Open Horizon

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Today’s Agenda

1. Welcome Open Horizon’s 3rd Mentorship Cohort and Introductions

2. Schedule and Housekeeping
   A. Schedule, Evaluations, Mentors
   B. Communication and tools
   C. Meetings
   D. Mentorship projects and goals

3. LF Edge and Open Horizon

4. Project code and non-project code

5. Q & A
Introductions
Open Horizon’s Third Mentorship Cohort

**LFX Mentorship**

**Mentors**
- Jon McGuire (mcgj)

**Mentees**
- Anushree Sabnis
- Unnati Chhabra

**IBM JumpStart**

**Mentors**
- Joe Pearson (joe)
- ???

**Mentees**
- Ben Zimmerman
- Eli Latocki
- Marhababanu Chariwala
- Vineeth Vijayan

**RPI – RCOS**

**Mentors**
- Glen Darling (mosquito)
- Joe Pearson (joe)

**Mentees**
- TBD
Spring 2021 Term Graduates

Debabrata Mandal (Deb)

Megha Varshney

Mustafa Altekreeti

Quang Hiệp Mai (Mike)
Fall 2020 Term Graduates

Clement Ng

Anukriti Jain

Edidiong Etuk (Eddie)

Han Gao
Housekeeping
LFX Mentorship Schedule and Milestones

› September 1 – Fall 2021 Term begins
› Week 3, September 22
  › Mentors conduct first evaluation
› Week 9, November 3
  › Mentors conduct second and final evaluation
› Week 12, November 30
  › Mentorship officially concludes
› Week 13, December
  › Project issues digital certificate of completion
  › Project marks mentees as graduated
Communications and Tools

› LF Edge provides:
  › Matrix chat server (use Element chat client or similar)
  › Groups.io mailing list and calendar
  › Paid Zoom videoconferencing for calls, meetings, and webinars
  › Confluence Wiki for the project
  › Edge Computing Lab for scheduled testing on physical devices
  › CD/CD and DevOps tools and infrastructure and accounts
  › Marketing and social media support and accounts

› All else is up to us
Meetings and Goals

› You’ll meet personally with your mentor at the agreed-to cadence
  › Each is different

› You’ll want to attend your Working Group (or SIG) meetings and participate there and in the relevant chat rooms
  › You may also need to attend other relevant WG meetings if applicable

› Your mentor will communicate your goals for this term
  › You may publish them on the wiki
  › The goals are aspirational and might not be completed within the term
LF Edge and Open Horizon
Introduction to Open Horizon (stage two LF Edge project)

Open Horizon is an application and metadata delivery and management platform. It provides an intent-based policy mechanism to securely and autonomously deliver containerized workloads to edge compute nodes of varying sizes and capabilities and in various connected states.

It allows workload and ML model management across fleets at hyperscale, from a single Linux device or Kubernetes cluster to deployments of 30,000 nodes or greater, without requiring on-premises administration.

Open Horizon helps Enterprises reduce costs by providing remote and autonomous application lifecycle management.
Open Horizon consists of:

- **Management Hub**: where administrative operations are centralized
- **Edge Device Agent**: combined with container runtime
- **Edge Cluster Agent**: combined with OCP Kube platform

For managing the Edge
The Main Open Horizon Components

**Edge Node**
- OH Agent
  - Docker
  - Kubernetes

**Central**
- OH Management Hub
  - Kubernetes

**Node Agent**
- Register Node
- Negotiate Agreements
- Model Synchronization
- Monitor Agreement Conditions

**Switchboard**
- P2P Messaging Service
- Encrypted
- Incapable of Eavesdropping

**Exchange**
- Edge Node Registration
- Service Publication
- Status Queries

**Agreement Bot (AgBot)**
- Negotiate Agreements
- Policy-based Placement
- Set agreement status

**Model Manager**
- Model Synchronization

**System State**

**Model Repository**
Project Organization Structure

Legend
- Initiates or Creates
- Voted by WG
- Approved by TSC Vote
- Users
- Contributors
- Maintainers
- Partners

Diagram:
- TSC Chair
- TSC
  - Working Groups
  - Sub-groups
  - SIGs
Project Efforts and Relationships

EXF Project

SDO Project

ORRA

Open Horizon Edge Ecosystem

Partners

Intel

IBM

HP Inc

Red Hat

SoftServe

IOTech

Beechwoods

Mfg SIG

Smart Ag SIG

Open Horizon Project
Umbrella Organizations & Open Horizon Edge Interests

The Linux Foundation
- LFN
- LF Edge
  - Open Horizon project
  - IBM, Red Hat, Intel, EdgeX TAC Sponsors
- LFAI
  - DataOps Committee
  - IBM Liaison
- CNCF
  - Akraino
  - SDO
    - IBM TAC Sponsor, TSC
  - EdgeX Foundry
    - IBM TAC Sponsor
  - Fledge
  - Home Edge
  - EVE

The Eclipse Foundation
- Edge IoT
  - Edge Native WG
  - Kura project

Industrial Internet Consortium
Official Project Code
Official Project Repos

Official Project Code:
› github.com/open-horizon
› github.com/open-horizon-services

Unofficial
› Personal github repos
› Forked repos