

EDGE X FOUNDRY™

# TSC Meeting

July 26th, 2023

edgexfoundry.org |  @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



# EdgeX TSC Members

## Working Group Chairs:

- |                          |  |                                   |
|--------------------------|--|-----------------------------------|
| • Cloud Tsai (IOTech)    | <a href="mailto:cloud@iotechsys.com">cloud@iotechsys.com</a>             | Core & Test/QA WG Chair           |
| • Lenny Goodell (Intel)  | <a href="mailto:leonard.goodell@intel.com">leonard.goodell@intel.com</a> | Applications & Analytics WG Chair |
| • Lindsey Cheng (IOTech) | <a href="mailto:lindsey@iotechsys.com">lindsey@iotechsys.com</a>         | Device Services WG Chair          |
| • Ernesto Ojeda (Intel)  | <a href="mailto:ernesto.ojeda@intel.com">ernesto.ojeda@intel.com</a>     | 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

- Project Alvarium - Introduction from Trevor Conn
- Working Group Updates
- UCR & ADR Updates
- Doc Updates
- Other Business





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## Work Group Updates

Chairs

# Working Group Chair Updates

- Around the working groups:
  - **Release Czar** - Bill Mahoney
  - **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
  - **Outreach and Marketing**
    - **Certification** - Rodney Hess
    - **China Updates** - Melvin Sun
    - **LF Edge TAC** - Jim White



# Release Czar (2023-7-25)

## Release Activity:

- Minnesota Patch (3.0.1) - 2023-7-25
  - App-SDK, App Service Configurable, App Service LLRP
- Minnesota (3.0.0) - 2023-5-31

## Upcoming:

- device-uart (first v3 release) - date TBC
- device-bacnet and device-coap (C Services) may need refresh following bugs found by Felix. date TBC

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





# Product Manager (07/26/23) - Napa

[Cross Cutting Issues](#)

## Icebox (1)

- Lite Builds (no security features) via Build Tags

## Backlog (2)

- Go 1.21 (August 2023)
- pkg/errors replacement

## In Progress (4)

- **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 - TBD
  - Documentation - TBD
  - C Device SDK files - TBD

## Gorilla/MUX replacement

- go-mod-bootstrap - **DONE**
- edgex-go - **WIP**
- App SDK - TBD
- App Services - TBD
- Go Device SDK - TBD
- Go Device Services - TBD
- 

## Move all the common API into go-mod-bootstrap

- go-mod-bootstrap - **DONE**
- edgex-go - **DONE**
- App SDK - **DONE**
- Go Device SDK - TBD

## Move common Middleware into go-mod-bootstrap

- go-mod-bootstrap - **WIP**
- edgex-go - TBD
- Go Device SDK - TBD
- App SDK - **N/A**

## Done (1)

- **Better error handling when Common Config missing**



# Applications WG Update (07/26/23) - Napa

## Newly Completed (8)

- Secure All HTTP routes when running in Secure Mode #1435
- fix: [Napa] Remove notes about not valid with HTTP/External-MQTT trigger #1163
- ix: [Minnesota] Remove notes about not valid with HTTP/External-MQTT trigger #1162
- feat: Move all the common APIs into go-mod-bootstrap #1441
- Fix logic with better error handling in go-mod-bootstrap when Common Config is missing #1443
- docs: [SDK] Update changelog for 3.0.1 patch
- build: [ASC] Update for patch 3.0.1 release #577
- build: [App LLRP] Update for patch 3.0.1 release #577

## Newly added (1)

- Replacement for Gorilla/MUX package #1436

## WIP (3)

- Record and Replay (<https://github.com/orgs/edgexfoundry/projects/54>)
  - Done (19)
  - In Progress (2)
  - Backlog (9)
- HTTPRequestHeaders parameter for ASC HTTP Export #1426
- Add capability to Publish to MessageBus when using non-MessageBus triggers #1439

## Done for Napa (13)

### 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 (9)

#### Next

- More Record and Replay
- Gorilla/MUX replacement
- Finish WIP

### eKuiper

- Working on 1.11 release (target release date is August 23rd)
  - <https://github.com/lf-edge/kuiper/milestone/20>
  - Adding REST API to change configuration, such as log level.

**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 (July 26 2023)

[Core/QA Project Board](#)

- TAF:
  - Functional tests:
    - Non-Security **593** tests - All pass / Security **594** tests - All pass
  - Integration tests:
    - Non-Security **113** tests - All pass / Security **114** tests - All pass
  - Performance tests:
    - Non-Security **10** tests - All pass / Security **10** tests - All pass
- QA Progress
  - All the automation tests are passed
  - WIP: Update scripts for connecting secure MQTT to Commands via messaging ([issue #848](#))
- Core Progress
  - Done: Fixed several bugs and refactored multiple docs
  - WIP
    - [edgex-go]Replacement for Gorilla/MUX package ([issue #4247](#))
    - Move the common middleware functions to go-mod-bootstrap ([issue #565](#))



# Device Services WG Update (26 July 2023)

- **Device UART**

- Last issue merged, HCL agrees that V3.0 release is ready to go

- **Device-go-sdk**

- Several major issues are done including:
  - Implemented URI for Profile, Device, & Provision Watcher
  - Fixed logic with better error handling in go-mod-bootstrap when Common Config is missing
  - Secure custom routes when running in secure mode

- **Device-C-sdk**

- Device C sdk document updated for V3.0 in progress [#472](#)
- Bug fixing in progress
  - device-bacnet failing with HTTP 409 Conflict message [#74](#) [#398](#)

The bi-weekly Device Service WG meeting for *European* time zone at 1AM Pacific will be canceled due to no new participant join



# 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 (7/26/2023)

## Pipeline Related

- [In Progress] EdgeX DevOps: Generate GitHub releases on tag creation via GitHub actions
- [In Progress] EdgeX DevOps: Named/Vanity (i.e minor 3.x) tag automation on release
- [In Progress] EdgeX DevOps: POC gotesttools/gotestfmt for better unit test output in Jenkins pipelines

## Other

- N/A

**Next DevOps WG Meeting: Tuesday, August 8, 2023 @ 9AM PST**



# Outreach Update (7/25/23)

## Social Media & Website

- Ongoing efforts to provide ~2 social media posts a week. Looking for content

## Events

- Intel Student Hackathon wrapping up
  - See <https://edgex-hackathon.com/>

## Ready/Certification

- 

Next meeting: Aug 21st @ 10am PDT





# 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 underway
- EdgeX Adoption Updates
  - Working with Lenovo to adopt EdgeX in its Edge.AI solution.
  - Working with [Daocloud](#) to enrich its Edge Computing solution with EdgeX
- Upcoming events in China
  - Sep 9th: Q3'23 EdgeX meetup in Shenzhen
  - Sep 26-28th, KubeCon China, ONE summit China (a speech has been reserved for EdgeX)



# UCR & ADR Review (as of 7/25/23)

<b>UCR/ADR Name</b>	<b>Status</b>	<b>Owner</b>	<b>Work Group</b>
<a href="#">BYO Vault</a>	UCR approve; working on ADR	Jim	Security
<a href="#">Microservice auth based on end-to-end-encryption</a>	ADR need to pave way for OpenZiti integration - in draft <a href="https://github.com/edgexfoundry/edgex-docs/pull/935">https://github.com/edgexfoundry/edgex-docs/pull/935</a>	Bryon	Security



# Document work (as of 7/25/23)

Documentation refactor / overhaul - issue available for comment

- <https://github.com/edgexfoundry/edgex-docs/issues/1151>
- [Prototype/Draft](#) now available

Docs that should be done for Napa

#1161 M [Protocol spec] **new**

#1156 S [use of localhost ref in getting started hybrid]

#1157 M [proxy env in ONVIF DS doc]

~~#1126 M [device props missing in migration guide]~~ **closed**

~~#1062 M [Update ProvWatcher in Meta-DD]~~ **closed**

#1037 S [Grove link broken]

#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]



# 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 - <b>in progress</b>	✓	High	M/L	Well-defined UCR and ADRs already. Owner: Lenny, Testing: Cherry
EdgeX V3 Docs Enhancements - <b>in progress</b>	✓	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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Other Topics



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Thank You