

EDGE X FOUNDRY™

TSC Meeting

August 26, 2020



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Meeting Logistics

Time: Wednesdays 8am PDT – 9am PDT

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/join?j=983155298>

** 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
IOTech	Keith Steele	keith@iotechsys.com	Outreach WG Chair
Kong	Colin Hutchinson	colin@konghq.com	Security WG Chair
Intel	Mike Johanson	michael.johanson@intel.com	Applications & Analytics WG Chair
IOTech	James Butcher	james@iotechsys.com	Test/QA WG Chair
IOTech	Jim White	jim@iotechsys.com	Core WG Chair

Current quorum = 7 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

- WG Updates
- TSC vote on Dependabot
- TSC vote on Legacy Requirements Doc (DS)
- Architect's meeting readout
- November release planning meeting (formerly "F2F" meeting)
 - Held virtually
- Hanoi deliverables
- Upcoming Events (Dev Advocate)



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Work Group Updates

Chairs

Working Group Chair Updates

- Around the horn
 - Product Manager - Lenny Goodell
 - Release Czar - Bill Mahoney
 - Applications - Mike Johanson
 - Device Services - Iain Anderson
 - Test/QA - James Butcher
 - DevOps - Ernesto Ojeda
 - Security - Colin Hutchinson
 - Outreach - Keith Steele
 - Certification - Rodney Hess
 - Marketing - Camilo Dennis
 - Vertical Solutions (and LF Edge TAC) - Henry Lau
 - Core/Supporting - Jim White

Product Manager (8/19/20)

Cross Cutting Issues (<https://github.com/orgs/edgexfoundry/projects/35>)

In Progress (5)

- V2 Implementations
 - Core Data V2 AddEvent API - **DONE!**
 - Metadata DTOs - **DONE!**
 - App Services V2 APIs - **DONE!**
- Configurable address for ListenAndServe
 - Bac-net-c Device Services remaining.
- Generate/Inject random passwords into Vault
 - ADR PR - **DONE!**
 - Implementations TBD
- Allow device services to be distributed to alternate hosts
 - Overlay Network & Service Mesh examples **WIP**
- Startup Configuration/Env does nothing
 - App SDK and Core/Support service - **DONE!**
 - App Service Config - **DONE!**
 - Device SDK Go - - **DONE!**
 - Device Services - TBD

Backlog (6)

- Message Bus from Device Service to App Services
- Dockerfiles incorrectly uses ENTRYPOINT
- **EdgeX Go services move to Go 1.15**
- **Secure Message Bus connection**
- **Secret Provider abstraction for all**
- **Design metadata about the “gateway” or host platform**

Done (3)

- Refactored Compose files
- Remove Support Rules Engine (just from compose files)
- Remove Client Monitoring

Icebox (7)

- V2 API Consumption
- Explore possible collapse of core command and metadata
- EdgeX Metrics Collection & Control Plane Event Handling
- Drop Logging Service completely (Revert WIP)
- Remove Mongo code (Revert WIP)
- Update config.Clients usage for new naming scheme
- Multiple arch docker images support

Release Czar (8/26/20)

Device services released last week:

1. device-grove-c (-> v1.2.1)
2. device-camera-go (-> v1.1.2)
3. device-modbus-go (-> v1.2.2)
4. device-mqtt-go (-> v1.2.2)
5. device-random (-> v1.2.2)
6. device-rest-go (-> v1.1.2)
7. device-snmp-go (-> v1.2.2)
8. device-virtual-go (-> v1.2.3)

Hanoi Release - Code Freeze and Release Dates.

Applications WG Update (26-Aug-2020)

- Metadata about “gateway” or host platform - Scoped
 - “AddTags” transform that will populate tags per config of an App Service on the Event DTO
 - Compatible with App Service Configurable
 - Dependent on Tags being added to go-mod-core-contracts

App Working Group Meeting Schedule update:

- Next meeting Aug 28th, 2020 @ 8AM PDT

Application Services

Functions (built into SDK)

Current/Complete:

- AES Encryption
- GZIP Compression
- ZLIB Compression
- MarkAsPushed
- PushToCore
- Device Name Filter
- Value Descriptor Filter
- Batch
- JSONLogic Filtering
- XML Conversion
- JSON Conversion
- MQTT(S) Export
- HTTP(S) POST Export

Features

- Store and Forward
- Web Server
- Configurable App Service
- Vault Integration for Secrets
- MQTT Event triggers (via go-mod-messaging)

Reference/Example App Services (Geneva)

(built on top of SDK)

- Azure IoT Hub
- Amazon IoT Core
- IBM Watson IoT
- Cloud Event Transformation
- Secret Retrieval Example

AVAILABLE

AVAILABLE

NEW!

Device Services WG Update (26-Aug-20)

In progress:

- Documentation updates
- Technical debt / bugfixes
- v2 API

Issue list:

- 23 in backlog (+1)
- 9 new issues (+6)

Next WG meeting September 14

Device Services - current/coming (as of 5/7/20)

Open Source connectors (Current):

- Modbus (TCP/RTU) in Go
- Virtual Device in Go
- SNMP in Go
- MQTT in Go
- BACnet (IP & MSTP) in Go
- ONVIF Cameras in Go
- REST in Go (NEW!)
- Grove in C

Open Source connectors (Future):

- Bluetooth in C (summer 2020)
- BACnet (IP & MSTP) in C (summer 2020)
- OPC-UA in C (summer 2020)

Commercial connectors (Current):

- File Exporter in C
- BLE in C
- Zigbee in C
- GPS in C
- CAN in C
- MEMS in C
- EtherCat in C
- Profinet in C

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

Commercial connectors (Future):

- EtherNet/IP in C (summer 2020)
- CanOpen in C (summer 2020)
- OPC-UA Pub/Sub in C (summer 2020)
- ONVIF in C (summer 2020)

QA/Test WG Update (25th August)

- Postman blackbox test - all tests passing
- TAF blackbox test - all tests passing
 - Fixed issues
 - Issue [#138](#), [Implement Performance Metrics] retrieve image and executable footprint.
 - Issue [#139](#), [Implement Performance Metrics] service uptime - deploy all services at once.
 - Issue [#141](#), [Implement Performance Metrics] CPU & Memory usage.
 - Issue [#164](#), [Implement Performance Metrics] document running performance metrics for EdgeX users.
 - Working issues
 - Issue [#140](#), [Implement Performance Metrics] improve reporting / outputs.
 - Issue [#142](#), [Implement Performance Metrics] ping API latency.
 - Issue [#155](#), Add TAF Tests for App Service V2 endpoints.(PR created)
 - Issue [#137](#), Modbus scalability test.

Postman Blackbox Test Cases

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Non Security	Redis	1308	0	0	0
x86_64 / CentOS	Security	Redis	1338	0	0	0
arm64 / Ubuntu	Non Security	Redis	1308	0	0	0
arm64 / Ubuntu	Security	Redis	1338	0	0	0

TAF Functional Blackbox Test Cases

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Non Security	Redis	52	0	0	0
x86_64 / CentOS	Security	Redis	52	0	0	0
arm64 / Ubuntu	Non Security	Redis	52	0	0	0
arm64 / Ubuntu	Security	Redis	52	0	0	0

TAF Integration Test Cases

Integration tests

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Non Security	Redis	6	0	0	0
x86_64 / CentOS	Security	Redis	6	0	0	0
arm64 / Ubuntu	Non Security	Redis	6	0	0	0
arm64 / Ubuntu	Security	Redis	6	0	0	0

Compatibility tests

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Security	Redis	12	0	0	0
arm64 / Ubuntu	Security	Redis	12	0	0	0

DevOps WG Update (08-26-2020)

Hanoi

Pipeline Enhancements

- [#2643](#), +8 more for device services [In Progress] Update ENTRYPOINT across Dockerfiles
- [#64](#) [In Progress] SPIKE Research Functionality to rebuild artifacts.
- [#43](#) [In Progress] Rewrite sample-service to better facilitate testing of DevOps services.
- [#229](#) [In Progress] Enable Snap build in edgex-go pipeline, remove legacy JJB jobs
- [Placeholder] edgex-cli pipeline work in the backlog. Probably will begin in a few weeks

Other

- LLRP device service - Discuss next steps in next WG meeting

Next DevOps WG Call 8/27/20 @ 9:00AM PST

Security WG Update (08-26-2020)

- Hanoi release
 - Items in Good shape: the heavy lifts have begun
 - Items that are at risk: [edgex-docs/pull/217](https://github.com/edgex-docs/pull/217) and [edgex-go/issues/2537](https://github.com/edgex-go/issues/2537)
- Security WG meeting
 - Next Meeting: Today & Sept 2
- Security Board
 - 26 Done (0)
 - 4 In Review (+1)
 - 3 In Progress (0)
 - 12 Backlog (0)
 - 0 New (-1)

Outreach WG Updates (8/26/20)

Certification Team

- See Wiki page for the latest progress

Vertical Solutions Team

- 8/25: Successful session with Tibco going over Project Air and their use of EdgeX

Marketing Team

- Web site progress
- Kicking off next week planning for 2nd topcoder challenge targeted for the fall

Core Working Group (Aug-19-2020)

- Current Status

- Backlog: 14 (same)

- In progress: 3 (+1)

- Done: 48 (+4)

- Bugs: 5 (+1)

- Under review: 1 (+1)

- V2 API

- Event query APIs
 - controllers and handlers for core and metadata
 - TAF testing

- Event UUID decision

- When an event (model instance usually done by a Device Service) is created, a UUID gets created and attached to the event no matter where it is created. ADR forthcoming.
 - Avoids use of correlationid or checksum for event identification.

- Gateway ID decision: tags added to event and populated by apps function

- CLI Hanoi release outlined

- Next call - 8/27/20 @ 10AM US/Central tomorrow

- V2 API
 - CLI - Hanoi Release Cleanup
 - EdgeX UI

Miscellaneous Issues/Topics

- Move to Go 1.15
- PRs in for rework of docs; reviews needed (email out today)
- LF Edge Annual review complete
- Dependabot - Mike to demo
 - discussion and vote to adopt across all repositories
- <https://github.com/edgexfoundry/edgex-docs/pull/204> - Legacy DS requirements doc
 - Needs TSC approval (or does it as it is legacy and not an ADR?).

Architect's Meeting Summary

Decisions:

- Dependabot for all repositories subject to TSC approval
- Gateway/host platform identification with addition of “tags” to events
 - Filled by app function before export based on config for Hanoi
- Go modules to be versioned with major releases - must be backward compatible for all minor/dot releases

Pending:

- PR Template (Mike/Tony)
- Removing Docker images (Jim)
- Order of event messages (Jim)



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Ireland Release Planning

formerly F2F meeting

Ireland Release Planning Meeting

- Global pandemic still requires this event to be virtual at least one more time
- With almost all events now being held virtually or cancelled, timelines becomes a bit more flexible. Considerations:
 - Nov 3 Election day in the US
 - Nov 11 Veteran's day in the US??
 - Nov 26 Thanksgiving in the US
- Proposed dates
 - Architect's PreWire Meetings: Oct 13-14 (2 x ½ days)
 - Hanoi Freeze: Oct 28th
 - Ireland Planning Meeting: Nov 9-13th (5 x ½ days)
 - Hanoi Release: Nov 18

Proposed Schedule

Day 1: Business Topics and Architecture Tee up

Day 2: Cadence & Process Check, Architecture Topics

Day 3: Ireland Scoping Part 1

Day 4: Ireland and beyond Scoping Part 2 & Adopter reaction

Allow anyone that is adopting EdgeX to weigh in on priorities and roadmap

Day 5: lessons learned, training and “un-conference”

Conference Questions

- How best to address global community timezones?
 - Last time: 9-noon except one day that was held in the evening to accommodate APJ
- LF Edge matters
 - Do we set aside anytime for cross-project efforts?



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Hanoi release deliverable tracking

Hanoi Progress - Good Progress/Looking to deliver

- Go 1.15
- V2 API core, DS, App Srv
- Allow DS to be distributed
- SSH tunnel how to guide
- Abstraction and pluggable mechanism to provide generation of secrets
- Design secure subsystem launch/bootstrap dependencies
- Design enablement of Vault PKI secret engine
- Address container security
- Vetting of 3rd party packages
- Design of HRT
- DevOps perf improvements
- Restructure of compose files - *stretch*
 - overrides/remove dupes
- Snap build improvements
- Roadmap for CLI
- Roadmap for UI
- Gateway identification
- Drools removal
- Kuiper enhancements
- LLRP RFID DS - *new*
- TAF blackbox testing
- Performance metrics testing
- Scalability (modbus) testing for user guidance - *stretch*
- Endorsement program
- Web site refresh
- Topcoder challenge, next steps

Hanoi Progress - TBD / delivery not assured

- Explore collapse of core command and metadata - *stretch*
- Msg bus between DS and appl srv - *impl stretch*
- Deployment / orchestration options
- Binary data for device writes (new)
- Bluetooth in C
- OPC-UA in C

Hanoi Progress - Delivery in jeopardy

- SMA - Service list fix
- ADR 0006 - metrics collection
- Secret Provider Abstraction
 - go-mod-secrets abstraction
- DS data filter design
- Protect the device fro harmful commands
- Bound checking design - *stretch*
- Overlay network how-to - *stretch*
- Service mesh how-to - *stretch*
- Secure Kong admin port with TLS

Hanoi Progress - Deferred to next release

- Remove Mongo
- Remove Logging



Upcoming Events & Dev Advocate Update

Aaron's updates

Upcoming External Events

- › [Open Source Summit Japan](#): 15-16 September, 2020 - Tokyo, Japan
 - › CFP Closed
 - › <https://events.linuxfoundation.org/open-source-summit-japan/program/cfp/>
 - › [Open Networking & Edge Summit North America](#): **28-29 September, 2020 - Virtual**
 - › [ONES Unconference Track](#)
 - › [Open Source Summit Europe](#): 26-28 October, 2020 - Dublin, Ireland
 - › CFP Closes July 26:
<https://events.linuxfoundation.org/open-source-summit-europe/program/cfp/>
 - › [KubeCon/CloudNativeCon North America](#): 17-20 November, 2020 - Boston, MA
 - › [IoT Solutions World Congress](#): 11-13 May, 2021 - Barcelona, Spain
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- › Discussions around upcoming events occur in the LF Edge Outreach Committee
 - › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>



LF Edge Webinar Series

Mark your calendar for upcoming webinars:

- State of the Edge
 - Thursday, September 17 - 9 am PT
 - More details to come
- Home Edge
 - Thursday, October 15 - 7:30 am PT
 - More details to come

Watch past webinars (**Akraino**, **EdgeX Foundry**, **Project EVE**, **LF Edge Taxonomy**) on-demand on the “On the Edge with LF Edge” playlist on Youtube - <https://bit.ly/3kmUciC>

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Upcoming/Recent Project Releases and Whitepapers

Akraino R3

- August 2020- <https://www.lfedge.org/projects/release-3/>

Recent & Upcoming LF Edge Publications:

- (Recent) White Paper: [Linux Foundation Edge: Taxonomy & Framework](#)
- (Recent) White Paper: [“Akraino Edge Stack APIs”](#)
- (Recent) Solution Brief: [“Edge Networking: An Introduction”](#) (co-produced with LF Networking)
- (Upcoming) White Paper: Akraino APIs (September, before ONES), Part 2

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Linux Foundation edX Course

- › Business Considerations for Edge Computing:
<https://www.edx.org/course/business-considerations-for-edge-computing>
- › Official EdgeX Training at LF
- › <https://training.linuxfoundation.org/training/getting-started-with-edgex-foundry-lfd213/>





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Thank You