

IEEE 802.1 Working Group

16-19 January 2017 Interim Meeting

Atlanta, GA, USA

Meeting Minutes

The 802.1 Chair, Glenn Parsons, presided.

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

1 Attendance and affiliation

<i>Last Name</i>	<i>First Name</i>	<i>Affiliation</i>
ADEMAJ	Astrit	TTTech Computertechnik AG
Assmann	Ralf	Marvell Semiconductor, Inc.
Bechtel	Gordon	Bechtel
Bierschenk	Jens	Robert Bosch GmbH
Bjornstad	Steinar	TransPacket
Brown	Alan M	ADTRAN Inc.
Cai	Lujing	AT&T
Chen	David	Nokia
Chen	Feng	Siemens AG
Cummings	Rodney	National Instruments Corporation
Ellegaard	Lars	Microsemi Corporation
Fang	Yonggang	ZTE TX Inc
Farkas	Janos	Ericsson
Finn	Norman	Huawei Technologies Co. Ltd
Fontaine	Mickael	TransPacket
Garner	Geoffrey	Broadcom Corporation
Gunther	Craig	HARMAN INTERNATIONAL INDUSTRIES, INCORPORATED
Haddock	Stephen	Stephen Haddock Consulting, LLC
Henry	Jerome	Cisco Systems, Inc.
Holness	Marc	Ciena Corporation
Jeffries	Timothy	Huawei R&D USA
Kehrer	Stephan	Hirschmann Automation and Control, Inc.
Kojima	Fumihide	National Institute of Information and Communications Technology (NICT)
KOTO	Hajime	National Institute of Information and Communications Technology (NICT)
Lee	Hyeong Ho	Electronics and Telecommunications Research Institute (ETRI)
Leicht	Suzanne	National Security Agency
Levy	Joseph	InterDigital, Inc.
Mangin	Christophe	Mitsubishi Electric Corporation
Marks	Roger	EthAirNet Associates

Messenger	John	ADVA Optical Networking Ltd.
Mustala	Tero	Nokia Networks
Parsons	Glenn	Ericsson AB
Persson	Hakan	Ericsson AB
Pienciak	Walter	IEEE
Potts	Michael	General Motors Company
Randall	Karen	NSA/IAD
Rao	Raghu	Xilinx, Inc.
Riegel	Maximilian	Nokia Networks
Rouyer	Jessy	Nokia
Sato	Atsushi	Yokogawa Electric Corporation
Seaman	Michael	Individual
Specht	Johannes	University of Duisburg-Essen and General Motors Company
Thaler	Patricia	Broadcom Limited
Wang	Hao	Fujitsu Research & Development Center
Wang	Lei	Huawei R&D USA
Wang	Tongtong	Huawei Technologies Co. Ltd
Wang	Xinyuan	Huawei Technologies Co. Ltd
Weis	Brian	Cisco Systems, Inc.
Winkel	Ludwig	Siemens AG
Woods	Jordon	Innovasic, Inc.
Yi	Su	Fujitsu Research & Development Center
YU	XIANG	Huawei Technologies Co., Ltd

2 Data Center Bridging

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

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

Tuesday 17 January 2017 10:30 AM-12:30 PM

Call to order: 17 January 2017, 10:30 AM

Patricia Thaler presented the following agenda for the meeting:

- P802c comment resolution
- Flow Control discussion

This agenda was approved.

Roger B Marks, P802c editor, led the resolution of comments received in the WG recirculation ballot on <http://ieee802.org/1/files/private/802-c-drafts/d1/802c-d1-3.pdf>:
<http://www.ieee802.org/1/files/private/802-c-drafts/d1/802c-d1-3-dis.pdf>

Wednesday 18 January 2017 8:00 AM-10:00 AM

Call to order: 18 January 2017, 8:00 AM

Yolanda Yu presented *Flow-Based Flow Control(FFC) Dynamic Virtual Lane(DVL)*
<http://www.ieee802.org/1/files/public/docs2017/new-congestioncontrol-yolanda-FFC-0117->

[v00.pdf](#)

- Feedback: one issue was that the presentation did not account for the amount of buffer headroom that would be required to prevent drop.

3 Maintenance

The Maintenance Task Group minutes are incorporated in these minutes by reference and are available at <http://www.ieee802.org/1/files/public/maint/2017-01-maintenance-meeting-v1.pdf>.

Maintenance Task Group meeting minutes for prior meetings are available at: <http://www.ieee802.org/1/maint.html>

4 OmniRAN

The OmniRAN Task Group minutes are incorporated in these minutes by reference and are available at <https://mentor.ieee.org/omniran/dcn/17/omniran-17-0015-00-00TG-jan-2017-f2f-meeting-minutes.docx>.

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

5 Security

Call to order: 16 January 2017 10:30 AM, 17 January 2017 9:00 AM and 18 January 2017 9:00 AM

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

At the beginning of the meetings on Monday, Tuesday and Wednesday, Mick Seaman presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings, and made the “Call for Potentially Essential Patents”. There were no responses to the calls prior to the end of the week’s session.

Mick Seaman proposed the following agenda for the Security Task Group meeting week:

1. P802.1AEcg (*MAC Security: Ethernet Data Encryption Devices*)
2. P802.1Xck (*Port-Based Network Access Control: YANG Data Model*)
3. P802.1ARce (*Secure Device Identity: SHA-384 and P-384 Elliptic Curve*)
4. P802E (*Recommended Practice for Privacy Considerations for IEEE 802 Technologies*)
5. A.O.B
 1. Maintenance request 0136 (HKDF for 802.1X)
 2. MACsec in automotive applications
6. Further meetings/teleconferences

This agenda was approved.

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

1. P802.1AEcg (Ethernet Data Encryption Devices)

The Sponsor recirculation ballot of P802.1AEcg concluded 28 November 2016 with no outstanding negatives votes or outstanding comments. As previously approved the draft is on the end of January 2017 RevCom agenda for final approval. [Post-meeting note: the draft was approved by RevCom then by SASB early February 2017. It is expected to be published early

April 2017.]

2. P802.1Xck (YANG Data Model for 802.1X)

The draft was in WG ballot (to close 15 February 2017) and there was no substantive discussion in this meeting.

3. P802.1ARce (Secure Device Identity: SHA-384 and P-384 Elliptic Curve)

The proposed P802.1AR-Rev PAR was pending NesCom approval. Once that is granted a P802.1AR-Rev D2.0 would be issued for WG ballot – essentially P802.1ARce D1.2 retitled with a small number of editorial corrections. These editorial corrections were discussed in the 17 January 2017 session. [Post meeting note: ballot issued to close 30 March 2017.]

The issues raised in temporary Annex Z.1 were revisited and it was agreed not to pursue the attempt to wrap/protect a newly inserted LDevID in a way that it could only be unwrapped within the DevID module boundary. See minutes of the November 2016 meeting and the editor's introduction to the draft for further details.

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

The P802E editor, Jerome Henry, led a line by line review of the current draft (D0.6), the results of which will be incorporated in the next draft, which will be distributed for TG ballot. The 802.1 Chair will initiate an ePoll requesting 802.1 permission to ballot that draft. [Post meeting note: the ePoll failed (by one vote) due to lack of quorum, and permission will be sought from the 16 March 2017 closing 802.1 plenary.]

5. A.O.B.

1. Maintenance request 0136 (HKDF for 802.1X)

Maintenance request 0136 was discussed in the Maintenance TG meetings. Mick Seaman documented the results of that discussion, which were then reviewed by the Security TG. [Post meeting note: the result (reject) is now documented in the maintenance database.]

2. Security in the car

There was a further brief discussion of the problem of securing in-car Ethernet networks, with the focus on the problem of defining the way in which an 802.1 network could be used (802.1Q plus 802.1AR plus 802.1AE) and the ways in which the car network requirements differ from other 802.1 structured network deployments.

6. Future meetings/teleconferences

Teleconferences were scheduled for 21 February 2017 and 8 March 2017. The Security TG will meet during the 13-16 March 2017 IEEE 802.1 Plenary meeting.

6 Time-Sensitive Networking

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

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

Monday 16 January 2017 8:00 AM-6:00 PM

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

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

https://docs.google.com/a/802tsn.org/spreadsheets/d/1Xb-MCnN1eEAtiREWFkPmHtT8Owonk0QdaC7UqJ2IjC/edit?usp=drive_web.

Disposition: This agenda was approved.

Geoff Garner, P802.1AS-Rev editor, presented *P802.1AS-Rev/D4.3*

<http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-3.pdf>.

Disposition: Editor's update on ongoing project.

Rodney Cummings, P802.1Qcc editor, continued the resolution of comments received in the WG ballot on *P802.1Qcc/D1.1* <http://www.ieee802.org/1/files/private/cc-drafts/d1/802-1Qcc-d1-1.pdf>. Resolution was completed on Tuesday.

Disposition: Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cc-drafts/d1/802-1Qcc-d1-1-dis-v1.pdf>.

Tuesday 17 January 2017 10:30 AM-6:00 PM

Call to order: 17 January 2017, 10:30 AM

Marc Holness, P802.1Qcp editor, led the resolution of comments received in the TG ballot on *P802.1Qcp/D0.7* <http://www.ieee802.org/1/files/private/cp-drafts/d0/802-1Qcp-d0-7.pdf>.

Disposition: Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cp-drafts/d0/802-1Qcp-d0-7-dis-v01.pdf>, epoll (<https://mentor.ieee.org/802.1/polls>) on motion "802.1 authorizes Marc Holness, the Editor of P802.1Qcp - YANG Data Model, to prepare a draft and conduct Working Group balloting" (Moved: Marc Holness, Second: Janos Farkas).

Geoff Garner, P802.1AS-Rev editor, presented a liaison letter to IEEE 1588: *Request for access to your P1588 drafts* <http://www.ieee802.org/1/files/public/docs2017/draft-liaison-1588-requesting-access-to-drafts-0117-v00.pdf>.

Disposition: Liaison letter; epoll (<https://mentor.ieee.org/802.1/polls>) on motion "802.1 approves the liaison letter to IEEE 1588: <http://www.ieee802.org/1/files/public/docs2017/draft-liaison-1588-requesting-access-to-drafts-0117-v00.pdf>" (Moved: Geoff Garner, Second: Janos Farkas).

Stephan Kehrer presented *Reference point for StartOfInterval – comment #84*

<http://www.ieee802.org/1/files/public/docs2017/cc-Kehrer-StartOfCycleReference-0117-v01.pdf>.

Disposition: Supports ballot comment(s).

Rodney Cummings, P802.1Qcc editor, completed Monday's resolution of comments received in the WG ballot on *P802.1Qcc/D1.1* <http://www.ieee802.org/1/files/private/cc-drafts/d1/802-1Qcc-d1-1.pdf>.

Disposition: Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cc-drafts/d1/802-1Qcc-d1-1-dis-v1.pdf>, prepare another WG ballot.

Astrit Ademaj presented *YANG models for CNC*

<http://www.ieee802.org/1/files/public/docs2017/cc-ademaj-YANG-models-for-CNC-0117-v01.pdf>.

Disposition: Proposes new projects; more discussion needed.

Wednesday 18 January 2017 9:00 AM-6:00 PM

Call to order: 18 January 2017, 9:00 AM

Norman Finn, P802.1CB editor, completed the resolution of comments received in the Sponsor Ballot on *P802.1CB/D2.6* <http://www.ieee802.org/1/files/private/cb-drafts/d2/802-1CB-d2-6.pdf>.

Disposition: Ballot comment resolution recorded in <http://ieee802.org/1/files/private/cb-drafts/d2/802-1CB-D2-6-dis-v2.pdf>, go to Sponsor recirculation ballot.

Johannes Specht, P802.1Qcr editor, presented the initial draft *IEEE P802.1Qcr/D0.0* <http://ieee802.org/1/files/private/cr-drafts/d0/802-1Qcr-d0-0.pdf>, and *On 802.1Qcr D0.0* <http://ieee802.org/1/files/public/docs2017/cr-specht-d00-0117-v01.pdf>.

Disposition: Editor's presentation of draft of ongoing project and open items related to ongoing project.

János Farkas, P802.1CM editor, completed the resolution of comments received in the TG ballot on *P802.1CM/D0.5* <http://www.ieee802.org/1/files/private/cm-drafts/d0/802-1CM-d0-5.pdf>, and presented *P802.1CM – D0.5 Editor's Report; Comment Resolution for 2nd TG Ballot* <http://www.ieee802.org/1/files/public/docs2016/cm-farkas-editor-report-d0-5-1116-v01.pdf>.

Disposition: Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/cm-drafts/d0/802-1CM-d0-5-dis-v01.pdf>, prepare for another TG ballot.

Tongtong Wang presented *Consideration of Burstiness in Bridged Fronthaul Network* <http://ieee802.org/1/files/public/docs2017/cm-wangtt-burstiness-in-network-0117.pdf>.

Disposition: Related to ongoing project, more discussion needed.

Tim Godfrey presented *802.24 TSN White Paper on TSN* <https://mentor.ieee.org/802.24/dcn/17/24-17-0002-01-0000-january-2017-meeting-presentation.pptx> from slide 24 to slide 29 (slides later updated as <https://mentor.ieee.org/802.24/dcn/17/24-17-0002-02-0000-january-2017-meeting-presentation.pptx> and posted as part of <http://www.ieee802.org/1/files/public/docs2017/new-godfrey-tsn-utility-applications-0117-v01.pdf>)

Disposition: Updates on Power Systems Communications and Cybersecurity (PSCC) committee and TSN white paper.

Johannes Specht, P802.1Qcr editor, completed the presentation of *On 802.1Qcr D0.0* <http://ieee802.org/1/files/public/docs2017/cr-specht-d00-0117-v01.pdf>.

Disposition: Editor's presentation of open items related to ongoing project.

Thursday 19 January 2017 10:00 AM-4:00 PM

Call to order: 19 January 2017, 10:00 AM

Steve Haddock, P802.1AX-Rev editor, presented *Link Aggregation Simulator* <http://www.ieee802.org/1/files/public/docs2017/ax-rev-haddock-link-agg-simulation-0117-v1.pptx>.

Steve Haddock then presented *P802.1AX-Rev/D0.0* <http://ieee802.org/1/files/private/ax-rev-drafts/d0/802-1ax-rev-d0-0.pdf>, <http://ieee802.org/1/files/private/ax-rev-drafts/d0/802-1ax-rev-d0-0-cb.pdf> along with a contribution from Mick Seaman on the Wait-To-Restore state machine *LACP Wait To Restore specification* <http://www.ieee802.org/1/files/public/docs2017/ax-rev-seaman-wait-to-restore-0117-v01.pdf>, and further proposals for upcoming changes <http://www.ieee802.org/1/files/public/docs2017/ax-rev-haddock-plans-for-next-editors-draft-0117-v1.pptx>.

Disposition: Editor's update on ongoing project, prepare next draft. There was consensus

agreement to implement the proposals for upcoming changes in the next draft.

Stephan Kehrer presented *IEEE 802.1 Interim meeting Stuttgart, Germany May 15.-18. (Mon – Thu), 2017* <http://ieee802.org/1/files/public/docs2017/admin-kehrer-Stuttgart-interim-0117-v04.pdf>.

Disposition: Update on face-to-face meeting details.

John Messenger, P802.1Q-Rev editor, completed the resolution of comments received in the WG ballot on *P802.1Q-Rev/D1.1* <http://www.ieee802.org/1/files/private/q-REV-drafts/d1/802-1Q-rev-d1-1.pdf>.

Disposition: Ballot comment resolution recorded in <http://www.ieee802.org/1/files/private/q-REV-drafts/d1/802-1Q-rev-d1-1-dis-v1.pdf>, create a new draft for WG recirculation.

Feng Chen presented *Link-Local Registration Protocol (802.1CS) – Architecture and Transport Mechanism* <http://ieee802.org/1/files/public/docs2017/cs-chen-lrp-architecture-and-transport-0117-v01.pdf>.

Disposition: Related to new project; more discussion needed.

Geoff Garner, P802.1AS-Rev editor, introduced *P802.1AS-Rev/D4.4* in FrameMaker format (a PDF version was made available post-meeting <http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-4.pdf>).

Disposition: Editor's update on ongoing project.

Pat Thaler presented *Issues regarding cut-through*

<http://www.ieee802.org/1/files/public/docs2017/new-tsn-thaler-cut-through-issues-0117.pdf>.

Disposition: Related to new subject; more discussion needed.

7 802.1/802.11 ARC SC/802.11 TGak joint meeting

Minutes of a joint meeting between 802.1, 802.11 ARC SC and 802.11 TGak are incorporated in these minutes by reference and are available starting page 7 of

<https://mentor.ieee.org/802.11/dcn/17/11-17-0201-00-0arc-arc-sc-meeting-minutes-january-2017.docx>.

8 802.1/802.15 joint meeting

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

Call to order: 17 January 2017, 6:30 PM

Glenn Parsons made the Call for Potentially Essential Patents. There were no responses to the call.

Pat Kinney presented the agenda (section 2 of the Tuesday worksheet in

<https://mentor.ieee.org/802.15/dcn/17/15-17-0024-00-0mag-agenda-jan-2017-standing-committees.xlsx>, updated as <https://mentor.ieee.org/802.15/dcn/17/15-17-0024-01-0mag-agenda-jan-2017-standing-committees.pptx>).

Pat Kinney introduced 802.15.12 by presenting *TG12 ULI Report for Jan 2017 Session*

<https://mentor.ieee.org/802.15/dcn/17/15-17-0030-00-0012-tg12-opening-closing-report-for-atlanta-jan-2017.pptx>. The architecture is essentially complete and the group is now looking at

the architecture of individual modules/protocols. It was noted that 802.15.3 requires an amendment to IEEE Std 802.1AC to support P802.15.3d: the PAR/CSD for this amendment would be prepared in March 2017 and submitted for approval in July 2017. The editor would be James Gilb. It was also noted P802.15.3e passed Sponsor ballot and is on the RevCom agenda for final approval.

John Messenger, IEEE Std 802.1AC-2016 and P802.1Q-REV editor, gave an oral update on IEEE Std 802.1AC-2016 (approved, yet to be published) and on P802.1Q-REV (plan to complete in November 2017 to allow further amendments).

Hajime Koto gave an oral introduction of a proposal for coordination among dense wireless systems with different standards in closed spaces (e.g. factories, residences) to lower the risk of unstable communications. Scope would include the specification of optional data fields in the data link layer, and connectivity by several standards for industry use. Detailed presentation is to be expected at the March 2017 plenary meeting. The 802.1 Chair, Glenn Parsons, encouraged discussion in advance of the March plenary meeting where another joint session possibly including 802.11 could be organized on this topic.

A.O.B.

Nothing further at this joint meeting adjourned at 7:13 PM.

9 Next meeting

13-16 March 2017 IEEE 802.1 Plenary meeting, Vancouver, BC, Canada
