

EDGE X FOUNDRY™

TSC Meeting

March 31, 2021



Antitrust Policy Notice

- › Linux Foundation meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.
- › Examples of types of actions that are prohibited at Linux Foundation meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at <http://www.linuxfoundation.org/antitrust-policy>. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrave of the firm of Gesmer Updegrave LLP, which provides legal counsel to the Linux Foundation.

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
- ADR review
- edgex-compose organization
- Config path to 2.0 **Alert**
- Go version (for Ireland)
- Digital Twin Liaison Status
- Annual EdgeX Awards
- Upcoming Events (Dev Advocate)



EDGE X FOUNDRY™

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 (3/31)

In Progress (6, +1/-1)

- **V2 Implementations**
 - Support Notifications APIs - **WIP**
 - Support Scheduler APIs - **WIP**
 - TAF testing V2 APIs - **WIP**
 - Device SDKs - DONE
 - Core Services - DONE
- **V2 Consumption**
 - Support Notification Clients - **TBD**
 - Support Scheduler Clients - **TBD**
 - App SDK V2 Clients - **TBD**
 - Device ModBus - **WIP**
 - Device Virtual - DONE
 - Core Metadata Clients - DONE
 - Core Command Clients - DONE
 - Device SDKs - DONE
 - App SDK V2 Event DTO - DONE
- **V1 Code removal**
 - App Services - Done
 - Device Services - WIP
 - Core/Support Services - TBD

Cross Cutting Issues

- Device Service send Events via MessageBus implementation
 - Device SDK C - **WIP**
 - Device SDK Go - **DONE**
 - Go Device Services - **TBD**
 - C Device Services - **TBD**
 - Core Data Subscribe - **TBD**
 - Core Data Publish topic - DONE
 - App SDK multi-subscriptions - DONE
 - ASC multi-subscriptions - DONE
- Secret Provider for All
 - Secret Store Setup - **WIP**
 - Camera Device Service - **TBD**
 - DS SDK C - TBD (**stretch**)
 - C Device Services - TBD (**stretch**)
 - Go Device Services - DONE
 - App Services - DONE
- Securing Consul with Access Token
 - Security Services - **WIP**
 - Device SDK GO - **WIP**
 - Core/Support services - TBD
 - Device Virtual - TBD
 - Device SDK C - TBD
 - Device Service C/Go - TBD
 - App Services - **DONE**

• Use service keys for Clients config

- Device SDK C: TBD
- Device SDK Go: **DONE**
- Device Virtual: **DONE**
- edgex-go : DONE
- App SDK: DONE
- ASC: DONE

Backlog (3, +1/-1)

- Switch Service to 2.0 config path for Consul
- Implement Generate/Inject passwords into Vault
- Metrics ADR

Done (10, +1)

- Registry Usage ADR
- LoggingClient DIC bug fix
- ADR Message Bus from Device Service to App Services
- ADR Secret Provider for All
- Remove Mongo code
- Conventional Commits for all
- Change go-mod-x & Go SDKs to be V2 Go Modules
- Consume dependent V2 Go Modules
- ZMQ fix for Hanoi dot release
- Drop Logging Service completely

Icebox (2, +/-0)

- EdgeX Metrics Collection & Control Plane Event Handling
- Secure Message Bus connection

Release Czar (April 1, 2021)

Ireland Release - Key Dates

- Freeze Date:
 - Monday, June 21st, 2021 (11 weeks)
- Release Date:
 - Wednesday, June 30th, 2021 (13 weeks)
- EdgeX 2.0.1
 - ~ August 2021
- Jakarta Virtual Planning Meeting:
 - June 21-24 (Monday - Thursday)
- Jakarta Release:
 - ~ Early November 2021

Any release concerns:

Please let Lenny, Jim and myself be aware as soon as possible.

Applications WG Update (31-Mar-2021)

Complete

- Registry/Config Access Token Support
- Support for custom structured configuration

WIP:

- Reviewing edgexfoundry-holding/rfid-llrp-inventory-service - Changes in-progress
- Documentation Updates

Application Services

Functions (built into SDK)

Current/Complete:

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

NEW!

NEW!

Features

- Store and Forward
- Web Server
- Configurable App Service
- Vault Integration for Secrets
- MQTT Event triggers

NEW!

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

Device Services WG Update (31-Mar-21)

Done

- Custom configuration support
- MessageBus support for Event data (Golang)

WIP

- MessageBus support for Event data (C)
- Secure Consul access

Project status: 34 issues backlog + 5 new (net -2)

Next meeting: April 12th

Device Services - current/coming (as of 11/4/20)

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 Cameras in Go
- REST in Go (NEW!)
- Grove in C

Open Source connectors (Future):

- Bluetooth Low Energy in C (2021) - contributed
- OPC-UA in C (2021) - under dev
- CoAP (2021) - contributed
- GPIO (2021) - contributed
- UART (2021) - contributed
- GPS

Commercial connectors (Current):

- File Exporter in C
- 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 Pub/Sub in C
- ONVIF in C
- Siemens S7 in C

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

Commercial connectors (Future):

- ZeroMQ (Q1 2021)
- RFID (Q1 2021)

QA/Test WG Update (30th March)

There was no meeting this week

- TAF tests - some failures caused by [edgex-go#3320](#), [edgex-go#3316](#), [edgex-go#3323](#)
- Fixed Issues
 - Issue [#324](#), implement tests for support-notification subscription POST method.
 - Issue [#343](#), implement tests for support-notification subscription GET/DELETE/PATCH methods
- Working Issues
 - Issue [taf-pipelines#61](#), disable device-virtual related tests.
 - Issue [#108](#), create Support Notifications V2 API Test Cases - Positive.
 - Issue [#348](#), update the query start/end timestamp to nanoseconds.
 - Issue [#224](#), ignore outlier values when calculating performance metric data.
 - Issue [edgex-go#3320](#), [v2 data] Event is deleted but it is not in delimiting age when delete by age.
 - Issue [edgex-go#3316](#), [v2 notifications] Succeed to update both fields labels and categories to empty.
 - Issue [edgex-go#3323](#), [v2 notification] Returned 500 error when sending subscription API by api gateway.
- New issue
 - Issue [#347](#), update tests to v2 for device service API.
 - Issue [#346](#), update tests for change to 2.0 Consul path

Next Meeting April 6th, 8am PST

TAF Functional 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	287	0	1	1
x86_64 / CentOS	Security	Redis	287	0	287	1
arm64 / Ubuntu	Non Security	Redis	287	0	1	1
arm64 / Ubuntu	Security	Redis	287	0	287	1

Jenkins Job: [functional-test](#)

TAF Integration 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	6	0	3	0
x86_64 / CentOS	Security	Redis	6	0	6	0
arm64 / Ubuntu	Non Security	Redis	6	0	3	0
arm64 / Ubuntu	Security	Redis	6	0	6	0

Jenkins Job: [integration-test](#)

TAF Performance 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	10	0	2	0
arm64 / Ubuntu	Non Security	Redis	10	0	2	0





Jenkins Job: [performance-test](#)

DevOps WG Update (03-31-2021)

Pipeline Enhancements

- [#102](#) [Hold] Docker image renaming. On hold until 30 days before Ireland release

Other

- [#51](#) [Reviewing] Spike: Semantic versioning git-semver replacement
 - Will be presenting a follow up to this in a future WG meeting to figure out next steps
- [Planning] Automated CHANGELOG creation
- [Planning] Repo Badges
- Note: Renaming master to    
 - When: After Ireland release, before next planning session April/May
 - How: DevOps will create main branch across all repos and will coordinate with the LF update the GitHub default branch
 - Add freeze period in the beginning of Jakarta to make the switch, coordinate pipeline changes in edgex-global-pipelines and any other repositories.

* DevOps WG Meeting April 1, 2021 @ 9:00 AM PST

Security WG Update (Mar 31)

- Next Meeting: Today & April 7
- Design Review
 - [Service Registry](#)
 - [Upload Threat Model](#)
- In Backlog: 6 (0)
- In Development: 1 (-1) In Progress / 2 (-1) In Review
 - [Secret Provider](#)
 - [Docker Container Guidelines](#)
 - [Secret Creation & Distribution](#)
 - [Securing Consul](#)
- Done 72 (+2)
 - [EdgeX TLS Usage](#)
 - [EdgeX OCI Bootstrapping](#)

Outreach WG Updates (3/31/21)

Certification Team

- Presented EdgeX Ready to China TSC

Vertical Solutions Team

- Open Retail Reference Architecture sub-project:
<https://wiki.edgexfoundry.org/display/FA/Open+Retail+Reference+Architecture>
- next call tomorrow (4/1/21) at 10am PDT.

Marketing Team

- Website in Chinese - work to begin in mid May and complete at release time

Core Working Group (3-30-2020)

- V2 API
 - Support services (notifications/scheduler) ongoing
- What remains for Ireland (beyond V2 APIs & clients)
 - TAF tests (work underway)
 - System Management service
 - Integration / use of V2 APIs (work underway)
 - Documentation
 - Message bus support (minimal for core but work underway)
- status
 - 22 in backlog (-2)
 - 19 in bug backlog (+3)
 - 0 in progress (even)
 - 134 done (+9)
- Next call - 4/1/21 @ 8AM PDT
 - System Management service considerations

ADR review (in order of priority)

<i>ADR name and PR number</i>	<i>Status</i>	<i>owner</i>	<i>Work Group</i>
Upload threat model / #259 (quasi ADR)	review - to be done by April 14th	Bryon Nevis	Secty
Metrics / #268	a refresh coming soon	Jim White	Core

* - indicates some work this week

edgex-compose organization

Per Core WG of 3/25/21...

We are going to change the organization of the compose repository

Eliminating the “release” folder

Adding a branch for each release

Simplifies management and avoids issues of the latest files not having the right version (and duplication)

Miscellaneous Issues/Topics

- Alert! Config path (Consul) moving to 2.0 path on April 7th!!
- Go Version: currently on Go 1.15
 - Some device services using 1.16 because of their use of latest OMQ lib
 - Do we all move to Go 1.16
- Digital Twin Consortium liaison
 - memo of understanding signed, charter complete and press release out
 - Working meeting to present EdgeX to DTC and start to identify deliverables - TBD
- EdgeX Awards
 - Nominations now until April 7



EDGE X FOUNDRY™

Upcoming Events & Dev Advocate Update

Aaron's updates

EdgeX Awards

- › Nominations end 7 April
- › http://bit.ly/EdgeX_Awards_wiki
- ›

Full list of LF events available at:
<https://events.linuxfoundation.org/>

Additional LF Edge events available at:
<https://www.lfedge.org/events/>



Upcoming External Events

- › **SoTE speaking at the IoT Hub 21 April, 2021**
- › [Embedded IoT World](#): 28-29 April, 2021 - Virtual
- › [Kubernetes on Edge Day](#): 4 May, 2021 - Virtual
- › [Open Source Summit Europe](#): 28 Sept - 1 Oct, 2021 - Dublin, Ireland
 - › [CFP](#) Deadline: 13 June, 2021
- › [IoT Solutions World Congress](#): 5-7 October, 2021 - Barcelona, Spain
 - › [CFP](#) is now open
 - › [Call for Testbeds](#) is now open
- › [Open Networking & Edge Summit North America](#): 11-12 October, 2021 - Los Angeles, CA
- › [KubeCon/CloudNative NA](#) Oct 12-15
 - › [KubeCon/CloudNative NA CFP](#) Due 11 April
- › Discussions around upcoming events occur in the LF Edge Outreach Committee
- › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>
- › [IoT Hub](#)- Meetup group



LF Edge Webinar Series

Akraino Edge Stack

Held Thursday, April 2 - [Your Path to Edge Computing with Akraino Edge Stack](#)

› On-demand recording available at: https://zoom.us/webinar/register/WN_Zjdo4-5fTQSIqH7pL8iHrQ

EdgeX Foundry

› Held Thursday, April 23 - [EdgeX Foundry 101: Intro, Roadmap and Use Cases](#)

› On-demand recording available at: https://zoom.us/webinar/register/4515850788014/WN_xCd6YPjEQrCwLiFhBWPkug

Project EVE

› Held Friday, May 29 - [Building the “Android of the IoT Edge”](#)

› On-demand recording available at: https://zoom.us/webinar/register/6415888722675/WN_35oZJ3hrQE69snMaiJUTPg

White Paper

› Held Thursday, July 9 - [Demystifying the Edge with the new LF Edge Taxonomy and Framework](#)

› On-demand recording available at: https://zoom.us/webinar/register/WN_icv5h6wFTcuw9O0xvMpgLw

Fledge

› Held Thursday, August 13 - [How Google, OSIssoft, FLIR and Dianomic use Fledge to implement Industrial 4.0](#)

› Recording available at: <https://www.youtube.com/watch?v=6JXNv3AJWog>

State of the Edge

› Held Thursday, September 17 - [State of the Edge: Exploring the Intersection of IoT, AI, 5G and Edge Computing](#)

› On-demand recording available at: https://zoom.us/webinar/register/8115959695936/WN_4rt-MmP1RI6Vkzn3ULpiAA

Home Edge

› Held Thursday, October 15 - [Home Edge: How Your Home Devices Get Deployed in An Edge Computing Services Ecosystem](#)

› On-demand recording available at: https://zoom.us/webinar/register/WN_uSlgb-R5Q4etkDhxoSXISQ

› More to follow...





EDGE X FOUNDRY™

Thank You