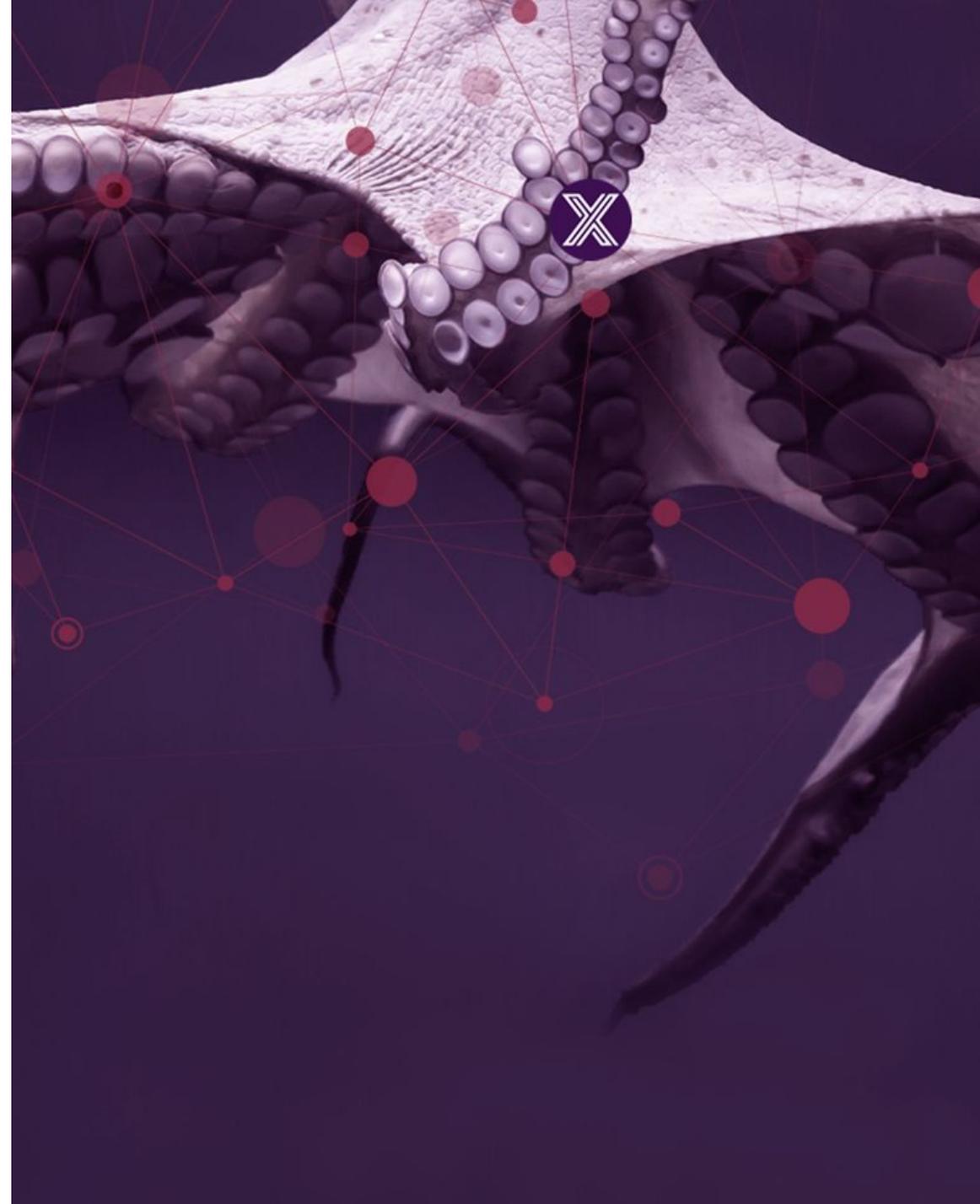


EDGE X FOUNDRY™

TSC Meeting

May 3rd, 2023

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



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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



TSC – Members Present Today

<u>Company</u>	<u>Name</u>	<u>Email</u>	<u>Position</u>
IOTech	Iain Anderson	iain@iotechsys.com	Device Services WG Chair
Intel	Ernesto Ojeda	ernesto.ojeda@intel.com	Dev Ops WG Chair
Intel	Bryon Nevis	bryon.nevis@intel.com	Security WG Chair
Intel	Lenny Goodell	leonard.goodell@intel.com	Applications & Analytics WG Chair
IOTech	Cloud Tsai	cloud@iotechsys.com	Core & Test/QA WG Chair

At Large Members:

Gavin Lu (VMWare), Farshid Tavakolizadeh (Canonical), Melvin Sun (Intel), James Butcher (IOTech), Tom Brennan (Eaton)

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
- UCR & ADR Updates
- Doc Updates
- Miscellaneous
 - NanoMQ
 - EdgeX Awards
 - TSC membership for next cycle





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Work Group Updates

Chairs

Working Group Chair Updates

- Around the table:
 - Product Manager - Lenny Goodell
 - Applications - Lenny Goodell
 - Core - Cloud Tsai
 - Device Services - Iain Anderson
 - DevOps - Ernesto Ojeda
 - Release Czar - Bill Mahoney
 - Security - Bryon Nevis
 - PRC Updates - Melvin Sun and Gavin Lu
 - Outreach and Marketing
 - Certification - Rodney Hess
 - LF Edge TAC - Jim White



Product Manager (05/03/23) - Minnesota

[Cross Cutting Issues](#)

Icebox (1)

- Lite Builds (no security features) via Build Tags

Backlog (2, +1/-1)

- Add main branch Warning to all Repos
- **URIs for Files Implementation**

In Progress (2, -2)

- **Switch to YAML for config files**
 - go-mod-bootstrap - **DONE**
 - edgex-go - **DONE**
 - App SDK - **DONE**
 - Device SDK Go - **DONE**
 - App Services - **DONE**
 - Go Device Services - **DONE**
 - EdgeX Docs - **DONE**
 - C Device SDK/Service - TBD

- **Common Config**

- UCR - **DONE**
- ADR - **DONE**
- go-mod-bootstrap - **DONE**
- core-common-config-bootstrapper - **DONE**
- Compose - **DONE**
- edgex-go - **DONE**
- App SDK - **DONE**
- App Services - **DONE**
- Go Device SDK - **DONE**
- Go Devices Services - **DONE**
- edgex-go Snap - **DONE**
- Helm example - **DONE**
- -cc/-commonConfig - **DONE**
- bootstrap fixes/rework - **DONE**
- Doc Updates - **DONE**
- C SDK/Services - TBD

Done (15, +1)

- V3 Go Mods
- Remove ZMQ
- Flattening of consul
- Get Command Parameter type
- Consistent Command-line options and Override names
- MessageBus Config refactoring
- Remove old metrics collection
- Go 1.20
- MessageBus Request API
- Consistent MessageBus Topic wildcards
- Topics as constants and Add service name to multi-level topic when publishing Events
- Microservice Auth
- Remove use of TOML package
- Secret Path => SecretName refactoring
- **V3 Rest API version bumps**



Applications WG Update (05/03/23) - Minnesota

Newly Completed (8)

- Refactor Compression functions to use mutex to ensure thread safe for better benchmark result #1384
- [WIP BUG] Update store and forward configuration for app-service with http-export profile got runtime error #1403
- fix: Consume Store and Forward fix in latest SDK #555
- Change or remove all references to v2 #1395
- build: Ignore all go-mod deps, except go-mod-bootstrap #1407
- build: [App LLRP] Ignore all go-mod deps, except go-mod-bootstrap #185

Newly added (0)

-

WIP (1)

- Camera Mgmt Example - Auto start EVAM on new camera devices#122

Done for Minnesota (88, +6)

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

- Implement Record And Replay ADR

ICE BOX (9)

Next

- Documentation

eKuiper

- No Update

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)
- PushToCore **** DEPRECATED****
- **EventWrapper - NEW**
- Encryption (AES256)
- Encryption (AES) **** DEPRECATED****
- 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 (3rd May 2023)

- TAF:
 - Functional tests:
 - Non-Security **589** tests - All pass
 - Security **590** tests - All pass
 - Integration tests:
 - Non-Security **121** tests - All pass
 - Security **124** tests - All pass
 - Performance tests:
 - Non-Security **10** tests - All pass
 - Security **10** tests - **1 failed**
- QA Progress
 - Keep tracking the impact of breaking changes and adjusting the test scripts
- Core Progress
 - Common configuration feature is almost done
 - Some bugs fixed
 - Writing new documentation



Device Services WG Update (3 May 2023)

To Do:

- MQTT multiple readings per event (in review)
- System event usage in CSDK (in progress)
- Config updates for CSDK
- Various camera updates
- Documentation

Potential new:

- Allow Provision Watchers to be shared among device service instances

New DS for 2.3: UART

Next meeting: May 8th



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
- MEMS 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 (5/3/2023)

Pipeline Related

- [#428](#) [Complete] edgex-docs investigate htmlproofer issues
 - Issue causing PR failures was related to Connection Refused errors connecting to a few hosts
 - Issue identified as an upstream issue from ISP.
 - [PR #1019](#) has been merged to enable htmlproofer again
- [#423](#) [Complete] POC Simple GitHub Actions and Simple Reusable workflow for Go builds
 - Initial Demo done April, 11th. Next demo will show a more complete example.
 - Plan will be presented next WG meeting on next steps
- [#424](#) [Complete] Harden release process to avoid release failures with parallelized builds

Other

- N/A

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



Release Czar (2023-5-3)

Upcoming Releases - Minnesota (3.0.0)

- **Code Freeze - 2023-5-10 (1 week)**
- **Release - 2023-5-31 (4 weeks)**

Levski / Jakarta(LTS) Patch - (2.3.1 / 2.1.2)

- app-service-configurable

Recent Release History

- device-usb-camera 2.3.1 - 2023-3-21
- device-onvif-camera 2.3.1 - 2023-3-21
- device-sdk-go 2.3.1 - 2023-3-20

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



Security WG Update

Next Meeting: Not today [TBD](#)

- OpenZiti update - maybe next week
- New
 - #4540 - Can't seed message-bus secret in delayed start
- In progress
 - #374 - add more security metrics (PR #530)
 - #714 - fuzzing (won't be finished by time of release)
- Opens
 - #4508 - eKuiper authentication when invoking core services' REST events

Security Project Board Status

- 1 New Issues (+1)
- 0 Release Backlog (0)
- 3 In Progress/QA (0)
- 1 In review (+1)
- 73 Done (+6)

Helm Chart - Board Status

- 15 To do (-1)
- 0 In progress (0)
- 0 In review (0)
- 18 Done (+2)



Outreach Update (5/3/23)

Social Media & Website

- Eaton use case in final reviews and to be published by LF soon
- Research conducted on social media stats and followership - report out in next Outreach meeting
- Looking for content for social media posts. If you have some ideas, please reach out
- LF Edge's web site page on EdgeX is being updated (June target)
- SEO continue to improve - now position #1 or 2 in most key / relevant search terms

Project Outreach

- Interest on the part of some EdgeX adopters to do more in the energy space
- Reaching out to LF Energy for non-profit association
- If you have interest, let Jim know
- HomeEdge is likely to be Archived as Samsung has withdrawn from LF Edge and the project
 - If there is interest in carrying on any of the HomeEdge work in EdgeX, reach out to Jim (Intel - Matter needs?)

Events

- Intel Student Hackathon - ongoing; now through June (possibly early July)
 - Teams in UK, US, China.
 - Development around Matter device service
 - See <https://edgex-hackathon.com/>

Next meeting: May 15th @ 10am PDT

Ready/Certification

- No updates



EdgeX China Update

No new updates this week

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>

- Intel EdgeX Coding Competition is underway
 - Focuses on EdgeX and home automation
 - Opening and registration open: March 21
 - Registration and team building ends: April 20
 - Training: April-June
 - Training based on existing EdgeX material delivered by large Chinese company Jing Dong <https://www.jd.com/>
 - Announcement of shortlisted teams: end of April
 - Finals and Roadshow: July
 - Announcement of winners: July
- Ongoing efforts to ask Chinese companies to announce their usage of EdgeX





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Other Topics

Quick Summary: EdgeX 3.0 High Level Updates

James to transfer/update the EdgeX wiki release pages with this information

Theme / Title	In Scope	Priority	T-Shirt	Breaking	Notes
Common Configuration	✓	High	L	✓	UCR approved. ADR approved
URIs for Configuration	✓	High	M/L	-	UCR approved. ADR approved
Configuration Formats	✓	Med	L	✓	Issue here
Microservice Authentication	✓	High	L	✓	UCR approved, ADR approved
Parent/Child Devices - Now out of scope	✓	Med	S/M	-	ADR not needed; Eaton to raise PR
Extending Device Data - Now out of scope	✓	Med	L	-	ADR required (Eaton)
Provision Watch via Device Metadata - Now out of scope	✓	Med	S/M	-	ADR not needed; Eaton to raise PR
Notification Service Improvements	Stretch	Low	S/M	-	
Core Data Retention	✓ (UCR)	Med	S/M	-	UCR approved; ADR not needed. Impl with Core WG
Lowering the JSON Overhead	Stretch	Low	S/M	-	Need more customer stats (IOTech)
Replace Kong, Consul, Vault with Lighter Options	Stretch	Med	L/XL	-	Kong being replaced as part of Microservice Authentication
EdgeX Lite	Stretch	Low	S	-	Incubation work

UCR & ADR Review (as of 5/3/23)

UCR/ADR Name	Status	Owner	Work Group
BYO Vault	UCR approve; working on ADR	Jim	Security
Microservice auth based on end-to-end-encryption	ADR need to pave way for OpenZiti integration	Bryon	Security



Document work (as of 5/3/23)

Docs that should be done for Minnesota

#1037 S [Grove link broken] (new)

#1034 L [Connect to secure MQTT to commands] (new)

#1031 M [rework deployment page]

~~#1028 M [update JWT auth instructions] (done)~~

#1026 M [add common config to container names doc]

#1024 S [fix text and links that reference older releases]

~~#1023 M [Polish Common Config] (done)~~

#985 - L [Document summary of data model changes in v3]

#956 - S [Device GPIO port doc]

#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]



NanoMQ <https://nanomq.io/>

- EMQ (the company behind EdgeX rules engine eKuiper) have built a lightweight message broker called NanoMQ
 - Claimed to be extremely lightweight and very fast (compared to Mosquitto and HiveMQ)
 - Implements Sparkplug, includes an embedded rules engine, brokerless options
 - EMQ pushing to start another LF Edge open source project
 - Could/should EdgeX consider NanoMQ as an internal messaging option (alongside Redis Pub/Sub and Mosquitto)?
 - LF Edge community and support/maintenance benefits
 - Other thoughts?



EdgeX Awards

- Have run the EdgeX awards each year since 2018, planning to do so again this year
- <https://wiki.edgexfoundry.org/display/FA/EdgeX+Awards>
- Planned Timeline:
 - Open nominations by the EdgeX Community: **May 2nd - May 19th**
 - Voting by the EdgeX Technical Steering Committee: **May 22nd - May 31st**
 - Winners announced: **June 5th**
- Kendall has set up the nomination form: <https://forms.gle/uqCybgGSmdLzskcR6>
- Actions:
 - James to send email to EdgeX community advising the nomination/voting process
 - Promote on social media



EdgeX TSC 2023-2024 - Initial Planning

- We need to begin to plan the next cycle. Current roles end 23rd June
- **Disclaimer: all of the below are merely suggestions/ideas at this point**
 - All roles are voted in under the meritocracy of EdgeX
 - A mixture of leadership continuity and new people is encouraged for the long term future of the project
 - Please contact James with other suggestions/nominations etc
- EdgeX Working Group Positions
 - Nominations so far:
 - App WG - Lenny (Intel) with support from Elizabeth Lee (Intel)
 - Core WG - Cloud and Melody Liu (both IOtech) co-chairs
 - Devices WG - Lindsey Cheng and Felix Ting (both IOtech) co-chairs
 - Security WG - open. Bryon stepping down
 - DevOps WG - Ernesto (Intel)
 - Outreach - open
- At-Large roles
 - Nominations so far
 - Farshid (Canonical)
 - Tom (Eaton)
 - James (IOtech)
 - Melvin Sun (Intel)
 - Elizabeth Lee (Intel)
- EdgeX roles
 - Nominations so far
 - TSC Chair - James
 - Product Manager - Lenny
 - Release Czar - Bill (Intel)





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Thank You