EDGE X FOUNDRY™

TSC Meeting

April 13th, 2022

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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)

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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
    - New libs
    - EdgeX Awards
    - Docs updates
    - Levski planning

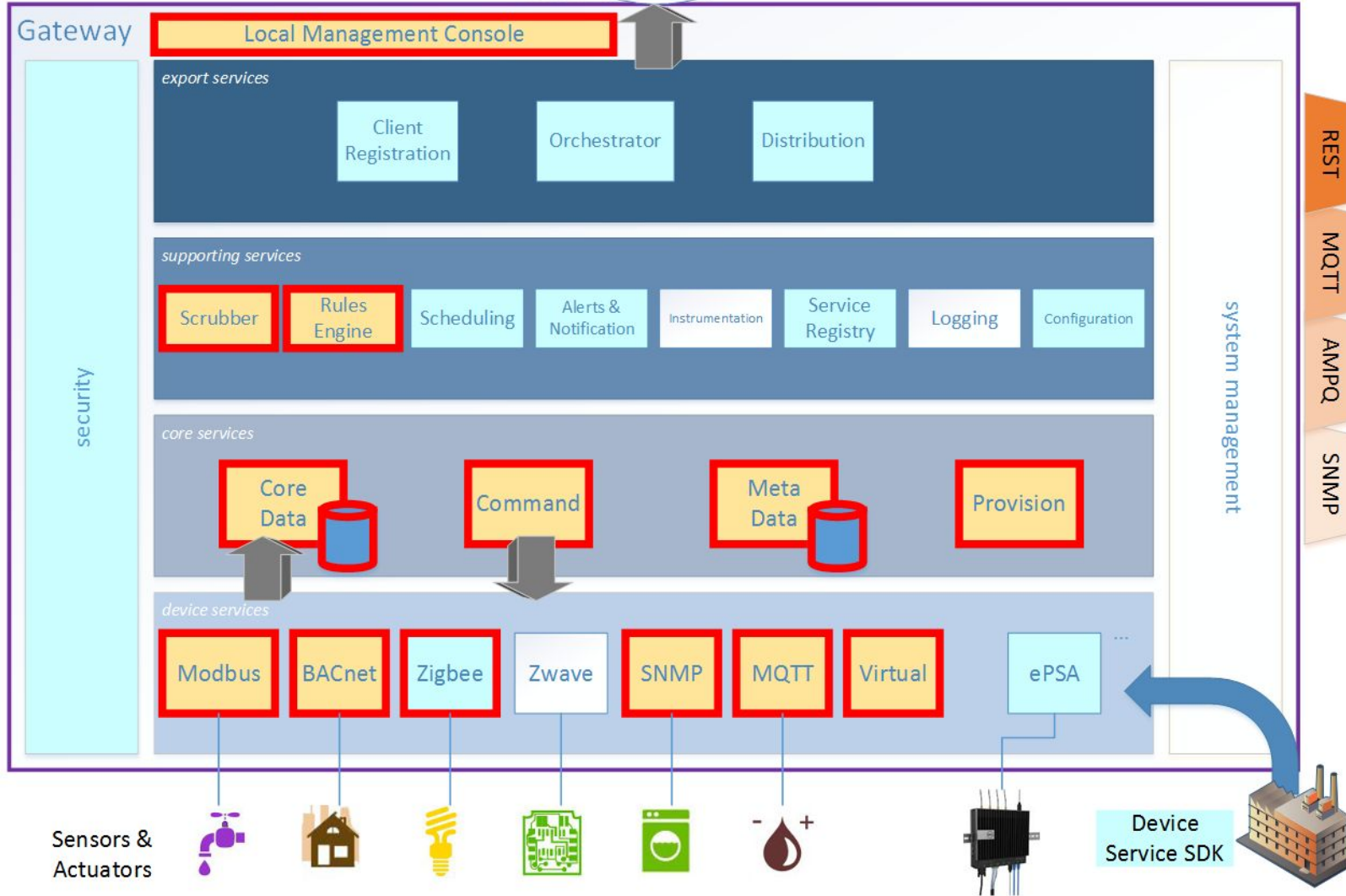# Happy Birthday EdgeX Foundry!!

5 years old this week

April 17th is the project's birthday

It started in April of 2017 with an announcement of the forming of the project at Hannover Messe

Project Fuse from Dell - April 2016

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Work Group Updates

Chairs

Spring Schedule approved

- Per our new [planning schedule policy](#)
- Release on May 11th (Wednesday)

Freeze: Apr 27th, Wednesday
Pre Wire: Apr 20th, Wednesday
Planning: May 16-19, Monday-Thursday

Release Czar (2022-4-13)

Kamakura:

Pre Wire: Apr 20th, Wednesday (1 weeks)

Freeze: Apr 27th, Wednesday (2 weeks)

Release: May 11th, Wednesday (4 weeks)

Levski Planning (~Nov 22): May 16-19, Monday-Thursday (5 weeks)

Upcoming:

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 (04/12/22) - Kamakura Cross Cutting Issues

Icebox (0)

Backlog (1)

- **Generate security credential from Mosquitto broker**

In Progress (5)

- **Securing Consul with Access Token**
  - C Device SDK - **WIP**
  - C Device Services - TBD

- **Request new Consul token on Auth failures**
  - Go Services - DONE
  - C SDK/Services - **WIP**

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

- **Security: Implement CGO binary hardening**
  - edgex-go - DONE
  - Device SDK - DONE
  - App SDK - DONE
  - App Services - **DONE except LLRP**
  - Device Services - **DONE except LLRP**

- **Delay Start Services**
  - edgex-go - **Rework WIP**
  - Compose - DONE
  - App Services - **WIP**
  - Device Services - **WIP**

Done (13)

- Add a "make lint" target
- Implement Generate/Inject passwords into Vault (C SDK/DS)
- CORS for all (secure and non-secure) (C SDK/DS)
- Secure Message Bus connection (C SDK/DS)
- 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 (04/12/22)

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Completed (5)
- SDK: Swagger for /secret endpoint is missing apiVersion
- Compose: Update eKuiper environment variables #227
- SDK CGO hardening
- ASC CGO hardening
- Optimize findMatchingFunction to make it more accurate #1070

WIP (1)
- /api/v2/config doesn't return Custom Config sections #1035

Backlog (13)
- https://github.com/orgs/edgexfoundry/projects/23

New (0)
-

Next
- Continue Bug fixes
- Metrics support
- Delay Start propagated to SDK and ASC

Eaton App discussions
- Final meeting this morning to discuss Control Plane Event ADR outline
- Canceling morning meetings
- ADRs review managed via Core WG.

eKuiper

- Released 1.4.4 last week
- Working on 1.5 for release end of April

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

Next meeting **April 19th, 2022 @ 3:30pm Pacific**

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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 (13 April 2022)

- Kamakura:
  - TAF
    - Functional tests: 545 - all passing
    - Integration tests: 43 - all passing
    - Performance tests: 10 - 2 failure, due to image increase.
  - Device Profiles - Two PRs are merged. Next core service config
  - Metrics - Lenny has PRs in place
  - Delayed Start - waiting on fixes

Core Project Board Status

- 12 New Issues (+1)
- 5 Release Backlog (+0)
- 0 Bug Backlog (+0)
- 1 In Progress/QA (-1)
- 61 Done (+5)
- 2 Kamakura Stretch (+0)
- 14 Icebox (+0)

QA/Test Project Board Status

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

Next meeting: **Tomorrow** Thursday April 14 @ 8am Pacific Time

Device Services WG Update (13 Apr 2022)

GPIO Device Service

- Fix for bug whereby pin was being reset on read
- Snap updates

LLRP Device Service

- Awaiting final approval

SDKs

- -race re-enabled for unit tests
- Secure Consul in progress for C

Issues for release

- 5 To Do
- 3 In Progress
- 1 Review

Next meeting: April 25th

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 (04-12-2022)

Pipeline Related

- [Complete] edgex-docs release automation. Demo in tomorrow's WG meeting.
- [In Progress] git-semver functional testing before cutover.

Other

- [Backlog] edgex-global-pipelines documentation

Next DevOps WG Meeting: Thursday, April 13, 2022 @ 9AM PST

Security WG Update

Next Meeting: Today, next
- Delayed start status update
    - configuration.toml updates rolled out in edgex-go
    - Conditional compilation updates working their way through
    - Plan in place to update snap

Security Project Board Status

- 11 New Issues (-3)
- 3 Release Backlog (n/c)
- 3 In Progress/QA (+1)
- 1 In review (-4)
- 45 Done (+a lot)

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 (4/13/22)

Ready/Certification

- Rodney working on Wiki update
- Fixing wording around device profile use

Kamakura Release Workstream

- Blog post
- News release

Tech Talks - mid-May through June TENTATIVE

- Revising the old tech talks
- May 24 - Getting started (Jim)
- June 7 - Build an AS (Lenny)
- June 14 - Build a DS (IOTech)
- June 21 - Build a Device Profile w/ mention of Ready program (Jim)
- June 28 - Getting started with Snaps (Canonical)

Hackathon

- Looking at worldwide event - fall 2022
- Some onsite element/ some virtual element
- Involve PRC (and use some of their model)
- Possibly expand to LF Edge

Kamakura Scope To-Do

General

- Dynamic Profiles implementation - https://github.com/edgexfoundry/edgex-docs/pull/605
- Metrics Collection implementation - https://github.com/edgexfoundry/edgex-docs/pull/268
  - proof of concept service and module additions in Go
  - Lenny presenting to Core on Thursday
- UoM ADR - https://github.com/edgexfoundry/edgex-docs/pull/386
  - Complete
- North-South Message Bus ADR
  - Device functions ADR
- Kubernetes Support
  - Helm Chart example - merged
- Add "make lint" target
  - PRs in place
- Support
  - Build services on Windows; need docs

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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)
    - Fixing OpState update
    - Checking on device profile updates

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
- LLRP DS accepted
- UART DS accepted
- Grove DS accepted
- ONVIF DS accepted
- USB DS accepted

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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
    - Half done
- 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

DevOps

- Spike: rewrite git-semver in python
- Continued documentation updates (DevOps online docs)

Docs

- Many areas of doc updates, additions, etc.

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Document Issues to address this release

#719 S [Slack refs]

#718 S [App Config override bug]

#715 S [walkthrough Json]

#702 M

#692 M

#685 L

#673 L

#641 L

#599 L

#479 L

Nice to have

#643 M

#642 L

#598 L

#489 M (with #121, #21)

#392 S

ADR review

ADR name and PR number	Status	owner	Work Group
Device functions / #644	On deck	Iain Anderson	DS
North-south message bus / #656	Need some accept checks and put in front of TSC	Jim White	Core
Microservice Authentication / #659	discussed in security WG On hold for the moment	Bryon Nevis	Security
control plane events	Underway (draft outline in docs)	Jim White	Core
core data cache	Underway (draft outline in docs)	Jim White	Core
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	

Move to backlog/Levski consideration??

Levski scope

Miscellaneous

- A couple of libs need approving
  - https://github.com/IOTechSystems/onvif forked from https://github.com/use-go/onvif
    - Stats and paper study
  - http://github.com/go-kit/kit@v0.2.0 replaces http://github.com/go-kit/kit@v0.11.0

- **EdgeX Award Nominations now open**
  - Send in your nominations for Innovation Award or Contribution Award to LF's Kendall Waters Perez: kperez@linuxfoundation.org
  - Nominations due by April 14th
  - See https://wiki.edgexfoundry.org/display/FA/EdgeX+Awards for past winners and the two types of awards

EdgeX Award Nominations

- Award Type: Innovation or Contribution
- Nominee's Name (and email address if you have it)
- Nominee's Company
- Nomination paragraph (why you are nominating this person)
- Supporting links (optional - ex: links to Github PR, documentation, design proposal, etc.)
- Your name and company

Anyone can nominate and anyone can be a nominee

TSC will vote later in April. Awards to be presented during our planning meeting.

Note: last year's winners are ineligible (sorry Lenny, Ernesto, Cloud, Jack Chen, Lindsey Cheng, Ginny Guan, Wendy Huang, Bruce Huang, Jude Hung, Chris Hung, Felix Ting, and Cherry Wang)

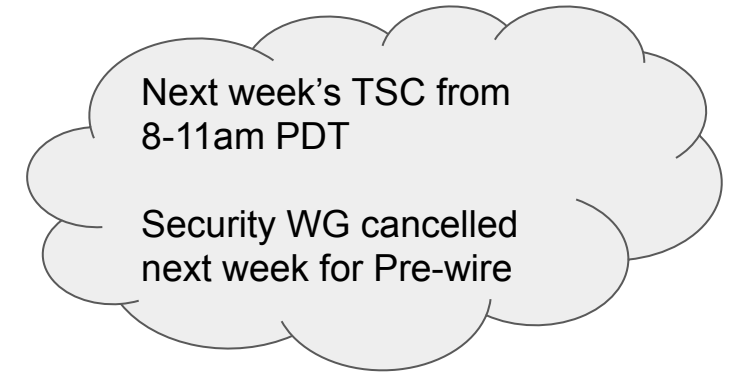# Levski planning/scoping

Pre-Wire: April 20th

[Wiki page with starter deck](#)

- Approved ADRs with implementation need
- backlog items
- project board icebox items
- EdgeX future release and EdgeX 3.0 boards
- Repository issue items (features not bugs)

Chairs - start to consider/consolidate your upcoming release scope

Levski Planning Meeting - May 16-19

Wiki created; registration sight coming soon

Next week's TSC from 8-11am PDT

Security WG cancelled next week for Pre-wire

Thank You