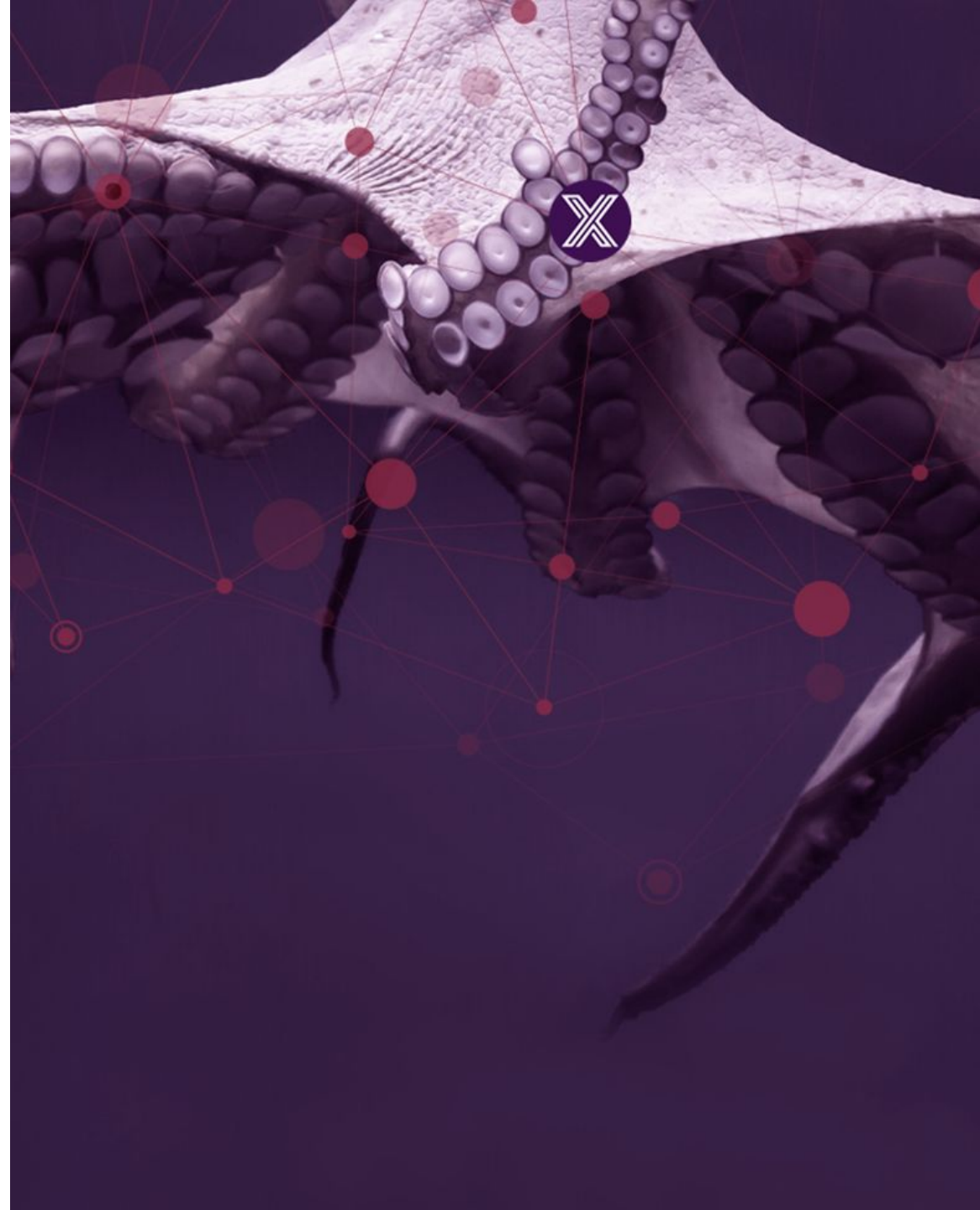


EDGE X FOUNDRY™

TSC Meeting

Jan 13, 2021

edgexfoundry.org |  [@edgexfoundry](https://twitter.com/edgexfoundry)



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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)

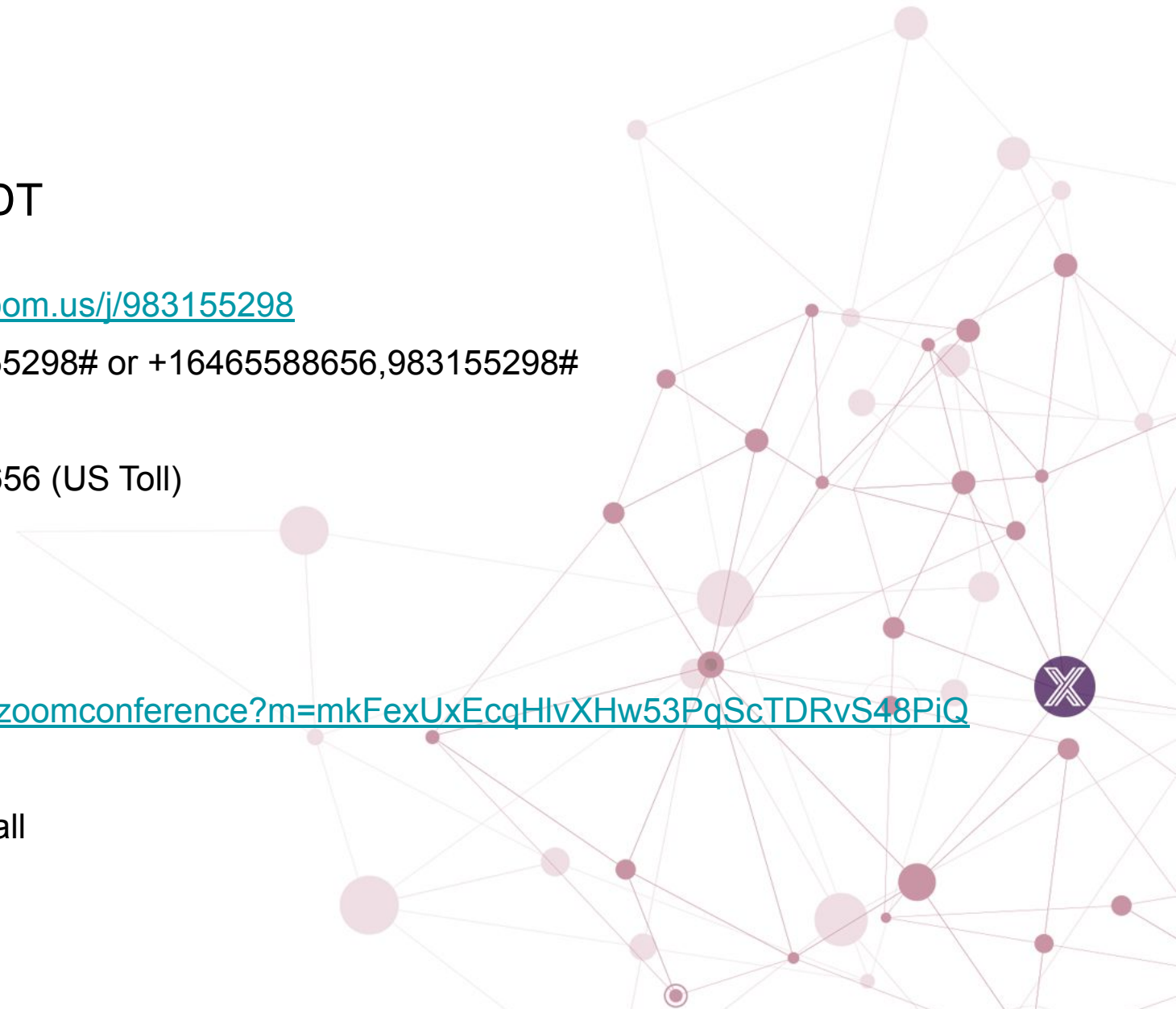
+1 855 880 1246 (US Toll Free)

+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 | iain@iotechsys.com | Device Services WG Chair |
| Intel | Ernesto Ojeda | ernesto.ojeda@intel.com | Dev Ops WG Chair |
| IOTech | Keith Steele | keith@iotechsys.com | Outreach WG Chair |
| Kong | Colin Hutchinson | colin@konghq.com | Security WG Chair |
| Intel | Mike Johanson | michael.johanson@intel.com | Applications & Analytics WG Chair |
| IOTech | James Butcher | james@iotechsys.com | Test/QA WG Chair |
| IOTech | Jim White | jim@iotechsys.com | 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

- Dot release(s)
- Device Profile Tool demo
- WG Updates
- ADR review
- Upcoming Events (Dev Advocate)

Dot Release

To include (edgex-go services, AS SDK and services, CLI)

- metadata updates of admin/op status
- ZMQ issue
- CLI missing configuration.toml
- May also include EdgeX Ready announcement

Proposed Schedule

- Identify and ready fixes by 2/5
- ~~- Mini code freeze 2/10-2/17~~
- Dot release on 2/17
- DS and DS SDK to release on their own schedule around this time

Device Profile Tooling - James Butcher

IOTech's Device Configuration Tool (DCT)

To be used as part of the EdgeX Ready program

Availability and use

James is IOTech's Edge Xpert product manager (as well as our QA&Test WG chairman)

Edge Xpert is IOTech's commercial version of EdgeX

Device Configuration Tool

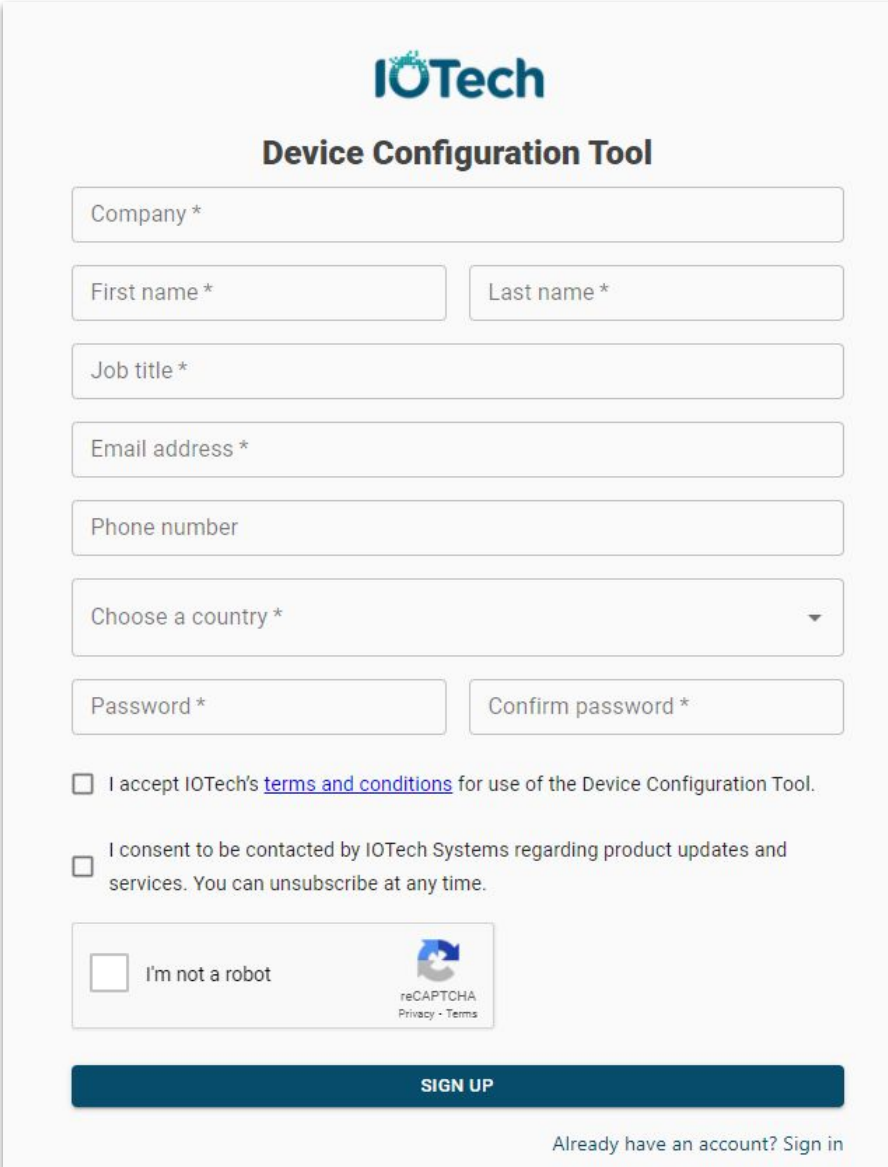
- Protocol independent GUI that simplifies the creation and editing of EdgeX Device Profiles
- Simplifies and reduces margin for error in creating YAML profiles
- Users, operators and OT technicians can easily add support for new devices
- Intuitive wizards to create, export and deploy new profiles to onboard new devices/sensors
- Supports full range of Device Services: Modbus, BACnet, REST, MQTT, etc
 - Plus the IOtech specials EtherCAT, EtherNet/IP, Siemens S7, PROFINET, etc

The screenshot displays the IOtech Device Configuration Tool interface. On the left is a sidebar with the IOtech logo and three menu items: 'Device Types', 'Device Resources', and 'Device Profiles'. The main window is titled 'Resource Information' and contains the following fields and sections:

- Resource Name:** Temperature
- Description:** Temperature of liquid within the tank
- Properties:**
 - Data Type:** Bool (dropdown)
 - Permission:** R (Read) and W (Write) buttons
 - Media Type:** (empty field)
 - Size:** 1
 - Default Value:** 1
 - Minimum:** (empty field)
 - Maximum:** (empty field)
 - Base:** (empty field)
 - Scale:** (empty field)
 - Offset:** (empty field)
 - Mask:** (empty field)
 - Shift:** (empty field)
 - Assertion:** (empty field)
 - Unit:** Degrees
- Attributes:**
 - primaryTable:** HOLDING REGISTERS (dropdown)
 - startingAddress:** 1001
 - rawType:** none (dropdown)
 - isByteSwap:**
 - isWordSwap:**

NEW: Device Configuration as a Service

- Moving to an online SaaS model
- Free use for EdgeX users
- Commercial use for IOTech customers
- EdgeX users can create and edit their own device profiles, and optionally push to an “EdgeX profile library” which will be Apache 2.0
- DCT part of EdgeX Ready program
 - Validate your EdgeX devices
- Going live very soon, preview version at <https://dct.iotechsys.com>



The screenshot shows the registration form for the IOTech Device Configuration Tool. At the top, the IOTech logo is displayed in blue, followed by the title "Device Configuration Tool" in bold black text. The form consists of several input fields: "Company *" (a single wide field), "First name *" and "Last name *" (two side-by-side fields), "Job title *" (a single wide field), "Email address *" (a single wide field), "Phone number" (a single wide field), "Choose a country *" (a dropdown menu), "Password *" and "Confirm password *" (two side-by-side fields). Below the fields are two checkboxes: the first is for accepting IOTech's terms and conditions, and the second is for consenting to be contacted by IOTech Systems. At the bottom left, there is a checkbox for "I'm not a robot" and a reCAPTCHA logo with links for "Privacy" and "Terms". A prominent dark blue "SIGN UP" button is centered at the bottom. In the bottom right corner, there is a link: "Already have an account? Sign in".



EDGE X FOUNDRY™

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 (1/13)

Cross Cutting Issues

In Progress (7, -1)

- V2 Implementations
 - Core Data APIs - **WIP**
 - Core MetaData APIs - **WIP**
 - TAF testing V2 APIs - **WIP**
 - Support Scheduler - **WIP**
 - DTO rework from Ireland planning - Done
 - API Rework from MBUS ADR - **WIP**
- V2 Consumption
 - V2 Core Data Clients - **WIP**
 - V2 Core Metadata Clients - **WIP**
 - App SDK V2 Event DTO - **WIP**
- Secret Provider for All
 - DS SDK C - TBD
 - C Device Services - TBD
 - Vault Worker - TBD
 - MQTT Device Service - **Pending PR**
 - DS SDK Go - **DONE**
 - go-mod-bootstrap - DONE
 - edgex-go - DONE
 - App SDK - DONE
 - ASC - DONE
 - go-mod-secrets - DONE

- 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 - WIP
 - App SDK - **WIP**
 - ASC - **WIP**
- Metrics (ADR in review)
- Drop Logging Service completely
 - Device SDK C - TBD
 - Individual DS - **WIP**
 - go-mod-bootstrap - DONE
 - Developer Scripts Volume - DONE
 - Device SDK Go - DONE
 - Developer Scripts - DONE
 - Core - DONE
 - App Services - DONE
- Conventional Commits for all
 - Device Services - **WIP**
 - Core Service - Done
 - App Services - Done

Backlog (0, +/-0)

-

Done (4, +1)

- LoggingClient DIC bug fix
- ADR Message Bus from Device Service to App Services
- ADR Secret Provider for All
- Remove Mongo code
 - Archive Mongo Repo - **DONE**

Icebox (4, +/-0)

- EdgeX Metrics Collection & Control Plane Event Handling
- Update config.Clients usage for new naming scheme
- Secure Message Bus connection
- Implement Generate/Inject random passwords into Vault

Release Czar (Jan 13th, 2020)

Release Activity

- Jan 8 - device-sdk-go - 1.4.0

Dot Release Tentative

- Code Freeze 2/10-2/17
- EdgeX Dot release on 2/17
- Device Services and Device SDK - Decoupled but similar release time.

Applications WG Update (13-Jan-2021)

Completed:

- Removal of MarkAsPushed
- Ability to Stop SDK
- Multiple Subscriptions
- Allow Custom Trigger Registration

WIP

- Accept V2 Event DTO from triggers - PR submitted

On Deck

- More Tech-Debt!

- Next meeting **Jan 15th, 2021 @ 8:00 AM PST**

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 (13-Jan-20)

Done:

- SecretProvider provision in Go SDK
- Go DS point releases ready

WIP:

- Process and prioritization for new device services
- SecretProvider use (MQTT DS)
- Device Service AdminState implementation (C)
- Event Filtering ADR: in review
- Conventional Commits (Go DSs still todo)
- Project Board: 54 issues backlog + 5 new (net -4)

Next meeting: January 18th

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 (12th January)

- TAF tests
 - Current Status - failing security tests
 - Fixed issues
 - Issue [#254](#), app-service secrets V2 API testcases fail because Request timed out and return 503
 - Working issues
 - Issue [edgex-go#3006](#), Ping services with Kong return 404 because no services started in Kong
 - >> Lenny to try to test manually
 - Issue [#258](#), needs to update the MarkAsPushed related tests to not use 'pushed' field.
 - Issue [#247](#), use new Secret Config utility for get-token for Kong proxy.
 - Issue [#256](#), change docker scripts to use generated TAF compose files from nightly builds.
- Other Business
 - Hanoi Performance Report and accompanying website blog ready to be published

Reported during the meeting, all TAF tests are now completing successfully.

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 | 204 | 0 | 0 | 0 |
| x86_64 / CentOS | Security | Redis | 204 | 2 | 186 | 2 |
| arm64 / Ubuntu | Non Security | Redis | 204 | 0 | 0 | 0 |
| arm64 / Ubuntu | Security | Redis | 204 | 2 | 186 | 2 |

Jenkins Job: [functional-test](#)

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 | 6 | 0 |
| arm64 / Ubuntu | Non Security | Redis | 6 | 0 | 0 | 0 |
| arm64 / Ubuntu | Security | Redis | 6 | 0 | 6 | 0 |

Jenkins Job: [integration-test](#)

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 | 1 | 0 |
| arm64 / Ubuntu | Non Security | Redis | 10 | 0 | 2 | 0 |

Jenkins Job: [performance-test](#)

DevOps WG Update (01-13-2021)

Pipeline Enhancements

- [#102](#) [Ready for Merge] Docker image naming
- [#308](#) [In Progress] Release an EdgeX code repo from a specific commit

Other

- Need clarification around Go module 2.0 tagging
- Inline Snyk scan limits. Disabled scans for now until we get closer to the Ireland release.
- Tag/Update description of Docker Hub images to indicate which are out of support
 - Need descriptions and will coordinate a ticket with the LF

Next DevOps WG Meeting **Jan 14th, 2021 @ 9:00 AM PST**

Security WG Update (Jan 6)

- Next Meeting: Today & Jan 20
- In Design
 - [Service Registry](#)
- Design Review
 - [Upload Threat Model](#)
- In Backlog: 17 (+10)
- In Development: 7 (+2) In Progress / 3 (0) In Review
 - [Secret Provider](#)
 - [EdgeX OCI Bootstrapping](#)
 - [Docker Container Guidelines](#)
 - [Secret Creation & Distribution](#)
- Done 38 (+2)
 - [EdgeX TLS Usage](#)

Outreach WG Updates (1/13/21)

Certification Team

- EdgeX Ready User Program
 - Discussions on timeframes and review of tasks remaining
 - In progress: Documentation, i's and t's

Vertical Solutions Team

- Next presentation: IOTech Tuesday Jan 19th'21 8AM US Pacific
- Go to EdgeX website Adopter Series section to register: <https://www.edgexfoundry.org/ecosystem/adopter-series/>
- Open Retail Reference Architecture sub-project: <https://wiki.edgexfoundry.org/display/FA/Open+Retail+Reference+Architecture>

Marketing Team

- Hanoi press release <https://bit.ly/2JQDDxZ>
- New Hanoi Release section in website <https://www.edgexfoundry.org/software/releases/>
- Hanoi blog <https://bit.ly/3m3fSzQ>
- Ongoing Social Media campaign: Please promote by retweeting, sharing, like....
 - RT https://twitter.com/LF_Edge/status/1337074612908273664
 - LinkedIn <https://www.linkedin.com/feed/update/urn:li:activity:6742845656555225088>

Core Working Group (1-12-2020)

- V2 API work
 - Core data/metadata nearly complete
 - Started command service and also scheduler
- status
 - 26 in backlog
 - 17 in bug backlog
 - 2 in progress
 - 44 done
- Next call - 1/14/21 @ 10AM US/Central

ADR review (in order of priority)

| <i>ADR name and PR number</i> | <i>Status</i> | <i>owner</i> | <i>Work Group</i> |
|---|--|---------------------|--------------------------|
| Update ADR 11 (Device Service REST API) / # 247 | review * (updates requested) | Iain Anderson | DS |
| Securing Consul / #318 | review * | Bryon Nevis | Secty |
| Upload threat model / #259 (quasi ADR) | review | Bryon Nevis | Secty |
| Metrics / #268 | refactored/cover in Core WG re-review * | Jim White | Core |
| DS Filters / #282 | re-review/cover in DS WG | Jim White | DS |
| Service Registry / #283 | draft * | Tony Espy | Core |

* - indicates some work this week

Miscellaneous Issues/Topics

- Expanded Mentorship Program (provides mentees stipends)
 - Check with Brett Preston
- 2021 Budget approved
 - \$10K discretionary for Web site, UX consulting, China project, etc.
 - Community members are asked to submit any needs (or ideas) to the Outreach WG (send them to Camilo Dennis) by Jan 18th. Team to review and plan expenditures at that meeting
- Docker hub limits and open source “licensing” to escape some limit issues
 - LF working

Inclusive Language Summary (so far)

WG Leads and TSC - please provide your inputs by 1/15

Thanks to James, Tony, Lenny for the responses so far

Current collection of potential issues

- Github: renaming master branch (to main)
- Testing: blackbox tests (repo name, code, documentation, etc.) - IETF says "blackbox" is ok term; is the term even relevant with TAF testing?
- blacklist/whitelist: in device auto provisioning (code and documentation) - it is already removed in Kong newer versions
- blackbox-tests: profile name in app service configurable (and TAF compose file)
- whitelist: in configuration of Gateway ACL, proxy-setup service (and associated docs)



Upcoming Events & Dev Advocate Update

Aaron's updates

Upcoming External Events

- › [LF Edge: Building an Open Source Framework for the Edge](#) Jason Shepherd-
20 Jan- Virtual
- › [Open Source Edge Development, Orchestration & Security with LF Edge Project Eve](#)- Roman Shaposhnik- 21 Jan - virtual
- › [IoT Solutions World Congress](#): 11-13 May, 2021 - Barcelona, Spain
- › Embedded World Conference: March 1-7, 2021 Nuremberg but now virtual
 - › Using Visual Inference in Edge Computing, Jim White
- › FOSDEM 2021- CFP for the [Developer Rooms](#)

- › 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

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

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

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

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

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

› More to follow...





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Thank You