

EDGE X FOUNDRY™

## TSC Meeting

Jan 11, 2023

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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	<a href="mailto:iain@iotechsys.com">iain@iotechsys.com</a>	Device Services WG Chair
Intel	Ernesto Ojeda	<a href="mailto:ernesto.ojeda@intel.com">ernesto.ojeda@intel.com</a>	Dev Ops WG Chair
Intel	Bryon Nevis	<a href="mailto:bryon.nevis@intel.com">bryon.nevis@intel.com</a>	Security WG Chair
Intel	Lenny Goodell	<a href="mailto:leonard.goodell@intel.com">leonard.goodell@intel.com</a>	Applications & Analytics WG Chair
IOTech	Cloud Tsai	<a href="mailto:cloud@iotechsys.com">cloud@iotechsys.com</a>	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
- ADR and UCR updates
- Doc updates
- Miscellaneous





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## Work Group Updates

Chairs

# Working Group Chair Updates

- Around the horn
  - 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 (01/11/23) - Minnesota

## Cross Cutting Issues

### Icebox (2)

- Lite Builds (no security features) via Build Tags
- Go 1.20

### Backlog (3)

- V3 Rest API version bumps
- Switch to YAML for config files
- Remove old metrics collection

### In Progress (4)

- Flattening of consul -
  - Go Services - **DONE**
  - C SDK - TBD
  - C Device Services - TBD

### • Consistent Command-line options and Override names

- Doc updates - **DONE**
- go-mod-bootstrap - **DONE**
- edgex-go - **DONE**
- App SDK & App Services - **DONE**
- Device SDK Go - **DONE**
- Go Device services - **DONE**
- C Device SDK - TBD
- C Device Service - TBD

### • Common Config

- UCR - **DONE**
- ADR - **DONE**
- go-mod-bootstrap - **WIP**
- core-common-config-bootstrapper - TBD
- Core/Support services - TBD
- App SDK - TBD
- App Services - TBD
- Go Device SDK - TBD
- Go Devices Services - TBD
- C Device SDK - TBD
- C Device Services - TBD

### • Microservice Auth

- UCR - **TSC Vote**
- Prototype with OpenZiti - WIP
- ADR - WIP
- Implementation - **Prototyping**

### • MessageBus Config refactoring

- Doc updates - **TBD**
- go-mod-bootstrap - **WIP**
- edgex-go - **WIP**
- App SDK - **WIP**
- App Services - **WIP**
- Device SDK Go - **WIP**
- Go Device services - **WIP**
- Compose Builder - **WIP**
- C Device SDK - TBD
- C Device Service - TBD

### Done (2)

- V3 Go Mods
- Remove ZMQ
  - go-mod-messaging - **DONE**
  - Doc updates - **DONE**
  - edgex-go - **DONE**
  - App SDK - **DONE**
  - App Services - **DONE**
  - Go Device SDK - **DONE**
  - Go Device Services - **DONE**





# Applications WG Update (01/11/23) - Minnesota

## Newly Completed (6)

- Remove old Secret APIs now that Secret Provider is available [#1224](#)
- General cleanup for deprecated trigger/pipelines APIs [#1227](#)
- Use Config Stem constants from Core Contracts [#1236](#)
- Fail to start APP service with bootstrapping failed [#1239](#) - fixed by update to v3
- Remove ZMQ [#1228](#)
- refactor!: Rename command line flags for the sake of consistency [#492](#)

## New (2)

- Support multiple triggers [#1233](#)
- **App Services Compression function randomly crashes.** [#1250](#)

## WIP (1)

- Refactor MessageBus config to separate out of Trigger into MessageQueue like other services have [#1221](#)

## Done for Minnesota (21)

## Backlog (12)

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

## ICE BOX (7)

### Next

- More refactoring for 3.0

### eKuiper

- Wrapping up 1.8.0 release
  - <https://github.com/lf-edge/kuiper/milestone/14>
  - Releasing Jan 18<sup>th</sup>

**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 Snapshot (12 Jan 2023)

- TAF:
  - Functional tests:
    - Non-Security **589** tests - all passed
    - Security 590 tests - all passed
  - Integration tests:
    - Non-Security **122** tests - **2 failed which caused by [edgex-taf #751](#)**
    - Security **125** tests - **2 failed which caused by [edgex-taf #751](#)**
  - Performance tests:
    - Non-Security **10** tests - all passed
    - Security **10** tests - all passed
- Working on the rename config flag rename
- Implemented support for specifying a ProvisionWatchersDir
- Replacing REST device callbacks with Device System Events
- The meeting on Jan 24th is cancelled due to Chinese New Year



# Device Services WG Update (11 January 2023)

## Device services:

- USB camera released at v2.3.0; BACnet released at v2.3.1
- device-camera-go, device-grove-c archived
- Enhancements to REST DS in review

## Minnesota development:

- v3 API updates
- Proposal for virtual deviceResource - may simplify augmentation
- Proposal for Event generation on Write

*Next meeting: January 18th*



# 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 (1/11/2023)

## Pipeline Related

- [#928](#) [In Progress] Spike - Research mkdocs-swagger-ui
- [#421](#) [Backlog] Upgrade pipeline to Go 1.20 (Feb 2023)
- [#203](#) [Backlog] Create Go 1.20 base CI image

## Other

- Reminder: DevOps WG meeting moving to once per month. Second Tuesday of the month @ 9AM PST.

Next DevOps WG Meeting: Tuesday, February 14, 2023 @ 9AM PST



# Release Czar (2023-1-11)

2023-1-5

- device-usb-bacnet 2.3.1
- device-usb-camera 2.3.0

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



# Security WG Update

## Next Meeting: 1/10 (today, next)

- [STRIDE Threat Model](#) hopefully merge today or in the next day or two
- Fix for GHSA-xrjj-mj9h-534m and GHSA-69ch-w2m2-3vjp bubbling through with go-mod-secrets update
- Microservice authentication UCR voting underway ([docs#920](#)). ADR updates next.
- OpenZiti and Vault JWT authentication prototypes are well along
  - JWT prototype: 80MB RAM saved (160->80), 329MB images saved (docker, 353->24)
  - OpenZiti: no numbers yet

### Security Project Board Status

- 2 New Issues (+1)
- 10 Release Backlog
- 4 In Progress/QA (+1)
- 3 In review (+1)
- 7 Done (+6)

### Helm Chart - Board Status

- 14 To do (+3)
- 0 In progress
- 1 In review
- 15 Done (+8)





# EdgeX China Update

## EdgeX Challenge China 2022 Complete

- (Chinese) Press Release: <https://mp.weixin.qq.com/s/rsbPO2mpoV24e-KNBIJbDQ>
- Congratulations to all involved, a huge effort:
  - 64 entries, 37 teams into the finals, 4 months of training, competition and roadshow

## 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>



# Outreach WG (1/11/23)

## Ready/Certification

- No updates

## Events

- Intel Student Hackathon for early 2023 (still pending)
- Edge F2F next spring
  - nice if it could be collocated with other LF event
  - COVID &/or travel budget issues

## WebSite Changes (order or priority)

- SEO search - robots.txt added; needs to be copied into docs (DevOps?); trigger a re-crawl through Google Search Console

Next meeting Jan 16, 9am PST

- Any Topics?





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Other Topics

# Quick Summary: EdgeX 3.0 High Level Updates

Theme / Title	In Scope	Priority	T-Shirt	Breaking	Notes
Common Configuration	✓	High	L	✓	<a href="#">UCR</a> approved. <a href="#">ADR</a> approved
URIs for Configuration	✓	High	M/L	-	UCR needed asap
Configuration Formats	✓	Med	L	✓	Documentation to describe the need
Microservice Authentication	✓	High	L	✓	<a href="#">UCR</a> pending
Parent/Child Devices	✓	Med	S/M	-	ADR not needed; Eaton to raise PR
Extending Device Data	✓	Med	L	-	ADR required (Eaton)
Provision Watch via Device Metadata	✓	Med	S/M	-	ADR not needed; Eaton to raise PR
Notification Service Improvements	Stretch	Low	S/M	-	
Core Data Cache	✓ (UCR)	Med	S/M	-	UCR in scope; options in Core Data, Scheduling
Lowering the JSON Overhead	Stretch	Low	S/M	-	Need more customer stats (IOTech)
Replace Kong, Consul, Vault with Lighter Options	Stretch	Med	L/XL	-	Eaton solutions available, testing ongoing
EdgeX Lite	Stretch	Low	S	-	Incubation work

# UCR & ADR Review (as of 01/11/23)

<b>UCR/ADR Name</b>	<b>Status</b>	<b>Owner</b>	<b>Work Group</b>
Core Data Cache	UCR for review: <a href="https://github.com/edgexfoundry/edgex-docs/pull/884">https://github.com/edgexfoundry/edgex-docs/pull/884</a> Renamed (core data retention) and ready for Re-review	Jim White	Core
URI reference (profiles, config, etc.)	UCR needed	Lenny	Core
Microservice authentication	UCR and ADR for review: <a href="https://github.com/edgexfoundry/edgex-docs/pull/920">https://github.com/edgexfoundry/edgex-docs/pull/920</a> <a href="https://github.com/edgexfoundry/edgex-docs/pull/659">https://github.com/edgexfoundry/edgex-docs/pull/659</a>	Bryon	Security



# Document work (as of 12/13/22)

## Docs that should be done for Minnesota

#924 - L [common config documentation]

#923 - L [secret store config changes]

#913 - S [remove V2/Edgey sections]

#899/900 - L [why EdgeX security requirements are met]

#859 - L [version warning popup]

#855 - L [extend Go SDK API docs]

#843 M [SE indexing old docs]

#732 L [role based access for Mosquitto]

#714 L [images to LFS]

#642 L [export to cloud]

#667 L [how to build containers]

#489 M (with #121, #21) [consume/send binary]



# Miscellaneous

- EdgeX UI / CLI Tooling Poll: <https://github.com/orgs/edgexfoundry/discussions/34>
- EdgeX USB Camera Video Tutorial: <https://www.youtube.com/watch?v=qoGdiAfJq-4>
  - Please share/circulate etc
- Discussion about future of (old) REST endpoint metrics (CPU, RAM, etc)
- EdgeX STRIDE security threat model. Thanks Bryon and Jim
  - PR to review: <https://github.com/edgexfoundry/edgex-docs/pull/858>





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Thank You