



IEEE 802

DRAFT

Local and Metropolitan Area Network Standards Committee

Source: IEEE 802 Local and Metropolitan Area Network Standards Committee (LMSC)¹

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From: Paul Nikolich Chair, IEEE 802 LMSC
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Subject Letter of Endorsement, Industry Connections ICAID – New Ethernet Applications

Approval Agreed to by IEEE 802 LMSC EC on 4th Aug 2020 teleconference

¹ This document solely represents the views of the IEEE 802 LMSC, and does not necessarily represent a position of the IEEE or the IEEE Standards Association.

Dear Mr Lu and Members of IEEE-SA Industry Connections Committee (ICCom),

This letter is to convey the approval of the attached ICAID for the renewal of “New Ethernet Applications” (NEA) Industry Connections activity by the IEEE 802 Local and Metropolitan Area Network Standards Committee (LMSC).

This Industry Connections activity has been a successful endeavor within IEEE 802, leading to the development of a multitude of IEEE 802.3 Ethernet standards since its initial formation in 2015. Since its last renewal in 2018, the following standardization activities targeting Ethernet applications have leveraged the Industry Connections NEA Activity: (1) lower cost, short reach, optical interconnects based on 100 Gb/s wavelengths; (2) Precision Time Protocol (PTP) Timestamping Accuracy; (3) Multi-Gigabit Optical Automotive Ethernet; (4) 10 Mb/s Single Pair Multidrop Segments Enhancements; (5) 100 Gb/s over dense wavelength-division multiplexing (DWDM) systems; (6) 400 Gb/s over DWDM systems; and (7) Greater than 10 Gb/s Electrical Automotive Ethernet. Furthermore, additional activities leveraging the NEA Industry Connections activity include the industry-wide Ethernet bandwidth assessment which has spawned interest in the IEEE 802.3 Ethernet Working Group to begin developing consensus building for a “Beyond 400 Gigabit Ethernet” (GbE) Call-for-Interest, which is the first step in the IEEE 802.3 Ethernet Working Group towards a new standardization project. The successful start of this effort would likely fuel the continuing expansion of the Ethernet family through other new standards efforts targeting the next speed of Ethernet beyond 400 Gb/s Ethernet.

The IEEE 802 LMSC will serve as the sponsoring committee of this Industry Connections activity, with direct oversight delegated to the IEEE 802.3 Ethernet Working Group. The following documents will guide the operation of this activity: (1) IEEE 802 LMSC Operations Manual; (2) IEEE 802 Policies & Procedures; (3) IEEE 802 Working Group Policies and Procedures and (4) IEEE 802.3 Operations Manual.

Given the on-going success of this activity in spawning new Ethernet standardization activities within the IEEE 802.3 Ethernet Working Group, IEEE 802 LMSC endorses the approval of this ICAID and the continuation of this activity.

Sincerely,

Paul Nikolich

Chair, IEEE 802 Local and Metropolitan Area Network Standards Committee

New Ethernet Applications

Industry Connections Activity Initiation Document (ICAID)

Version: 0.1, 17 September 2020

Instructions

- Instructions on how to fill out this form are shown in red. It is recommended to leave the instructions in the final document and simply add the requested information where indicated.
- **Shaded Text** indicates a placeholder that should be replaced with information specific to this ICAID, and the shading removed.
- Completed forms, in Word format, or any questions should be sent to the IEEE Standards Association (IEEE-SA) Industry Connections Committee (ICCom) Administrator at the following address: industryconnections@ieee.org.
- The version number above, along with the date, may be used by the submitter to distinguish successive updates of this document. A separate, unique Industry Connections (IC) Activity Number will be assigned when the document is submitted to the ICCom Administrator.

1. Contact

Provide the name and contact information of the primary contact person for this IC activity. Affiliation is any entity that provides the person financial or other substantive support, for which the person may feel an obligation. If necessary, a second/alternate contact person's information may also be provided.

Name: Jon Lewis

Email Address: Jon.Lewis@dell.com

Employer: Dell

Affiliation: Dell

IEEE collects personal data on this form, which is made publicly available, to allow communication by materially interested parties and with Activity Oversight Committee and Activity officers who are responsible for IEEE work items.

2. Participation and Voting Model

Specify whether this activity will be entity-based (participants are entities, which may have multiple representatives, one-entity-one-vote), or individual-based (participants represent themselves, one-person-one-vote).

Individual-Based

3. Purpose

3.1 Motivation and Goal

Briefly explain the context and motivation for starting this IC activity, and the overall purpose or goal to be accomplished.

The growing diversity of applications for Ethernet, including new application areas, is driving the development of a multitude of new standards to be developed. Recent examples of standardization activities that utilized the current New Ethernet Applications Industry Connections ICAID include Lower cost, short reach, optical interconnects based on 100 Gb/s wavelengths, Precision Time Protocol (PTP) Timestamping clarifications,

Automotive Optical Multigig, Next steps in Single-Pair ecosystem, 100 Gb/s over Dense Wavelength Division Multiplexing (DWDM) systems, 400 Gb/s over DWDM systems, and developing a study group proposal for Automotive 10G+ Copper.

Additional activities include the industry-wide Ethernet bandwidth assessment which has spawned interest in the IEEE 802.3 Ethernet Working Group working towards consensus building for a Beyond 400G study group. This topic area may fuel the continuing expansion of the Ethernet family through other new standards efforts.

The goal of this activity is to assess requirements for new Ethernet-based applications, identify gaps not currently addressed by IEEE 802.3 standards, and facilitate building industry consensus towards proposals to initiate new standards development efforts.

3.2 Related Work

Provide a brief comparison of this activity to existing, related efforts or standards of which you are aware (industry associations, consortia, standardization activities, etc.).

There are no known open standards / IEEE 802.3 based activity for Ethernet projects to compare against this Industry Connections activity proposal.

3.3 Previously Published Material

Provide a list of any known previously published material intended for inclusion in the proposed deliverables of this activity.

None

3.4 Potential Markets Served

Indicate the main beneficiaries of this work, and what the potential impact might be.

Stakeholders for the Standard: Ethernet is pervasive, with a consequent pervasive set of stakeholders. This includes component providers (e.g., optical transceivers, cabling and integrated circuit), system product providers (e.g., switch and NIC), network providers (e.g. installers, network support), bandwidth providers (e.g., carriers), software providers (e.g., network management), providers of network powered or powering devices, and the users of any of these products or services.

3.5 How will the activity benefit the IEEE?

Ethernet is employed in a number of market applications, which are exhibiting a growing diversity in terms of the Ethernet rates and features needed. Solutions spanning these different application spaces and rates will be best addressed by leveraging common technology investments. This activity will enable industry consensus building on the market/application requirements and identify gaps not currently addressed by IEEE 802.3 standards of new solutions, which will help to foster industry interest in new Ethernet study groups.

4. Estimated Timeframe

Indicate approximately how long you expect this activity to operate to achieve its proposed results (e.g., time to completion of all deliverables).

Expected Completion Date: 12/2022

IC activities are chartered for two years at a time. Activities are eligible for extension upon request and review by ICom and the IEEE-SA Standards Board. Should an extension be required, please notify the ICom Administrator prior to the two-year mark.

5. Proposed Deliverables

Outline the anticipated deliverables and output from this IC activity, such as documents (e.g., white papers, reports), proposals for standards, conferences and workshops, databases, computer code, etc., and indicate the expected timeframe for each.

There will be multiple types of deliverables. The first type of deliverable will be the records of the meetings, including minutes and supporting presentations. The second type of output may be the creation of one or more consensus presentations that are used as the basis for one or more Call-for-Interests to study new areas. A third possible type of deliverable may be the creation, as appropriate, of white papers documenting the findings of the IC activity.

5.1 Open Source Software Development

Indicate whether this IC Activity will develop or incorporate open source software in the deliverables. All contributions of open source software for use in Industry Connections activities shall be accompanied by an approved IEEE Contributor License Agreement (CLA) appropriate for the open source license under which the Work Product will be made available. CLAs, once accepted, are irrevocable.

Will the activity develop or incorporate open source software (either normatively or informatively) in the deliverables?: No

6. Funding Requirements

Outline any contracted services or other expenses that are currently anticipated, beyond the basic support services provided to all IC activities. Indicate how those funds are expected to be obtained (e.g., through participant fees, sponsorships, government or other grants, etc.). Activities needing substantial funding may require additional reviews and approvals beyond ICom.

None.

7. Management and Procedures

7.1 Activity Oversight Committee

Indicate whether an IEEE committee of some form (e.g., a Standards committee) has agreed to oversee this activity and its procedures.

Has an IEEE committee agreed to oversee this activity?: Yes

If yes, indicate the IEEE committee's name and its chair's contact information.

SIEEE Committee Name: IEEE 802 LAN/MAN Standards Committee

Chair's Name: Paul Nikolich

Chair's Email Address: p.nikolich@ieee.org

Chair's Phone: +1 857 205 0050

Working Group Chair: IEEE 802.3 Ethernet Working Group

Chair's Name: David Law

Chair's Email Address: dlaw@hpe.com

Chair's Phone: +44 1631 563729

Contact Information for Working Group Vice-Chair

Vice-Chair's Name: Adam Healey

Vice-Chair's Email Address: adam.healey@broadcom.com

Vice-Chair's Phone: +1 610 712-3508

Additional IEEE committee information, if any. Please indicate if you are including a letter of support from the IEEE Committee that will oversee this activity.

Yes, a letter of support is attached.

IEEE collects personal data on this form, which is made publicly available, to allow communication by materially interested parties and with Activity Oversight Committee and Activity officers who are responsible for IEEE work items.

7.2 Activity Management

If no Activity Oversight Committee has been identified in 7.1 above, indicate how this activity will manage itself on a day-to-day basis (e.g., executive committee, officers, etc).

N/A

7.3 Procedures

Indicate what documented procedures will be used to guide the operations of this activity; either (a) modified baseline *Industry Connections Activity Policies and Procedures*, (b) Standards Committee policies and procedures accepted by the IEEE-SA Standards

Board, or (c) Working Group policies and procedures accepted by the Working Group's Standards Committee. If option (a) is chosen, then ICCom review and approval of the P&P is required. If option (b) or (c) is chosen, then ICCom approval of the use of the P&P is required.

IEEE 802 LMSC Operations Manual, IEEE 802 P&P, IEEE 802.3 Operations Manual

8. Participants

8.1 Stakeholder Communities

Indicate the stakeholder communities (the types of companies or other entities, or the different groups of individuals) that are expected to be interested in this IC activity, and will be invited to participate.

Stakeholders identified to date includes but are not limited to: users and producers of systems and components for servers, network storage, networking systems, data centers, high performance computing, telecommunications carriers, automotive, and industrial applications.

8.2 Expected Number of Participants

Indicate the approximate number of entities (if entity-based) or individuals (if individual-based) expected to be actively involved in this activity.

120 Individuals

8.3 Initial Participants

Provide a number of the entities or individuals that will be participating from the outset. It is recommended there be at least three initial participants for an entity-based activity, or five initial participants (each with a different affiliation) for an individual-based activity.

Use the following table for an individual-based activity:

ID #	Last Name	First Name	Employer	Affiliation
1	Abbott	John	Corning	Corning
2	Anubolu	Surnedra	Broadcom	Broadcom
3	Brooks	Paul	Viavi	Viavi
4	Brown	Matt	Huawei	Huawei
5	Bruckman	Leon	Huawei	Huawei
6	Carlson	Steve	High Speed Design	Robert Bosch, Ethernovia
7	Carty	Clark	Cisco	Cisco
8	Cassidy	Derek	ICRG/IET	ICRG/IET
9	Castro	Jose	Panduit	Panduit
10	Chalupsky	David	Intel	Intel
11	Chang	Ayla	Huawei	Huawei
12	Chang	Frank	Source Photonics	Source Photonics
13	Chen	David	Applied Optoelectronics	Applied Optoelectronics
14	D'Ambrosia	John	Futurewei	Futurewei, U.S. Subsidiary of Huawei
15	De Keuenaer	Timothy	Mellanox	Mellanox
16	DeAndrea	John	Finisar/II-VI Inc	Finisar/II-VI Inc
17	Dupuis	Mark	Web Industries	Web Industries
18	Edheverri	Santiago	Nvidia	Nvidia
19	Ewen	John	Marvell	Marvell

ID #	Last Name	First Name	Employer	Affiliation
20	Ghiasi	Ali	Ghiasi Quantum LLC	Inphi
21	Grow	Bob	RMG Consulting	RMG Consulting
22	Gustlin	Mark	Cisco	Cisco
23	He	Xiang	Huawei	Huawei
24	Healey	Adam	Broadcom	Broadcom
25	Hormmeyer	Bernd	Phoenix Contact	Phoenix Contact
26	Huber	Tom	Nokia	Nokia
27	Issenhuth	Tom	Issenhuth Consulting	Huawei
28	Kim	Inho	Marvell	Marvell
29	Kota	Kishore	Inphi	Inphi
30	Lam	Cedric	Google	Google
31	Law	David	HPE	Hewlett Packard Enterprise
32	Lewis	David	Lumentum	Lumentum
33	Lewis	Jon	Dell EMC	Dell EMC
34	Liu	Karen	Lightwave Logic, Inc	Lightwave Logic, Inc
35	Lusted	Kent	Intel	Intel
36	Maki	Jeffery	Juniper	Juniper
37	Malicoat	David	Malicoat Networking Solutions	Senko Advanced Components
38	Maniloff	Eric	Ciena	Ciena
39	Mellitz	Richard	Samtec	Samtec
40	Mi	Guangcan	Huawei	Huawei
41	Nering	Ray	Cisco	Cisco
42	Ofelt	David	Juniper	Juniper
43	Parsens	Earl	Commscope	Commscope
44	Piehler	David	Dell EMC	Dell EMC
45	Pimpinella	Rick	Panduit	Panduit
46	Powell	Bill	Nokia	Nokia
47	Riana	Jamal	Inphi	Inphi
48	Sambasivan	Sam	AT&T	AT&T
49	Savi	Olindo	Hubbell, Inc	Hubbell, Inc
50	Sommers	Scott	Molex	Molex
51	Sone	Yoshiaki	NTT Electronics America	NTT Electronics America
52	Sorbara	Mossimo	Golbal Foundries	Global Foundries
53	Sprague	Ted	Infinera	Infinera
54	Stassar	Peter	Huawei	Huawei
55	Stone	Rob	Facebook	Facebook

ID #	Last Name	First Name	Employer	Affiliation
56	Swanson	John	Synopsys	Synopsys
57	Theodoras	Jim	HG Genuine USA	HG Genuine USA
58	Tracy	Nathan	TE Connectivity	TE Connectivity
59	Tran	Viet	Keysight Technologies	Keysight Technologies
60	Tremblay	David	HPE	HPE
61	Trowbridge	Steve	Nokia	Nokia
62	Wang	Ruoxu	Huawei	Huawei
63	Wang	Xinyuan	Huawei	Huawei
64	Wen	Yangjing	Futurewei	Futurewei, U.S. Subsidiary of Huawei
65	Wienckowski	Natalie	General Motors Co.	General Motors Co.
66	Williams	Tom	Acacia Inc.	Acacia Inc.
67	Xu	Yu	Huawei	Huawei
68	Young	James	Commscope	Commscope
69	Zimmerman	George	CME Consulting	ADI, CommScope, Cisco Systems, Marvell, and SenTekse