

EDGE X FOUNDRY™

TSC Meeting

Feb 7th, 2024

edgexfoundry.org |  @edgexfoundry



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 Updegrave of the firm of Gesmer Updegrave 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
- Odessa Deliveries Summary
- Miscellaneous





EDGE X FOUNDRY™

Work Group Updates

Chairs

Working Group Chair Updates

- Around the working groups:
 - **Product Manager** - Lenny Goodell
 - **Applications** - Lenny Goodell (co-chair Elizabeth Lee)
 - **Core** - Cloud Tsai (co-chair Melody Liu)
 - **Device Services** - Lindsey Cheng (co-chair Felix Ting)
 - **DevOps** - Ernesto Ojeda
 - **Release Czar** - Bill Mahoney
 - **Outreach and Marketing**
 - **Certification** - Rodney Hess
 - **China Updates** - Melvin Sun
 - **LF Edge TAC** - James Butcher (acting)



Product Manager (02/06/24) - Odessa

[Cross Cutting Issues](#)

Icebox (1)

- Lite Builds (no security features) via Build Tags

Backlog (3)

- **URIs For Files**
 - C services - **TBD**
- **OpenBao**
- **Go 1.22 (Feb'24) and Alpine 3.19**
 - **Waiting for Release**

In Progress (1)

- **Odessa Doc Refactoring**
 - Device Services
 - Device Commands - **DONE**
 - Device Definitions - **DONE**
 - Auto Events - **WIP PR**
 - BacNet - **TBD**
 - COAP - **TBD**
 - RFID LLRP - **TBD**
 - SNMP - **TBD**
 - Virtual - **TBD**
 - Refactor APIs Section - **TBD**
 - Refactor Security Section - **TBD**

- **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 - **WIP PR**
 - go-mod-bootstrap - **WIP PR**
 - edgex-go - **WIP PR**
 - edgex-ui - **WIP PR**
 - ekuiper - **WIP PR**
- **Core Keeper - WIP**
 - go-mod-core-contracts - **TBD**
 - go-mod-registry - **TBD**
 - go-mod-configuration - **TBD**
 - edgex-go - **TBD**

Done (0)

-



Applications WG Update (02/06/24) - Odessa

Newly Completed (7)

- feat: Add new StoreForwardQueueSize metric to common App services config #4751
- Trigger Store & Forward retry after successful send #1526
- feat: [App SDK] Document new TriggerRetryFailedData API #1328
- Got "duplicate metric" error after updating writable.telemetry.metrics.MqttExportSize #1537
- MqttExportSize metric stop to collect data after set the writable.telemetry.metrics.MqttExportSize=true #1540
- Config updates not detected properly causing pipeline to be rebuilt by default #1541
- fix: [Docs] Correct typos #1332

Newly added (1)

- App service MQTT question (no response to reply in 2 weeks)

WIP (0)

Done for Odessa (15)

Backlog (2) <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

- No update

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



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 (Feb 07 2024)

[Core/QA Project Board](#)

- TAF
 - Functional tests:
 - Non-Security **612** tests - All pass / Security **612** tests - All pass
 - Integration tests
 - Non-Security **132** tests - All pass / Security **135** tests - All pass
 - Performance tests:
 - Non-Security **10** tests - All pass / Security **10** tests - All pass
- Core Progress
 - Fixed some minor backlog issues
 - Create ADR for performance test harness [#1327](#) is ready for review
 - Add the latest version of core-keeper [#9](#) is ready for review
- Note
 - Cancel the meeting on Feb 14 and Feb 28 Due to holidays in Taiwan



Device Services WG Update (7 February 2024)

- **C Device SDK Bug fixes**

- Unable to parse `\"1\"` [#501](#)
- `iot_data_map_get: Assertion `map && key && (map->type == IOT_DATA_MAP)'` failed - [#504](#)

- **New S7 device service**

- Initial [PR](#) merged, request for approval from community to move to edgexfoundry repo



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 and 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 in C
- BACnet in C
- OPC-UA in C
- BLE in C
- Zigbee in C
- GPS in C
- CAN in C (+ J1939 Extensions)
- CANOpen in C
- EtherCat in C
- EtherNet/IP in C
- Siemens S7 in C
- PROFINET in C
- WebSockets in Go
- MQTT in Go
- REST in Go



OpenBao Update

- James acting as EdgeX contact for OpenBao
- TSC meeting every 2 weeks
 - Deciding home for the project (likely LF Edge at this point)
 - Nathan Phelps (IBM) voted as TSC Chair
- Sub-project meetings are weekly (Thursday @ 8am Pacific for 30 mins)
 - More technical in nature

<https://wiki.lfedge.org/display/OH/Hashicorp+Vault+Replacement+Feature+Design+Candidate>



DevOps WG - No Updates

Pipeline Related

- N/A

Other

- N/A

Next DevOps WG Meeting: Tuesday, February 13, 2024 @ 9AM PST



Release Czar

Napa (3.1)

- Release Date - 2023-11-15

Odessa (3.2)

- ~Spring 2024

EdgeX Release Process: <https://wiki.edgexfoundry.org/display/FA/Release+Checklist>

edgexfoundry.org |  [@edgexfoundry](https://twitter.com/edgexfoundry)



Outreach Update

Biweekly LF TAC meeting (ran just prior to this meeting)

- [FIDO Device Onboarding](#) voted by TAC to move to a Stage 2 LF Edge Project
- LF Events (calls for talks and attendees)
 - ONE Summit in San Jose CA, April 29-May 1st.
 - Open Source Summit North America, Seattle WA, April 16-18th
 - Open Source Summit Europe, Vienna Austria, Sep 16-18th
- Potential new project: Project AI Edge - Subgroup in progress



EdgeX China Update

EdgeX China community channels:

- Website: <https://cn.edgexfoundry.org/>
- OSChina: <https://www.oschina.net/group/edgex-foundry>
- CSDN: <https://blog.csdn.net/edgexfoundry>
- Zhihu: <https://www.zhihu.com/people/edgex-foundry>
- Bilibili: <https://space.bilibili.com/550595847>

- Alex Zhang (Intel) has now started as EdgeX Evangelist as voted on previously





EDGE X FOUNDRY™

Other Topics

Odessa Deliveries Summary

Theme / Title	In Scope	Priority	T-Shirt	Notes
Replace Hashicorp Consul with EdgeX-Core-Keeper WIP	✓	High	L	Work to update/review/approve core-edgex-keeper (code, docs, tests). Owner: IOTech and Eaton
Replace Hashicorp Vault with Open-Bao Monitoring	✓	High	S	Liaise with Open-Bao group for delivery timing but expecting to be drop-in replacement. Only docker-compose changes needed
Zero Trust / Secure Distributed EdgeX (OpenZiti Integration) WIP	✓	High	M/L	ADR (now approved). Impl largely by Clint
Continue EdgeX Documentation redesign WIP	✓	High	M/L	Device Services, Security and API section
URI for Files - Parity for C Device Services SDK	✓	High	S	Implementation is clear. Owner: Felix. Assistance and reference impl from Elizabeth (Go)
Modelling & Relationships – Virtual Device Resources	✓	Med	S	Limited to Device SDKs and Metadata. Owner: Eaton
Modelling & Relationships – Protocol Info in Device Definitions	✓ (UCR)	Med	S	UCR owner Oracle. ADR & Impl TBC
Modelling & Relationships – Device Functions	✓ (UCR)	Med	S	UCR owner Oracle. ADR & Impl TBC
Modelling & Relationships – Parent/Child Devices	✓ (STRETCH)	Low	S	Limited to Metadata. Owner: Eaton. Progress via attending Devices WG
Modelling & Relationships – Device Metadata in Provision Watchers	✓ (STRETCH)	Low	S/M	Limited to Device SDKs and Metadata. Owner: Eaton
NanoMQ – Add security to our NanoMQ option	✓ (STRETCH)	Low	S	Continue communication with EMQ team





EDGE X FOUNDRY™

Thank You