx-drafts/d1/802-1Qdx-d1-4-dis-v01.pdf.

36. Silvana Rodrigues, P802.1ASds editor, continued the resolution of comments received on
https://www.ieee802.org/1/files/private/asds-drafts/d0/802-1ASds-d0-1.pdf.
Disposition: Disposition per agenda item 39.

09:56 – 10:30 CET recess

37. Silvana Rodrigues, P802.1ASds editor, continued the resolution of comments received on
https://www.ieee802.org/1/files/private/asds-drafts/d0/802-1ASds-d0-1.pdf.
Disposition: Disposition per agenda item 39.

12:30 – 13:30 CET recess

38. Geoffrey Garner, P802.1ASdm editor, led the resolution of comments received on
https://www.ieee802.org/1/files/private/asdm-drafts/d1/802-1ASdm-d1-5.pdf.
Disposition: No comments received. Final disposition:
https://www.ieee802.org/1/files/private/asdm-drafts/d1/802-1ASdm-d1-5-dis-v01.pdf

39. Silvana Rodrigues, P802.1ASds editor, continued the resolution of comments received on
https://www.ieee802.org/1/files/private/asds-drafts/d0/802-1ASds-d0-1.pdf.
Disposition: Comments 5, 8, 9, 12 - 14, 21, 25 - 28, 30, 34, 37 - 39, 41, 42, 47 - 49, 51, 52, 57, 58, 71, 73, 76, 79 - 82, 87, 92 – 96 resolved. Partial disposition:
https://www.ieee802.org/1/files/private/asds-drafts/d0/802-1ASds-d0-1-pdis-V01.pdf.

14:57 CET adjournment

5.1   IEC/IEEE 60802 Joint Project

Between this session and the preceding session, the IEC/IEEE 60802 Joint Project Time Sync ad hoc (Time Sync ad hoc) 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 2023-11-20 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;79616357.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2023-11-27 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;567b64b4.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2023-12-01 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;30c174d3.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2023-12-04 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;ed2806f3.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2023-12-08 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;6f39c871.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2023-12-11 9:00 - 10:30 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;ff0fa1a1.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2023-12-15 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;ec2c436b.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2023-12-18 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;723aaba3.23&S=
- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2024-01-08 9:00 - 11:00 ET
https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;aa1edcb4.24&S=

- Minutes of the IEC/IEEE 60802 Joint Project meeting held 2024-01-12 9:00 - 11:00 ET
  https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;533ef2ee.24&S=

See section 1 for attendance and affiliation information.

Call to order Jan 22, 2024 at 13:30 CET by Ludwig Winkel, IEC 65C/WG18 Convenor and IEC/IEEE 60802 Joint Project Chair (60802 Chair), who presided together with János Farkas, IEEE 802.1 TSN TG Chair (TSN TG Chair). Dieter Proell, 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" https://www.ieee802.org/1/files/public/templates/admin-TG-intro-0323-v01.pdf.
   The 60802 Chair announced that the meeting is subject to these Policies as read and displayed at the opening Time-Sensitive Networking Task Group meeting.
   The 60802 Chair made the Calls for Potentially Essential Patents at the beginning of the 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 this Call prior to the end of the session.
   The 60802 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 60802 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.
   IEC 61802 project update. The 60802 Chair reported that the IEC 61802 project would be automatically cancelled 5 years after it started; however, publication is expected Dec 27, 2024 and he proposed to cancel the IEC 61802 project at the Sep 2024 IEC TC65 plenary. The TSN Industrial Automation Conformance Collaboration (TIACC – https://www.tiacc.net/) is working on the content, but there would be no IEC document published by Dec 27, 2024. The IEC 61802 project would be reactivated based on the TIACC timeline.
2. Host's intro. Nader Zein presented "IEEE802.1 January 2024 Interim Session Heidelberg Germany | Logistics Travel and Useful Information" https://www.ieee802.org/1/files/public/docs2024/admin-Zein-Heidelberg-interim-Session-Logistics-Travel-Information-0124-v01.pdf.
   Disposition: For information.
3. Approval of agenda. The 60802 Chair presented the agenda in https://1.ieee802.org/2024-01-interim-tsn-agenda/.
   Disposition: The agenda was reviewed, discussed, and updated as recorded by these minutes.
4. Editor's report. Jordon Woods, IEC/IEEE 60802 Joint Project Editor (60802 Editor), presented "Editor's Report 60802 Draft 2.1" https://www.ieee802.org/1/files/public/docs2024/60802-woods-D2-1-update-0124-v01.pdf.
   Disposition: For information.

5. 60802 Error Generation Time Series Simulation Results. Geoff Garner presented "Initial 60802 Error Generation Time Series Simulation Results Version 1" https://www.ieee802.org/1/files/public/docs2024/60802-garner-error-generation-time-series-simulation-results--0124-v01.pdf.
   - Discussion started
   - 15:30 – 16:00 CET recess
   - Discussion continued
   Disposition: More discussion is needed.

6. YANG comments and selection. Josef Dorr presented "IEC/IEEE 60802 D2.1 YANG comments #571, #570, and #130" https://www.ieee802.org/1/files/public/docs2024/60802-Dorr-YANG-comments-d21-0124-v1.pdf and "YANG node selection for IA-stations" https://www.ieee802.org/1/files/public/docs2024/60802-Dorr-YANG-selection-upd-0124-v1.pdf in support of the resolution of comments received on https://www.ieee802.org/1/files/private/60802-drafts/d2/60802-d2-1.pdf.
   Disposition: Presentations discussed and updated as https://www.ieee802.org/1/files/public/docs2024/60802-Dorr-YANG-selection-upd-0124-v2.pdf based on discussion.

7. 60802/D2.1 WG ballot comment resolution. The 60802 Editor led the resolution of comments received on https://www.ieee802.org/1/files/private/60802-drafts/d2/60802-d2-1.pdf.
   Disposition: Partial disposition. Ballot comments 571, 570, 130 were resolved.

18:00 CET recess

Call to order Jan 23, 2024 at 13:30 CET by Ludwig Winkel, IEC 65C/WG18 Convenor and IEC/IEEE 60802 Joint Project Chair (60802 Chair). Dieter Proell, IEC/IEEE 60802 Joint Project Secretary (60802 Secretary), wrote the minutes.

8. Meeting introduction and other administrative items. The 60802 Chair announced that the 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 minute taker.

9. 60802/D2.1 WG ballot comment resolution. The 60802 Editor led the resolution of comments received on https://www.ieee802.org/1/files/private/60802-drafts/d2/60802-d2-1.pdf.
   Disposition: Final disposition: https://www.ieee802.org/1/files/private/60802-drafts/d2/60802-d2-1-dis-v01.pdf.
   - Ballot comments 167, 74, 329, 642, 2, 327, 311, 522, 132, 162, 320 were resolved.
     - Ludwig Winkel's "YANG Content Org and Contact" https://1.ieee802.org/2024-01-interim-tsn-agenda/#TSN_8211_IECIEEE_60802-2 was discussed as part of the resolution of ballot comment 74.
   - Ballot comment 136, 613 were revised based on discussion during the meeting.

10. Timeline discussion. The 60802 Chair presented "IEC/IEEE 60802 timeline update rev 12" https://www.ieee802.org/1/files/public/docs2023/60802-Winkel-timeline-1223-v12.pdf.
    Disposition: Presentations discussed and updated as https://www.ieee802.org/1/files/public/docs2024/60802-Winkel-timeline-0124-v13.pdf based on discussion.

11. Future meetings. The 60802 Chair proposed canceling the IEC/IEEE 60802 Joint Project electronic meetings initially scheduled on Jan 29 and Feb 2, 2024.
    Disposition: Agreed (informally, none dissenting) to cancel these electronic meetings.
12. Review of minutes. The draft minutes were reviewed under the lead of the 60802 Secretary.

15:30 CET recess

Call to order Jan 25, 2024 at 16:00 CET by Ludwig Winkel, IEC 65C/WG18 Convenor and IEC/IEEE 60802 Joint Project Chair (60802 Chair). Dieter Proell, IEC/IEEE 60802 Joint Project Secretary (60802 Secretary), wrote the minutes.

13. Meeting introduction and other administrative items. The 60802 Chair announced that the 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 minute taker.
14. 60802 Time Sync – Error Generation Simulations Time Series Assumptions. David McCall presented "60802 Time Sync – Error Generation Simulations Time Series Assumptions" https://www.ieee802.org/1/files/public/docs2024/60802-McCall-Garner-Rodrigues-Error-Generation-Simulations-Assumptions-0124-v02.pdf.
    Disposition: New simulations and more discussion are needed.
15. 60802/D2.1 WG ballot comment resolution. The 60802 Editor reopened the resolution of comments received on https://www.ieee802.org/1/files/private/60802-drafts/d2/60802-d2-1.pdf.
    Disposition: Final disposition: https://www.ieee802.org/1/files/private/60802-drafts/d2/60802-d2-1-dis-v02.pdf.
    - Ballot comment 167 was revised based on discussion during the meeting.
16. Review of minutes. The draft minutes were reviewed under the lead of the 60802 Secretary.
17. The 60802 Chair thanked the host for the excellent organization of the session.

17:30 CET adjournment

5.2 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 AS 6675 whose minutes are incorporated to these session minutes by reference as follows:
- Minutes of the IEEE P802.1DP/SAE AS6675 meeting held 2023-11-22 10:00 - 10:27 ET, https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;b7303682.24&S=
- Minutes of the IEEE P802.1DP/SAE AS6675 meeting held 2023-12-13 10:02 - 12:04 ET, https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;1d601d86.24&S=
- Minutes of the IEEE P802.1DP/SAE AS6675 meeting held 2024-01-10 10:00 – 11:25 ET, https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;fd34122b.24&S=

See section 1 for attendance and affiliation information.

Call to order Jan 23, 2024 10:31 CET 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/2024-01-interim-tsn-agenda/#TSN_8211_P8021DPAS6675.

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

3. Richard Tse presented "FTTM Contribution for 802.1DP" https://www.ieee802.org/1/files/public/docs2023/dp-tse-donnelly-FTTM-contrib-for-802-1DP-1223-v01.pdf.

   Disposition: Presentation was discussed. More discussion is needed.

12:31 CET recess

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 2024-01-11 09:00-11:00 ET (revised) https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;7b490d9e.24

See section 1 for attendance and affiliation information.

Call to order Jan 25, 2024 08:30 CET by Jessy Rouyer, acting Chair ("Chair"), who presided. Johannes Specht, acting Secretary ("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-0323-v01.pdf. The Nendica 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 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-2024-01-25/.
3. Minutes. The Chair reviewed the draft "Minutes of the Nendica meeting held 2024-01-11 09:00-11:00 ET" https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;5c33de76.24.
   Disposition: The draft minutes could not be approved. A revision of the draft minutes is subject for approval in a subsequent meeting. Revision published post-session: https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-NEND;7b490d9e.24&S=.
4. CTF Study Item. No discussion.
5. Vetting and New Topics. Yunping(Lily) Lyu presented the contribution "Study Item Proposal: Network for AI Computing" https://mentor.ieee.org/802.1/dcn/24/1-24-0005-03-ICne-study-item-proposal-ai-computing-network.pdf.
   Disposition:
   - Presentation discussed. Further discussion needed. Discussion on a draft motion "To initiate a Study Item on "Computing Network"." (Mover: Yunping(Lily) Lyu, Second: Nader Zein) started and can continue at a subsequent meeting.
   - Contribution "Load balancing challenges in AI fabric" https://mentor.ieee.org/802.1/dcn/24/1-24-0004-04-ICne-load-balancing-challenges-in-ai-fabric.pdf by Ruixue Wang has been deferred due to the lack of time. In addition, the Chair noted that the contribution may not comply with the IEEE policies and should be reviewed and (if necessary) revised accordingly by the contributor.
6. Future Meetings. The schedule for the next meeting was discussed. The meeting is scheduled for Thursday February 8, 09:00-11:00 ET, with Roger Marks presiding.
7. Any Other Business. No other business was discussed by Nendica in this meeting.

10:02 CET 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 2023-12-05 10:00 –10:14 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;205003cb.24&S=
- Minutes of the YANGsters meeting held 2024-01-16 10:00 –11:01 ET https://listserv.ieee.org/cgi-bin/wa?A2=STDS-802-1-MINUTES;180a319c.24&S=

See section 1 for attendance and affiliation information.

Call to order Jan 23, 2024, at 17:01 CET by Stephan Kehrer, YANGsters Vice-Chair, who presided over agenda item 1. Scott Mansfield, YANGsters Chair, presided from agenda item 2 to meeting adjournment. 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" https://www.ieee802.org/1/files/private/templates/admin-prePAR-intro-0323-v01.pptx.

The YANGsters Vice-Chair announced that the meeting is subject to these Policies as read and displayed at the opening plenary meeting.

The YANGsters Vice-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/january-2024-interim-session-yangsters-agenda/.
   Disposition: The agenda was reviewed, discussed, and agreed (informally, none dissenting) as presented.

3. Introduction to YANGsters. The YANGsters Chair introduced YANGsters by showing the following:
   - https://1.ieee802.org/yangsters/,
   - https://1.ieee802.org/yangsters/yangsters-call-information/,
   - https://1.ieee802.org/category/yangsters-agenda/, and
   - https://1.ieee802.org/yangsters/yangsters-guidelines/yangsters-faq/.

   Disposition: For information.

4. YANGsanity Spreadsheet. The YANGsters Chair presented the spreadsheet available at https://1.ieee802.org/yangsters/yang-sanity/.
   - This spreadsheet provides an overview of all ongoing IEEE 802.1 projects that have YANG in their scope.
   - The most current versions of the YANG modules that are part of IEEE 802.1 documents or projects are available at https://github.com/YangModels/yang/tree/main/standard/ieee.
   - The final reference of any given IEEE 802.1 YANG module is the version that can be found in the corresponding published standard.

   Disposition: For information.

5. 802.3 Coordination Update. The YANGsters Chair introduced the topic by showing https://www.ieee802.org/3/2/a/comments/index.html and led the discussion.
   - LLDP YANG and MAC merge YANG are being written in P802.3.2a.
   - Questions on these YANG modules are currently being discussed in IEEE 802.3.

   Disposition: For information

6. Updates and actions related to IEEE P802-REVc. The YANGsters Chair introduced the topic.
   - OID allocations for IEEE 802.1 are available at https://1.ieee802.org/assigned-numbers/.
   - The text describing the process for OID management is provided in P802-REVc.
   - If the text is changed in P802-REVc, changes to it need to be reflected in the information at https://standards.ieee.org/wp-content/uploads/import/documents/tutorials/oid.pdf and https://standards.ieee.org/wp-content/uploads/import/documents/tutorials/ieeeurn.pdf.

   Disposition: For information.

7. Update related to IEEE Bridge Model and IETF Topology Models. The YANGsters Chair introduced the topic and led the discussion.
   - https://github.com/samans/draft-ybam-rfc8561bis/issues/19
   - The IEEE 802.1 YANG bridge model currently requires that the interface be of a specific type (ethernet CSMACD) to allow bridging.
   - If the desired interface is not of that type, the interface cannot directly be used. Instead, a virtual interface of type CSMACD needs to be created then translated to the actual interface.
   - The discussion at https://github.com/samans/draft-ybam-rfc8561bis/issues/19 has led to the conclusion that a workaround exists and that work underway in the IETF (https://datatracker.ietf.org/doc/html/draft-ietf-netmod-intf-ext-yang-12) will help with the issue.

   Disposition: Agreed (informally, none dissenting) that no further action in YANGsters is required.
8. Integers, Floats, Reals: Number representations in YANG. The YANGsters Chair introduced the topic by showing "Numbers in YANG example" https://www.ieee802.org/1/files/public/docs2024/yangsters-smansfield-numbers-in-yang-0124-v01.pdf and led the discussion.
   - A recommendation presented in this document is to use Decimal64, rather than using a string-based "float".
   - A second recommendation is that, if a string-based representation is defined, it is recommended to ensure that there is only a single representation, e.g., only allow either "e" or "E" as symbol for the exponent, and not both.

   Disposition: For information.
9. MAC Address formatting. The YANGsters Chair introduced the topic.
   - Maintenance item 0312 (https://www.802-1.org/items/423) discusses the issue that the IEEE 802.1 YANG types module currently defines MAC addresses as a regular expression allowing uppercase and lowercase characters.
   - This can create issues with the same MAC address being considered different in different string representations.

   Disposition: Agreed (informally, none dissenting) that YANGsters suggest addressing the maintenance item by implementing the previously suggested fix, i.e., deprecating the existing type for MAC addresses and defining a new type that follows the IEEE 802 recommendations on how MAC addresses should be formatted.
10. Discussion on P802.1Qdy. Martin Mittelberger presented the topic by showing "P802.1Qdy – Proposed new YANG model" https://www.ieee802.org/1/files/public/docs2024/dy-mittelberger-rstp-mstp-YANG-0124-v01.pdf and led the discussion.
    - The question was raised whether "presence containers" should be used for the RSTP and MSTP containers in the YANG module or whether using "if-feature" would be preferable.
    - An option is to use presence containers and then use the "if-feature" statement to allow turning the feature on and off.
    - Based on the discussion, the recommendation for P802.1Qdy, and MSTP and RSTP containers, is to use "presence containers", "when" statements and use the "if-feature" statement on the MSTP container.
    - The use and capabilities of YANG notifications was discussed.

    Disposition: For information.
11. Open Discussion. No topics were discussed.

12. Weekly Call Agenda Requests. The YANGsters Chair introduced the topic and led the discussion.
Disposition:
- The next intersession YANGsters electronic meeting is planned to be held Jan 30, 2024.
- Information on YANGsters electronic meetings can be found at https://1.ieee802.org/yangsters/yangsters-call-information/.

13. Any Other Business. No other YANGsters business was discussed in this meeting.

18:37 CET adjournment

8 Next Session

Mar 22-26, 2024 mixed mode plenary session in Denver, Colorado, USA.