

A network diagram background consisting of numerous yellow circular nodes connected by thin blue lines, set against a dark blue gradient background.

LF Edge TAC Technical Advisory Council

20 May 2020

 THE **LINUX** FOUNDATION

 **LF** EDGE

Meeting Details

- › May 20, 2020 (@ 7:00am PDT)
- › Meeting Info:
 - › Join Zoom Meeting
 - › <https://zoom.us/j/286673048>
 - ›
 - › One tap mobile
 - › +16699006833,,286673048# US (San Jose)
 - › +16465588656,,286673048# US (New York)
 - ›
 - › Dial by your location
 - › +1 669 900 6833 US (San Jose)
 - › +1 646 558 8656 US (New York)
 - › +1 855 880 1246 US Toll-free
 - › +1 877 369 0926 US Toll-free
 - › Meeting ID: 286 673 048
 - › Find your local number: <https://zoom.us/u/aeeh8taqXU>

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LF Edge TAC

Project/Member	Representative	Named Alternate	Project/Member	Representative	Named Alternate
Altran	Shamik Mishra	Nilanjan Samajdar	GE Research	Joel Markham	James Ward
Arm	Reed Hinkel	Tina Tsou	HP Inc.	Henry Lau	
AT&T	Kandan Kathirvel		HPE	Rodney Richter	Arun Thulasi
Baidu	Leding Li		Huawei	JianGuo Zeng	Gabriel Yuyang
Charter	Mohammad Zebetian		IBM	Joseph Pearson	Ryan Anderson
Dell	Trevor Conn	Sean McGinnis	Intel	Jim St. Leger (TAC Chair)	Emad Attia
Dianomic	Bill Hunt	Tom Arthur	Inwinstack	Thor Chin	
Equinix	Justin Dustzadeh		Juniper	Sukhdev Kapur	Randy Bias
Ericsson	Torbjörn Keisu	Andrew Wilkinson	MobileEdgeX	Vikram Siwach	
Fujitsu	Hatsumi Iino	Toshimichi Fukuda	Netsia	Mahir Gunyel	
Futurewei	Chaker Al-Hakim	Jane Shen	Nokia	Tapio Tallgren	

LF Edge TAC

Project/ Member	Representative	Named Alternate	Project/ Member	Representative	Named Alternate
NTT	Takeshi Kuwahara		Akraino	Kandan Kathirvel	Tina Tsou
OSIssoft	Daniel Lazaro		EdgeX Foundry	Jim White	Keith Steele
Qualcomm	Lisa Lammens				
Radisys	Adnan Saleem	Prakash Siva			
Red Hat	Frank Zdarsky				
Samsung	Myeonggi Jeong	Chi-Hyun Cho			
Seagate	Matt Shumway				
Tencent	Yachen Wang	Wei Chen			
Wind River	Glenn Seiler				
Wipro	Subhas Mondal				
ZEDEDA	Erik Nordmark	Roman Shaposhnik			

Topics

1. Project Proposal - Subgroup Readout: Secure Device Onboard
2. TAC Architecture Working Group Update
3. Annual Review Process
4. Southbound Device Connectivity
5. Upcoming Events
6. Next Meeting

Project Proposal - Subgroup Readout: Secure Device Onboard

Proposal: Secure Device Onboard

- › Proposal: <https://wiki.lfedge.org/display/LE/Secure+Device+Onboard>
- › Timeline/Next Steps ([Process](#)):
 - › Friday, March 6, 2020: Proposal emailed to TAC
 - › Wednesday, May 6: TAC Presentation
 - › --2 Week Review Period (ending Wednesday, May 20)
 - › Wednesday, May 13: TAC Subgroup Review - [Notes](#) / [Recording](#)
 - › **Today** - TAC Subgroup Readout / Vote initiated over email

Proposal: Secure Device Onboard - TAC Subgroup Readout (1 of 2)

Recommendation to Accept Secure Device Onboard at Stage 1

The TAC Project Review Subgroup for Secure Device Onboard recently met (May 13, 2020) to review the request of the Secure Device Onboard (SDO) project to enter Stage 1, At Large Projects within LF Edge.

As a matter of formality, the project meets the expectations of the TAC as set for in Project Lifecycle Document for Stage 1 projects (as set forth here) and should therefore be accepted as an LF Edge Stage 1 project. Specifically, SDO has:

- › 2 TAC sponsors (Joe Pearson and Jim St. Leger)
- › Has presented the project at the TAC (See meeting minutes and presentation deck for May 6 TAC meeting at [this location](#))
- › Apache 2.0 IP policy in place for all code and associated project works (<https://github.com/open-horizon/anax/blob/master/LICENSE.txt>)
- › Intention to list their status prominently on a project website (location of the website to be determined).

Beyond the formality of the acceptance criteria, there are several additional reasons why the SDO project should be accepted.

To the best of my understanding, SDO offers a set of capabilities that aren't fully addressed in any of the existing LF Edge Projects; which is how to securely onboard IOT devices on a larger scale to an Edge infrastructure. SDO is not only an open software platform but is also a well defined and secure process for a large-scale device deployment. In Summary, "Secure Device Onboard (SDO) is an automated "Zero-Touch" onboarding service. To more securely and automatically onboard and provision a device on edge hardware, it only needs to be drop shipped to the point of installation, connected to the network and powered up. SDO does the rest. This zero-touch model simplifies the installer's role, reduces costs and eliminates poor security practices, such as shipping, default passwords etc.". in addition, the SDO functionalities will compliment many of the Edge capabilities that are supported by the current set of LF Edge projects.

Proposal: Secure Device Onboard - TAC Subgroup Readout (2 of 2)

One of the primary objectives of Secure Device Onboard is to automate the large-scale deployment of IOT devices. To achieve this goal, a cross-industry collaboration of device manufacturers; distributors; systems integrators; cloud service providers and device management software vendors is required to accelerate adoption. The Linux Foundation is the ideal organization to facilitate this collaboration and accelerate adoption of this important technology. Secure Device Onboard will help accelerate adoption of devices into Home and Industrial ecosystems, helping drive the need for all of the current projects in the LF Edge community.

In addition, the Integration with FLEDGE enabled devices could simplify the production process and installation of newly manufactured devices.

Secure Device Onboard was released as open source software by Intel Corporation in February 2020, based on Intel® SDO Version 1.7. The original SDO project was launched in September 2017 as a stand-alone product reflecting the original SDO protocol and architecture specifications. With the complex ecosystem needed for success of this product. The main goal for open sourcing the core functions of SDO to the community was to drive an industry standard, resolve key industry friction points, and allow the IOT market to grow faster. Open sourcing under the LF Edge vibrant ecosystem will allow SDO to evolve into a true industry standard.

On behalf of the of the SDO subgroup, we recommend the TAC vote to accept Secure Device Onboarding (SDO) as a Stage 1 LF Edge Project.

TAC Architecture Working Group Update

TAC Update - Architecture Working Group

1. Whitepaper undergoing final clean-up with technical writer and creative services before publishing
2. Achievements include:
 - a. Edge definitions and abstractions harmonized in depth attribute analysis
 - b. Main Diagram Harmonized Taxonomy and contributing projects elevated across edge
 - c. Service provider edge and enterprise edge technical evolution based on cloud native tech
 - d. Market verticals defined for pursuit of end user stories
 - e. Cleaned up wiki links with cross project collaboration

Annual Review Process

Annual Review Process

1. The TAC shall develop an Annual Review process to determine whether projects are in the stage that accurately reflects their needs and goals. If a project is determined to be out of place, the TAC shall provide guidance to the project in the form of recommendations towards resolving the situation. ([reference](#))

2. EVE, Home Edge, State of the Edge last reviewed 5/21/19 (when placed at Stage 2) ([reference](#))
 - a. Akraino and EdgeX were reviewed as part of their Stage 3 application(s)

3. **Status Update:** Subgroup formed to draft the Annual Review Process
 - a. Volunteers from the TAC requested to help draft (existing Projects especially encouraged to participate)
 - b. Subgroup agreed to start by defining 3 things:
 - i. **Goal(s).** What do we want as an outcome of the Annual Review process.
 - ii. **Criteria.** Define the criteria that will be used for the Annual Review process.
 - iii. **Process.** Define the process that will be used to apply the criteria against a project under the Annual Review
 - c. Email bpreston@linuxfoundation.org to be added to recurring meeting invite (invite will also be posted to the TAC mail list calendar.) All are welcome to participate!

Southbound Device Connectivity

Southbound Device Connectivity

- › LF Edge Goal: encourage project harmonization and interoperability
- › **Status Update:** Subgroup formed to initiate discussion
 - › Meeting held on May 14
 - › Meeting Summary
 - i. We did not have full participation from all involved parties
 - ii. We do not have agreement on collaboration or harmonization areas
 - › some items proposed, but no consensus
 - iii. We had limited consensus on solutions in areas outside the discussion scope:
 - › key management
 - › device onboarding - SDO?
 - › attestation
 - › **Next Steps?**

Upcoming Events

Upcoming External Events

- › [Open Source Summit North America](#): 29 June - 2 July, 2020 - Virtual
 - › [IIOT World](#): 30 June - 1 July, 2020 - Virtual
 - › Arpit Joshipura: "Uniting the Edge for Tomorrow's Demands."
 - › Jim White: "Using Open Source Technology to Manage IoT/Edge Solutions."
 - › [Open Source Summit Japan](#): 15-16 September, 2020 - Tokyo, Japan
 - › CFP Open: <https://events.linuxfoundation.org/open-source-summit-japan/program/cfp/>
 - › [Open Networking & Edge Summit North America](#): 28-29 September, 2020 - Los Angeles, CA
 - › [ONES Unconference Track](#)
 - › [Open Source Summit Europe](#): 26-28 October, 2020 - Dublin, Ireland
 - › CFP Open: <https://events.linuxfoundation.org/open-source-summit-europe/program/cfp/>
 - › [Open Networking & Edge Summit Europe](#): TBD Q4, 2020 - Antwerp, Belgium
 - › CFP Open:
<https://events.linuxfoundation.org/open-networking-edge-summit-europe/program/cfp/>
 - › [IoT Solutions World Congress](#): 11-13 May, 2021 - Barcelona, Spain
-
- › Discussions around upcoming events occur in the LF Edge Outreach Committee
 - › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>

LF Edge Webinar Series

- › Project EVE
 - › [Building the “Android of the IoT Edge”](#)
 - › Scheduled for **Friday, May 29**
 - › Register at: https://zoom.us/webinar/register/6415888722675/WN_35oZI3hrQE69snMaiJUTPg

- › Akraino Edge Stack
 - › [Your Path to Edge Computing with Akraino Edge Stack](#)
 - › Held Thursday, April 2
 - › On-demand recording available at: https://zoom.us/webinar/register/WN_Zjdo4-5fTOSIqH7pL8iHrQ

- › EdgeX Foundry
 - › [EdgeX Foundry 101: Intro, Roadmap and Use Cases](#)
 - › Held Thursday, April 23
 - › On-demand recording available at:
https://zoom.us/webinar/register/4515850788014/WN_xCd6YPjEOrCwLiFhBWPKug

- › More to follow...

Linux Foundation edX Course

- › Business Considerations for Edge Computing:
<https://www.edx.org/course/business-considerations-for-edge-computing>
- › Additional Course targeted to EdgeX Foundry scheduled for launch in June

Next Meeting

Next Meeting

- › Next Meeting: Wednesday, June 3 @ 7am PDT

Thank You

Resources

Project Resources: Getting Started Checklist

1. <https://wiki.lfedge.org/display/LE/Technical+Project+Getting+Started+Checklist>
2. Best Practices Guide for new, and existing, LF Edge Projects to define/refine/enhance their Project Management
3. Will be sent to Project TSC Leads for additional input / examples
4. Welcome feedback in the TAC as well

LF Edge TAC - Focus Areas for 2020

Target areas identified for the TAC to direct focus, beyond PLD/Project Review

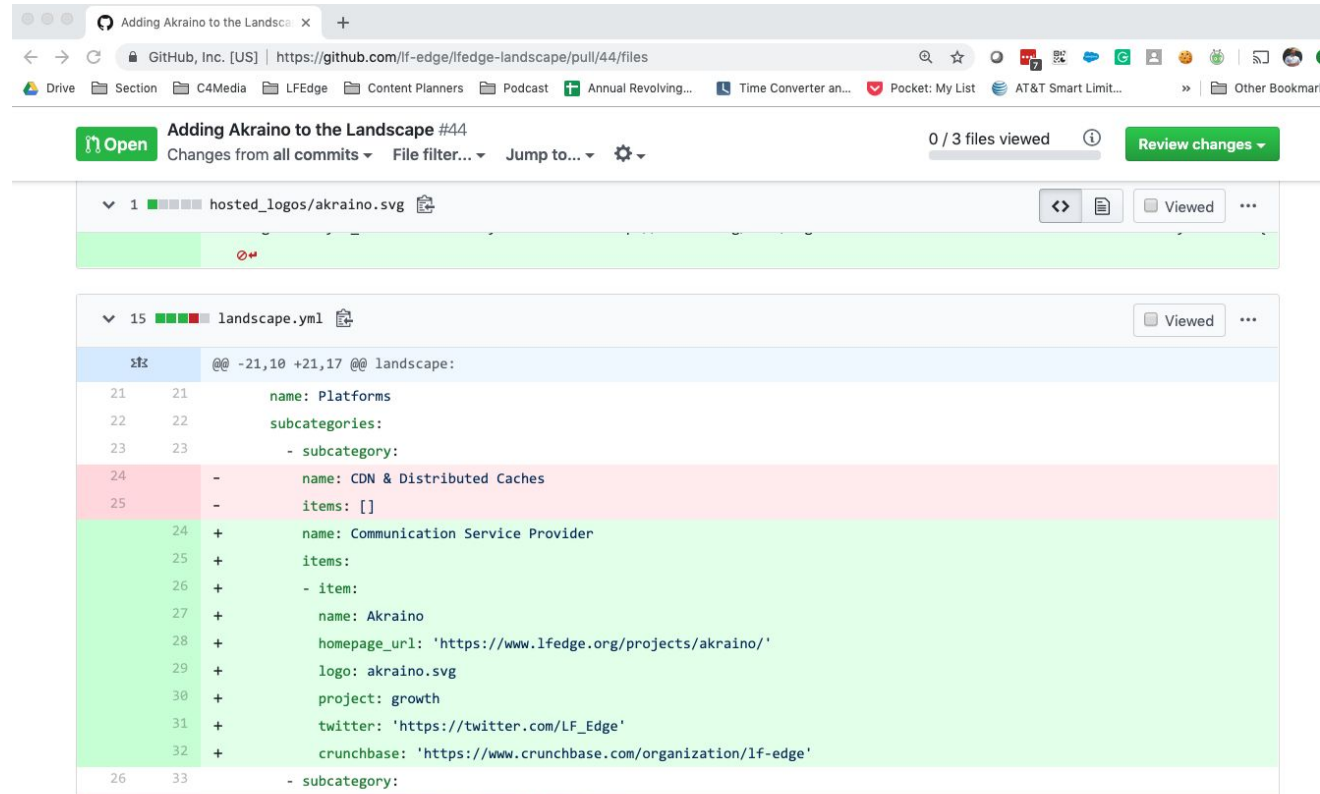
- 1. Architecture (Tech > LF Edge) - Output: TBD (White paper?)**
2. APIs Document, Align and Publish
3. SDO/Consortiums expansion
- 4. Forcing function - Use Case or Deployment > Demo across all projects**
5. Technical overlap/unification
6. Cross Project Collaboration
7. IT Efficiencies

Out of Scope for the TAC (for now)

1. Vertical Solutions (End User / SIG Program)
 - a. At Board/SPC level

Glossary Project: Landscape WG Updates

- › **Submit a PR** with (Category/Subcategory, name, homepage, logo (svg), twitter, crunchbase, stage (if applicable) or open an Issue with the same information.
 - › Fork repo at <https://github.com/State-of-the-Edge/lfedge-landscape>
 - › Update landscape.yml
 - › Submit a PR
- › Open an issue if a category doesn't match or work



The screenshot shows a GitHub pull request titled "Adding Akraino to the Landscape #44". The changes are in the file "landscape.yml". The diff shows the following changes:

```
@@ -21,10 +21,17 @@ landscape:
 21 21     name: Platforms
 22 22     subcategories:
 23 23     - subcategory:
 24 -       name: CDN & Distributed Caches
 25 -       items: []
 24 +       name: Communication Service Provider
 25 +       items:
 26 +       - item:
 27 +         name: Akraino
 28 +         homepage_url: 'https://www.lfedge.org/projects/akraino/'
 29 +         logo: akraino.svg
 30 +         project: growth
 31 +         twitter: 'https://twitter.com/LF_Edge'
 32 +         crunchbase: 'https://www.crunchbase.com/organization/lf-edge'
 26 33     - subcategory:
```

LF Edge TAC Projects / PLD Update - Pipeline

Note: Projects listed below have indicated some level of interest since Project Launch.

- › Coaty (Siemens) (*invited August 21, 2019; targeting Q1*)
- › Flogo (Tibco)
- › Open19 (via Vapor.io)
- › Wormhole (OSS name Flowgate)
- › Rafay (Rafay Systems)
- › Project Sandstar (Anka Labs, Inc.)
- › Synse (Vapor.io)
- › Cisco IoT/Agribusiness OS Project (Cisco)
- › infinimesh (infinimesh)