EDGE X FOUNDRY™

TSC Meeting

March 16, 2022

HAPPY St. Patrick's Day

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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/zoomconference?m=mkFexUxEcqHlvXHw53PqScTDRvS48PiQ

** TSC calls are recorded and added to Wiki post-call

TSC – Members Present Today

Company	Name	Email	Position
IOTech	Iain Anderson	iain@iotechsys.com	Device Services WG Chair
Intel	Ernesto Ojeda	ernesto.ojeda@intel.com	Dev Ops WG Chair
IOTech	Jim White	jim@iotechsys.com	Outreach WG Chair
Intel	Bryon Nevis	bryon.nevis@intel.com	Security WG Chair
Intel	Lenny Goodell	leonard.goodell@intel.com	Applications & Analytics WG Chair
IOTech	James Butcher	james@iotechsys.com	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.
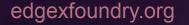
Today's Agenda

- WG Updates
- Kamakura deliverable review
- ADR updates
- Miscellaneous
    - Time changes
    - TSC next week cancelled
    - Monthly Architect's meeting date change
    - Spring schedule
    - EdgeX Awards

Work Group Updates

Chairs

Release Czar (2022-3-16)

TSC Vote on Kamakura release date

Upcoming:

Kamakura - May 2022

Releases of GPIO and LLRP App / Device Services

Working Group Chair Updates

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

Product Manager (03/16/22) - Kamakura

Icebox (0)

Backlog (0)

In Progress (7, +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**

- **CORS for all (secure and non-secure)**
  - Go services - DONE
  - C SDK/Services- **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**

- **Service Metrics**
  - go-mod-core-contracts - **Draft PR**
  - go-mod-bootstrap - **WIP**
  - Core Data - TBD

- **Add a "make lint" target**
  - Go Device Services - **WIP**
  - LLRP App Service - DONE
  - edgex-go - DONE
  - App Services - DONE
  - go-mods - DONE
  - Go Device SDK - DONE
  - C Device Services - N/A

Done (9)

- Metrics ADR - Approved
- Use latest Redis (redigo) version (ignore bad v2.0.0 tag)
- Use of Registry when init Clients
- **Secret Provider for All** - **C Device Services - DONE (COAP)**
- Add service name to common response DTOs
- Switch to Go 1.17
- Update Swagger publishing to use version 2.2.0 (docs to point to 2.2.0)
- No ZMQ on Windows
- Secret store tokens for delayed-start services ADR

Applications WG Update (03/16/22)

Completed (5)
- App service with MQTT export received event, but it is not exported to MQTT broker #1053

WIP (1)
- App SDK Controller tests not actually run

Backlog (11)
- https://github.com/orgs/edgexfoundry/projects/23

New
- None

Digital Twin
- refining requirements for Digital Twin

Next
- Bug fixes
- Metrics

eKuiper

- No update this week

Reminder: **Weekly** morning App Service WG meetings are now being used for Eaton's Digital Twin Service discussions.
These discussions will continue on **March 22th, 2022 @ 9am PST**

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

Next meeting **March 22th, 2022 @ 3:30pm Pacific**

Application Services - Ireland

Functions (built into SDK)

- Add Tags
- Batch
- Compression (GZIP & ZLIB)
- Conversion (XML & JSON)
- PushToCore
- ~~MarkAsPushed~~
- Encryption (AES256)
- Encryption (AES) ** DEPRECATED**
- 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 (16 March 2022)

- Kamakura:
  - TAF - Due to #308 Correct pre-release tag, the V2 version upgrade PR #267 is blocked.
  - So Device Service not updated to the newest version causing TAF failures
    - Functional tests: 545 - 59 failures on security, 60 failures on non-security
    - Integration tests: 43 - 36 failures
    - Performance tests: 10 - 2 failures
  - WIP
    - Device Profiles - Ginny implementing #710
    - Metrics - Lenny's Core Data work - draft PR to review #709

Core Project Board Status

- 4 New Issues (+0)
- 7 Release Backlog (-2)
- 0 Bug Backlog (+0)
- 3 In Progress/QA (+3)
- 51 Done (+3)
- 2 Kamakura Stretch (+0)
- 14 Icebox (+2)

QA/Test Project Board Status

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

Next meeting: **Tomorrow** Thursday March 17th @ 8am Pacific Time

Device Services WG Update (16 Mar 2022)

SDKs

- LLRP Device Service expected soon
- GPIO Device Service will be released with LLRP
- New camera services to be reviewed

Project board

- 25 issues New+Backlog (=)
- 4 In Progress+Review (=)

Next meeting: March 21st

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
- OPC-UA 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 (03-16-2022)

Pipeline Related

- [Complete] [#378](#) Linux Foundation will be working on Ubuntu 20 based build agents for use in the pipelines
  - Will also be migrating away from CentOS due to EOL
- [Backlog] edgex-docs release automation
- [Backlog] Setup bi-weekly builds for less active repos for Snyk vulns

Other

- [#703](#) edgex-docs: mkdocs htmlproofer updates.

Next DevOps WG Meeting: Thursday, March 17, 2021 @ 9AM PST

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DevOps Scope

- Pipeline Optimizations:
  - Tech Debt: Fix multiple nodes being spun up during edgeXBuildGoApp and edgeXBuildCApp
    - T-shirt size: small
  - Spike: docker image multi-arch builds with buildx (spin up less nodes, speed up builds)
    - T-shirt size: small for the research; implementation TBD (see below)
    - Use of Docker buildx so we wouldn't need to spin up ARM image to build docker arm images
    - Explored in the past; revisit approach (separate images)
    - Implementation: depending on spike docker image multi-arch builds with buildx
  - Spike: rewrite git-semver in python
    - Tshirt – medium size (impl TBD)
    - Implementation: depending on spike, rewrite git-semver in python
    - Punt on Semantic release work for now

- Assist in go lang linting/scanning
  - See security scope

- Documentation
  - T-shirt size: medium
  - Continued documentation updates (DevOps online docs)
  - Find it through READMe of DevOps repository

Security WG Update

Next Meeting: Today, next

- Delayed start status update
  - PR's are out for go-mod-secrets, edgex-go, and edgex-compose.
  - PR against go-mod-bootstrap expected next
  - Will be discussing an implementation issue today

Security Project Board Status

- 5 New Issues (n/c)
- 4 Release Backlog (n/c)
- 2 In Progress/QA (-1)
- 5 In review (+5)
- 17 Done (+1)

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 China Project

- No updates this week.

EdgeX China community channels:

- Website: https://cn.edgexfoundry.org/
- OSChina: https://www.oschina.net/group/edgex-foundry
- CSDN: https://blog.csdn.net/edgexfoundry
- Zhihu: https://www.zhihu.com/people/edgex-foundry
- Bilibili: https://space.bilibili.com/550595847

Outreach WG (3/1/22)

Certification

- New EdgeX Ready applicant
- Update of the Wiki

Kamakura Scope To-Do

General

- Dynamic Profiles - https://github.com/edgexfoundry/edgex-docs/pull/605
- Metrics Collection - https://github.com/edgexfoundry/edgex-docs/pull/268
  - proof of concept service and module additions in Go
- UoM ADR - https://github.com/edgexfoundry/edgex-docs/pull/386
- North-South Message Bus ADR
  - Device functions ADR
- Kubernetes Support
  - Helm Chart example
- Add "make lint" target
- Support
  - Build services on Windows; Running natively

Kamakura Scope To-Do

Core

- Update lastConnected should not trigger device service callback (low priority)

GUI

- Fix to no allow banned activity (ex: modify device profile)

Device Services

- Complete securing consul with access tokens
- Complete securing the message bus
- Injecting secrets during bootstrapping
- CORs support in C SDK / C device services
- Implement ProtocolProperties validation mechanism
- CoAP DS accepted
- GPIO DS accepted
- UART DS accepted
- Grove DS accepted
- ONVIF DS accepted
- USB DS accepted

Kamakura Scope To-Do

Security

- Implement ADR 0019 - Delayed start secret store tokens (SPIFFE ADR)
- Update Swarm for remote Device Service how to for V2
- Doc how to use SPIFFE as example of how to do distributed services in edgex-examples (Stretch)

Snaps

- Updating the basis for core 22
- Set env vars via Snap CLI (today we map between env names to snap lowercase names)
- Add github action to build full snap when changes made to all snaps
- Expose Consul UI on the host when EdgeX is operating in secure mode (snap) (Stretch)

Docs

- Many areas of doc updates, additions, etc.

Spring Schedule for TSC approval

- Per our new [planning schedule policy](#)
- Release was May 4th, May 11th or May 18th (Wednesday)

4th	11th - Target	18th
Freeze: Apr 20th (Wednesday)	Freeze: Apr 27th	Freeze: May 4th
Pre Wire: Apr 14th (Thursday)	Pre Wire: Apr 20th	Pre Wire: Apr 27th
Planning Mtg: May 9-12 (M-Th)	Planning: May 16-19	Planning: May 23-26th

Memorial weekend: May 28-30th

UK bank holiday & Taiwan Labor Day: May 2

ADR review

ADR name and PR number	Status	owner	Work Group
ADR on unit of measure / #386	Out for TSC Vote	Jim White	Core
Device functions / #644	On deck	Iain Anderson	DS
North-south message bus / #656	Awaiting Core WG approval - TSC Vote soon	Jim White	Core
Microservice Authentication / #659	discussed in security WG On hold for the moment	Bryon Nevis	Security
control plane events	Needed per planning meeting (low priority this release)		
cmake options to optimize dependencies	Needed per planning meeting	Eaton	
Global config	Needed per planning meeting (low priority this release)		
Securing the EdgeX message bus when using MQTT	Needed per planning meeting		
device parent/child relationship	Needed per planning meeting (labels vs other option)	Eaton	

Miscellaneous

- Next Week TSC (3/23) cancelled
- Monthly Architect's Meeting is on 3/28 (Monday @ 10am PDT)

Miscellaneous

- Time changes:
  - March 13th (US) - now DT vs ST
  - March 27th (UK)
  - All calendar meeting invites should have been updated by now (refresh your calendars)
  - All meetings in the US should still be at their regular times (except for places like AS that don't change clocks)
- Work continues on Eaton App Service/Device Service design
  - WIP: This is becoming an effort to support digital twins in EdgeX
  - https://docs.google.com/document/d/1oT2za9_CeFIuESritp7VRmIO-Enc5owZMCsJBzvrzlk/edit
- Annual EdgeX Awards coming soon - look for nomination notification in email soon
  - Two awards in two categories: innovation & contribution
  - See https://wiki.edgexfoundry.org/display/FA/EdgeX+Awards for details

Thank You