

## Cyber Security for Next Generation Connectivity Systems Industry Connections Activity Initiation Document (ICAID)

Version: 1.0, 11 February 2022

IC22-001-01 Approved by the CAG 14 March 2022

### 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:** Vikas Malhotra

**Email Address:** vikasmal@woplli.com

**Employer:** Woplli Technologies

**Affiliation:** Woplli Technologies

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.

Digital environments are becoming more complex with varied mechanisms and processes used during data connectivity, data storage and data processing.

1. Data creation and its transmission are exploding in both enterprise and consumer space. Data flow and management are not consistently done.
2. Organizations have many disparate applications and services from many vendors but dependencies of these applications on each other are not well understood by the organizations.
3. Contents of an application or a service are not well understood.
4. We are seeing new technologies, new applications and more devices getting introduced every day. More devices, applications and services are collecting data and more processing is happening around us. Mode of data collection, which data is collected and where it is stored are processed are not known.
5. We anticipate changes in current architectures such as data transmission to happen on the connectivity channels that could present more security risks.

Cyber Security issues have increased in recent times, with millions of records breached. Privacy issues are on the rise with no control on where data is shared and how it is processed. Organizational infrastructures are failing with rising cases of hackings and ransomware.

Trust over IP foundation points to many Trust level issues in the paper [Introduction-to-ToIP-V2.0-2021-11-17.pdf \(trustoverip.org\)](#) [see Digital Trust Statistics].

There are many reasons behind these issues related to user's control (or lack thereof) on their information, formation of concentrated information islands, inadequate control application, lack of transparency by organizations, lack of ability to self-heal, speed of action (or lack thereof) and new and emergent technology areas.

With this proposal, we are making a call for investigation in 3 areas, with which we seek to invoke new thinking and architectures.

**Area 1:** Consider the principles and the ground realities of human centricity (data control), decentralization in identifiers, distribution in data processing, heterogeneity in controls and self-healing.

**Area 2:** Explore Cyber Security needs for special use cases (such as IoT, desktops, edge, Artificial Intelligence etc.), with a focus on Artificial Intelligence and its needs for cybersecurity.

**Area 3:** Explore the effect of new and upcoming areas such as Quantum Computing, Web 3.0 and 5G wireless technologies on current level of Cyber Security and on the new Cyber Security architecture. We would like to build new guidance, standards & technologies if current efforts fall short.

### **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.).

- Trust over IP Foundation (ToIP - [Trust Over IP - Defining a complete architecture for Internet-scale digital trust](#))
- FNI
- P2145 at IEEE
- W3C - [Decentralized Identifiers \(DIDs\) v1.0 \(w3c.github.io\)](#)
- DIF
- NIST

### **3.3 Previously Published Material**

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

See the publications from Trust Over IP Foundation  
See the specification proposals from W3C, DIF

### **3.4 Potential Markets Served**

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

- Any communication and information processing ecosystem and architecture

### **3.5 How will the activity benefit the IEEE, society, or humanity?**

Describe how this activity will benefit the IEEE, society, or humanity.

- Achieve IEEE's goal of developing a framework that is open, flexible, scalable, and adaptable.
- New projects to be delivered across diverse sectors
- New activities, projects, programs can be the outcome of the program. This is an excellent opportunity to extend the reach and depth of future generation applications and services across several industries.
- Practices/guidelines that will help solution deployment across different interfaces, vendors, and frameworks.
- Lead to better cyber security and privacy for protecting person / human data.

## **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:** 03/2024

IC activities are chartered for two years at a time. Activities are eligible for extension upon request and review by ICCom and the responsible committee of the IEEE SA Board of Governors. Should an extension be required, please notify the ICCom 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.

All of the below aspects can be considered

- Test bed and Proof of Concept - 2024
- Use Case Guide (Mapping the use cases) – 2H 2022
- Guidelines for different implementations - 2023
- Guidelines to ensure proper interoperability and compliance - 2024
- Proposals for standards based on the identification of issues - 2023
- Workshops and Events – 2022, 2023, 2024
- Webinars – 2022,2023, 2024
- Collaboration initiatives with other organizations- 2022, 2023,2024

### **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. Industry Connections Activities shall comply with the IEEE SA open source policies and procedures and use the IEEE SA open source platform for development of open source software. Information on IEEE SA Open can be found at <https://saopen.ieee.org/>.*

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

Not known at this time

### **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.*

No expenses anticipated apart from the basic support from IEEE.

### **7. Management and Procedures**

#### **7.1 Activity Oversight Committee**

*Indicate whether an IEEE Standards Committee or Standards Development Working Group has agreed to oversee this activity and its procedures.*

**Has an IEEE Standards Committee or Standards Development Working Group agreed to oversee this activity?** No

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

**IEEE Committee Name:** Committee Name

**Chair's Name:** Full Name

**Chair's Email Address:** who@where

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.

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.).*

Executive Committee of this program will manage the activities.

**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* ([entity](#), [individual](#)), (b) *Abridged Industry Connections Activity Policies and Procedures* ([entity](#), [individual](#)), (c) Standards Committee policies and procedures accepted by the IEEE SA Standards Board, or (d) Working Group policies and procedures accepted by the Working Group’s Standards Committee. If option (a) is chosen, then ICom review and approval of the P&P is required. If option (c) or (d) is chosen, then ICom approval of the use of the P&P is required.

Option (b) Abridged IC Activity Policies and Procedures.

**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.

Service Providers, Semiconductor Manufacturers, Original Equipment Manufacturers (OEMs), Original Design Manufacturers (ODMs), DMS Telcos, Technology Providers, Academia

**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.

~25 Individuals

**8.3 Initial Participants**

Provide a few 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 entity-based activity:

| Entity Name | Primary Contact Name | Additional Representatives |
|-------------|----------------------|----------------------------|
|             |                      |                            |

Use the following table for an individual-based activity:

| Individual Name       | Employer            | Affiliation         |
|-----------------------|---------------------|---------------------|
| James Barnebee        | AIM-E               | AIM-E               |
| Chad Boeckmann        | TrustMapp           | TrustMapp           |
| Savita Farooqui       | Sym Soft Solutions  | Sym Soft Solutions  |
| Prasana Joshi         | ATOS                | ATOS                |
| Vikas Malhotra        | WOPLLI Technologies | WOPLLI Technologies |
| Diana Kelley          | SecurityCurve       | SecurityCurve       |
| Sanjay Maljure        | CloudView Partners  | CloudView Partners  |
| Ajay Singh            | WOPLLI Technologies | WOPLLI Technologies |
| Gurpreet Singh Thathy | Valkyrie            | Valkyrie            |

|               |      |      |
|---------------|------|------|
| Puneet Wadhwa | NYSE | NYSE |
|               |      |      |
|               |      |      |

**8.4 Activity Supporter/Partner**

Indicate whether an IEEE committee (including IEEE Societies and Technical Councils), other than the Oversight Committee, has agreed to participate or support this activity. Support may include, but is not limited to, financial support, marketing support and other ways to help the Activity complete its deliverables.

**Has an IEEE Committee, other than the Oversight Committee, agreed to support this activity?**

No

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

**IEEE Committee Name:** Committee Name

**Chair's Name:** Full Name

**Chair's Email Address:** who@where

Please indicate if you are including a letter of support from the IEEE Committee.