06/20/2022 LF Edge Community Workshop

https://events.linuxfoundation.org/open-source-summit-north-america/features/co-located-events/#lf-edge-community-workshop

https://www.lfedge.org/event/lf-edge-community-workshop-open-source-summit-north-america/

Recording from Workshop: https://youtu.be/GpSq1kgTTMg

LF EDGE COMMUNITY WORKSHOP

Monday, June 20 | 2:00pm – 5:30pm CDT

Location: Room 310/311 (Level 3), JW Marriott Austin + Virtual
Registration Cost: $10

LF Edge is an umbrella organization that facilitates an open, interoperable framework for edge computing independent of hardware, silicon, cloud, or operating system. By bringing together industry leaders, LF Edge hosts a common framework for hardware and software standards and best practices critical to sustaining current and future generations of IoT and edge devices. Fostering collaboration and innovation across multiple industries—including industrial manufacturing, cities and government, energy, transportation, retail, home and building automation, automotive, logistics and health care — that stand to be transformed by edge computing, LF Edge enables a unified community for open source edge computing. Join the workshop to learn more about the future of open edge computing.

Discussion topics include:

- Project overviews
- End-to-end technology Showcase
- Mentorship program
- Developer badging and awards

Agenda & Presentation Files

https://docs.google.com/document/d/10eHDneIZVyr-KUQp33gw8ZwEhEq7oz4-CTDIkQzt3tA/edit?usp=sharing

1. Opening Remarks 2:00 - 2:10 pm

Speaker: Arpit Joshipura, ajoshipura@linuxfoundation.org



2. LF Edge Welcome & Intro (Why Edge) 2:10 - 2:20 pm

Speaker: Tina Tsou tina.tsou@arm.com



3. Technical Session I (Lightning Talks) 2:20 - 3:40 pm (10 minutes/ speaker)

a. Akraino 2:20 - 2:30

Speakers: @jeff brower Jeff Brower <jbrower@signalogic.com>



b. Alvarium 2:30 - 2:40

Speakers: Mathew Yarger <mathew.yarger@iota.org>



c. EdgeX Foundry 2:40 - 2:50

Speakers: Jim White <jim@iotechsys.com>



d. EVE 2:50 - 3:00

Speakers: Kathy Giori <kathy@zededa.com>



e. Fledge 3:00 - 3:10

Speakers: David Rodriguez <David.Rodriguez@edf-re.com>

f. Home Edge 3:10 - 3:20

Speakers: Suresh <suresh.lc@samsung.com>



g. Fido Device Onboard 3:20 - 3:30

Speakers: Randy Templeton <randall.f.templeton@intel.com>



h. ETSI / Linux Foundation Edge Hackathon @ the Edge Computing World 3:30 - 3:40

Speakers: Robert Gazda <robert.gazda@interdigital.com>



4. LF Edge Synergy I

a. E2E Showcase (note - content to be featured on a forthcoming “Showcase” page on the LF Edge website) 3:40 - 3:55

- **LF Edge Cross Project Collaboration (Upstream project EdgeGallery + LF Edge Fledge + eKuiper + Akraino)**



Speakers: khemendra kumar <khemendra.kumar13@gmail.com>

- **Robotics 3:55 - 4:10**

Speakers: Fukano Haruhisa <fukano.haruhisa@fujitsu.com>, Inoue Reo<inoue.reo@fujitsu.com> Jeff Brower <jbrower@signalogic.com>

Enterprise robotics use cases in manufacturing, production, agriculture, and retail are emerging rapidly due to macro economic pressures, including cost of labor, manpower shortages, and legal/liability issues. In these use cases, functionality is most important, followed by reduced SWaP (size, weight, and power consumption), employee safety, data privacy, and cloud independence. To achieve these objectives requires progress in key areas of underlying robotics technology:

Fusion of sensor touch and tactile data, combined with AI in order to handle objects of various shapes and friction coefficients, and in variable circumstances

Computer vision. In addition to detecting and recognizing people, enterprise robots also must identify dangerous situations, for example leaning or unstable objects (such as a leaning pallet in a warehouse), incorrect lighting, slippery floors, foreign objects on a conveyor belt, etc.

Speech recognition. First and foremost, enterprise robots need to recognize "immediate and urgent" voice commands in order to prioritize human safety; for example if someone shouts "Stop Now" the robot must stop - regardless of who is the speaker, level of background noise, or other circumstance. Second, enterprise robots need to accept verbal instructions, rather than programming interfaces (e.g. keyboard, app) inconvenient for rugged, wet, and fast-paced environments

Data privacy. Enterprise operations do not trust public clouds with video and audio that may contain sensitive and/or proprietary information. Training for deep learning purposes must be handled on-premise or otherwise trusted manner





- **Clean Energy 4:10 - 4:30**

Speakers: Mathew Yarger, Kathy Giori

The growth in edge solutions has created a seismic shift in the ability to have a detailed understanding of data such as; where it comes from, who has access to it, how it's been processed, and how it can be trusted. By combining edge solutions with scalable and efficient distributed ledger technologies, this level of understanding also comes with a high level of transparency which can provide a new level of confidence in how things are monitored, measured, reported, verified and utilized by applications. Project Alvarium has taken these technologies and created novel data confidence fabrics that allow all stakeholders to have up to date data that can be measured, annotated and disseminated efficiently, while also quantifying the confidence in the data based on built in methodologies that are being standardized by the industries the capabilities are being piloted with. In this use case, Alvarium has utilized the IOTA Tangle to provide transparency in the monitoring, reporting and verification process of clean energy solutions with support of partners ClimateCHECK, Dell Technologies, and Environment and Climate Change Canada (Canadian Government). This use case enables real time confidence in good and clean data, while also signifying which data is more inclined to be faulty through a lower confidence score. This helps to combat garbage data in problems while addressing concerns of greenwashing, and ensuring that innovations in clean energy are accurately reporting the impact they're creating.



- **DevOps MEC Infra Orchestration 4:30 - 4:45 pm**

Speakers: Oleg Berzin oberzin@equinix.com

Public Cloud Edge Interface (PCEI) enables infrastructure orchestration and cloud native application deployment across public clouds (core and edge), edge clouds, interconnection providers and network operators. The notable innovations in PCEI are the integration of Terraform as a microservice to enable DevOps driven Infrastructure-as-Code provisioning of edge cloud resources (bare metal servers, operating systems, networking) public cloud IaaS/SaaS resources, private and public interconnection between edge cloud and public cloud, integration of Ansible as a microservice to enable automation of configuration of infrastructure resources (e.g., servers) and deployment of Kubernetes and its critical components (e.g., CNIs) on the edge cloud, and introduction of a workflow engine to manage the stages and parameter exchange for infrastructure orchestration and application deployment as part of a composable workflow. PCEI helps simplify the process of multi-domain infrastructure orchestration by enabling a uniform representation of diverse services, features, attributes, and APIs used in individual domains as resources and data in the code that can be written by developers and executed by the orchestrator, effectively making the infrastructure orchestration across multiple domains DevOps-driven.

Multimedia File MEC-TECH-SERIES_epN - DevOps MEC Infra Orchestration v0.4.mp4

5. Technical Session II (Lightning Talks) 4:45 - 5:15 pm (10 minutes/ speaker)

i. Open Horizon 4:45 - 4:55 pm

Speakers: Glen Darling <glendarling@us.ibm.com>



j. Baetyl 4:55 - 5:05 pm

Speakers: Leding Li <lileding@baidu.com>



k. eKuiper 5:05 - 5:15 pm

Speakers: JiYong Huang <huangjy@emqx.io>



6. LF Edge Synergy II

b. Mentorship Program 5:15 - 5:25 pm

Speakers: Biswajit De hibisu2006@gmail.com



c. Award proposal 5:25 - 5:35 pm

Speaker: Feng Yang <fengfyang@tencent.com>



Participants who attend LF Edge workshop in person, but not attend the rest of OSS in person.

They need help on badge. Jill Lovato

Jeff Brower <jbrower@signalogic.com>

Daniil Egranov <daniil.egranov@arm.com>

Jason Shepherd

Zoom Link for participants

Here is the Zoom link for the Workshop registration: https://zoom.us/webinar/register/WN_a-hKKGIJSKGorzAqiyoQBw