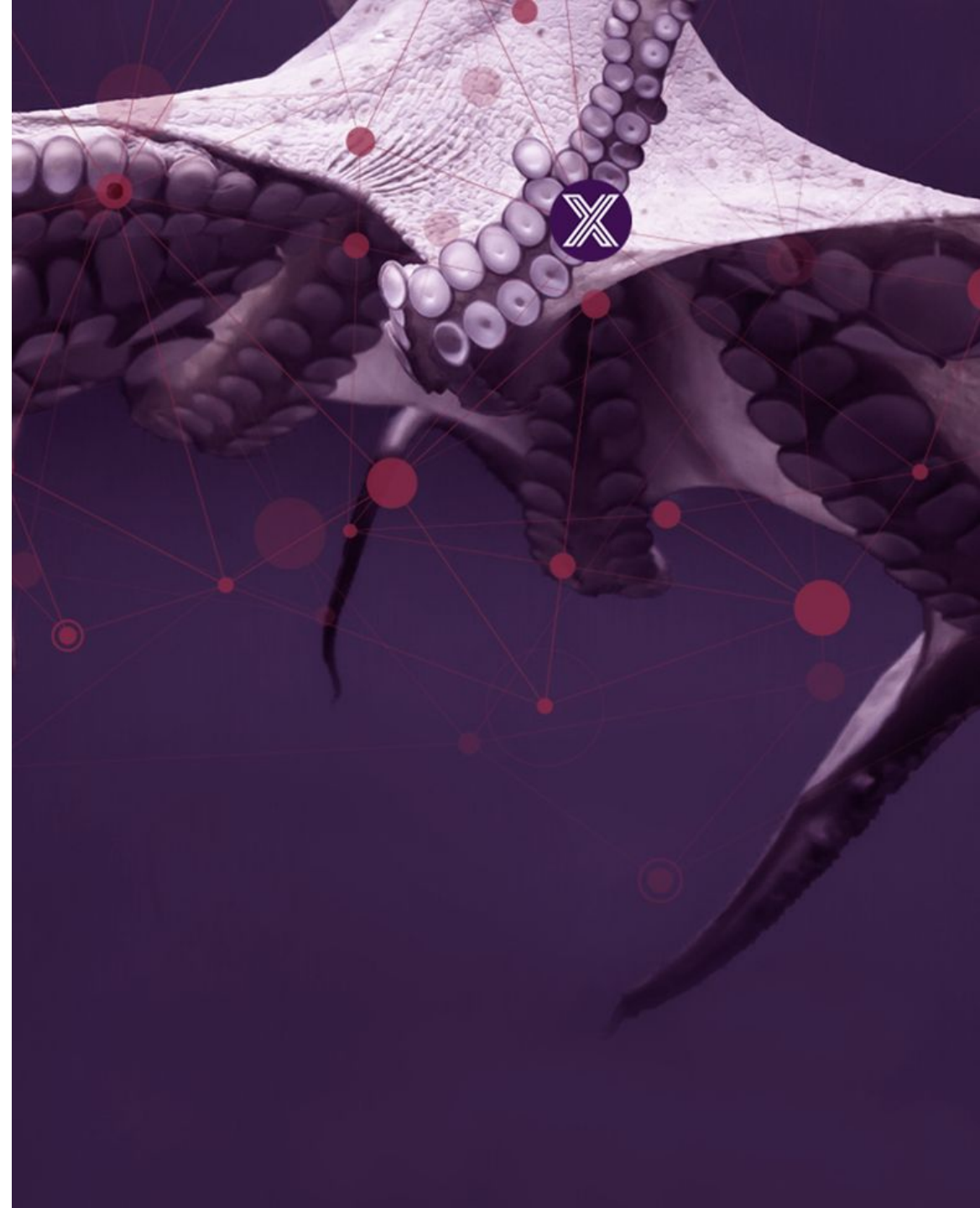


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TSC Meeting

Sep 20th, 2023

edgexfoundry.org |  @edgexfoundry



Antitrust Policy Notice

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Meeting Logistics

Time: Wednesdays 8am PDT – 9am PDT (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)
- Tom Brennan (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

- EdgeX Awards Presentation
- Working Group Updates
- Hashicorp License Model Change
- Future of Snaps with EdgeX
- UCR & ADR Updates
- Doc Updates
- Other Business





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EdgeX Awards Ceremony 2023



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Work Group Updates

Chairs

Working Group Chair Updates

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



Product Manager (09/20/23) - Napa

[Cross Cutting Issues](#)

Icebox (1)

- Lite Builds (no security features) via Build Tags

Backlog (0)

-

In Progress (2)

- **Common Config**
 - C SDK/Services - TBD
- **URIs For Files**
 - go-mod-bootstrap function - **DONE**
 - go-mod-bootstrap Config - **DONE**
 - Core Metadata (UoM) - **DONE**
 - Go Device SDK files - **DONE**
 - Enhance Device SDK index file - **DONE**
 - go-mod-bootstrap more unit tests - **DONE**
 - Documentation - **DONE**
 - C Device SDK files - TBD

Done (6)

- Better error handling when Common Config missing
- Move all the common API into go-mod-bootstrap
- Move common Middleware into go-mod-bootstrap
- pkg/errors replacement
- **Go 1.21**
- **Gorilla/MUX replacement**



Applications WG Update (09/20/23) - Napa

Newly Completed (5)

- build: Upgrade to go-1.21, Linter1.54.2 and Alpine 3.18
 - SDK, ASC, LLRP & Record Replay
- build: Update to latest go-mod-bootstrap, fix unit tests
-

Newly added (2)

- Add metrics for HTTP and MQTT export failures #1467
 - Moving to Napa backlog
- Provide ReadingClient() from interfaces.ApplicationService #1476
 - Moving to Napa backlog

WIP (2)

- Record and Replay (<https://github.com/orgs/edgexfoundry/projects/54>)
 - Done (33)
 - In Progress (2)
 - Backlog (1)

Done for Napa (29)

Backlog (1) <https://github.com/orgs/edgexfoundry/projects/50/views/2>

- Add ability to set MQTT Will options for external MQTT server connections #1117

ICE BOX (6)

Next

- Wrap up Record and Replay
- Enhance/refactor documentation

eKuiper

- Working on release 1.12 for November
 - <https://github.com/lf-edge/kuiper/milestone/22>

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



Application Services - Minnesota

Functions (built into SDK)

- Add Tags
- Batch
- Compression (GZIP & ZLIB)
- Conversion (XML & JSON)
- **EventWrapper - NEW**
- 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) - NEW**

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
- Received Topic
- Context Storage
- Service Metrics - **NEW**
- 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

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 - **NEW**



Core WG Update (Sep 20 2023)

[Core/QA Project Board](#)

- TAF
 - Functional tests:
 - Non-Security **606** tests - All pass / Security **607** tests - All pass
 - Integration tests
 - Non-Security **121** tests - **1 failed arm 64 machine only** / Security **124** tests - **1 failed on arm 64 machine only**

Due to:CoreDataRetention001 - core-data retention is executed if reading count is over MaxCap value

- Performance tests:
 - Non-Security **10** tests - All pass / Security **10** tests - All pass
- QA Progress
 - WIP
 - Update TAF tests for URI4Files (profiles & provision watchers) [#876](#)
 - Add tests for Notifications Retention and Persistent Caps [#874](#) – blocked by Notifications amount is still over than MaxCap after executing the purge job [#4682](#)
- Core Progress
 - WIP
 - [edgex-go] Notifications amount is still over than MaxCap after executing the purge job [#4682](#)



Device Services WG Update (20 Sep 2023)

- **Go Device Service update**

- [device-usb-camera]
 - Config variable Path changed to Paths to support real sense cameras #[278](#) - DONE

- **Device-C-sdk**

- Implement loading of common config from config provider #[481](#) - In Progress
- bug fix: device custom protocol contains '&', '<', '>' characters #[465](#) - In Progress

- **Device-Go-sdk**

- Profiles didn't be created when setting URI for files with secure credentials on Device #[1504](#) - In DONE
- Implement Device Last Connected metric #[1470](#) - In Progress

- **New CAN device service**

- Initial [PR](#) opened by HCL in holding area - Review in Progress



Device Services - current/coming (as of v3.0)

Open Source connectors (Current):

- 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

Commercial connectors (Current):

- BLE in C
- Zigbee in C
- GPS in C
- CAN in C
- CANOpen in C
- EtherCat in C
- EtherNet/IP in C
- PROFINET in C
- OPC-UA in C
- OPC-UA Pub/Sub in C
- Siemens S7 in C
- File reader in C
- WebSockets in Go

There are additional commercial MQTT (Go), Modbus (C), REST (Go), and BACnet (in C) that have added features over the community editions



DevOps WG Update (9/20/2023)

Pipeline Related

- [Complete] Review edgex-docs changes related to mkdocs 1.5 and mike plugin
- [Complete] [#440](#) Fully Automate DockerHub description/overview updates
- [Complete] [#443](#) Go v1.21 edgex-global-pipeline update
- [Backlog] [#438](#) Spike: Evaluate git-cliff, a git-chglog replacement

Other

- n/a

Next DevOps WG Meeting: Tuesday, October 10, 2023 @ 9AM PST



Release Czar (2023-9-19)

Recent Release Activity:

- device-coap-c v3.0.1 (Aug 28th)
- device-bacnet-c v3.0.1 (Aug 28th)
- device-sdk-c v3.0.2 (Aug 10th)
- device-uart v3.0.0 (Aug 7th)

Future Releases:

- Napa (~November 2023)

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

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



Outreach Update (9/20/23)

Events

- Melvin Sun presenting at ONE Summit Regional Day at KubeCon China on September 26.
 - <https://lfnetworking.org/event/one-summit-regional-day-china/>
- Intel Student Hackathon wrapping up/ judging phase this week (China judging already complete)
 - See <https://edgex-hackathon.com/>

LF Edge TAC

TAC chair and vice-chair positions are up for a vote in a week's time

Joe Pearson (IBM/OpenHorizon) plans to run again

Recommend our EdgeX vote be cast in his support

Ready/Certification

-

Next meeting: Oct 16th @ 10am PDT
Jim will be out of the office - looking for someone to run the meeting



EdgeX China Update

- 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>

- Intel EdgeX Coding Competition is complete in China
 - 5 University students teams had completed roadshow on Aug 17th.
 - 10 judges have joined the roadshow, evaluation results have been available now-- as attached XLSX file (for EdgeX community audit only, not for the public).
 - Jim Wang @Intel has acted as an international judge to evaluate all the proposals on behalf of US region.
 - Melody Liu @IOTech is another international judge on behalf of UK region.
- Q3 Meetup occurred Sept 9th
 - 11 sessions (variety of topics from EdgeX specific to eKuiper, AI integration, Alibaba integration, ...)
 - 9 booths for demonstrations
 - ~100 people in person and another ~1000+ people via 3 live stream outlets
- Upcoming events in China
 - Sep 26-28th, KubeCon China, ONE summit China (a speech has been reserved for EdgeX)





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Other Topics

Hashicorp Licensing Model Changes - Impact to EdgeX...

- No big updates
 - Working with LF Edge as well on the issue
- Hashicorp has decided to abandon Mozilla to Business Source License (BSL)
 - See <https://www.hashicorp.com/license-faq>
 - This is a common path many corporations are taking (MongoDB, Redis, Couchbase, among others)
- Consul/Vault to be affected
 - WG's think we are probably ok for Napa so long as we don't have to upgrade this release cycle
 - Future releases will have to move off these products or we leave a huge issue for adopters
- Option for Consul already exist
 - IOtech/Eaton developed alternative edgex-keeper (but we need to shepherd this through a review process)
- Vault - not a lot of great alternatives
 - OpenTF is cloud centric
- At this time
 - Collecting facts, ideas for alternatives, etc.
 - Will be a major point of discussion for the TSC going forward - and especially for future releases



Future of Snaps



UCR & ADR Review (as of 9/20/23)

UCR/ADR Name	Status	Owner	Work Group
BYO Vault	UCR approve; working on ADR ON hold pending Vault discussions/decisions	Jim	Security
Microservice auth based on end-to-end-encryption	[In Review] ADR for OpenZiti integration #935	Bryon	Security
Devaultification of EdgeX	[Draft] ADR for EdgeX to go Vault-less (needs a UCR to link to) #1222	Bryon	Security



Document work (as of 9/20/23)

Docs that should be done for Napa

- #1218 S [Pull Fuji from version drop down] **new**
- #1217 M [use of core data and notification retentions] **new**
- #1197 M [explain insecure secrets] **new**
- #1196 m [add secret API to docs]
- #1161 M [Protocol spec]
- #899/900 - L [why EdgeX security requirements are met]
- #855 - L [extend Go SDK API docs]
- #732 L [role based access for Mosquitto]
- #714 L [images to LFS]
- #667 L [how to build containers]
- #642 L [export to cloud]
- #489 M (with #121, #21) [consume/send binary]

Documentation refactor / overhaul

- 1st phase complete
- Working on 2nd phase
 - order of pages and naming
 - standardize service pages
 - tutorials



Quick Summary: EdgeX 3.1 High Level Plans

Info transferred to EdgeX wiki release page: <https://wiki.edgexfoundry.org/display/FA/Napa+Release>

Theme / Title	In Scope	Priority	T-Shirt	Notes
URIs for Files - in progress	✓	High	M/L	Well-defined UCR and ADRs already. Owner: Lenny, Testing: Cherry
EdgeX V3 Docs Enhancements - in progress	✓	High	M	Elizabeth (list issues) and Jim (perhaps ADR)
Zero Trust / Secure Distributed EdgeX (OpenZiti Integration)	✓ (ADR)	High	S	ADR owner Bryon. Out of scope to implement for 3.1
Bring Your Own Vault	✓ (ADR)	High	S	ADR owner Jim. Out of scope to implement for 3.1
Common Config - Support for C Devices	✓	Med	M	Owner: Felix, support from Iain
Modelling & Relationships – Parent/Child Devices	✓	Med	S	Limited to Metadata. Owner: Eaton
Modelling & Relationships – Virtual Device Resources	✓	Med	S	Limited to Device SDKs and Metadata. Owner: Eaton
Modelling & Relationships – Device Metadata in Provision Watchers	✓	Med	S/M	Limited to Device SDKs and Metadata. Owner: Eaton
Core Data Retention	✓	Med	S	Limited to Core Data. Owner: Cloud (Core WG)
NanoMQ (Provide as Experimental Feature)	✓	Low	S	Adds option in compose-builder to obtain performance metrics, ahead of a decision for 3.2
Common Config - Design for addressing the limitation with removing settings from writable / code refactor	STRETCH (Design)	Low	S	Out of scope to implement for 3.1



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Thank You