IEEE 802 "*Network Enhancements for the Next Decade*" Industry Connections Activity (Nendica): Status

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ICA Overview

- IEEE 802 "*Network Enhancements for the Next Decade*" Industry Connections Activity (ICA)
  - ICA: Industry Connections Activity
  - Authorized by IEEE SA
    - Through "Industry Connections Committee (ICCom)"
    - via an "Industry Connections Activity Initiation Document (ICAID)", parallel to a PAR
    - "Industry Connections activities provide an efficient environment for building consensus and developing many different types of shared results. Such activities may complement, supplement, or be precursors of IEEE Standards projects, but they do not themselves develop IEEE standards."

Nendica History

- Outgrowth of a recommendation of IEEE 802 5G Standing Committee of 2016
  - Seeking "an external view into general 802 access network" to "support many 802 MACs and PHYs"
  - that view evolved during ICAID development

- ICAID
  - March 2017 - March 2019: original ICAID
  - March 2019 - March 2021: renewed ICAID
  - March 2021: extension through September 2021
  - July 2021: IEEE 802 review of proposal to renew through September 2023

Nendica "Motivation and Goal"

- Expiring ICAID emphasizes contrast with IMT-2020
  - removed in current renewal proposal
- Proposed revision:
  - The goal of this activity is to document emerging requirements and directions for IEEE 802 networks, 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. Topics concerning higher-layer applications related to new standards development in the IEEE 802.1 Working Group are also specifically expected and encouraged. Findings related to existing IEEE 802 standards and projects are forwarded to the responsible working groups for further considerations.
  - https://mentor.ieee.org/802.1/dcn/21/1-21-0011-05-ICne.docx

Nendica Overview

- Web site
  - https://1.ieee802.org/802-nendica/
- Voting
  - organized under 802.1 WG
  - no members; anyone attending may vote on all motions
- Document storage –mentor
  - https://mentor.ieee.org/802.1/documents?is_group=ICne
- Mailing List
  - STDS-802-NEND@LISTSERV.IEEE.ORG
- Organization
  - Work Items to develop Nendica Reports for publication
  - Study Items for less formal activity, or for proposing a Work Item

Published Nendica Reports

- IEEE 802 Nendica Report: The Lossless Network for Data Centers (ISBN 978-1-5044-5102-4)
  - Editor: Paul Congdon
  - Published 2018-08-17
- IEEE 802 Nendica Report: Flexible Factory IoT — Use Cases and Communication Requirements for Wired and Wireless Bridged Networks (ISBN 978-1-5044-6229-7)
  - Editor: Nader Zein
  - Published 2020-04-17
- IEEE 802 Nendica Report: Intelligent Lossless Data Center Networks (ISBN 978-1-5044-7741-3)
  - Editor: Liang Guo and Paul Congdon
  - Published 2021-06-22

Current Nendica Activity

- Study Item: "Cut-Through Forwarding in Bridges and Bridged Networks"
  - Leader, Johannes Specht
  - Initiated March 2021
  - Developed IEEE 802 tutorial (7 July 2021) on the value of standardizing cut-through forwarding procedures within IEEE 802. The activity identified relevant markets in industrial networks, high-performance computing networks, and audio/video networks.
  - Follow-up discussion planned for Nendica meeting of 2021-08-05

- Potential Study Item: "Evolving IEEE 802 Architecture Requirements"

- ICAID renewal proposal says "Topics concerning higher-layer applications related to new standards development in the IEEE 802.1 Working Group are also specifically expected and encouraged."

Nendica Meetings

- Have been meeting Thursdays (09:00-11:00 ET)
- May expand if necessary
- 2021-07-15 agenda:
  - Respond to comments on ICAID
  - Plan CTF follow-up
  - Progress potential Study Item on "Evolving IEEE 802 Architecture Requirements"
  - Consider future meeting schedule
  - Always open to contributions and new topic proposals