

EDGE X FOUNDRY™

# TSC Meeting

November 10, 2021



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Time: Wednesdays 8am PDT – 9am PDT

Join from PC, Mac, Linux, iOS or Android: <https://zoom.us/j/983155298>

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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	Jim White	<a href="mailto:jim@iotechsys.com">jim@iotechsys.com</a>	Outreach WG Chair
Intel	Bryon Nevis	<a href="mailto:bryon.nevis@intel.com">bryon.nevis@intel.com</a>	Security WG Chair
Intel	Lenny Goodell	<a href="mailto:leonard.goodell@intel.com">leonard.goodell@intel.com</a>	Applications & Analytics WG Chair
IOTech	James Butcher	<a href="mailto:james@iotechsys.com">james@iotechsys.com</a>	Core/Test/QA WG Chair

Gavin Lu (VMWare), Tony Espy (Canonical), Melvin Sun (Intel)

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

- Jakarta release
  - LTS manual Testing
  - Jakarta docs
- WG Updates
- ADR updates
- Misc
  - Monthly Architect's Meeting
  - Jakarta LTS page draft
  - Kamakura Planning notes
  - Project Board for design decisions (and wiki) draft
  - README page review
  - Release planning policy/rules Wiki page draft
  - Calendar shift
  - SwaggerHub issue
  - Thanksgiving week
  - 3rd party package review
  - Planning meeting action item updates



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# Work Group Updates

Chairs

# Release Czar (11-10-2021)

## Release Dates

- Freeze date: Oct 27th ( 2 weeks away)
- Release date: Nov 17th ( 5 weeks away )

## Jakarta CHANGELOG.md Updates

- [Download, Update and Commit](#)





# Jakarta Manual Testing for LTS

Test	Owner/Actions
Test any configuration not already handled by new TAF tests	<ul style="list-style-type: none"> <li>Persistence on/off (running without core data and with persistence = false pass through) may be covered</li> <li>DS REST vs Message Bus (Redis) – test REST with Virtual DS</li> <li>Test CORS support – check headers there if enabled (both ways secure/non secure)</li> </ul> <p>Jim Action</p>
Test reboot of the system. Make sure EdgeX can come back up	<p>Containerized - Lenny Action</p> <p>Snap reboot test – Tony Action</p>
Test device services (with real hardware where possible)	<p>Test something that uses C SDK</p> <p>Bacnet update – simulator - Iain Action</p> <p>Modbus, SNMP, GPIO – real device – Jim Action</p> <p>CoAP, RFID, Grove – in process of port to V2; address when ported</p>
Working with service authors to identify minimal tests	<p>Start requiring contributions of DS to include this</p> <p>Kamakura task – add MD page to each DS (create issues – Jim Action)</p>
Test different combinations/permutations of app functions in app services	<p>MQTT and HTTP export are important ones – covered TAF</p> <p>Use sample config to drive this – Jim Action</p>
<del>Test on Windows Native</del>	<p>Kamakura Arch topic</p>
Test running with multiple services of same type (device service and app services)	<p>App service – done in TAF</p> <p>DS – should be done in all; not a blocker</p> <p>Generic test – 2 DS running simultaneous</p> <p>Jim Action – try MQTT, Modbus</p>

<p>Test CORS support – check headers there if enabled (non-secure)</p>	<p>Yes – confirmed with</p> <pre>url -X OPTIONS 'https://localhost:59880/api/v2/event/count' -H "Origin: https://localhost" -H "Access-Control-Request-Method: GET" -v -o /dev/null</pre> <p>CORS headers there when EnableCORS=true; not there when EnableCORS=false</p>
<p>Test CORS support – check headers there if enabled (secure)</p>	<p>Yes - confirmed</p>
<p>Test reboot of the system. Make sure EdgeX can come back up</p>	<p>Docker - confirmed <b>Snap - Tony?</b></p>
<p>Persistence on/off (running with core data on but not persisting)</p>	<p>Works as expect - Setting PersistData to false results in messages not getting persisted, but events still sent to Core data</p>
<p>Core data not running and DS send to app service</p>	<p>Works as expected</p> <p>Removed Core Data (data) from the compose file (and all references). <b>GUI continues to report errors but no other ill effects found.</b> Tried setting UseMessageBus to false on DS to see what would happen. "Failed to push event to Coredata..." as expected.</p>
<p>DS sending via REST vs message bus (default)</p>	<p>Works as expected</p> <p>Set UseMessageBus to false on the DS, and log level on DS and app rules engine to DEBUG to see data still coming through and DS reports "pushed to Coredata" vs "published to MessageBus"</p>
<p>Test device services with real devices</p>	<p>GPIO – with moisture sensor working</p> <p>SNMP – with Patlite device working</p> <p>Modbus RTU – with Temperature probe working (<b>address id is now zero base where it was one base – but still works</b>)</p> <p>BACNet – <b>Iain Test</b></p>
<p>Test different combinations/permutations of app function in app services (MQTT and HTTP export are important ones that are already covered by TAF)</p>	<p>Added MQTT Export function with default Transform and MQTTExport functions.</p> <p>Issue with Encrypt function in the Pipeline that Lenny is fixing/fixing</p>
<p>Run multiple instances of the same DS</p>	<p>MQTT: Created device-mqtt1 and device-mqtt2 in compose file using the MQTT DS compose template. Just had to change the SERVICE_HOST, CONTAINER_NAME, HOSTNAME. Also had to set device</p>

# Jakarta LTS Documentation

- Agreement by community about what is included in LTS
  - All edgex-go services (core data, metadata, command, support scheduler, notifications) – v2.1
  - App functions SDK v2.1
  - App service configurable v2.1
  - Device Service SDK Go v 2.1
  - Device Service SDK C v2.1
  - Device services v2.1s (virtual-go, modbus-go, snmp-go, rest-go, mqtt-go)
  - Not included in LTS
    - LLRP app service and device service
    - SMA (executor and agent) – with caveat
      - The system management services were deprecated with the Ireland. Should a significant issue (critical or high level issue) be discovered on the system management services and a fix to the issue has been created, the community will include the fix with any other LTS patch release. However, a fix to a system management service will not trigger an LTS patch release alone.
    - device-camera-go but we will have one for 1st quarter 2022 (either replacement or improved current)
    - device-gpio, device-grove-c, device-bacnet-c, device-uart-c , coap
    - GUI/CLI tools are dev tools – not included officially in LTS
      - Best effort to keep these compatible, but they are use at your own risk
- Place these details on the LTS wiki page - Jim action item to create page and reaction for TSC (Done ✓) - covered in Misc

# Working Group Chair Updates

- Around the horn
  - Release Czar - Bill Mahoney
  - Product Manager - Lenny Goodell
  - Applications - Lenny Goodell
  - Core - James Butcher
  - Device Services - Iain Anderson
  - DevOps - Ernesto Ojeda
  - Security - Bryon Nevis
  - PRC Updates
  - Outreach - Jim White
    - Certification - Rodney Hess
    - Marketing - Camilo Dennis
    - Vertical Solutions (and LF Edge TAC) - Henry Lau

# Product Manager (11/10) - Jakarta

[Cross Cutting Issues](#)

In Progress (8, -1)

- [Securing Consul with Access Token](#)
  - C Device SDK - TBD
  - C Device Services - TBD
- **Secure Message Bus connection**
  - C Device SDK - TBD
  - C Device Services - TBD
- [Secret Provider for All](#)
  - DS SDK C - DONE
  - C Device Services - TBD
- **CORS for all (secure and non-secure)**
  - Go services - **DONE**
  - C SDK - TBD
- **Request new Consul token on Auth failures**
  - Go Services - **DONE**
  - C SDK/Services - TBD
- **Implement Generate/Inject passwords into Vault**
  - Go Services - **DONE**
  - C SDK/Services - TBD

- **add a "make lint" target**
  - edgex-go - DONE
  - App Services - **DONE**
  - go-mods - TBD
  - Go Device SDK - TBD
  - Go Device Services - TBD
  - C Device Services - N/A
- **Metrics ADR - WIP**

Done (6, +2)

- Quotes in TOML files inconsistent
- Commit go.sum & remote tidy script
- Upgrade Base Images to alpine3.14
- New PR template
- **Use generic interface in the Event Tagging value**
- **Support complex object types in Reading**

Backlog (0, -1)

Icebox (0)

# Applications WG Update (11/10/2021)

## Completed

- Bug fixes
  - SDK - BUG: Configurable Encrypt function has initvector required for new aes256 algo #994
  - ASC - BUG: Use add/use proper sample AES256 key in appropriate profiles #349
  - SDK - BUG - Unable to fix configurable pipeline issues once errors #998
  - SDK - BUG - PerTopicPipelines not rebuilt when changes are made to pipeline from Consul #999
- Others
  - Cleaned up ASC readme
  - New AES256 Encrypt function and documentation
    - Deprecated old weak function
  - Fixed MQTT Store and Forward bug
  - Custom trigger rework for multi-pipelines
  - CORS support added to SDK and ASC

## WIP

- Change Logs for 2.1.0

## eKuiper

- Injection of Secure MessageBus credentials complete for **shared Connections** (support for their 1.4.0 release)

## Next

- Kamakura!!!

**Project Board:** <https://github.com/orgs/edgexfoundry/projects/23>

# Application Services - Ireland

## Functions (built into SDK)

- Add Tags
- Batch
- Compression (GZIP & ZLIB )
- Conversion (XML & JSON)
- PushToCore
- ~~MarkAsPushed~~
- Encryption (AES256)
- Export
  - MQTT
  - HTTP POST & PUT
- Filtering
  - By Profile Name
  - By Device Name
  - By Source Name
  - By Resource Name
- JSONLogic
- Set Response Data

## 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
- Clients
  - Logging, Event
  - Command
  - Device, DeviceService
  - DeviceProfile
  - Notification
  - Subscription
  - Registry

## Reference/Example App Services

(built on top of SDK)

- Simple Filter
- Simple Filter and MQTT Export
- Simple Filter and HTTP Export
- Simple CBOR
- Azure IoT Hub
- Amazon IoT Core
- Cloud Event Transformation
- Secret Retrieval
- JsonLogic

- Send Command
- Convert & Publish
- Custom Target Type
- IBM Watson IoT (ASC Profile)
- Custom Trigger
- Influx DB Export
- Fledge Export

# Core WG Snapshot (10 Nov 2021)

- Jakarta:
  - TAF - all passing
    - Functional test: 541
    - Integration test: 37
    - Performance test:10
- Kamakura
  - Beginning to start action items from planning week - no updates yet

## Core Project Board Status

- 8 New Issues (+4)
- 7 Release Backlog (+0)
- 0 Bug Backlog (+0)
- 2 In Progress/QA (+0)
- 81 Done (+2)
- 4 Jakarta Stretch (+0)
- 16 Icebox (+0)

## QA/Test Project Board Status

- 1 New Issues (+0)
- 3 Release Backlog (+0)
- 0 In Progress/QA (-1)
- 19 Done (+1)
- 0 Icebox (+0)

Next meeting Thursday November 11th @ 8am Pacific Time



# Device Services WG Update (10-Nov-21)

## Late Jakarta items - code

- SDK profile caching issue - merged
  - Required for LLRP device service

## Late Jakarta items - doc

- #618 - OperatingState values - PR
- #624 - Service name override
- #597 - Message bus configuration

## DS updates

- CoAP - enhancement PR in review

*Next meeting: November 15th*

# Device Services - current/coming (as of v2.1)

## Open Source connectors (Current):

- Modbus (TCP/RTU) in Go
- Virtual Device in Go
- SNMP in Go
- MQTT in Go
- BACnet (IP & MSTP) in C (v1 only)
- ONVIF Cameras in Go
- REST in Go
- Grove in C
- 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
- MEMS 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

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

# DevOps WG Update (11-10-2021)

## Pipeline Related

- [Hold] Go 1.17 released - [Release Notes](#) - On hold until Kamakura

## Other

- [In Progress] Developer Badge Program
  - Finalizing details of Credly implementation

**Next DevOps WG Meeting Thursday, November 11, 2021 @ 9AM PST**

# Security WG Update (11/10/21)

## Next Meeting: Today

- Last week:
  - Kamakura planning
- Today's topics
  - Any release blockers?
  - Review backlog from Kamakura planning

### Security Project Board Status

- 0 New Issues
- 14 Release Backlog (kk)
- 1 In Progress/QA (0)
- 3 In review (0)
- 40 Done (to archive)

### Secure Consul Project Board Status

- 0 In-review
- 0 In-progress
- 2 Phase 1 To-do
- 1 Phase 2 To-do
- 4 Phase 3 To-do

# Updates on EdgeX in Chinese speaking regions

More developers are joining EdgeX Ready program

- Submitted: Jiangxing Intelligence
- Ongoing: Huaqin LTD
- Pipeline: HYD-soft

# Outreach WG (11/9/21)

## Certification

- EdgeX Ready social media blitz

## Developer Badge Program

- Demo at next DevOps
- Jim to work on media release as part of Jakarta release
- Draft Wiki page created - feedback welcome
- <https://wiki.edgexfoundry.org/display/FA/EdgeX+Developer+Badges>

## EdgeX Challenge - Smart \*

- Wiki page created - Feedback welcome
- Sponsors needed

## Topcoder

Proposal for contest - dev GUI to see msgs between services (using Fyne or Gio UI)

Next meeting Monday Nov 28th at 9am PDT  
Canceled next week's meeting

# ADR review

<b><i>ADR name and PR number</i></b>	<b><i>Status</i></b>	<b><i>owner</i></b>	<b><i>Work Group</i></b>
Metrics / #268	Review - trying to get approved by EOY	Jim White	Core
ADR on unit of measure / #386	Needs review	Jim White	Core
ADR for delay start service secret store token	Ready for a vote	Bryon Nevis	Security
Device profile changes / #605	Needs review - trying to get approved by EOY	Jim White	DS

\* - indicates some work this week

# Miscellaneous

- Monthly Architect's meeting - Monday the 17th
  - Jim can't make the meeting
  - Alternative moderator, reschedule or cancel
- Jakarta LTS page draft (<https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=70948690>)
  - Seeking TSC review and approval
- Kamakura Planning - scope, action items, etc. available on the Wiki
  - <https://wiki.edgexfoundry.org/display/FA/Nov+1+-+4%2C+2021%3A+Kamakura+Planning+Conference>
- Project Board for project decisions (and Wiki page describing process) have been set up and ready for review
  - <https://github.com/orgs/edgexfoundry/projects/45>
  - <https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=73663048>



# Miscellaneous

- README pages check for broken links, old doc refs, master v main refs
  - Issues created for ones that need help (simple master reference was not issued)
  - DevOps to look at broken link pipeline for future
  - WG leads have a look at your repositories
- Release Planning Policy/Rules page on the wiki created
  - <https://wiki.edgexfoundry.org/display/FA/Release+and+Planning+Scheduling>
  - Seeking LTS review and approval
- Calendar shift to standard time
  - WG Leads, please check your meeting times and Zoom info
- SwaggerHub account got turned off on Nov 4 from a “paid” account to free
  - Took away some rights we have
  - We were given a free “paid” account because we were open source. I am trying to find out what happened
- **Thanksgiving week - Nov 22-26: I am going to ask all WG leads to give everyone a week off of meetings unless there is objection**

# Miscellaneous

Per Planning Meeting, TSC asked to have the 3rd party packages that we would like to remove (but are deferring for now) re-reviewed. Here are the results:

- [bitbucket.org/bertimus9/systemstat](https://bitbucket.org/bertimus9/systemstat) (No changes since reviewed)
- [github.com/armon/circbuf](https://github.com/armon/circbuf) (No changes since reviewed)
- [github.com/go-logfmt/logfmt](https://github.com/go-logfmt/logfmt)
  - latest is 0.5.1 (Not dynamically versioned as it was a while back)
  - Now used by 10.8K, 4 contributors, 130 stars
- [github.com/mitchellh/consulstructure](https://github.com/mitchellh/consulstructure) (No changes since reviewed)
- [github.com/pascaldekloe/goe](https://github.com/pascaldekloe/goe) (No changes since reviewed)
- [github.com/ryanuber/columnize](https://github.com/ryanuber/columnize) (No changes since reviewed)
  - However, there are 7 tagged releases (vs dynamic) we could choose from
- [github.com/sean-/seed](https://github.com/sean-/seed) (No changes since reviewed)

Added column to our 3rd party list table to indicate when last reviewed

# Jakarta Action Items

- CORs enablement needs to be documented with information on how to pick/select secure (Kong) or unsecure CORs enablement
  - **Jim** to create doc issue (Done✓)
- One more update to Bootstrap
  - **Lenny** (Done✓)
- App service AES problem
  - Leave old transform in place to keep backward compatibility
  - Have fix in place that people can opt to use (Done✓)
  - New feature to be merged (**Bryon and Lenny and Alex**) (Done✓)
  - **Bryon** will publish CVE once we have remediation in place
  - Issue for docs created (pending PRs)
- New issue in Provision Watcher (Lenny discovered)
  - Watcher is trying to pull it from cache when it has not been added there
- Docs
  - Need binary data sending/consuming example (**Jim** to create issue) (Done✓)
  - **Jim/Lenny** to clean up Jakarta docs project board; determine what is in scope (Done✓)
  - URLs in repository READMEs and TOML files point to different versions (**Jim** to search and create issues or fix) (Done✓)
  - Add and improve device service docs (**Iain** to lead discussion about what is needed in next DS WG meeting) (Done✓)
  - Getting started guide – possibly replace HiveMQ with EMQ Xbroker (**Jim** to explore; create issues as necessary)
  - Take care of to-do in GUI with Snaps (<https://docs.edgexfoundry.org/2.1/getting-started/tools/Ch-GUI/#snaps>) (**Tony** & Canonical to work)

# General Action Items

- Update Calendar times to standard time (Done✓)
- Wiki document on tracking project decisions - **Jim** Action (Done✓)
- Add release and planning meeting timing to Wiki - **Jim** Action (Done✓)
- Research alternatives to big 3<sup>rd</sup> party enterprise components (Kong, Vault, Consul)
  - Tyk, Consul API Gateway, NginX, ...
- Check poor 3<sup>rd</sup> party dependencies for any updates/better support (Done✓)
  - **Jim** action
- What is required to trigger performance tests from edgex-taf?
  - Is this already being done?
  - **James** action
- Have conversation with eKuiper team
  - Steer eKuiper to offer a separate credentials file (versus their general configuration file)
  - **Lenny** action
- **Jim** to update Wiki Backlog and Github issues with status of decisions per pre-wire and planning meeting



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Thank You