IEEE 802 Network Enhancements for the Next Decade
Industry Connections Activity

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About IEEE 802 Network Enhancements for the
Next Decade Industry Connections (IC) Program

The mobile industry is currently pursuing the development of the next generation mobile
communication networks fulfilling the requirements for extreme mobile broadband,
massive machine-type communication, and ultra-reliable and low latency communications
as specified in ITU-R M.2083 for IMT-2020.

IEEE 802 technologies are mainly deployed in communication infrastructures outside of
the IMT domain. Therefore, to address emerging network requirements, the IEEE 802
LAN/MAN Standards Committee is launching a new initiative under the IEEE Standards
Association (IEEE-SA) Industry Connections Program. This activity will assess
emerging requirements for IEEE 802 based communication infrastructures, identify
commonalities, gaps, and trends not currently addressed by IEEE 802 standards and
projects, and facilitate building industry consensus towards proposals to initiate new
standards development efforts. Learn more.

- Announcement
  - IEEE-SA sent eBlast to multiple societies and sponsors

Guidelines for IEEE-SA 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.**

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

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.

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

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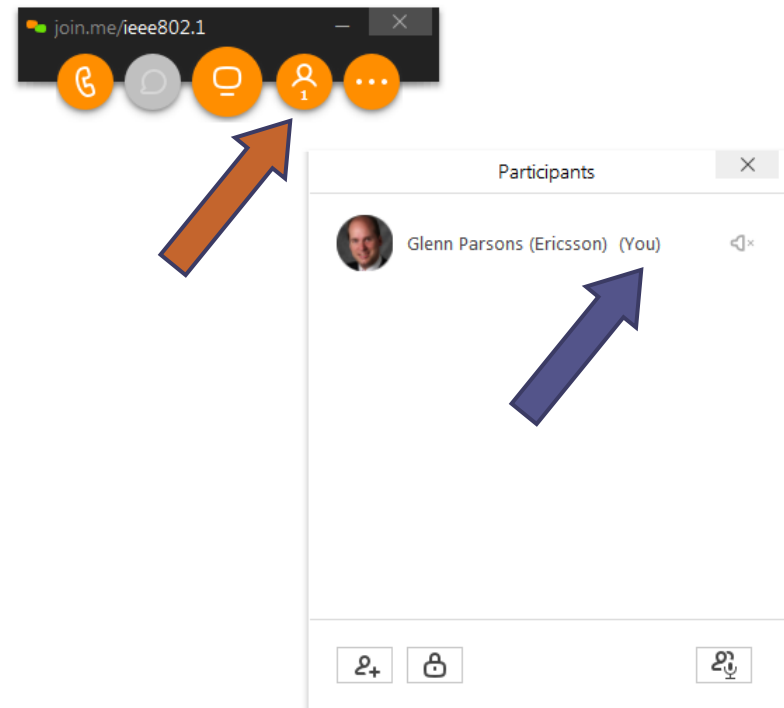
(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: http://www.ieee802.org/devdocs.shtml)

Agenda for February meeting

- Introduction
- Role of the IC activity
  - Background (the origins of this IC Activity)
  - Project Objectives/Scope/Deliverables
- Status for SASB ICcom
- Deliverable development
  - Flexible Factory IOT
    - Draft review
  - Lossless Network for Data Centers
    - Draft review
- Other Contributions
  - For March plenary

- Actions/Next Steps

Introductions

- Please add your name in join.me next to **(You)**

Role of the Industry Connections Activity

IC17-001-01

IEEE-SA Industry Connections activity

- Aimed for technical group discussions (far) ahead of starting PAR discussions.
  - http://standards.ieee.org/develop/indconn/
  - ICAID (Industry Connections Activity Initiation Document) request form for approval
    - http://standards.ieee.org/develop/indconn/icaid_form.doc

- Use of Industry Connections in IEEE 802
  - https://mentor.ieee.org/omniran/dcn/16/omniran-16-0083-00-5gaa-use-of-industry-connections-in-ieee-802.pptx

- Further resources:
  - http://standards.ieee.org/about/sasb/iccom/resources.html

802 NEND Objective

- The goal of this activity is to assess, outside of the IMT activity, emerging requirements for IEEE 802 wireless and higher-layer communication infrastructures, identify commonalities, gaps, and trends not currently addressed by IEEE 802 standards and projects, and facilitate building industry consensus towards proposals to initiate new standards development efforts.

- Encouraged topics include enhancements of IEEE 802 communication networks and vertical networks as well as enhanced cooperative functionality among existing IEEE standards in support of network integration. Findings related to existing IEEE 802 standards and projects are forwarded to the responsible working groups for further considerations.

Operating practice

- Voting
  - While operating as a subgroup under IEEE 802.1, any person attending a meeting may vote on all motions (including recommending approval of the deliverables). A vote is carried by 75% of those present and voting Approve or Disapprove.

- Reciprocal attendance rights for 802 WGs
  - policy is per home WG

- Approval
  - Until March 2019

- Document storage – 802.1 website & mentor
  - http://1.ieee802.org/802-nend/
  - https://mentor.ieee.org/802.1/documents?is_group=ICne

- Mailing List
  - http://listserv.ieee.org/cgi-bin/wa?SUBED1=STDS-802-NEND&A=1
  - STDS-802-NEND@LISTSERV.IEEE.ORG

Potential Markets

- IEEE 802 technologies are deployed in a huge number of market applications, which are exhibiting a growing diversity in terms of the features needed. Solutions spanning these different application spaces and feature requirements will be best 3 addressed by leveraging common technology approaches. This activity will enable industry consensus building on the market/application requirements and identify gaps and trends not currently addressed by IEEE 802 standardization of new solutions, which will help to foster industry engagements in new study groups and standardization topics.

Deliverable

- There will be two deliverables:
  - Records of the meetings, including minutes and supporting presentations.
  - A report documenting the findings of the IC activity, with recommendations regarding new standardization topics, documentation of use cases and user needs for those topics, and proposed organizational approaches to ensure effective participation from user communities. It is expected that the first draft of the report documenting the findings of the IC will be available in March 2018.
- Related work
  - The proposed activity addresses topics distinct from the IEEE 802.3 'New Ethernet Applications' Industry Connections activity. It will cooperate when findings may benefit both activities.

Report deliverables

- There can be multiple "report" deliverables
- There is a report deliverable Word template
  - But the variation is significant in current outputs
- Sample deliverable of two other IC activities.
  - slide decks per topic (like 802.3 NEA does - http://www.ieee802.org/3/ad_hoc/ngrates/public/17_11/index.html)
  - detailed white paper (like the Ethically Aligned Design - http://standards.ieee.org/develop/indconn/ec/autonomous_systems.html)

IC Management Team
appointed by the 802.1 chair

- NEND chair
  - Currently 802.1 chair
- NEND secretary
  - Currently Max Riegel (and Walter Pienciak)
- Report editors
  - Currently Nader Zein & Paul Congdon

Status - for SASB ICcom

IC17-001
IEEE 802 network enhancements for the next decade
Report Date: 14 February 2018

- **Chair**: Glenn Parsons, Ericsson
- **Participants**: Individuals, varying between 30 – 100 people.
- **Procedures**: Following approved rules of LMSC and IEEE 802.1 WG. Operating as a subgroup of the 802.1 WG, but without membership restrictions.
- **Progress Toward Deliverables**:
    - Website, document repository, and mailing list for participants
    - Besides minutes, two potential report deliverables identified and drafts underway
        - Flexible Factory IoT
        - Lossless Network for Data Centers
- **Timeline**:
    - March 2018 (and ongoing) - Identification of potential new standardization topics
    - July 2018 - Mature drafts of potential reports for review and comment
    - November 2018 – publish reports as white papers
    - March 2019 – evaluate re-chartering
- **Future Meetings**: Monthly conference calls and during IEEE 802 plenaries (March, July & November) as indicated on Website; looking for industry-focused venues.
- **Issues**: Seeking to identify and collaborate with external user groups in focus areas

Deliverable Development

Deliverables

- Flexible Factory IOT
  - ▫ Report review – Nader Zein (NEC)
- Lossless Network for Data Centers
  - ▫ Report review - Paul Congdon (Huawei)

Contributions

New DC contributions for March

- China Telecom's Demand & Practice in the DC Lossless Network
- CAICT
- China Mobile

Potential contribution topic areas

- Greater connections with customers of IEEE 802 technologies
- Requirements of various operators
- IOT (including Smart grid IOT)
- Factory automation
- Future wireless networks
- Learning possibilities
- High performance communications
- Cable industry requirements and evolution
- Mobile and constrained devices
- Data Centre networking
- Tactile networks
- New user domains

Next meeting

Future meetings

- 802 plenaries
  - Tuesday evenings
    - March 6, 7:30-9:30pm
- Conference Calls
  - Will be cancelled if no agenda requests
  - Wednesdays– 8am ET
    - Feb 14th
    - Future calls to be agreed at plenary
  - Additional per report calls possible if announced
- Other venues?

Actions

Actions

- Progress deliverables
- Solicit more contributions
- Reach out to more customers
- Find evangelists
- Continue reports ...

- Contact me to help!