

EDGE X FOUNDRY™

## TSC Meeting

Feb 8th, 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
  - Go 1.20 is released. Actions for us?
  - Message bus topic naming





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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 (02/08/23) - Minnesota

## Cross Cutting Issues

### Icebox (1, -1)

- Lite Builds (no security features) via Build Tags

### Backlog (4, +1/-1)

- V3 Rest API version bumps
- Switch to YAML for config files
- Add service name to multi-level Events topic
- **Go 1.20**

### In Progress (6, +2/-4)

- **MessageBus Request API**
  - go-mod-messaging - **DONE**
  - Core Command - **DONE**
  - App SDK - **DONE**
  - App Services - **WIP**
  - Go Device SDK - **DONE**
  - Go Device Services - **WIP**
  - C SDK/Services - TBD
- **Consistent MessageBus Topic wildcards**
  - go-mod-messaging - **DONE**
  - App SDK - **DONE**
  - App Services (ASC & LLRP) - **WIP**
  - Go Device SDK - **DONE**
  - Go Device Services - **WIP**
  - C Device SDK - TBD??
  - C Device Services - TBD??

- **Common Config**
  - UCR - **DONE**
  - ADR - **DONE**
  - go-mod-bootstrap - **PR Pending**
  - core-common-config-bootstrapper - **DONE**
  - Compose - **DONE**
  - edgex-go - **PR Pending**
  - App SDK - TBD
  - App Services - TBD
  - Go Device SDK - TBD
  - Go Devices Services - TBD
  - C Device SDK - TBD
  - C Device Services - TBD
  - edgex-go Snap - TBD
  - Helm example - TBD

- **Microservice Auth**
  - UCR - **Approved**
  - Prototype with OpenZiti - **WIP**
  - ADR - **WIP**
  - Implementation - **Prototyping**

- **URIs for Files**
  - UCR - **Approved**
  - ADR - **PR Pending**
  - Implementation - TBD
- **Remove old metrics collection**
  - edgex-go (includes swagger) - **DONE**
  - TAF Tests - **DONE**
  - App SDK (includes swagger) - **DONE**
  - Go Device SDK (includes swagger) - **DONE**
  - Core Contracts - **DONE**
  - General Docs - **DONE**
  - C Device SDK/Services - **WIP**

### Done (6, +4)

- V3 Go Mods
- Remove ZMQ
- **Flattening of consul**
- **Get Command Parameter type**
- **Consistent Command-line options and Override names**
- **MessageBus Config refactoring**





# Applications WG Update (02/08/23) - Minnesota

## Newly Completed (5+)

- Remove Deprecated PushToCoreData [#1279](#)
- refactor: Update to latest core contracts and fix tests [#1275](#)
- [SDK] Remove old metrics collection and REST /metrics endpoint [#1281](#)
- Refactor Target Type flags for configurable functions pipeline [#1267](#)
- feat!: Use latest SDK for MessageBus Request API [#511](#)

## Newly added (1)

- Move swagger files to V3 folder [#1286](#)

## WIP (0)

## Done for Minnesota (40, +6)

## Backlog (6, -1)

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

## ICE BOX (7)

## Next

- More refactoring for 3.0

## eKuiper

- 1.8.0 was released in January
- Working on 1.9.0 plan
  - <https://github.com/orgs/lf-edge/projects/1>
  - Targeting March release

**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 (8 Feb 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 - 1 failed due to an issue which was fixed yesterday
    - Security 10 tests - all pass
- QA Progress
  - Keep tracking the impact of breaking changes and adjusting the test scripts
- Core Progress
  - Common configuration feature is under development
  - Implementing Device Service, Profile, and Provision Watcher System Events
- Any Other Business
  - Golang Gorilla Webtoolkit was archived <https://github.com/edgexfoundry/edgex-go/issues/4247> -> proposing to replace it in v3.1



# Device Services WG Update (8 February 2023)

## Device services:

- Enhancements to REST DS for 2-way communication - Done
- UART DS - code review complete

## Minnesota development:

- Go SDK - Enhanced event tagging support, MessageBus API updates
- C SDK - MessageBus abstraction (WIP)
- Proposed enhancement - Read multiple / wildcarded resources
- Project board - 26 issues backlog (+1), 2 in review (+1)

*Next meeting: February 13th*



# 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 (2/8/2023)

## Pipeline Related

- [#928](#) [Complete] Spike - Research mkdocs-swagger-ui (Demo at next DevOps WG Meeting)
- [#421](#) [Backlog] Upgrade pipeline to Go 1.20 ([Feb 2023](#))
- [#203](#) [Backlog] Create Go 1.20 base CI image
- Working with Jim on edgex-docs robots.txt and sitemap

## 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 (2023-2-8)

## Tentative Upcoming Releases

- Minnesota - *May 2023*

## Recent Release History

- device-usb-bacnet 2.3.1 - 2023-1-5
- device-usb-camera 2.3.0 - 2023-1-5

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



# Security WG Update

## Next Meeting: 2/8 (today, next)

- Microservice token authentication ADR out for TSC review  
<https://github.com/edgexfoundry/edgex-docs/pull/659>
- Vault JWT implementation - ready for deployment pending ADR approval (golang)
  - device-sdk-c - WIP
- OpenZiti - no updates

### Security Project Board Status

- 1 New Issues (-1)
- 9 Release Backlog (-1)
- 4 In Progress/QA (0)
- 2 In review (-1)
- 10 Done (+3)

### Helm Chart - Board Status

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





# 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 (2/8/23)

## Ready/Certification

- No updates

## Events

- Intel Student Hackathon for early 2023
  - Intel moving forward
  - Virtual event with possible f2f portion on UK campus
  - May be a need for volunteer helpers (stay tune)
- Edge F2F next spring
  - nice if it could be collocated with other LF event
  - COVID &/or travel budget issues

## Docs via Google Search

- working on Google search that points to old version of docs (partially fixed - still working)

## Switching Slack to GitHub Discussions (owner: James)

- later slide covers progress

Next meeting: Feb 27th @ 10am MST  
Will be discussing events along with Hackathon  
Moved from Feb 20th - which is presidents day





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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	-	<a href="#">UCR</a> approved. <a href="#">ADR</a> needs approving
Configuration Formats	✓	Med	L	✓	Issue needed (Lenny?)
Microservice Authentication	✓	High	L	✓	<a href="#">UCR</a> approved, <a href="#">ADR</a> next
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 Retention	✓ (UCR)	Med	S/M	-	<a href="#">UCR</a> approved; ADR not needed
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 2/7/23)

<b>UCR/ADR Name</b>	<b>Status</b>	<b>Owner</b>	<b>Work Group</b>
Core Data Retention (Renamed from Core Data Cache)	UCR approved: <a href="https://github.com/edgexfoundry/edgex-docs/pull/884">https://github.com/edgexfoundry/edgex-docs/pull/884</a> Approved/merged - NO ADR, not architecturally significant	Jim White	Core
URI reference (profiles, config, etc.)	UCR approved: <a href="https://github.com/edgexfoundry/edgex-docs/pull/938">https://github.com/edgexfoundry/edgex-docs/pull/938</a> Approved/merged ADR for review: <a href="https://github.com/edgexfoundry/edgex-docs/pull/949">https://github.com/edgexfoundry/edgex-docs/pull/949</a>	Lenny	Core
Microservice authentication	UCR approved: <a href="https://github.com/edgexfoundry/edgex-docs/pull/920">https://github.com/edgexfoundry/edgex-docs/pull/920</a> Approved/merged ADR for review: <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 2/8/23)

## Docs that should be done for Minnesota

#956 - S [Device GPIO port doc]

#950 - S [Misplaced DTO Validation page]

#940 - S [ConfiProvider command line flag missing default value]

#924 - L [common config documentation]

#913 - S [remove V2/Edgey sections]

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

#859/843 - L [version warning popup] (Jim working - and we now have WIP for latest)

#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]



# Miscellaneous

- Go 1.20 is released. Do we upgrade soon/now?
- Message Bus topic names as internal constants @Lenny
  - Agreed during Minnesota planning to to have a constant for base prefix
  - But propose now to have all topic names (except in App Services) to be constants
  - Simpler (less for user to see) usage but still possible to override by edit and rebuild
  - Thoughts?



# Miscellaneous

- EdgeX UI / CLI Tooling Poll: <https://github.com/orgs/edgexfoundry/discussions/34>
- Migrating from Slack to GitHub Discussions
  - Update GitHub discussion welcome - done
  - Archive EdgeX Slack channels - in progress
    - Info about archiving: [Slack Article](#).
  - EdgeX Wiki - done
  - EdgeX Website - done
  - EdgeX Repos - TODO
  - Note that everyone is of course free to keep using Slack for 1-1 and small group conversations (E.g. TSC members, DevOps, etc).







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Thank You