

EDGE X FOUNDRY™

# TSC Meeting

September 23, 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	<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
- Ireland planning meetings
- 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 (9/22/20)

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

## In Progress (3, -2)

- V2 Implementations
  - DTOs & Models in Core Contracts - Done
  - Custom Error mechanism - Done
  - App Services APIs - Done
  - **TAF testing App Services - Done**
  - **Device SDK Go - WIP**
  - **Core Data APIs - WIP**
    - AddEvent - Done
    - Event queries - WIP
  - **Core MetaData APIs - WIP**
    - AddDeviceProfile - WIP
  - **TAF testing Core APIs - WIP**
- Generate/Inject random passwords into Vault
  - ADR complete, Implementations TBD
- Allow device services to be distributed to alternate hosts
  - SSH - Done
  - Overlay Network - Done
  - **TBD - Service Mesh**

## Backlog (1, 0)

- Message Bus from Device Service to App Services

## Done (8, +2)

- Refactored Compose files
- Remove Support Rules Engine (just from compose files)
- Remove Client Monitoring
- Dockerfiles incorrectly uses ENTRYPOINT
- Configurable address for ListenAndServe
- Startup Configuration/Env does nothing
- **EdgeX Go services move to Go 1.15**
- **Design metadata about the “gateway” or host platform (Tags)**

## Icebox (8, 0)

- 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
- Secure Message Bus connection
- Secret Provider abstraction for all



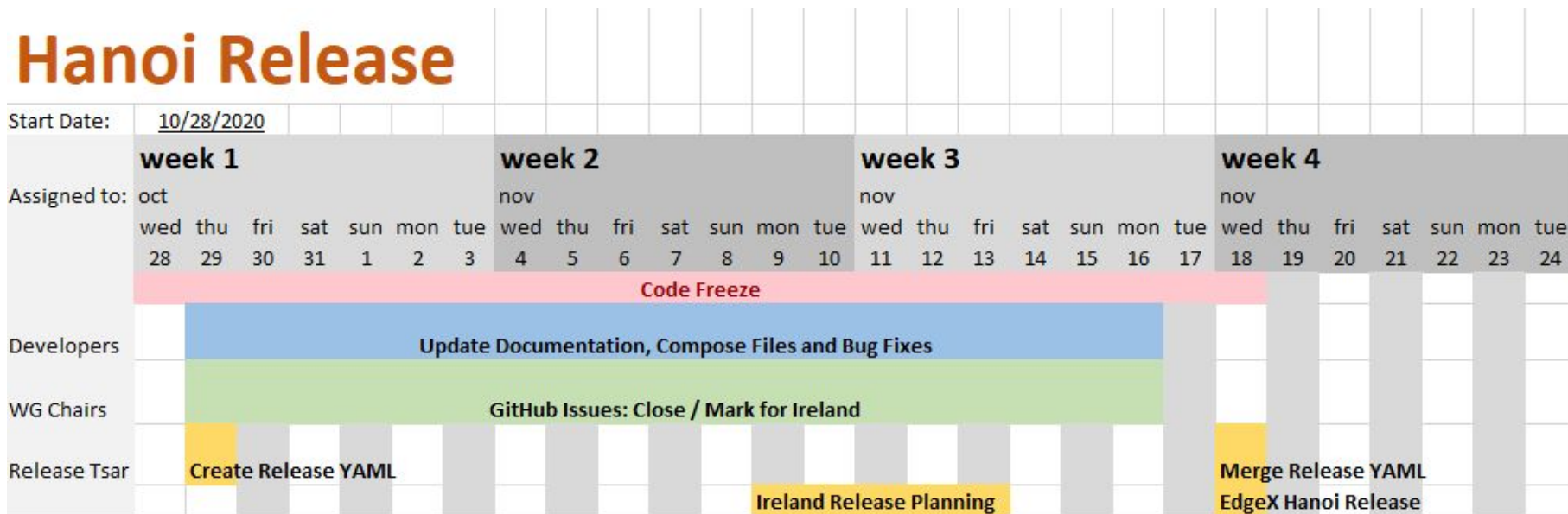
# Release Czar (9/23/20)

9/21/2020 - device-bacnet-c - v1.2.0 released

## Hanoi Release -

Code Freeze: October 28th (5 weeks away)

Release Date: November 18th (8 weeks away)



# Applications WG Update (23-Sep-2020)

## Completed

- Unit test data race for message bus
- MQTT Trigger to allow cloud data driven actions
- Go 1.15.2
- Fix issue for when “path” property is empty on V1/V2 Secrets API

## WIP

- TAF test case for App Service V2 APIs

## Upcoming

- Help Create ADR for Device Service to App Services via Message Bus (#241)
- Expose EdgeX Clients on SDK so they are accessible to custom endpoint handlers. (#446)

- Next meeting Sep 25th, 2020 @ 4:30pm 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 (23-Sep-20)

## Device Services:

- BACnet released at 1.2.0
- Early discussions on contributions for GPIO, UART, RFID/LLRP, CoAP

## Hanoi workpackage:

- 17 in backlog (-5)
- 4 new issues (+2)

Next WG meeting September 28

# 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 (22nd September)

- Postman blackbox test - all tests passing
- TAF blackbox test - all tests passing
  - Fixed issues
    - Issue [#155](#), add TAF Tests for App Service V2 endpoints.
    - Issue [#184](#), modify core-data V2 API testcases for event id pre-populated.
    - Issue [taf-pipelines#40](#), [functional-test] Add V2 API app-service test.
    - Issue [app-functions-sdk-go#476](#), secrets V1/V2 API returns 503 Request timed out when `path` property
  - Working issues
    - Issue [#316](#), startup issue due to Virtual Device using old SDK version (PR waiting)
    - Issue [#137](#), Modbus scalability test - some hiccups
    - Issue [#187](#), implement core data V2 API test cases.
- A.O.B
  - Meeting time change: 8am PDT / 4pm UK / 11pm Taiwan from next Tuesday 29th Sep
  - Automated Snap blackbox testing started

# 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	1309	0	0	0
x86_64 / CentOS	Security	Redis	1339	0	0	0
arm64 / Ubuntu	Non Security	Redis	1309	0	0	0
arm64 / Ubuntu	Security	Redis	1339	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	69	0	0	0
x86_64 / CentOS	Security	Redis	69	0	0	0
arm64 / Ubuntu	Non Security	Redis	69	0	0	0
arm64 / Ubuntu	Security	Redis	69	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

# TAF Performance test

## Performance test Number Count

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	0	0
arm64 / Ubuntu	Non Security	Redis	10	0	0	0

Jenkins Job: [performance-test](#)

# DevOps WG Update (09-23-2020)

## Pipeline Enhancements

- [#234](#) [In Progress] Initial edgex-cli build pipeline
- [#195](#) [Complete] Research auto-generation of documentation for edgex-global-pipelines
- [#244](#) [Complete] GitHub Release automation. Demo in next WG meeting.
- [#2698](#) [Complete] Fix swagger DRY\_RUN issue
- Misc pipeline library tech debt and bug fixes for git-semver.

Next DevOps WG Call 9/24/20 @ 9:00AM PST

# Security WG Update (9-23-2020)

- Previous Meeting: Sept 9
- Next Meeting: Sept 23 and Sept 30
- Security Board
  - 36 Done (+2)
  - 5 In Review (0)
  - 1 In Progress (0)
  - 11 Backlog (-1)
  - 1 New (0)

# Outreach WG Updates (9/23/20)

## Certification Team

- Need volunteers: How-to guide when working with sample data
- Discussions on the workflow on how users join the Endorsement program

## Vertical Solutions Team

- look for upcoming adopter presentations soon

## Marketing Team

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

# Core Working Group (9-23-2020)

- Current Status

- Backlog: 8(-1)

- In progress: 4 (-1)

- Done: 80(+8)

- Bugs: 9 (+4)

- Under review: 0 (-4)

- V2 API

- Event query APIs & Error handling

- Kubernetes Project Group - kick off meeting

- Sept 28, noon

- Agenda:

- define the general strategy and scope of this EdgeX project group

- outline the crawl, walk, run steps to achieve the goals

- try to get some commitments on action items to take the first steps

- discuss any logistical needs

- Next call - 9/24/20 @ 10AM US/Central tomorrow

- Conventional Commits

- Ireland planning/scope



# Miscellaneous Issues/Topics

- Conventional Commits
- Push for review of Security PRs
  - Some progress on PRs140 & 217 docs
  - PRs 2574, 2659 edgex-go (big and not a lot of movement)
- Zoom policy changes
  - Starting September 27th Zoom is going to **enforce** all active accounts to have either a passcode or a waiting room for any active meetings
  - Brett has repaired all Zoom invites - update your calendars (check the Wiki)

# Miscellaneous Issues/Topics

- **Call for Ireland...**
  - unconference topics
  - architecture topics
  - feature requests/tech debt you think should be addressed
  - etc.



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# Ireland Release Planning

formerly F2F meeting

# Register NOW

- See Wiki for details:  
<https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=52330532>
- Initial agenda deck should be available sometime next week
- Registration sight now available - please register (its FREE)
  - <https://events.linuxfoundation.org/edgex-foundry-ireland-release-planning-conference-fall/>

# Ireland Release Planning Meeting

## 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

Evening time to accommodate APJ

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

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



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Hanoi release deliverable tracking



# Hanoi Progress - Good Progress/Looking to deliver

- Go 1.15
- V2 API core data, 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
- Overlay network how-to - *stretch*

# Hanoi Progress - TBD / delivery not assured

- V2 API for all of core - likely core data and metadata but not command
- Msg bus between DS and appl srv - *impl stretch*
- Deployment / orchestration options (Kubernetes)

# Hanoi Progress - Delivery in jeopardy

- Explore collapse of core command and metadata - *stretch*
- SMA - Service list fix
- ADR 0006 - metrics collection
- Secure message bus connection
- Secret Provider Abstraction
  - go-mod-secrets abstraction
- DS data filter design
- Protect the device fro harmful commands
- Bound checking design - *stretch*
- Service mesh how-to - *stretch*
- Secure Kong admin port with TLS
- Bluetooth in C
- OPC-UA in C
- Binary data for device writes (new)

# Hanoi Progress - Deferred to next release

- Remove Mongo
- Remove Logging



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# Upcoming Events & Dev Advocate Update

Aaron's updates

## Call for Speakers for Co-located events

- › [ONES](#) on October 1, 2020. Target speakers are service provider (e.g. telco, cable operator) or an end user organization. The submission deadline for this session is September 15 and the agenda will be finalized on September 18.
  
- 2. [Edge Computing World](#) on October 20, 2020. Target speakers is are current or potential consumers of code from any LF Edge project. These can be end user organizations or OEMs that build solutions for their own customer base. The submission deadline for this session is October 6 and the agenda will be finalized on October 9.

**For more information visit the event wiki:**

<https://wiki.lfedge.org/display/LE/2020+Fall+Kickoff+Virtual+Event+Series>



# Upcoming External Events

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

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

- › [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
  
- › 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