IEEE 802 Network Enhancements for the Next Decade
Industry Connections Activity

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IEEE STANDARDS ASSOCIATION ◆IEEE

Call for Participation

Join IEEE 802® Network Enhancements for the Next Decade Industry Connections Program

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

Agenda for July meeting

- Introductions
- Participant Expectations
- Role of the IC activity
  - Background (the origins of this IC Activity)
  - Project Objectives/Scope/Deliverables
- Contributions
  - Plan - Automotive, Industry Automation, etc.
  - Proposals
- Communications Plan
  - (information sharing, meetings, schedule, etc.)
- Actions/Next Steps

Introductions

- Name
- Affiliation
- What outcome would you like from this activity?

Role of the Industry Connections Activity

IC17-001-01

Background – IEEE 5G SC Action A: Candidate Approach – "IEEE 5G"

- specify an 802 access network
  - could be based on P802.1CF
    - "network reference model defines a generic foundation for the description of IEEE 802 access networks, which may include multiple network interfaces, multiple network access technologies, and multiple network subscriptions, aimed at unifying the support of different interface technologies, enabling shared network control and use of software-defined networking (SDN) principles"
  - provides an external view into general 802 access network
  - could support many 802 MACs and PHYs
  - could plug into incumbent mobile operator networks
    - for example, expand the notion of LWA so that the cellular network supports 802 rather than 802.11
    - gives 802 a strong supporting role in cellular 5G networks
  - could support integration into other operator networks
    - e.g. cable TV or fixed telecom
    - gives 802 a central role in non-cellular 5G networks
  - feasible for 802 access network to support both
  - need not promote it as an "IEEE 5G" network

From 802 5G SC report

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 mentor
  - https://mentor.ieee.org/802.1/documents?is_group=ICne

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.

Contributions

Potential contribution topic areas

- Industrial automation networks
- Automotive networks
- IoT networks
- Non-traditional operator networks
- ...

Contributions

- Satoko Itaya (NICT)
  - https://mentor.ieee.org/omniran/dcn/17/omniran-17-0054-01-00ic-wireless-communications-in-the-manufacturing-fields.pdf
- Max Riegel (Nokia)
  - https://mentor.ieee.org/omniran/dcn/17/omniran-17-0053-01-00ic-layer-2-network-virtualization.pptx
- Others?

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Next meeting

Future meetings

- 802 plenaries
  - Tuesday evening
- 802.1 interims
  - Half day mid-week ?
- Wireless interims
  - Half day mid-week ?
- IEEE Conference side event
  - ICC, Globecom, …?
- Other Conference side event
  - MEF, BBWF, …?

Actions