

## New Ethernet Applications

### Industry Connections Activity Initiation Document (ICAID)

Version: 1.0, 4th August 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](mailto: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 |