

IEEE 802.1 Working Group

12-15 September 2016 Interim Meeting

York, UK

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

The following list of attendees does not include attendees to the OmniRAN Task Group meeting held separately in Warsaw, Poland: please see clause 4 of these minutes for details on how to access the minutes (and therefore attendance) for this separate meeting.

Last Name	First Name	Middle Name	Affiliation
Abt	Werner		HMS
Baek	SeoYoung		LG ELECTRONICS
Bao	Shenghua		HUAWEI
Bierschenk	Jens		Robert Bosch GmbH
Bjornstad	Steinar		TransPacket
Boiger	Christian		b-plus GmbH
Chen	David		NSN, Inc.
Chen	Feng		Siemens AG
Cummings	Rodney		National Instruments Corporation
Doerr	Laurin		Deggendorf University of Applied Sciences
Ellegaard	Lars		Vitesse Semiconductor Corporation
EMMELMANN	MARC		Self
Fang	Yonggang		ZTE TX Inc
Farkas	Janos		Ericsson
Finn	Norman		Self Employed
Fontaine	Mickael		TransPacket
Garner	Geoffrey		Broadcom Corporation
Gray	Eric W		Ericsson AB
Gunther	Craig		HARMAN INTERNATIONAL INDUSTRIES, INCORPORATED
Gutierrez	Marina		TTTech Computertechnik AG
Haddock	Stephen		Stephen Haddock Consulting, LLC
Holness	Marc		Ciena Corporation
Jeffree	Anthony		HP
Jeffries	Timothy		Huawei R&D USA
Jin	Liang		Spirent Communications
Kehrer	Stephan		Hirschmann Automation and Control, Inc.

Lepp	James	BlackBerry
Levy	Joseph	InterDigital, Inc.
Mangin	Christophe	Mitsubishi Electric R&D Centre Europe (MERCE)
McIntosh	James	Microsemi Corporation
Messenger	John	ADVA Optical Networking Ltd.
Montemurro	Michael	Research In Motion Limited
Moskowitz	Robert	HTT Consultant
Mustala	Tero	Nokia Networks
Noseworthy	Bob	University of New Hampshire InterOperability Laboratory (UNH-IOL)
Pannell	Donald R	Marvell Semiconductor, Inc.
Parsons	Glenn	Ericsson AB
Pienciak	Walter	IEEE
Rakanovic	Demir	u-blox
Randall	Karen	NSA/IAD
Regev	Alon	Ixia
Riegel	Maximilian	Nokia Networks
Roesler	Ralph	Marvell Semiconductor, Inc.
Rouyer	Jessy	Nokia
Sato	Atsushi	Yokogawa Electric Corporation
Schmitt	Juergen	Siemens AG
Seaman	Michael	Individual
Sjostrand	Hans	Infinera Corporation
Specht	Johannes	University of Duisburg-Essen and General Motors Company
Stanley	Dorothy	Hewlett-Packard Company
Thaler	Patricia	Broadcom Limited
Unbehagen	Paul	Avaya Inc.
Wang	Hao	Fujitsu Research & Development Center
Wang	Tongtong	Huawei Technologies Co. Ltd
Weber	Karl	Beckhoff
Weis	Brian	Cisco Systems, Inc.
Wilton	Robert	Cisco Systems, Inc.
Woods	Jordon	Innovasic, Inc.
Zein	Nader	NEC Corporation
Zuniga	Juan Carlos	SIGFOX

2 Data Center Bridging

Call to order: 13 September 2016, 2:00 PM.

The Data Center Bridging (DCB) Task Group Chair, Patricia Thaler presided.

Patricia Thaler presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings, and made the Call for Potentially Essential Patents, to which no response was given.

Patricia Thaler presented the following agenda for the meeting:

- P802c comment resolution
- P802c PAR modification
- P802c PAR modification schedule

This agenda was approved.

P802c (Local Media Access Control Addressing)

Roger B Marks, P802c editor, led the resolution of comments received in the WG ballot on <http://www.ieee802.org/1/files/private/802-c-drafts/d1/802c-d1-1.pdf>:
<http://www.ieee802.org/1/files/private/802-c-drafts/d1/802c-D1-1-dis.pdf>

The meeting reviewed and edited the P802c PAR modification for precirculation:

<http://www.ieee802.org/1/files/public/docs2016/802c-thaler-PAR-Mod-0916.pdf>.

The next WG ballot draft will include the modifications and the use of CID as a protocol identifier.

The meeting discussed P802c PAR schedule: the PAR modification has to be approved before the Sponsor ballot invitation can be opened. Therefore, the schedule is:

1. Before the November 2016 Plenary meeting:
 - Initiate a further WG ballot on the next draft.
 - Precirculate the PAR modification and pre-submit it to NesCom
2. At the November 2016 Plenary meeting:
 - Request approval to forward the PAR modification to NesCom
3. December 2016 to January 2017:
 - Standards Board approval of the modified PAR followed by formation of a ballot group
 - Complete WG recirculation ballots
4. February 2017:
 - Initiate Sponsor ballot

A.O.B.

The DCB Task Group meeting adjourned approximately at 5:00PM.

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/2016-09-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 did not meet at this meeting but separately in Warsaw, Poland. Its Chair, Maximilian Riegel, was however in attendance at this meeting and had a number of discussions in ad-hoc sessions. The outcome of these ad-hoc sessions is in the minutes of the separate meeting in Warsaw that are incorporated into these minutes by reference and are available at <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0063-00-00TG-sept-2016-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: 12 September 2016 10:30 AM. The Security Task Group met Monday starting 10:30 AM, Tuesday, and Wednesday (12-14 September). Tuesday's meetings started with the Maintenance Task Group and a joint session with the TSN Task Group.

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

At the beginning of the meetings on Monday and Wednesday, Mick Seaman presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings, and made the "Call for Potentially Essential Patents". Tuesday's meetings began with participation in the Maintenance Task Group and a joint meeting with the TSN Task Group during which the chairs of those groups 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 the Security Task Group meeting week:

1. P802.1Xck (*Port-Based Network Access Control: YANG Data Model*)
 1. P802.1Xck D0.8 review
 2. YANG interface model issues
2. P802.1ARce (*Secure Device Identity: SHA-384 and P-384 Elliptic Curve*)
 1. P802.1ARce D1.0 review
 2. Conversion to revision PAR (new PAR, withdraw existing)
3. P802.1AEcg (*MAC Security: Ethernet Data Encryption Devices*)
4. A.O.B
5. 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. P802.1Xck (YANG Data Model for 802.1X)

Much of the discussion centered on the use of augmentation and the number of interfaces required in a tiered interface stack, a discussion that was also the theme of the joint session with TSN centered on the possible choice between 'Model 1' and 'Model 2' as presented by Marc Holness (P802.1Xck editor). See: <http://www.ieee802.org/1/files/public/docs2016/cp-mholness-Bridge-Port-YANG-0916-v01.pdf>

Two participants advocated letting a system choose its preferred model depending on its capabilities: Model 2 (single tier) for the simplest bridges/stations and Model 1 (two or multi-tier) for more complex systems (such as those capable of LAG). It would not be necessary to specify the transition between the two (if indeed a system was capable of supporting both. [Post-meeting discussion revealed that this was not a universally accepted point of view, and the eventual solution might need to be more subtle].

The push for 'simple' interface stacks (where 'simple' is interpreted to mean the minimum number of tiers in the stack for any particular configuration) has consequences for 802.1X YANG and the proposed interface tiering (Controlled Port at the upper tier, and Common Port at lower). If any entity requiring access to the Common Port could be an augmentation of a single tiered interface then the requirement for a separate Common Port might be eliminated.

Such an approach would require an LLDP augmentation to be able to specify, per LLDP entity, its associated port (Controlled or Common). This possible single tier approach lessens the requirement to modify the existing MIB to index PAEs by Controlled Port in order to maximize alignment with the YANG model (as discussed in the July 2016 meeting): since the minimal tier approach removes the possibility of straightforward ifIndex alignment between YANG and MIB. In the initial proposal (still in P802.1Xck D0.8) the YANG model treated the Uncontrolled Port as being the Common Port. Applied to the MIB that approach would preclude associating several PAEs with a single Common Port (since there is one PAE per Uncontrolled Port) and thus preclude the MIB describing Virtual Ports (each with its own PAE). Freed of the alignment requirement the current MIB, though perhaps not optimal, does not need to be revised.

In the interest of expediting review of comments on P802.1Xck it was agreed to send the current version, P802.1Xck D0.8, to task group ballot.

Mick Seaman had posted an update on the SSCI related maintenance request (comment #158 on the P802.1Xck D0.61 ballot 0171 in the maintenance database):

<http://www.ieee802.org/1/files/public/docs2016/ck-seaman-ssci-maintenance-0816-v03.pdf>

This was discussed and agreed in the Monday 12 September 2016 meeting, and the current status noted in the Maintenance TG meeting.

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

P802.1ARce D1.0 was a very significant update, following the decision taken at the July 2016 meeting to convert to a Revision PAR. The changes to the document are summarized in the Editor's Introduction to that draft:

<http://www.ieee802.org/1/files/private/ce-drafts/d1/802-1ARce-d1-0.pdf>

This document was made available in both 'final text' form (i.e. without showing strikeouts, and with insertions not marked, as a complete clean revision of the text) and in 'change form' with strikeout/inserts/editing instructions. Caution is advised when reviewing the latter as the need to move text in bulk might have resulted in differences from the base text when considering deleted text. The 'final text' version would be used as the basis for formal comment.

It was noted that Max Pritikin (IEEE Std 802.1AR-2008 editor) had reviewed the removal of the CSR generation operation and was OK with that. There were alternatives for key insertion protection (this and the issues raised are, in the editor's opinion, the major substantive issue remaining after this interim meeting). The need to have a Clause 3 definition of 'credential' aligned with the document was agreed. Other issues/agreed changes at the meeting are now recorded in the editor's introduction to the further draft:

<http://www.ieee802.org/1/files/private/ce-drafts/d1/802-1ARce-d1-1.pdf>

Following review of meeting dates and outstanding text to be generated, it was agreed that the next draft (D1.1) would be task group balloted, with the a WG ballot of P802.1AR-Rev anticipated following NesCom approval of the proposed PAR.

The proposed P802.1AR-Rev PAR and CSD drafts posted after the July 2016 plenary at:

<http://www.ieee802.org/1/files/public/docs2016/ar-seaman-rev-draft-par-0716-v01.pdf>

<http://www.ieee802.org/1/files/public/docs2016/ar-seaman-rev-draft-csd-0716-v01.pdf>

were reviewed and minor changes agreed, with the new drafts now at:

<http://www.ieee802.org/1/files/public/docs2016/ar-seaman-rev-draft-par-0916-v02.pdf>

<http://www.ieee802.org/1/files/public/docs2016/ar-seaman-rev-draft-csd-0916-v02.pdf>

[These were pre-circulated to 802.0 by the 802.1 Chair on October 5th, cc 802.1]

Mick Seaman, P802.1ARce editor, continued the resolution of comments received in the TG ballot on <http://www.ieee802.org/1/files/private/ce-drafts/d0/802-1ARce-d0-7.pdf>: proposed

responses to ballot comments in <http://www.ieee802.org/1/files/private/ce-drafts/d0/802-1ARce-d0-7-pdis0.pdf> were drafted during the meeting. These will be posted once the editor has developed detailed text changes.

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

The Sponsor Ballot group was being formed, no further action was required at this meeting. Because of the accelerated processing accorded to revision PARs that are simply roll-ups there is no need to request a revision PAR for a roll-up until P802.1AEcg is finalized.

4. A.O.B.

Nothing further at this meeting.

5. Future meeting/teleconference planning

A teleconference has already been scheduled for 11 October 2016 at 1:00 PM Pacific Time. No further teleconferences were anticipated prior to the November 2016 IEEE 802.1 Plenary meeting.

6 Time-Sensitive Networking

The Time-Sensitive Networking (TSN) Task Group Chair, János Farkas presided.

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, 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 12 September 2016 09:00 AM-6:00 PM

Call to order: 12 September 2016, 09:00AM

János Farkas presented the agenda for the TSN Task Group meeting week:
<http://www.ieee802.org/1/files/public/docs2016/admin-tsn-agenda-0716-v01.pdf>
This agenda was approved.

Rodney Greenstreet presented *Discussion of Time Sync Redundancy*.
<http://www.ieee802.org/1/files/public/docs2016/new-greenstreet-time-sync-redundancy-0916-v00.pdf>

Geoff Garner, P802.1AS-Rev editor, presented <http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-1.pdf> and *802.1AS-Rev/D4.1 Editor's Summary*.
<http://www.ieee802.org/1/files/public/docs2016/as-garner-d4-1-intro-0916.pdf>

Tony Jeffree, P802d editor, led the resolution of comments received in the WG recirculation ballot on <http://www.ieee802.org/1/files/private/802-d-drafts/d1/802d-d1-0.pdf>:
<http://www.ieee802.org/1/files/private/802-d-drafts/d1/802d-D1-0-dis.pdf>

Tony Jeffree, P802.1Qci editor, led the resolution of comments received in the WG recirculation ballot on <http://www.ieee802.org/1/files/private/ci-drafts/d1/802-1Qci-d1-3.pdf>:
<http://www.ieee802.org/1/files/private/ci-drafts/d1/802-1Qci-D1-3-dis.pdf>

Tony Jeffree, P802.1Qch editor, led the resolution of comments received in the WG ballot on <http://www.ieee802.org/1/files/private/ch-drafts/d1/802-1Qch-d1-0.pdf>:
<http://www.ieee802.org/1/files/private/ch-drafts/d1/802-1Qch-D1-0-dis.pdf>

Norman Finn, P802.1CB editor, led the resolution of comments received in the WG recirculation ballot on <http://www.ieee802.org/1/files/private/cb-drafts/d2/802-1CB-d2-5.pdf>:
<http://www.ieee802.org/1/files/private/cb-drafts/d2/802-1CB-d2-5-dis.pdf>

Tuesday 13 September 2016 09:00 AM-5:30 PM

Call to order: 13 September 2016, 09:00AM

Marc Holness, P802.1Qcp editor, presented <http://www.ieee802.org/1/files/private/cp-drafts/d0/802-1Qcp-d0-5.pdf>

Marc Holness presented *IEEE 802.1Q YANG Bridge Port Interface Model in Support of 802.1AX, 802.1X, etc.:*
<http://ieee802.org/1/files/public/docs2016/cp-mholness-Bridge-Port-YANG-0916-v01.pdf>

Robert Wilton presented part of the *Sub-interface VLAN YANG Data Models* IETF draft:
<https://tools.ietf.org/html/draft-wilton-netmod-intf-vlan-yang-03#section-7>

Rodney Cummings presented *TSN YANG work*:
<http://www.ieee802.org/1/files/public/docs2016/new-cummings-tsn-yang-work-0916-v00.pdf>

Rodney Cummings, P802.1Qcc editor, presented <http://www.ieee802.org/1/files/private/cc-drafts/d1/802-1Qcc-d1-1.pdf>

Feng Chen presented *Proposals for TSN Stream Reservation Class*:
<http://www.ieee802.org/1/files/private/cc-drafts/d1/802-1Qcc-d1-1.pdf>

Geoff Garner, P802.1AS-Rev editor, presented <http://www.ieee802.org/1/files/private/as-rev-drafts/d4/802-1AS-rev-d4-1.pdf> and discussed next steps for P802.1AS-Rev.

Geoff Garner conducted the following Straw Polls:

- “Who wants to see that you shall implement the BMCA?”: 5 in favor.
- “Who wants to see that you should implement the BMCA?”: 8 in favor.
- There were 37 people in the TSN Task Group meeting room during these Straw Polls.

Wednesday 14 September 2016 09:00 AM-6:00 PM

Tony Jeffrey, P802d editor, led the resolution of comments received in the WG recirculation ballot on <http://www.ieee802.org/1/files/private/802-d-drafts/d1/802d-d1-0.pdf>:
<http://ieee802.org/1/files/private/802-d-drafts/d1/802d-D1-0-pdis-v3.pdf>

János Farkas, P802.1CM editor, presented *P802.1CM – D0.4 Editor’s Report*:
<http://ieee802.org/1/files/public/docs2016/cm-farkas-editor-report-0916-v02.pdf>

János Farkas started the resolution of comments received in the TG ballot on <http://www.ieee802.org/1/files/private/cm-drafts/d0/802-1CM-d0-4.pdf>:
<http://ieee802.org/1/files/private/cm-drafts/d0/802-1CM-d0-4-pdis-v04.pdf>

Tongtong Wang presented *Consideration of FLR in TSN for Fronthaul*:
<http://ieee802.org/1/files/public/docs2016/cm-wangtt-FLR-consideration-0916.pdf>

Thursday 15 September 2016 08:00 AM-05:00 PM

Stephen Haddock presented *802-1AX-2014-Cor-1-d0-5 Sponsor Ballot Comments*:
<http://www.ieee802.org/1/files/public/docs2016/ax-cor-1-haddock-sponsor-comments-0916->

[v2.pptx](#)

Shenghua Bao and Geoff Garner presented *cm-baosh-synchronization-comments-on-D0-4-0916*:

<http://ieee802.org/1/files/public/docs2016/cm-baosh-synchronization-comments-on-D0-4-0916-v02.pdf>

Karl Weber presented *Dynamic Behavior of industrial networks*:

<http://ieee802.org/1/files/public/docs2016/new-weber-dynamic-industrial-0916-v02.pdf>

Feng Chen presented and documented PAR and CSD discussion for P802.1CS *Link-Local Registration Protocol (LRP)*:

<http://www.ieee802.org/1/files/public/docs2016/cs-LRP-draft-PAR-0916-v02.pdf>

<http://www.ieee802.org/1/files/public/docs2016/cs-LRP-draft-CSD-0916-v02.pdf>

János Farkas presented *Qcr: combining ATS and SRS*:

<http://ieee802.org/1/files/public/docs2016/cr-nadas-combining-ATS-and-SRS-0916-v01.pdf>

Norman Finn presented *Determining the Future*:

<http://ieee802.org/1/files/public/docs2016/new-finn-determining-future-0916-v01.pdf>

7 Next meeting

7-10 November 2016 IEEE 802.1 Plenary meeting, San Antonio, TX, USA
