# EDGEXFOUNDRY™

## TSC Meeting

July 10th, 2024

# Antitrust Policy Notice

- Linux Foundation meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.

- Examples of types of actions that are prohibited at Linux Foundation meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at http://www.linuxfoundation.org/antitrust-policy. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Updegrove LLP, which provides legal counsel to the Linux Foundation.

# Meeting Logistics

Time: Wednesdays 8am- 9am Pacific Time (Alternate Weeks)

Join from PC, Mac, Linux, iOS or Android: https://zoom.us/j/983155298

Or iPhone one-tap (US Toll):  +14086380968,983155298# or +16465588656,983155298#

Or Telephone:

Dial: +1 408 638 0968 (US Toll) or +1 646 558 8656 (US Toll)

+1 855 880 1246 (US Toll Free)

+1 877 369 0926 (US Toll Free)

Meeting ID: 983 155 298

International numbers available: https://zoom.us/zoomconference?m=mkFexUxEcqHlvXHw53PqScTDRvS48PiQ

** TSC calls are recorded and added to Wiki post-call

# EdgeX TSC Members

**Working Group Chairs:**

| | | |
|---|---|---|
| • Cloud Tsai (IOTech) | cloud@iotechsys.com | Core & Test/QA WG Chair |
| • Lenny Goodell (Intel) | leonard.goodell@intel.com | Applications & Analytics WG Chair |
| • Lindsey Cheng (IOTech) | lindsey@iotechsys.com | Device Services WG Chair |
| • Ernesto Ojeda (Intel) | ernesto.ojeda@intel.com | Dev Ops WG Chair |

**At Large Members:**

- Farshid Tavakolizadeh (Canonical)
- Corey Mutter (Eaton)
- Elizabeth Lee (Intel)
- Melvin Sun (Intel)
- James Butcher (IOTech)
- Darryl Mocek (Oracle)

**Current quorum = 6 members**

*Note: Quorum for TSC meetings requires at least fifty percent of all voting members of the TSC to be present. The TSC may continue to meet if quorum is not met, but will be prevented from making any decisions at the meeting. Except as provided in Section 7.c. and 8.a, decisions by vote at a meeting require a majority vote of those in attendance, provided quorum is met. Decisions made by electronic vote without a meeting require a majority vote of all voting members of the TSC.*

# Today's Agenda

- Working Group Updates
- EdgeX 3.2 planning
- EdgeX TSC membership for 2024-2025
- LF discretionary funds for EdgeX
  - Website enhancements
  - LF Edge Day at LF Open Source Summit Europe

Work Group Updates

Chairs

# Working Group Chair Updates

- Around the working groups:
  - **Product Manager** - Cloud Tsai
  - **Applications** - Vacant
  - **Core** - Cloud Tsai (co-chair Melody Liu)
  - **Device Services** - Lindsey Cheng (co-chair Felix Ting)
  - **DevOps / Release Czar** - Cherry Wang
  - **Outreach and Marketing**
    - **Certification** -  Rodney Hess
    - **China Updates** - Melvin Sun
    - **LF Edge TAC** - Brad Corrion

# Product Manager - Odessa

### Icebox (1)
- Lite Builds (no security features) via Build Tags

### Backlog (3)
- **URIs For Files**
  - C services - **TBD**
- **OpenBao**
  - Initial alpha testing - DONE
  - <mark>GA release planned July 16th</mark>
  - Full testing with GA - TBD
- **Go 1.22 (Feb'24) and Alpine 3.19**
  - Released!!
    https://tip.golang.org/doc/go1.22

### In Progress (4)
- **Odessa Doc Refactoring**
  - Device Services
    - Device Commands - **DONE**
    - Device Definitions - **DONE**
    - Auto Events - **DONE**
    - BacNet - **TBD**
    - COAP - **TBD**
    - RFID LLRP - **TBD**
    - SNMP - **TBD**
    - Virtual - **TBD**
  - Refactor APIs Section - **TBD**
  - Refactor Security Section - **TBD**
  - Update EdgeX Diagram - **DONE**

- **Compiler flags to Strip Debug Info**
  - edgex-go - **DONE**
  - edgex-ui - **TBD**
  - App SDK and ASC - **DONE**
  - App LLRP & App Record Replay - **TBD**
  - Device SDK and Device Services used by TAF - **DONE**
  - Remaining Device Service - **TBD**

- **Zero Trust (OpenZiti)**
  - go-mod-core-contracts - **DONE**
  - go-mod-bootstrap - **DONE**
  - edgex-go - **DONE**
  - edgex-ui - **DONE**
  - ekuiper - **DONE**
  - edgex-compose - **WIP PR waiting for smoke test**
  - docs - <mark>**WIP**</mark>
  - edgex-helm - **TBD?**

- **Core Keeper - WIP**
  - go-mod-core-contracts - **DONE**
  - go-mod-registry - **DONE**
  - go-mod-configuration - **DONE**
  - edgex-go - <mark>**DONE**</mark>
  - edgex-compose - **TBD**
  - docs - **TBD**

# Applications WG Update

**Newly Completed (<mark>0</mark>)**

**Newly added (<mark>0</mark>)**

**WIP (0)**

**Done for Odessa (<mark>16</mark>)**

**Backlog (<mark>3</mark>)** https://github.com/orgs/edgexfoundry/projects/50/views/2

**ICE BOX (0)**

**Next**

- Compiler flags to Strip Debug Info
- Document Commands via MessageBus for App Services

**eKuiper**

- Latest is 1.12.7
    - https://github.com/lf-edge/ekuiper/releases/tag/1.12.7
- 1.13.0 releasing this week.
    - https://github.com/lf-edge/ekuiper/milestone/23
    - zero-trust will land in patch of 1.13

<mark>Project Board</mark>: https://github.com/orgs/edgexfoundry/projects/50/views/2

Next meeting **TBD**

# Application Services - Napa

## Functions (built into SDK)

- Add Tags
- Batch
- Compression (GZIP & ZLIB )
- Conversion (XML & JSON)
- EventWrapper
- Encryption (AES256)
- Export
  - MQTT
  - HTTP POST & PUT
- Filtering
  - By Profile Name
  - By Device Name
  - By Source Name
  - By Resource Name
- JSONLogic
- Set Response Data
- ToLineProtocol (transforms Metric DTO)

## Features

- Store and Forward
- Batch and Send
- Web Server
- Configurable App Service
- Vault Integration for Secrets
- MQTT Event  triggers
- Filter by Topics
- Custom Triggers
- Publish Topics and URL Placeholders
- Structure Custom Configuration
- ~~Background Publishing~~
- Direct Publish to MessageBus

- Received Topic
- Context Storage
- Service Metrics
- Clients
  - Logging, Event
  - Command
  - Device, DeviceService
  - DeviceProfile
  - Notification
  - Subscription
  - Registry

## Reference/Example App Services
(built on top of SDK)

**Released Services**
- App Service Configurable
- App RFID LLRP Inventory
- App Record and Replay

**Examples**
- Simple Filter
- Simple Filter and MQTT Export
- Simple Filter and HTTP Export
- Simple CBOR
- Cloud Export

- Cloud Event Transformation
- Secret Retrieval
- JsonLogic
- Send Command
- Convert & Publish
- Custom Target Type
- IBM Watson IoT (ASC Profile)
- Custom Trigger
- Influx DB & Flege Exports
- Camera Management

# Core WG Update (July 10 2024)

- ❖ TAF - Performance 1 test failed -*edgex.4 Ping Response Time.Ping Response Time.Measure the ping response time* [arm64 security mode only] - will look into this issue further
- ❖ Core/QA Progress
  - ➢ Core
    - ■ [Done] Add Core Keeper Service #4783 (although not integrated OpenZiti yet)
    - ■ [Done] Allow profileName to be empty string in Device #901
    - ■ [Done] Create ADR for performance test harness #1327 - Vote to come
    - ■ [WIP] [Core Metadata] Add "parent" field to Device objects #4769
    - ■ [WIP] [Zero Trust] Docs started #1351
  - ➢ QA
    - ■ [WIP] Add tests for core-keeper #899
    - ■ [Done] Allow profileName to be empty string in Device #900
- ❖ Note
  - ➢ Add Profile Scan API design in Device SDK: https://github.com/edgexfoundry/device-sdk-go/pull/1594

Next meeting: Tuesday July 23 2024 @ 5 PM Pacific Time

# OpenBao Project - No new updates

- Alpha release available: https://github.com/openbao/openbao/releases/tag/v2.0.0-alpha20240329
- Beta release available: https://github.com/openbao/openbao/releases/tag/v2.0.0-beta20240618
- GA release planned for July 16th
- EdgeX 3.2 to use OpenBao GA
    - Still requires documentation and more testing

---

- James is EdgeX contact for OpenBao and TSC member
- Alex Scheel (Kayfactor) voted as TSC Chair
- Project meetings are weekly (Thursday @ 8am Pacific Time for 30 mins)
- https://wiki.lfedge.org/display/OH/Hashicorp+Vault+Replacement+Feature+Design+Candidate
- Website: https://openbao.org/
- Docs: https://openbao.org/docs/

# Device Services WG Update (10 July 2024)

- **Completed issues**
  - device-usb-camera
    - [Done] Project aler9/rtsp-simple-server is now bluenviron/mediamtx [#272](#)

- **In progress issues**
  - device-sdk-go
    - Performance optimization: reduce the number of goroutine context switches [#1579](#)

Next meeting: Tuesday, July 16, 2024 @ 5 PM Pacific Time

# Device Services - current/coming (as of v3.1)

Open Source connectors:

- Modbus (TCP + RTU) in Go
- Virtual Device in Go
- SNMP in Go
- MQTT in Go
- BACnet (IP + MSTP) in C
- ONVIF Cameras in Go
- USB Cameras in Go
- REST in Go
- CoAP in C
- LLRP / RFID in Go
- GPIO in Go

Open Source connectors (Future):

- UART in Go
- Siemens S7 in Go

IOTech commercial connectors:

- Modbus (TCP + RTU)
- BACnet (IP + MSTP)
- OPC-UA
- BLE
- Zigbee
- GPS
- CAN  (+ J1939 Extensions)
- EtherCat
- EtherNet/IP
- Siemens S7
- PROFINET
- WebSockets
- MQTT
- REST
- ONVIF
- USB Cameras

# DevOps WG and Release Czar

- [V3.1.1 patch release](#) for resolving CVEs is done
- V3.2 Release Date is December 2024
    - James to arrange (re)planning call in next few weeks

# Outreach and EdgeX China Update

- As a Stage 3 LF project, EdgeX Foundry has "discretionary funds" available to utilize as we see fit
  - See later

EdgeX 3.2 Plan

# 3.2 Release Plan - Scheduled Dec 2024

- OpenBao - included to provide an alternative to Vault

- CoreKeeper - included to provide an alternative to Consul

- OpenZiti - integrated to provide zero trust distributed security

- Redis - changing to non OSS license

    - Replace with Valkey?

    - Provide Postgres as a more robust alternative (reliability, stability, redundancy, backups, etc)


- We are also evaluating the impact to the LTS supportability and possible need for an early new LTS release

- Due to the above, we will hold an EdgeX Planning Meeting for the revised EdgeX 3.2 release soon

    - Best to wait for the new TSC to be in place…

TSC 2024-2025

# Current Interest

- Current roles ended in June

- Disclaimer: all of the below are merely nominations or volunteers at this point. Will require TSC voting and (if necessary, elections) to approve

- Current recommendation/expectation is consolidate the 4 technical working groups to a single technical/architects WG

Voting TSC member nominations:

1. Cloud Tsai (IOTech)
2. James Butcher (IOTech)
3. Brad Corrion (IOTech)
4. Melvin Sun (Intel)
5. Corey Mutter (Eaton)
6. Jieke Choo (Yiqisoft)
7. Chirantan Ghosh (Schneider Electric)

Project roles nominations:

- TSC Chair – James (IOTech)
- Product Manager and Technical WG Chair – Cloud (IOTech)
- Technical WG co-chairs - Melody Liu and Felix Ting (IOTech)
- Release Czar – Cherry Wang (IOTech)
- LF TAC Rep – Brad Corrion (IOTech)
- China Rep – Melvin Sun (Intel)
- EdgeX Evangelist – Jackie Lee (Intel)

LF Discretionary Funds

# Discretionary Funds

- As a Stage 3 LF project, EdgeX Foundry has "discretionary funds" available to utilize as we see fit
  - Aim is to help the project grow and be sustainable
  - Up to $10,000 per year Jan-Dec, no rollover
  - English and Chinese website cost $3660.17 this year
  - Not planning EdgeX awards this year
  - Open to ideas and suggestions from the TSC for utilizing these funds - marketing, events, etc
  - **-> $6339.83 remaining for 2024**

# Website Enhancements

- Enhanced user experience
  - Masthead updates: improved first impression and perception of the website
  - Dynamic elements: Increased interactivity, more time spent on page
- Improved readability and accessibility
  - Optimised titles: better content hierarchy and easier to scan
  - Bold highlights and colour contrast: better emphasis and readability
- Elevated brand perception
  - Changing in diagram and title colours: strengthened brand identity and recognition
- Increased conversion potential (downloads)
  - Clear CTA buttons: improved visibility and easier access to download
  - Updated diagrams: clarified information for better understanding and decision-making

Initial analysis is done - see slides https://wiki.edgexfoundry.org/display/FA/2024+Meeting+Records

# Across the website

- Menu (different between the pages / move to drop down menu)
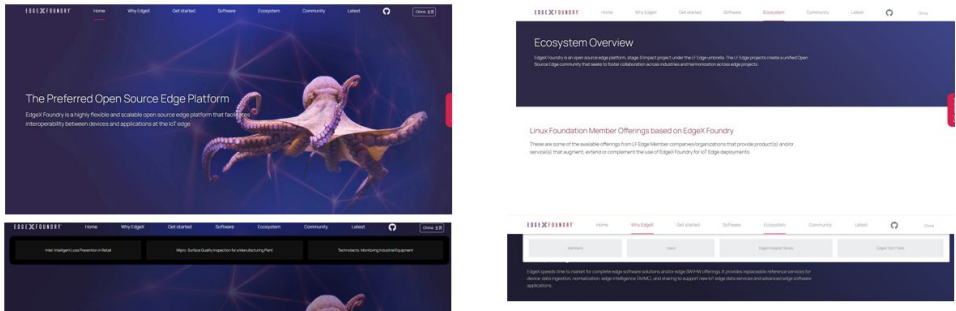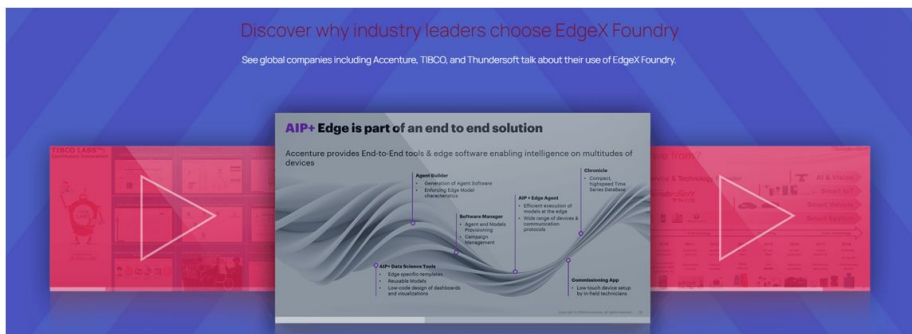


# Across the website

- Masthead update

- Add dynamic actions to the site (short videos/animation)
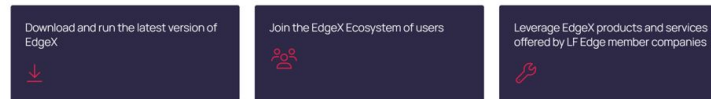- Button alignment /clear Call-to-action button
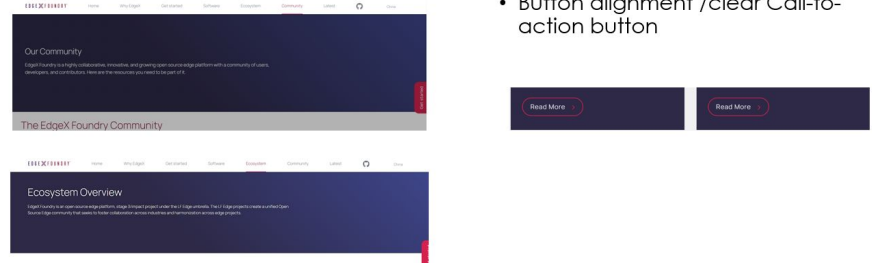


# Home page

**BLUE DIAGONAL LINES SECTION**
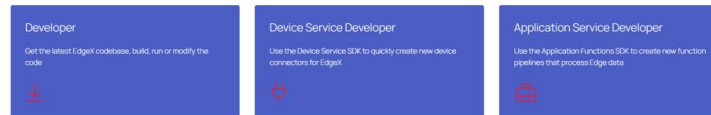


# Get started page

- Icons are getting lost, specially on the second row
- Align icons in the center
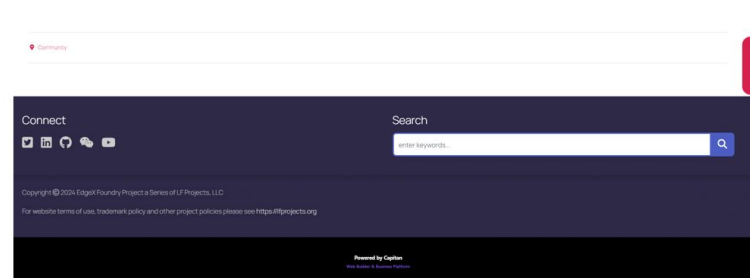- Explore to present in different way



# Why EdgeX? Page
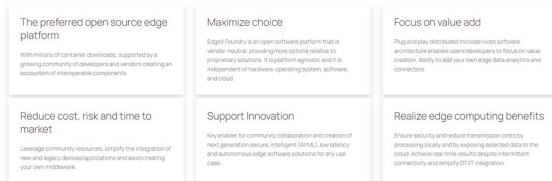


**WHY EDGEX? SECTION**
- Really static and plain
- Present in different way, like accordion, add colour, icons or small animation

- Search Bar location
- Powered by
- Location



edgexfoundry.org

# Website Enhancements: Practical Recommendations and Costs

| Front-End / Editable (Implemented by IOTech) | Back-End (Implemented by Capitan) |
|---|---|
| Masthead Update | Search Bar |
| Dynamic actions | Menu |
| Typography | Buttons |
| Colours | Colours |
| Why EdgeX? page | Grey segment |
| Diagrams | Location/ Powered by |
| Get started Page | Latest page |
| Ecosystem page | |
| Community page | |

- IOTech marketing team willing to implement the "Editable" changes (no cost)
- Capitan have quoted $965 for a 10 hour work block that would cover this. Would be invoiced directly to Linux Foundation
- <u>TSC vote needed to request LF Funds are used for this $965</u>

# Event - OSS Europe



OPEN SOURCE SUMMIT
EUROPE
THE LINUX FOUNDATION

16-18 SEPTEMBER 2024
VIENNA, AUSTRIA
#OSSUMMIT

**LF EDGE DAY**

**THURSDAY, 19 SEPTEMBER**

**Time:** 9:00 – 12:30
**Location:** Austria Center Vienna
**Registration Cost:** $10

LF Edge Day, a co-located event at Open Source Summit Europe, represents an exciting opportunity for developers, technologists, and community leaders engaged in the edge computing domain. This dedicated day aims to bring together the vibrant LF Edge community for a series of in-depth discussions, collaborative workshops, and insightful sessions focusing on the latest innovations, technologies, and trends in edge computing. By fostering an environment of collaboration and knowledge-sharing, LF Edge Day seeks to enhance the growth and sustainability of open source edge computing, making it an essential rendezvous for anyone looking to shape the future of this rapidly evolving field.

- Benefits of attending:
  - Access relevant audience
  - Brand exposure
  - Speaking opportunity
  - Connect with industry leaders
  - Generate interest and generate downloads
  - Gain feedback from attendees
- Proposal is for James to attend as TSC chair and speak at LF Edge Day
  - Presentation, demo, Q&A, etc. Session recorded for YouTube and published on social media
  - Event will be confirmed shortly
  - LF Funds would be expenses: Flight, Hotel, Event Ticket ($799), etc. Total circa $1500-2000

Thank You

edgexfoundry.org | @edgexfoundry