IEEE 802.3 Working Group Opening Plenary
6th November 2017

David Law

Chair, IEEE 802.3 Working Group

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Agenda, voter lists:
http://www.ieee802.org/3/minutes/nov17/index.html

IEEE 802.3 Officers

IEEE 802.3 Chair: David Law <dlaw@hpe.com>

IEEE 802.3 Vice Chair: Adam Healey <adam.healey@broadcom.com>

IEEE 802.3 Secretary: Pete Anslow <panslow@ciena.com>

IEEE 802.3 Executive Secretary: Steve Carlson <scarlson@ieee.org>

IEEE 802.3 Treasurer: Valerie Maguire <valerie_maguire@siemon.com>

IEEE 802.3 Task Force chairs

IEEE P802.3bs 200 Gb/s and 400 Gb/s Ethernet: John D'Ambrosia <jdambrosia@ieee.org>

IEEE P802.3bt DTE Power via MDI over 4-Pair: Chad Jones <cmjones@cisco.com>

IEEE P802.3ca 25 Gb/s, 50 Gb/s, and 100 Gb/s EPON: Curtis Knittle <c.knittle@cablelabs.com>

IEEE P802.3cb 2.5 Gb/s and 5 Gb/s Backplane Cables: Dan Smith <daniel.f.smith@seagate.com>

IEEE P802.3cc 25 Gb/s Ethernet over Single-Mode Fiber: David Lewis <David.Lewis@lumentum.com>

IEEE P802.3cd 50 Gb/s, 100 Gb/s, and 200 Gb/s Ethernet: Mark Nowell <mnowell@cisco.com>

IEEE 802.3.2 (IEEE 802.3cf) YANG Data Model: Yan Zhuang <zhuangyan.zhuang@huawei.com>

IEEE P802.3cg 10 Mb/s Single Twisted Pair Ethernet: George Zimmerman <george@cmephyconsulting.com>

IEEE P802.3ch Multi-Gig Automotive Ethernet PHY: Steve Carlson <scarlson@ieee.org>

IEEE 802.3 Study Group chair

IEEE 802.3 Beyond 10 km Optical PHYs: John D'Ambrosia <jdambrosia@ieee.org>

WG Decorum

- Photography or recording by permission only (December 2016 IEEE-SA Standards Board Ops Manual 5.3.3.2)
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (December 2016 IEEE-SA Standards Board Ops Manual 5.3.3.3)
- Cell phone ringers off
- Wear your badges at all times in meeting areas
    - Help the hotel security staff improve the general security of the meeting rooms
    - **PCs HAVE BEEN STOLEN** at previous meetings
    - **DO NOT** assume that meeting areas are secure
- Please observe proper decorum in meetings

Agenda and Minutes

- Approve agenda
  - http://www.ieee802.org/3/minutes/nov17/
  - Any modifications, additions or deletions?

- Approve July 2017 plenary meeting and September 2017 interim meeting minutes
  - http://www.ieee802.org/3/minutes/jul17/
    - Published 31st July 2017
  - http://www.ieee802.org/3/minutes/sep17/
    - Published 22nd September 2017
  - Any corrections, modifications, additions?

Instructions for the WG Chair

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:

- **Show slides #1 through #4 of this presentation**
- **Advise the WG attendees that:**
    - The 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 the IEEE is not aware. Additionally, neither the 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.

- **Instruct the WG Secretary to record in the minutes of the relevant WG meeting:**
    - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
    - That the chair or designee provided 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
    - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.

- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.
- It is recommended that the WG chair review the guidance in *IEEE-SA Standards Board Operations Manual* 6.3.5 and in FAQs 14 and 15 on inclusion of potential Essential Patent Claims by incorporation or by reference.

Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.

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(Optional to be shown)

Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy.

- **Participants [Note: Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2]:**
  - **"Shall inform the IEEE (or cause the IEEE to be informed)" of the identity of each "holder of any potential Essential Patent Claims of which they are personally aware" if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents**
  - **"Should inform the IEEE (or cause the IEEE to be informed)" of the identity of "any other holders of potential Essential Patent Claims" (that is, third parties that are not affiliated with the participant, with the participant's employer, or with anyone else that the participant is from or otherwise represents)**
- **The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group**
- **Early identification of holders of potential Essential Patent Claims is strongly encouraged**
- **No duty to perform a patent search**

15 March 2015

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Patent Related Links

All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development.

Patent Policy is stated in these sources:

IEEE-SA Standards Boards Bylaws

http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6

IEEE-SA Standards Board Operations Manual

http://standards.ieee.org/develop/policies/opman/sect6.html#6.3

Material about the patent policy is available at

http://standards.ieee.org/about/sasb/patcom/materials.html

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit http://standards.ieee.org/about/sasb/patcom/index.html

This slide set is available at https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt

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<u>**Slide #2**</u>

Call for Potentially Essential Patents

- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
    - Either speak up now or
    - Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible or
    - Cause an LOA to be submitted

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Other Guidelines for IEEE WG Meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**

  - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**

  - **Don't discuss specific license rates, terms, or conditions.**

    - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.

      - Technical considerations remain primary focus

  - **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**

  - **Don't discuss the status or substance of ongoing or threatened litigation.**

  - **Don't be silent if inappropriate topics are discussed … do formally object.**

  See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.

Important Bylaws and Rules

- IEEE-SA Operations Manual
  - http://standards.ieee.org/develop/policies/sa_opman/
- IEEE-SA Standards Board Bylaws
  - http://standards.ieee.org/develop/policies/bylaws/
- IEEE-SA Standards Board Operations Manual
  - http://standards.ieee.org/develop/policies/opman/
- IEEE 802 LAN/MAN Standards Committee (LMSC) Policies and Procedures
  - http://standards.ieee.org/about/sasb/audcom/pnp/LMSC.pdf
- IEEE 802 LAN/MAN Standards Committee (LMSC) Operations Manual
  - http://www.ieee802.org/devdocs.shtml
- IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures
  - http://www.ieee802.org/devdocs.shtml
- IEEE 802.3 Working Group Operating Rules
  - http://ieee802.org/3/rules/P802_3_rules.pdf

Participation in IEEE 802 Meetings

Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis

- **Participants in the IEEE standards development individual process shall act based on their qualifications and experience. (https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1)**

- **IEEE 802 Working Group membership is by individual; "Working Group members shall participate in the consensus process in a manner consistent with their professional expert opinion as individuals, and not as organizational representatives". (subclause 4.2.1 "Establishment", of the IEEE 802 LMSC Working Group Policies and Procedures)**

- **Participants have an obligation to act and vote as an individual and not under the direction of any other individual or group. A Participant's obligation to act and vote as an individual applies in all cases, regardless of any external commitments, agreements, contracts, or orders.**

- **Participants shall not direct the actions or votes of any other member of an IEEE 802 Working Group or retaliate against any other member for their actions or votes within IEEE 802 Working Group meetings, see https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1.3 and the IEEE 802 LMSC Working Group Policies and Procedures, subclause 3.4.1 "Chair", list item x.**

By participating in IEEE 802 meetings, you accept these requirements. If you do not agree to these policies then you shall not participate

(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: http://www.ieee802.org/devdocs.shtml)

Interim meetings since July 2017

- 11th through 15th September 2017, Charlotte, NC, USA
    - IEEE 802.3 interim meeting series
- 5th October 2017 Teleconference
    - IEEE P802.3cc interim meeting
- 9th October 2017 Teleconference
    - IEEE P802.3bs interim meeting

Membership and attendance recording
Membership requirements

- Membership requirements (gaining and retaining)
  - 75% attendance at 2 of last 4 plenary sessions
    - A qualifying interim may be substituted for one plenary
  - Request to become member during potential voter agenda item at IEEE 802.3 opening or closing plenary
  - Participate in **two** out of the last **three** IEEE 802.3 Working Group ballots to retaining membership
  - Maintain valid contact information
  - Consistent declaration of affiliation

Membership and attendance recording
Meeting attendance tool procedures

Pete Anslow

IEEE 802.3 Working Group Secretary

panslow@ciena.com

Membership and attendance recording Meeting attendance tool procedures

- The IEEE-SA Meeting Attendance Tool will be the basis of the official attendance record for this meeting: http://imat.ieee.org

- You need to login only once per meeting day

  - You are certifying that you are attending a "substantial" portion of that meeting day

- The server must be accessed the from the meeting network

  - You will probably have to disconnect your VPN software

- Check that your affiliation (slide 24) and employer (slide 25) are correct per presentation below

- Full details of how to record attendance are available at the URL below (this link was e-mailed to all registered participants prior to the meeting):

  http://www.ieee802.org/3/minutes/nov17/1117_imat.pdf

Membership and attendance recording
Review of membership

- IEEE 802.3 voters

  http://www.ieee802.org/3/minutes/nov17/1117_voters.pdf

- IEEE 802.3 voters in peril

  http://www.ieee802.org/3/minutes/nov17/1117_peril.pdf

- IEEE 802.3 potential voters

  http://www.ieee802.org/3/minutes/nov17/1117_potential.pdf

IEEE 802.3 Ethernet Working Group Treasury Report

Valerie Maguire, IEEE 802.3 Treasurer

The Siemon Company

Orlando, FL

November 6, 2017

IEEE 802.3 Ethernet Working Group Treasury Report

- Account balance
  - Opening Jul 2017 balance: $ 21,612.34
  - Deposits: (0.00)
  - Interest paid: $33.06
  - Debits: (5,333.50)
  - Closing Jun 2017 balance: $16,311.90

Questions?

Thank you!

IEEE 802 Executive Committee report

- 2017 Reserve Estimate
  - $1.459M
    - Estimated $7K deficit for this meeting
    - Estimated -$175K net worth change for 2017

- IEEE 802 rules meetings
  - Tutorials not requiring badges
  - Updates in support of ICAID
    - Mirror the PAR process
  - Position statements
  - Consequences of update to Sponsor P&P
    - Will have to use 2018 Sponsor P&P baseline
    - Change to Sponsor P&P will trigger WG P&P review
      - Will have to use 2018 WG P&P baseline
    - New minutes requirements in 2018 WG P&P baseline

IEEE 802 Executive Committee report
Cross-IEEE 802 topics

Monday	Notes
18:00-19:20 Tutorial: Use of 802.11 for 5G mmWave Systems	Grand Sierra D
19:30-20:50 Tutorial: Local MAC Addresses in 802 Overview and Architecture	Grand Sierra D
21:00-22:30 OPEN	
Tuesday	
13:30-15:30 802/JTC1 Standing Committee, Myles	Governors Boardroom
~~13:30-15:30 802/IETF Standing Committee, Thaler~~	not being held this week
19:00-21:00 802.1 Industry Connections:Network Enhancements for the Next Decade	Grand Sierra G
Wednesday	
08:00-09:00 802/ITU Standing Committee, Parsons	Boca II
19:00-21:30 Social Reception	Pavillion
Thursday	
07:30-08:00 Next Venue Logistics, Rosdahl 08:00-09:00 Future Venues Ad Hoc, Rosdahl 09:00-10:00 802 Chair's Open Office Hours, Nikolich	Governors Boardroom
13:30-15:30 802/JTC1 Standing Committee, Myles	Governors Boardroom

IEEE 802 Executive Committee report Meeting for the week

Sunday 19:30-21:30	LMSC Rules Review
Mon 08:00-10:00	Opening Executive Committee meeting
Tue 07:00-9:00	Open Source discussions Parsons
Tue 13:30-15:30	802/JTC1/SC6 Standing Committee
Tue 13:30-15:30	~~802/IETF Standing Committee~~
Tue 16:00-18:00	
Wed 08:00-09:00	802/ITU Standing Committee
Thu 07:30-08:00	Plenary venue space allocation planning
Thu 08:00-09:00	Future venue planning
Thu 09:00-10:00	802 Chair's Open Office hour
Thu 10:30-12:30pm	IEEE 802 Task Force
Thu 13:30-15:30	~~802/JTC1/SC6 Standing Committee~~
Thu 16:00-18:00pm	open
Fri 08:00-10:00	open
Fri 10:00-12:00	closing EC agenda prep
Fri 13:00-18:00	closing Executive Committee meeting

IEEE 802 Executive Committee report
IEEE 802 Task Force draft agenda

802 Task Force Thurs 10:30AM-12:30

Tentative agenda

1. Open portion of meeting:
   1. IEEE SA Open Source update, 15 min, Goldberg
   2. Any other business?
   3. Action item review, 5 min, Nikolich

2. Closed portion of meeting (as necessary):
   1. (Time specific 11:30am) IEEE SA tools update/discussion, 15 min, Nikolich + SA staff on phone

3. Adjourn

IEEE 802 Tutorials

- ## Session #1, Monday18:00 – 19:20
  - ### Use of 802.11 for 5G Millimeter Wave Systems

    "5G" efforts are advancing full-steam:

    Back in September 2015, The ITU-R released the IMT Vision document – Framework and overall objectives of the future development of IMT for 2020 and beyond. Traditionally the release of the vision document marks the beginning of the next generation spectrum harmonization and standardization at international level.

    The regulators around the Globe are opening new Millimeter wave spectrum for 5G services. In July 2016, the FCC in the US freed 10.85 GHz of spectrum above 24 GHz which includes 3.85 GHz of licensed spectrum from 27.5- 28.35 GHz and 37-40 GHz as well as 7 GHz of unlicensed spectrum from 64-71 GHz. In Europe, 26 GHz band (24.25 GHz – 27.5 GHz) is identified as a 5G "pioneer band" by Europe's regulators.

    This tutorial begins with a review of the recommendations made by the 802 EC Standing Committee back in July 2016 and propose to reconsider the recommendation. We discuss how 802.11 PHY/MAC can be leveraged to enable highperformance, cost-effective, and power-efficient 5G systems in the 24-40 GHz licensed millimeter wave spectrum, and be submitted as a candidate technology for IMT-2020 and beyond.

IEEE 802 Tutorials

- ## Session #2, Monday 19:30 – 20:50

  - ### Local MAC Addresses in the IEEE 802 Overview and Architecture based on IEEE Std 802c

    IEEE Std 802c was approved by the IEEE-SA Standards Board on 15 June 2017, amending the IEEE 802 Overview and Architecture to specify Local Medium Access Control (MAC) Address Usage. This slide set summarizes the changes and implications. It also summarizes a new revision, prepared in coordination with 802c, of the relevant tutorial of the IEEE Registration Authority (IEEE RA).

- ## Session #3, Monday 21:00 – 22:30

  - ### No tutorial scheduled for this time slot.

Other IEEE 802 PARs under consideration this week

- Amendment project PARs
  - IEEE P802.15.10a Recommended Practice for Routing Packets in IEEE 802.15.4 Dynamically Changing Wireless Networks: Additional routing modes
  - IEEE P802.1CBcv Frame Replication and Elimination for Reliability YANG model
- PAR Modification request
  - IEEE P802.11ax High Efficiency WLAN
  - IEEE P802.11az Enhancements for Positioning

Liaisons

- External Liaison letters (new)
  - COBO: 8 & 16 lane on board optics specification D0.5
    - IEEE P802.3cd 50 Gb/s, 100 Gb/s, and 200 Gb/s Ethernet Task Force and IEEE 802.3 Beyond 10 km Optical PHYs Study Group
  - ISO/IEC JTC1 SC25 WG3: Liaison letter to IEEE 802.3 regarding 1-pair cabling
    - IEEE P802.3cg 10 Mb/s Single Twisted Pair Ethernet Task Force
  - ITU-T SG15: Coherent 100 Gb/s DWDM interfaces
    - IEEE 802.3 Beyond 10 km Optical PHYs Study Group
  - ITU-T SG15: Management Information/Data Models for OAM
    - IEEE P802.3.2 (IEEE 802.3cf) YANG Data Model Definitions Task Force
  - ITU-T SG15: Timing performance due to Ethernet PHY
    - Adee Ran
  - TIA TR-42: Connectors and topologies for single pair applications
    - IEEE P802.3cg 10 Mb/s Single Twisted Pair Ethernet Task Force

Assigned group or individual to review letter and make a recommendation at the
IEEE 802.3 closing plenary if there should be a reply, and if so, propose a draft reply

Liaisons (continued)

- External Liaison letters (old)
  - Ethernet Alliance: PoE certification program
    - IEEE P802.3bt DTE Power via MDI over 4-Pair Task Force
  - IEC TC 65/SC 65C/JWG 10: Single pair Ethernet liaison
    - IEEE P802.3cg 10 Mb/s Single Twisted Pair Ethernet Task Force
  - ITU-T SG15: Access Network Transport Standardization Work Plan
    - Marek Hajduczenia
  - ITU-T SG15: Home Network Transport Standardization Work Plan
    - Bob Grow
  - ITU-T SG15: Optical Transport Network Technology Standardization Work Plan
    - Steve Trowbridge
- External Liaison letters (new, information item)
  - NGMN Alliance: 5G End-to-End Architecture Framework liaison
  - OIF: CEI-56G-VSR-PAM4 project liaison letter and attachment
  - PI (PROFIBUS and PROFINET International): Liaison request letter

Assigned group or individual to review letter and make a recommendation at the
IEEE 802.3 closing plenary if there should be a reply, and if so, propose a draft reply

Continuing Agenda ...