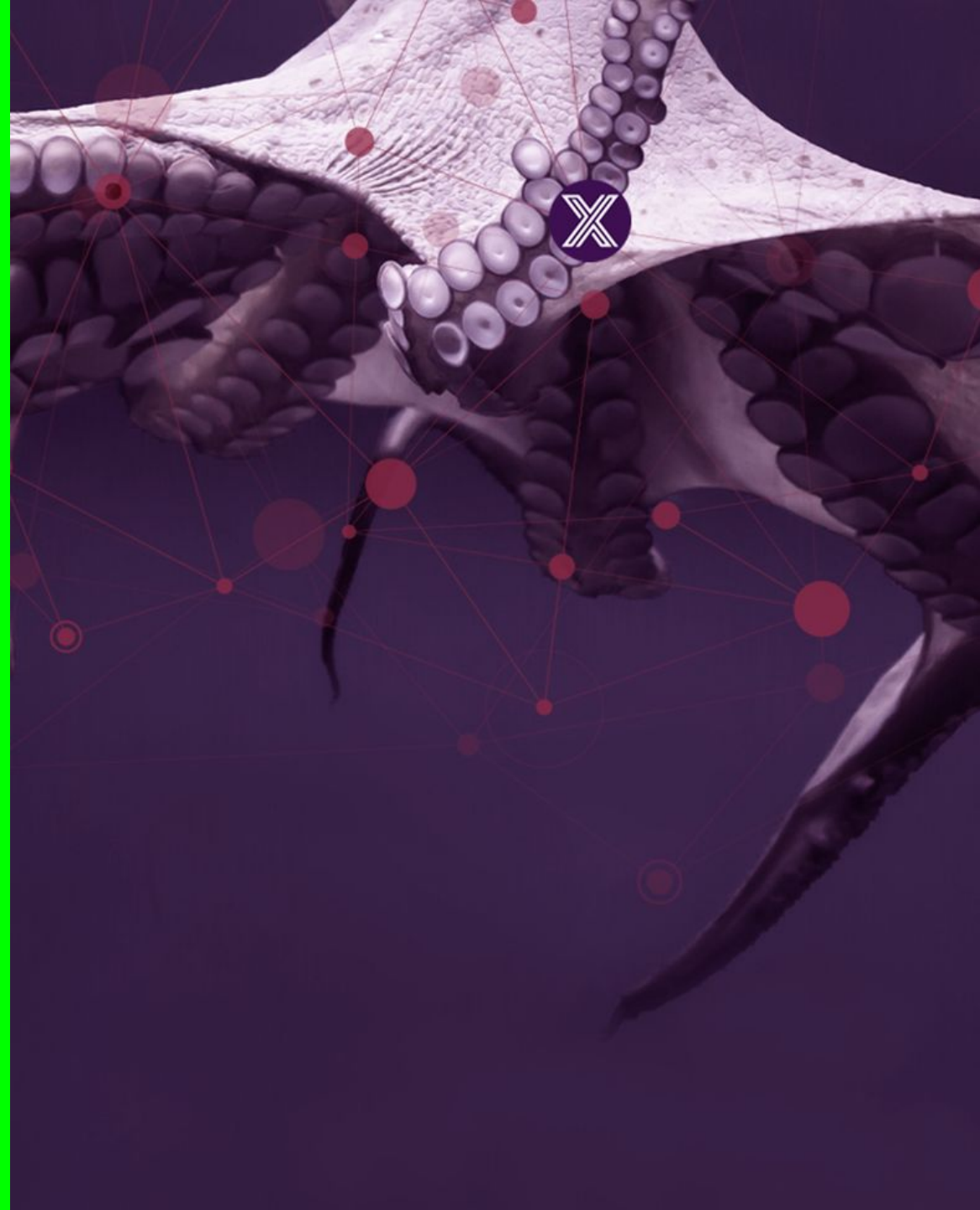


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# TSC Meeting

March 17, 2021



## Antitrust Policy Notice

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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)

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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	<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
IOTech	Keith Steele	<a href="mailto:keith@iotechsys.com">keith@iotechsys.com</a>	Outreach WG Chair
Kong	Colin Hutchinson	<a href="mailto:colin@konghq.com">colin@konghq.com</a>	Security WG Chair
Intel	Mike Johanson	<a href="mailto:michael.johanson@intel.com">michael.johanson@intel.com</a>	Applications & Analytics WG Chair
IOTech	James Butcher	<a href="mailto:james@iotechsys.com">james@iotechsys.com</a>	Test/QA WG Chair
IOTech	Jim White	<a href="mailto:jim@iotechsys.com">jim@iotechsys.com</a>	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
- Digital Twin Liaison
- Monthly Architect's Meeting Readout
- Configuration/data changes & tools/documentation
- Annual EdgeX Awards
- 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 (3/17)

## Cross Cutting Issues

### In Progress (6, +/- 0)

- V2 Implementations
  - **Support Notifications APIs - WIP**
  - **Support Scheduler APIs - WIP**
  - **TAF testing V2 APIs - WIP**
  - Device SDKs - DONE
  - Core Services - DONE
- V2 Consumption
  - **Core Data Clients - CBOR WIP**
  - **Support Notification Clients - TBD**
  - **Support Scheduler Clients - TBD**
  - App SDK V2 Clients - TBD
  - **Device Services (C & Go) - WIP**
    - **Device Virtual - WIP (PR)**
    - **Device ModBus - WIP**
  - Core Metadata Clients - DONE
  - Core Command Clients - DONE
  - Device SDKs - DONE
  - App SDK V2 Event DTO - DONE
- **Use service keys for Clients config**
  - **edgex-go : DONE**
  - App SDK: TBD
  - ASC: TBD
  - Device SDK Go: TBD
  - Go Device Services: TBD

- **Device Service send Events via MessageBus implementation**
  - Device SDK C - **WIP**
  - C Device Services - TBD
  - Device SDK Go - TBD
  - Go 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**)
  - MQTT Device Service - DONE
  - DS SDK Go - DONE
  - go-mod-bootstrap - DONE
  - edgex-go - DONE
  - App Srvs - DONE
  - go-mod-secrets - DONE
- **Registry Usage ADR (TSC Approval?)**

### Backlog (2, +/-0)

- Use service keys constants for Clients config
- Implement Generate/Inject passwords into Vault
- Metrics ADR

### Done (9, +/-0)

- 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 (Mar 17, 2021)

## Ireland Release - Key Dates

- Release Date: Wednesday, June 30th, 2021
- Freeze Date: Monday, June 21st, 2021
- Virtual Planning Meeting (Jakarta): 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.**

## Prior Release Activity

- Feb 8 - Hanoi Dot Release
  - app-service-configurable v1.3.1
  - edgex-cli v1.0.1
  - edgex-go v1.3.1
- Feb 8 - Device Services Release
  - device-grove-c v1.3.1

# Applications WG Update (17-Mar-2021)

WIP:

- Working on SDK refactoring to use interfaces and factory methods
- Reviewing edgexfoundry-holding/rfid-llrp-inventory-service
- Discussions around what a Flogo integration looks like

# 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 (17-Mar-21)

- CoAP DS: Approved
- DS Filtering ADR: Approved
- GPIO and RFID/LLRP DS: in review
- Device Profile model updates: Landed in edgex-go
- Project status: 38 issues backlog + 3 new (net -5)

Next meeting: March 22nd

# 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 (16th March)

- TAF tests - all passing (after [#3264](#) was merged last night)
  - Fixed Issues
    - [#3264](#), upload deviceprofile return code
    - [#326](#), update the app-service AES compare data
    - [#329](#), update the app-service trigger response content for source name changing
    - [#332](#), change ping url to v2
    - [#328](#), remove deploy device virtual on suite level on integration testing
    - [taf-pipelines#58](#), updating script for the deploy/remove device service
    - [#335](#), Update v2 device profile data and testcases
  - Working Issues
    - [#108/#109](#), [V2] create Support Notifications test cases - positive & negative
    - [#324](#), [V2] tests for support-notification subscription POST method
    - [#325](#), [V2] core command testcases

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 (03-17-2021)

## Pipeline Enhancements

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

## Other

- [#51](#) [Reviewing] Spike: Semantic versioning git-semver replacement
- [#319](#) [Complete] Developer enablement: Update documentation for pre-built pipelines
- Matrix/Slack Discussion in next WG meeting

DevOps WG Meeting March 18, 2021 @ 9:00 AM PST

# Security WG Update (Mar 17)

- Next Meeting: Today & March 24
- Design Review
  - [Service Registry](#)
  - [Upload Threat Model](#)
- In Backlog: 17 (+1)
- In Development: 3 (-1) In Progress / 3 (+1) In Review
  - [Secret Provider](#)
  - [Docker Container Guidelines](#)
  - [Secret Creation & Distribution](#)
  - [Securing Consul](#)
- Done 67 (+3)
  - [EdgeX TLS Usage](#)
  - [EdgeX OCI Bootstrapping](#)

# Outreach WG Updates (3/17/21)

## Certification Team

- **Approved!** 

## Vertical Solutions Team

- Open Retail Reference Architecture sub-project:  
<https://wiki.edgexfoundry.org/display/FA/Open+Retail+Reference+Architecture>

## Marketing Team

- Website in Chinese - bids are now in

# Core Working Group (3-16-2020)

- V2 API
  - Support services (notifications/scheduler) ongoing
- What remains for Ireland (beyond V2 APIs & clients)
  - TAF tests
  - System Management service
  - Integration / use of V2 APIs
  - Documentation
  - Message bus support (minimal for core)
- status
  - 22 in backlog (**even**)
  - 17 in bug backlog (**+1**)
  - 0 in progress (**even**)
  - 121 done (**+4**)
- Next call - 3/18/21 @ 8AM PST
  - Getting rid of timestamp (created) in Event/Reading

# ADR review (in order of priority)

<i>ADR name and PR number</i>	<i>Status</i>	<i>owner</i>	<i>Work Group</i>
Service Registry / #283 (HOT)	ready for TSC vote	Tony Espy	Core
Upload threat model / #259 (quasi ADR)	review	Bryon Nevis	Secty
Metrics / #268	a refresh coming soon	Jim White	Core

\* - indicates some work this week

# Miscellaneous Issues/Topics

- Digital Twin Consortium liaison
  - memo of understanding signed
  - [Draft charter and press release proposed](#)
  - Next step - working meeting to present EdgeX to DTC and start to identify deliverables
  - proposing this effort be worked under application services and core work groups
- LF's Matrix examination
  - Discuss list of features/bots/plugins we deem necessary and nice to have @ DevOps this week
- EdgeX Awards
  - Nominations now until April 7
  - Input from Outreach on proposed Organization Award
- China/PRC TSC - March 25 9pm EST
  - Rodney to present on EdgeX Ready

# Monthly Architect's Meeting (Monday) Readout

- See <https://wiki.edgexfoundry.org/display/FA/Monthly+Architects%27+Meeting> for recording and notes
- Decisions:
  - Drop created timestamp on Event/Reading (as part of review of these objects to remove redundancy and unnecessary properties)
  - Guidance as to keepcommit history (and not squashing commits) until a PR is approved (now posted in the [wiki](#))
- Discussions:
  - Unit of Measures - adopting a standard. Discussed some options and narrowed research/requirements. Jim to present more next month
  - Reviewed survey questions to Adopters and PRC EdgeX communities on Consul config changes, profile changes, DS protocols



# Configuration and other EdgeX 2.0 changes

Consideration: what tools, scripts, etc. do we produce to help end users migrate to EdgeX 2.0

- configuration.toml files
- Consul data
- Redis database
- Device service profiles

When do we bump to 2.0 in config path?

- Need to coordinate with WGs, TAF testers, DevOps, etc.

# edgex-go configuration.toml changes

Add of [Writable] [Writable.InsecureSecrets] [Writable.InsecureSecrets.DB] path = "redisdb" [Writable.InsecureSecrets.DB.Secrets] username = "" password = ""	Remove of [Service] ClientMonitor = 15000  [Logging] EnableRemote = false File = './logs/edgex-core-command.log'  [Databases] Name = 'metadata' Password = ""	Core Data add of [MessageQueue] PublishTopicPrefix = 'edgex/events' # /<device-profile-name>/<device-name> will be added to this Publish Topic prefix [MessageQueue.Optional] # Default MQTT Specific options that need to be here to enable environment variable overrides of them # Client Identifiers Username = "" Password = "" ClientId = "core-data" # Connection information Qos = "0" # Quality of Service values are 0 (At most once), 1 (At least once) or 2 (Exactly once) KeepAlive = "10" # Seconds (must be 2 or greater) Retained = "false" AutoReconnect = "true" ConnectTimeout = "5" # Seconds # TLS configuration - Only used if Cert/Key file or Cert/Key PEMblock are specified SkipCertVerify = "false"
[SecretStore] Type = 'vault'	[Startup] Duration = 30 Interval = 1	
[Service] ServerBindAddr = " # Leave blank so default to Host value unless different value is needed.		



# Upcoming Events & Dev Advocate Update

Aaron's updates

# EdgeX Awards

- › Voting ends 7 April
- › [http://bit.ly/EdgeX Awards wiki](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

- › [KubeCon/CloudNative NA CFP](#) Due 11 April
- › [Open Source Summit Europe](#): 28 Sept - 1 Oct, 2021 - Dublin, Ireland
- › [IoT Solutions World Congress](#): 5-7 October, 2021 - Barcelona, Spain
- › [Open Networking & Edge Summit North America](#): 11-12 October, 2021 - Los Angeles, CA
- › [KubeCon/CloudNative NA](#) Oct 12-15
  
- › Discussions around upcoming events occur in the LF Edge Outreach Committee
- › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>
- › [IoTHub](#)- 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](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](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](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](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](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](https://zoom.us/webinar/register/WN_uSlgb-R5Q4etkDhxoSXISQ)

› More to follow...





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Thank You