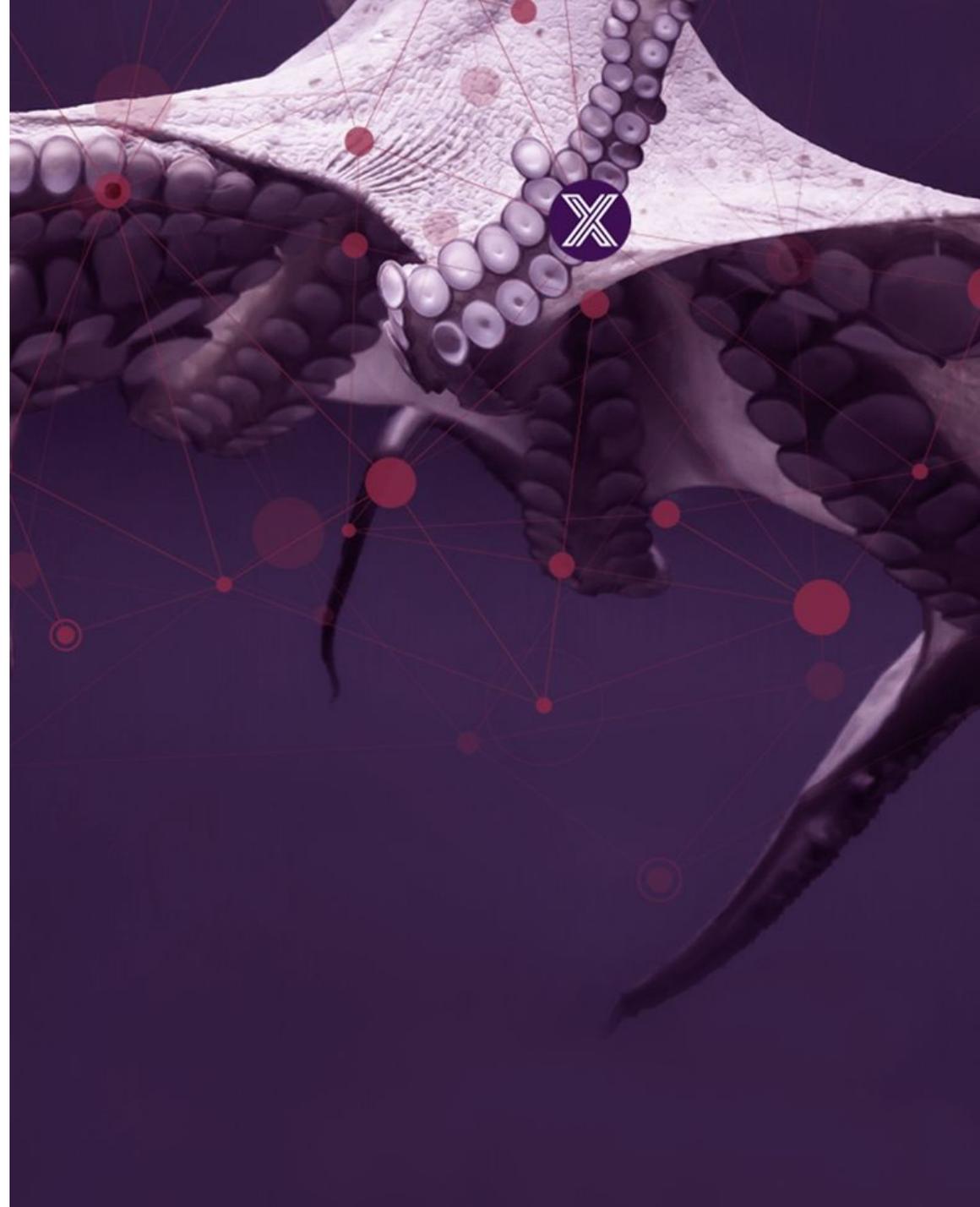


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TSC Meeting

Nov 18, 2020



Antitrust Policy Notice

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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)

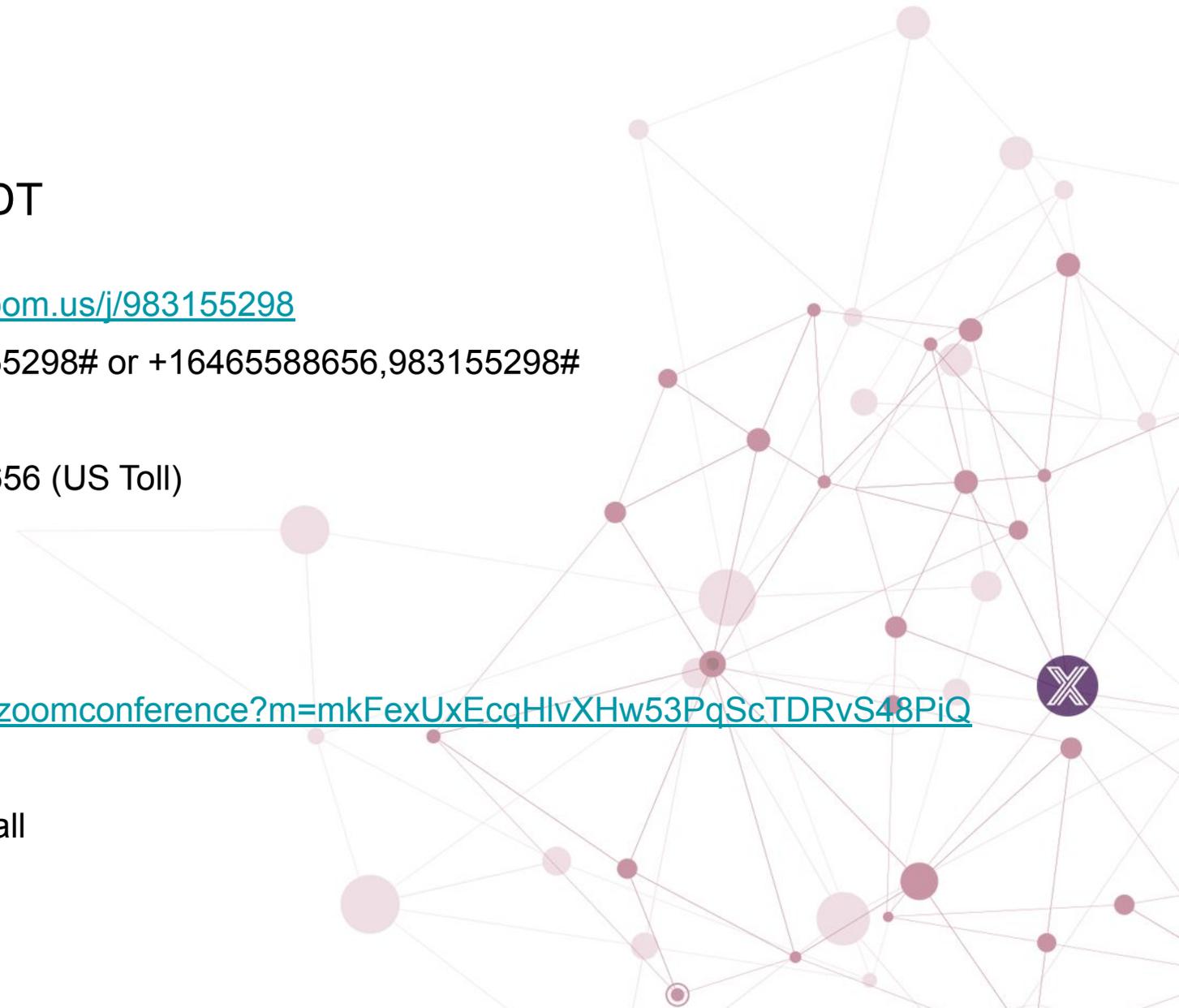
+1 855 880 1246 (US Toll Free)

+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

- Hanoi release - check with the Czar
 - TSC release approval vote
- WG Updates
- Ireland Scope
- ADR reviews
- Upcoming Events (Dev Advocate)

Release Czar (Nov 18th, 2020)

Hanoi Release -

- SDKs released Nov 11th
- Testing / Documentation Updates
- No Show Stopping Issues known for Hanoi from Security & QA/Test
- Suggest release today

- With TSC Approval, release:
 - edgex-go / Core services
 - developer-scripts
 - device-services
 - Git Tag: taf/blackbox/developer-scripts

Hanoi Release Vote

We need to formally approve the release.

IOTech	Iain Anderson	Device Services WG Chair
Intel	Ernesto Ojeda	Dev Ops WG Chair
IOTech	Keith Steele	Outreach WG Chair
Kong	Colin Hutchinson	Security WG Chair
Intel	Mike Johanson	Applications & Analytics WG Chair
IOTech	James Butcher	Test/QA WG Chair
IOTech	Jim White	Core WG Chair
Intel	Lenny Goodell	TSC at-large
Canonical	Tony Espy	TSC at-large



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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 (11/17)

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

In Progress (5, +1)

- V2 Implementations
 - Core Data APIs - WIP
 - Core MetaData APIs - WIP
 - TAF testing V2 APIs - WIP
- V2 Consumption
 - **V2 Clients - WIP**
- Conventional Commits for all
 - Device Services - WIP
 - Core Service - Done
 - App Services - Done
- ADR for Metrics & CPE - WIP
- ADR for Message Bus from Device Service to App Services - WIP
- **ADR for Secret Provider for All - WIP**

Backlog (0, -1)

Done (11, +/-0)

- 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)
- Allow device services to be distributed to alternate hosts
 - SSH & Overlay network
- Dependabot for All
- ADR for Generate/Inject random passwords into Vault

Icebox (10, +1)

- V2 API Consumption
- **Device Service to App Services via Message Bus Implementation**
- 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
- Implement Generate/Inject random passwords into Vault

Applications WG Update (18-Nov-2020)

Completed:

- Fixed issue with content-type in (#567)

WIP

- ADR for Device Service to App Services via Message Bus (#241) In Review

We will be breaking down tasks and populating the project board for the release

- Next meeting **Nov 20th, 2020 @ 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 (18-Nov-20)

WIP:

- ADRs for Event Filtering, MessageBus transport: in review
- Conventional Commits enforcement

Release: Good to go

Next meeting: December 7th

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 (17th November)

- Postman blackbox test - all tests passing
- TAF blackbox test - all tests passing
 - Fixed issues
 - Issue [#221](#), functionalTest Jenkins Failure: Response Content Evaluating Expression Errors
 - Issue [app-functions-sdk-go#567](#), Trigger pipeline JSON-GZIP and JSON-ZLIB response content are not JSON format (failed test cases)
 - Issue [#226](#), [SmokeTest] Query all device services returns incorrect number of device services
 - Working issues
 - Issue [#137](#), Modbus scalability test - solution for reliable test uncovered issue with locking devices
 - Workaround documented in release notes
- Other Business
 - Have discussed timings for Ireland QA/Test deliveries
 - Will gather final performance numbers once Hanoi release is done

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 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	3	0	3
x86_64 / CentOS	Security	Redis	204	3	0	3
arm64 / Ubuntu	Non Security	Redis	204	3	0	3
arm64 / Ubuntu	Security	Redis	204	3	0	3

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 (11-18-2020)

Pipeline Enhancements

- [#252](#) [Watching] Build Snaps natively on Ubuntu
- [#298](#) Official Docker images
- Planning for Ireland

Other

- DockerHub rate limiting update. Current limits can be found here: <https://www.docker.com/increase-rate-limits>

NOTE: Docker Pro and Docker Team accounts continue to have unlimited access to pull container images from Docker Hub.

Current Docker Hub Usage Limit Status (updated 11/16, 3:00pm Pacific)	
Unauthenticated requests:	250 per six hours
Free tier requests:	250 per six hours

docker registry proxy. [IT-20979](#)

Next DevOps WG Meeting **Nov 19th, 2020 @ 9:00 AM PST**

Security WG Update (Nov 18)

- Next Meeting: Today
- Security Provider ADR
- Open

Outreach WG Updates (11/18/20)

Certification Team

- Met with LFEde Strategic Planning to discuss naming conventions
- In progress: Documentation, i's and t's
- Need a new name! EdgeX Ready, ...?

Vertical Solutions Team

-

Marketing Team

- Next meeting Monday, Nov 9th @10am
- 2nd EdgeX topcoder challenge being organized

Core Working Group (11-4-2020)

- Down week - some testing ongoing
- V2 API work to pick up after the release
- Kubernetes deployment file forthcoming
- UI team working data visualization
- Next call - 11/19/20 @ 10AM US/Central tomorrow
 - ADR discussions
 - DS to AS message bus
 - DS Filter
 - Metrics collection

Miscellaneous Issues/Topics

- Tagging developer scripts (Lenny)
- ADR review process may be assisted by group review in work group meetings
 - Thoughts?
 - Can we assign owners
- ADRs that we need to review and work
 - [Docker container guidelines](#) (merged but without TSC approval)
 - Have Lenny and Jim +1 (need 3 others)
 - [Device Service Events to message bus](#)
 - [Device Filter ADR](#)
 - [OCI container \(big one\)](#)
 - [Secret Provider for All](#)
 - TLS (not sure of the ADR PR???)
 - [Update the Device Service REST API design](#)
- [Add Service Registry](#) (new)
- [Metrics and CPE design](#) (refactoring)



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Ireland Release

General – new

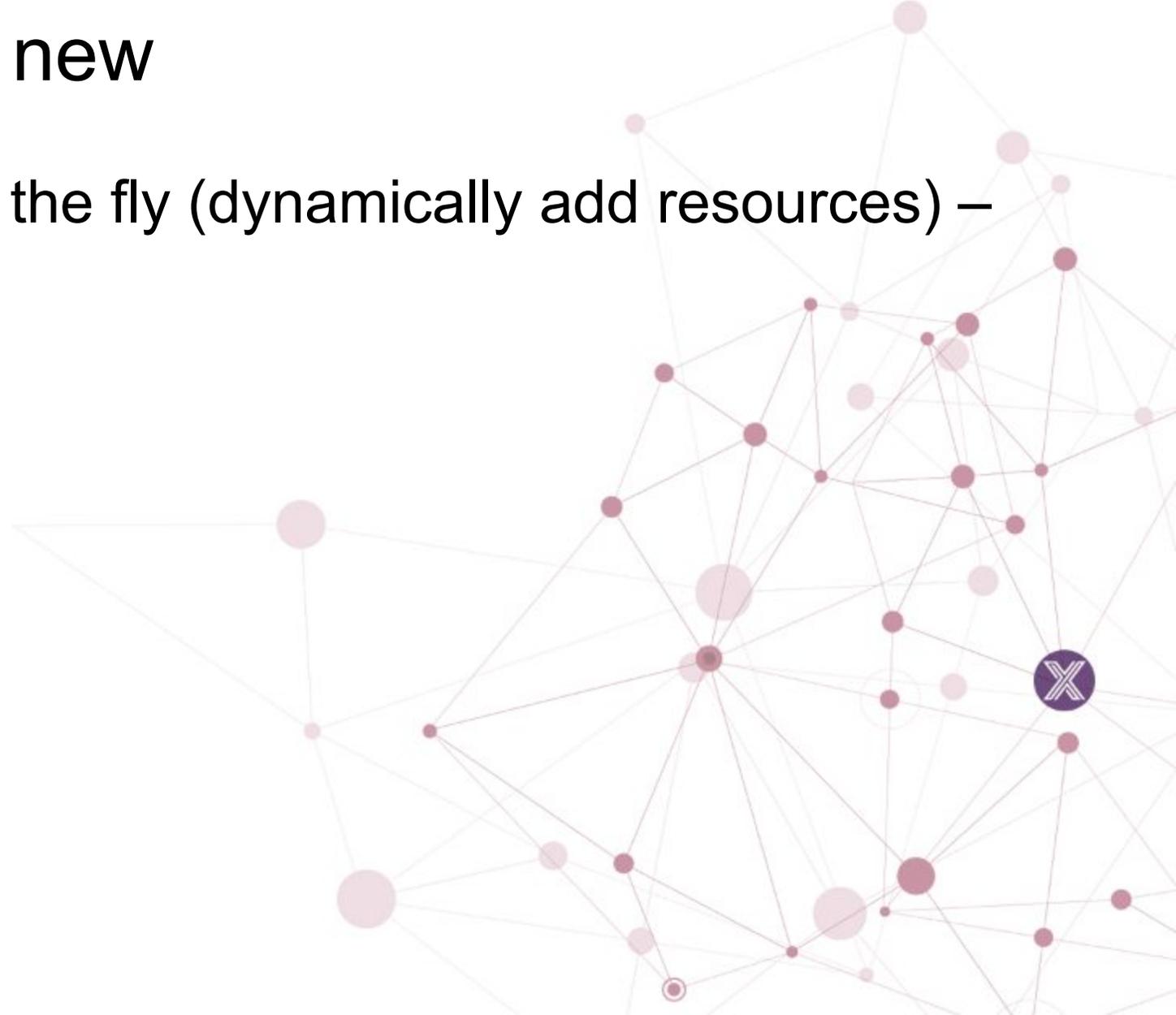
- Upgrade scripts and tools for DB and configuration migration
 - **Large**
- V2 API for all services
 - **Large**
- Kong on all the time (***stretch***)
- Device service to appl service via message
 - Implement the ADR - **Medium**
- Device service to core data via message bus
 - ADR first; get adopter feedback – **Small**

General – tech debt

- Archive deprecated services/infrastructure
 - Mongo (some Mongo code in sdks and edgex-go) – **Medium**
 - Logging (still some code in bootstrap and client) – **Medium**
 - Drools – **Small**
- Code clean up for backwards compatibility
 - Rip out stuff that is provided for backward compatibility that won't be necessary
 - Config vars that uppercase and lowercase - **Small**
 - Bunch of stuff in Bootstrap – **Small to Medium**
 - SDK – refactoring holds (check Git for “hold” and backlog items) – still some globals around – **Medium?**
- Max request size check - **Medium**

Core and Supporting – new

- Modifying device profiles on the fly (dynamically add resources) – **Medium - *Stretch***



Core and Supporting – tech debt

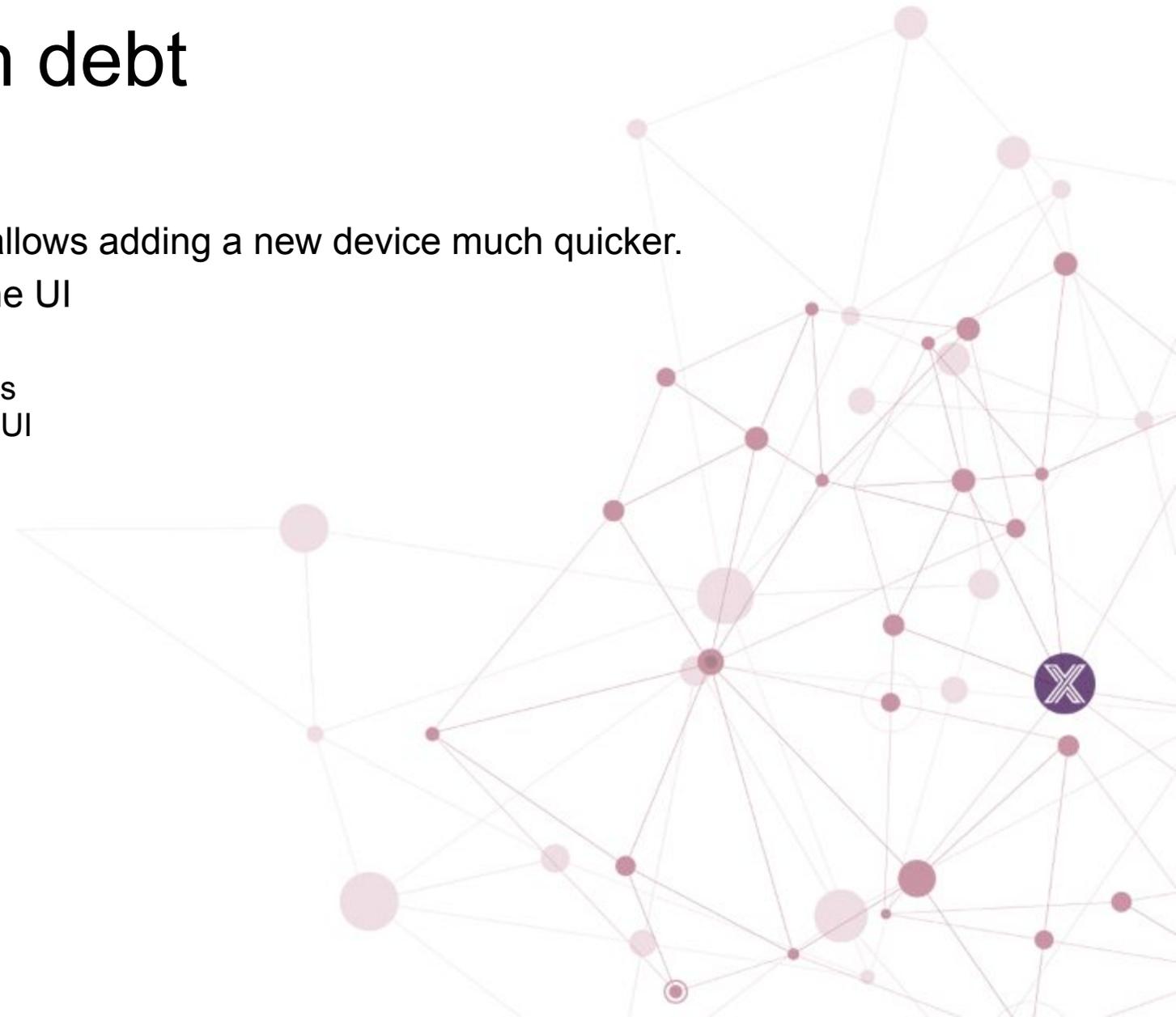
- Fix Redis names/keys (add prefix to the namespace) ([#2861](#)) – **Small**
- Improve profile validation logic ([#2647](#)) – **Small** and *Stretch*
- Address how to get device resource info (for app services and Kuiper)
- Add profile to Event/Reading objects - **Small**
- Change name property on Reading to resourceName - **Small**
- Add formatted alternatives to log functions ([#295](#)) - **Small**
- Structure core data's Writable area – add structure - **Small**

EdgeX CLI – new and tech debt

- Implement the roadmap (be a replacement for curl scripts)
 - #1 - V2 API support
 - #2 - TAF testing support (at least a basic start, subject to some research to know what is possible)
 - #3 - add support for device and application services

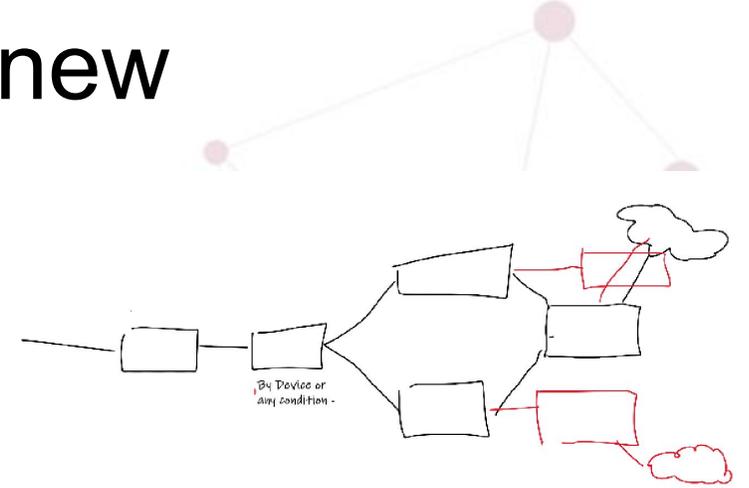
EdgeX UI – new & tech debt

- Implement the roadmap
- #1 priority - create a device UI “wizard” that allows adding a new device much quicker.
- #2 priority - Add some data visualization to the UI
- Small additions
 - Link UI to Endorsement page of existing profiles
 - Use new web site branding/styles to brand the UI



Application and Analytics Services - new

- Fork the pipeline & have a pipeline per topic – **Large**
- Integrate additional analytics framework – **Medium**
- V2 API Consumption - **Small**
- Output aggregator/multiplexor? **Small** and *Stretch*

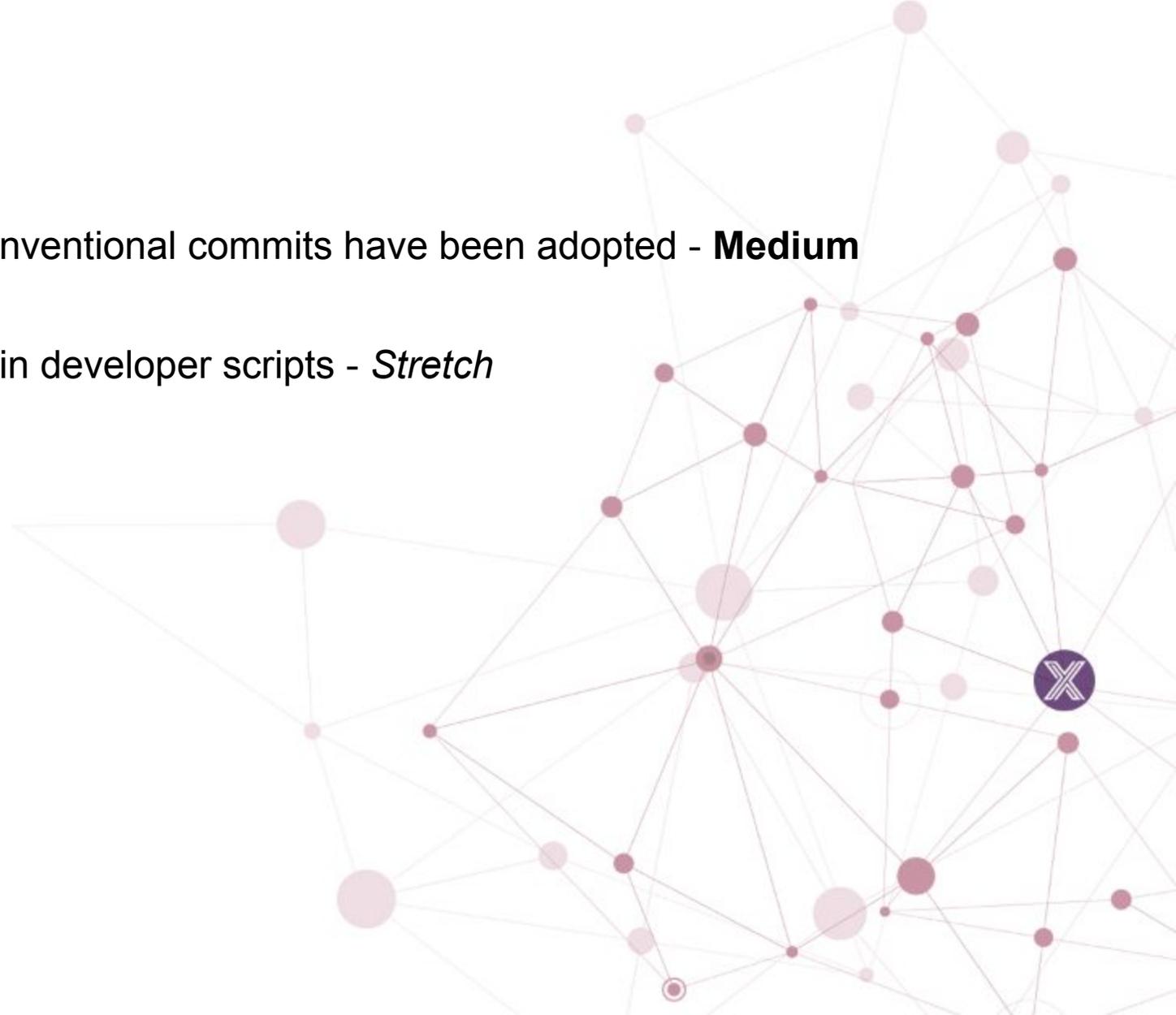


Application and Analytics Services – tech debt

- Batch mark/push –how to push after a big batch is sent – **Small**
- Address array of types in rules engines/analytics engines – **Small** and *Stretch*
- Remove/Archive Drools Rules Engine associated artifacts – **Small**
- Refactoring & cleanup - **Medium**

DevOps – new

- Repo badges for EdgeX repos - **Large**
- Automated change log creation now that conventional commits have been adopted - **Medium**
- Developer enablement – **Medium**
- Automation around pinning image versions in developer scripts - *Stretch*
- Research projects
- Security bench - **Medium**



DevOps – tech debt

- Release automation streamlining (replace Bill with automation) - **Medium**
- Docker image naming – **Medium**
- Dockerfile clean up in some services – **Medium**
- Clean up DevOps wiki pages – **Small**
- Tag Docker Hub images to indicate which are out of support - **Small**

Security - new

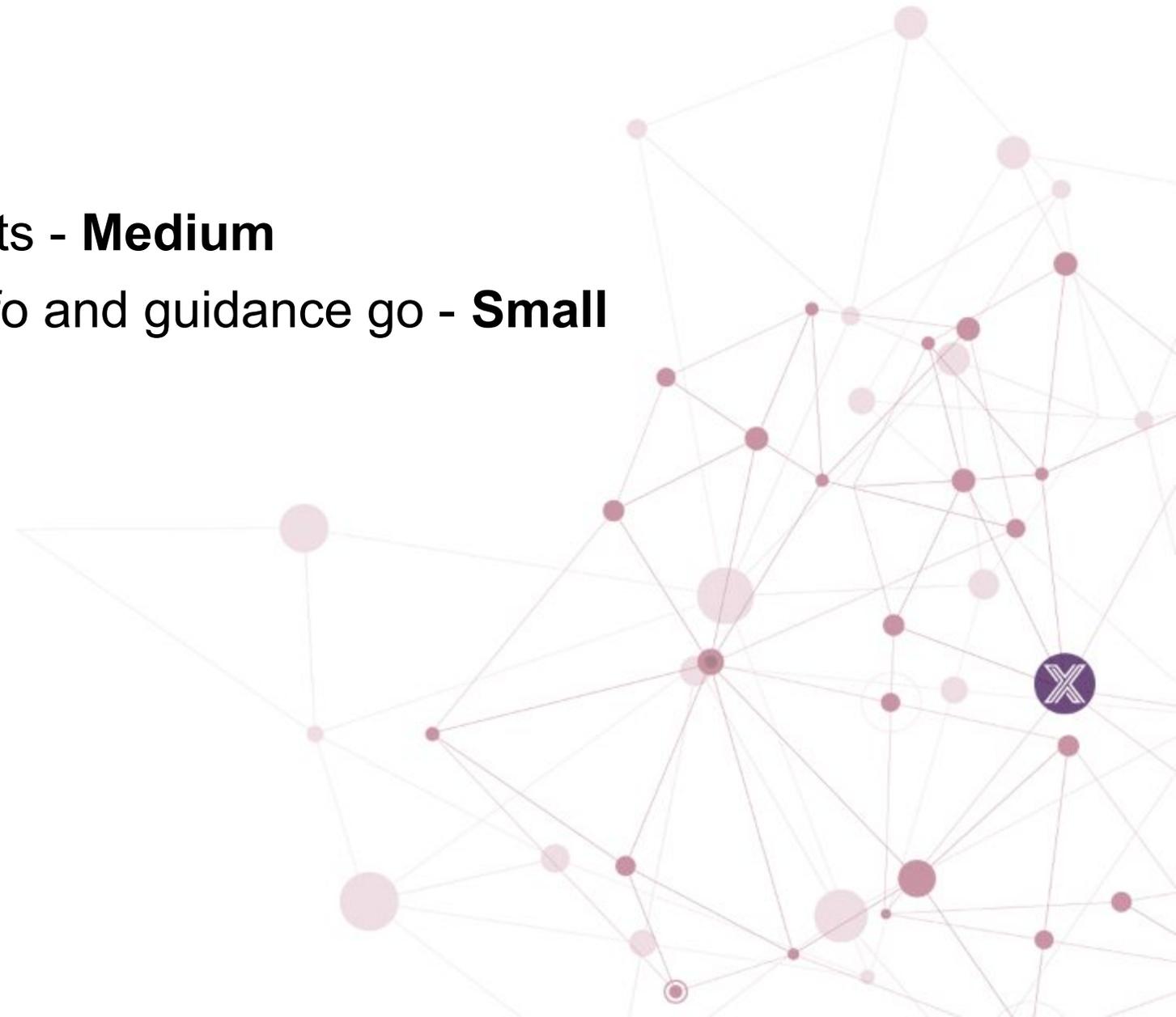
- Revamp of EdgeX docker bootstrapping as per ADR (6 tickets) – **X-Large**
- Enable BYO Kong certificate (3 tickets) - **Small**
- Ensure that service location data is pulled from trusted source (i.e. not Consul) - **Medium**
- Secure Kong admin port - **Small**
- New secret provider abstraction (non-back) - **Medium**

Security – tech debt

- Utility - refactoring proxy setup to move the post installation out to separate utility - Small
- Support delayed services starting after vault token expired – ADR
Small / Impl - Stretch

Test / QA - new

- TAF for V2 API – **Large**
- Complete Modbus scalability tests - **Medium**
- Where does this performance info and guidance go - **Small**



Test / QA – tech debt

- Additional Integration/Functional test cases - *Stretch*
 - Kuiper integration test/smoke test
 -



Device Service – new

- Consume v2 API - Large
- Event filtering: implementation - *Stretch*
- Impl of DS to AS - Large
- Messagebus for Device Service → Core Data – Stretch
- Obtain security credentials from secret store - Large
- Check of set requests on device service against device profiles (setting above, min, max, etc.)? Small (already done in C)
- Review and acceptance of new device services (4x)
- Device list shouldn't be in configuration.toml - Stretch
 - Should be in a separate file

Device Service – tech debt

- Old items on-hold because they are breaking changes - Small
- Continued refactoring for global vars – in scope; small change in SDKs
- Remove binary representation (base64) for floating point values – Small
- Remove OperationalState for device services – Small
- Rename OperationalState values for devices (currently ENABLED/DISABLED, suggest UP/DOWN) – in scope; small
- A couple of other device profile cleanups - Small
- Archive Random Device Service - Small

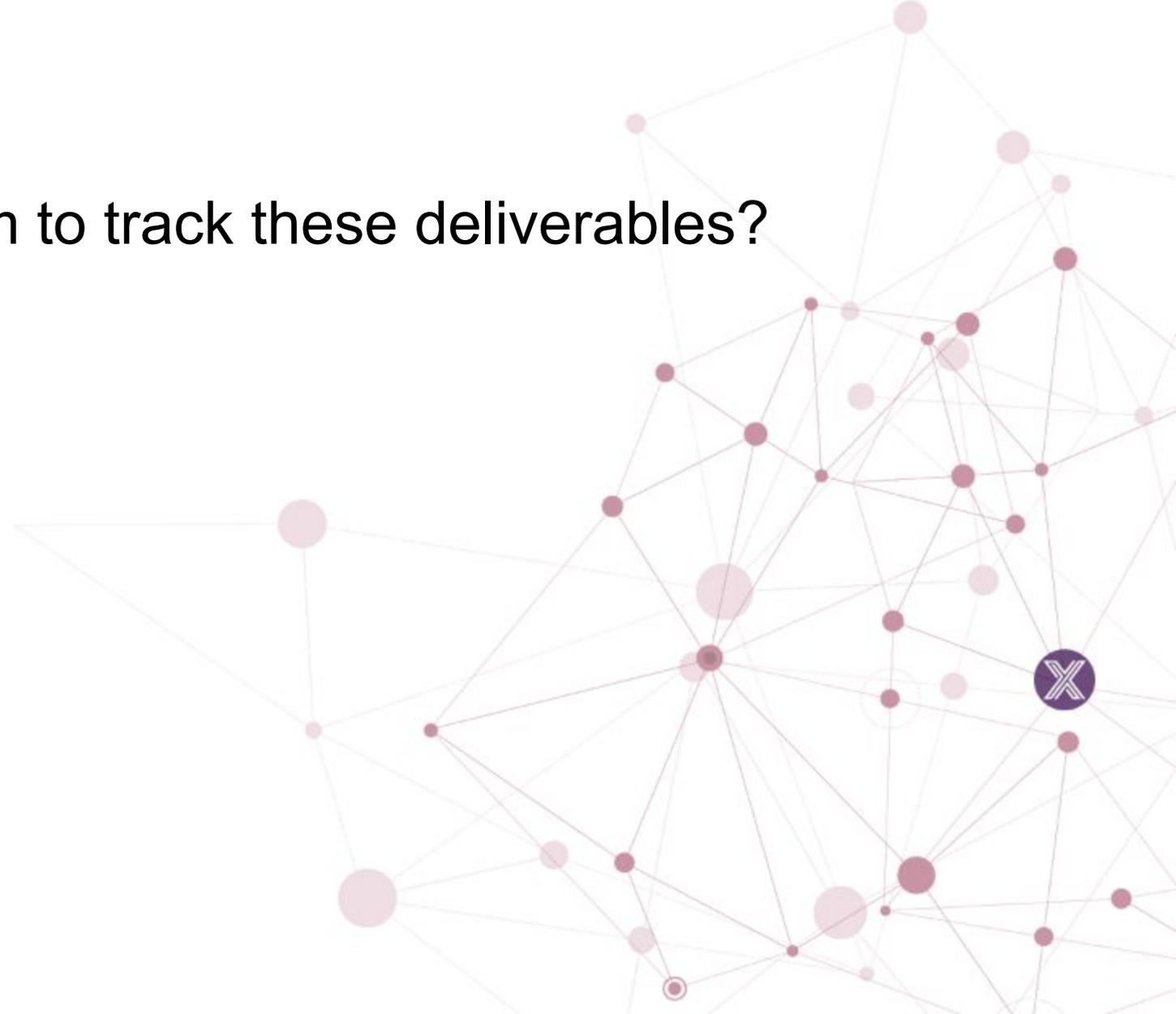
Action items - for now

Can we develop a mechanism to track these deliverables?

Github issues?

WG updates?

Action item owners





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Upcoming Events & Dev Advocate Update

Aaron's updates

Upcoming External Events

- › [KubeCon/CloudNativeCon North America](#): 17-20 November, 2020 - Virtual
- › [Open Source Summit Japan](#): 2-4 December, 2020 - 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
- › 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

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