

EDGE X FOUNDRY™

TSC Meeting

March 9, 2022



This Sunday, March 13, 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#

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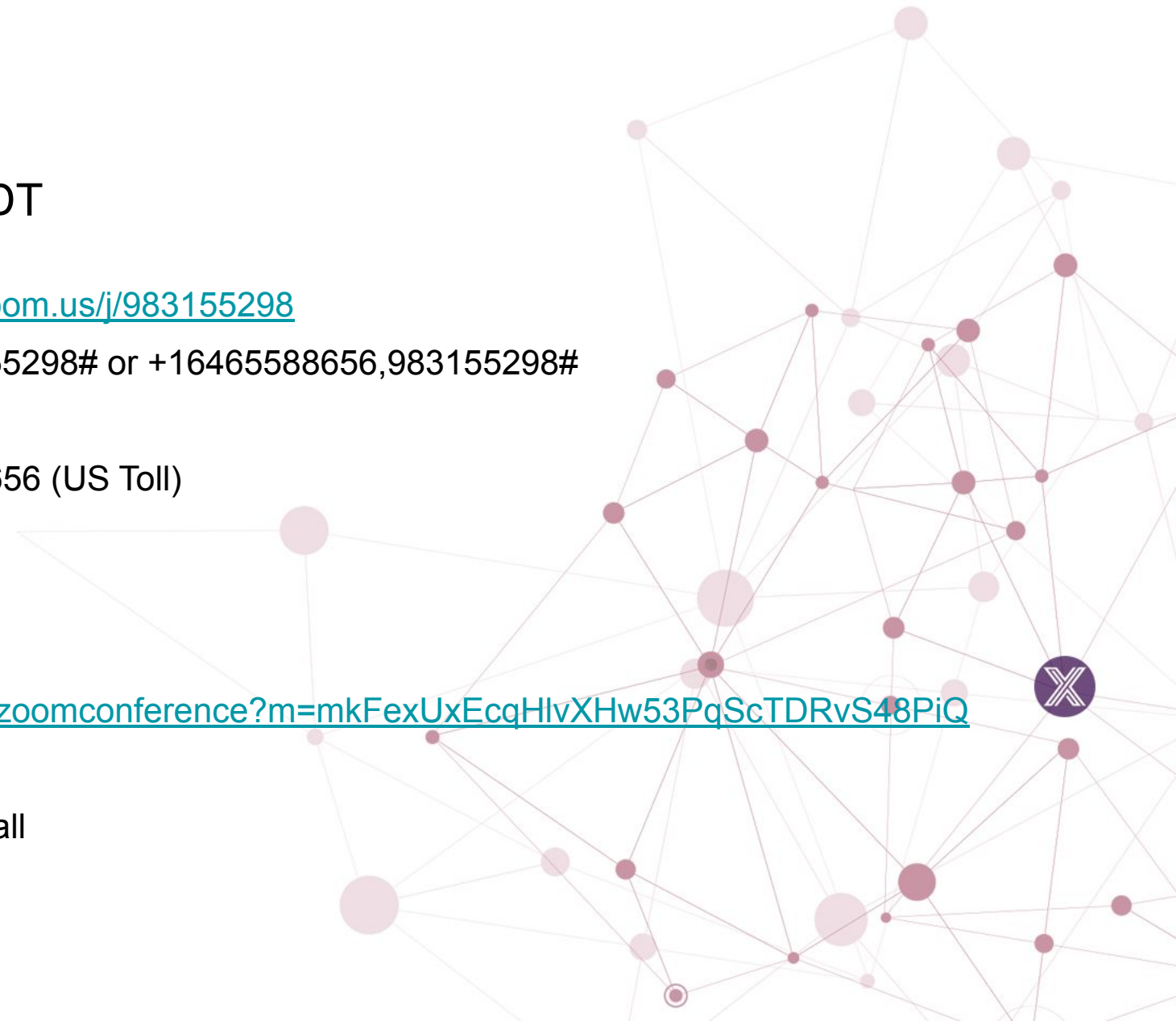
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Meeting ID: 983 155 298

International numbers available: <https://zoom.us/zoomconference?m=mkFexUxEcqHlvXHw53PqScTDRvS48PiQ>

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



TSC – Members Present Today

<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	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
 - Intertwined with Kamakura Release - planning vs reality
 - What's in/out for deliverables?
 - What's left to do? What's the probability it gets done?
- ADR updates
- Miscellaneous
 - Time changes
 - Monthly Architect's meeting date change
 - Jim out the week of Mar 21-25
 - Spring schedule
 - EdgeX Awards



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Work Group Updates

Chairs

Kamakura Scope Review - Categorization

- Still in scope and already completed
- Still in scope – to be done/being worked and high confidence this will be done
- Work in progress and unsure if (low confidence) it will land in Kamakura (if you are not sure about whether a feature will make it or not, put it in this category).
- Not going to be accomplished for this release

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 (03/09/22) - Kamakura [Cross Cutting Issues](#)

Icebox (0)

Backlog (0)

In Progress (6, -2)

- [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

- **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, +2)

- **Metrics ADR - Approved**
- **Use latest Redis (redigo) version (ignore bad v2.0.0 tag)**
 - edgex-go - DONE
 - App SDK - DONE
 - **No update needed for go-mod-messaging**
- 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

FROM the November Planning Meeting - final action/scope slides

General/Cross Cutting Concerns Scope

- **Dynamic Profiles** - <https://github.com/edgexfoundry/edgex-docs/pull/605>
 - Owner: architects/global to start
 - T-shirt size - medium
 - Finalize and approve ADR by end of year
 - “Make law”/enforce in the code during the release
 - Validation to occur in metadata
 - CLI, GUI, etc. won't have to validate, but will have to react to errors
- **Metrics Collection** - <https://github.com/edgexfoundry/edgex-docs/pull/268>
 - Owner: architects/global to start
 - T-shirt size – large
 - **Finalize and approve ADR by end of year**
 - ADR needs to look at lib/package for Go and C
 - ADR needs to cover configuration to turn on/off use of metrics
 - Does not include control plane events
 - **Implement in Go services this release; research options for C services (design by end of release)**
 - go-metrics already a dependency incorporate in Go code
 - May need feature flag for compile time incorporation (should be covered in ADR)
- **UoM** - <https://github.com/edgexfoundry/edgex-docs/pull/386>
 - Owner: shared Core/Device Service task
 - T-shirt size – small for ADR; impl TBD
 - Complete and approve ADR by end of January 2022
 - **Implementation a stretch goal but TBD after ADR**
 - Validation not covered in ADR or impl

Proof of concept service and module prep for Go

FROM the November Planning Meeting - final action/scope slides

General/Cross Cutting Concerns Scope

- North-south message bus
 - Owner: architects/global to start
 - T-shirt size – small for ADR; impl large or x-large
 - Complete ADR in this release cycle
 - **Stretch goal:**
 - Implement MQTT subscription in command service
 - Implement DS'es with subscription capability (via Go and C SDKs) to start receiving commands from command service via message bus
- Kubernetes support
 - Owner: PM/TSC chair task
 - T-shirt size – small for research and doc; medium for impl
 - Get feedback from K8s experts
 - What doesn't work? What is insufficient with current examples and documentation
 - Create a page in the EdgeX docs
 - EdgeX is not CNCF but edge native. Cover why EdgeX is not HA, how to scale EdgeX (out not up), why EdgeX doesn't work in a cluster, limitations of EdgeX in K8s (like devices/sensors impact).
 - Based on expert feedback, create improved edgex-example or possibly even 1st level artifacts (like docker-compose and snaps)
- **Zero touch provisioning of device/sensors**
 - Owner: PM/TSC/Canonical chair task
 - T-shirt size – small for research
 - Research project – what do adopters want/need? What does zero touch mean to them

Hem Chart example - single node - example

FROM the November Planning Meeting - final action/scope slides

General/Cross Cutting Concerns Scope

- (Native) Windows support
 - Owner: PM task
 - T-shirt size medium
 - Research / test Go compile direct to not include/compile ZMQ
 - Use zmq linux files special names that don't include them
 - Additional work pending success and review of this approach
 - Still have docs to do/Windows native Redis
- Support device/sensors that have a functional protocol / API
 - Owner: DS and Core WG task
 - T-shirt size – small for ADR; impl out of scope for this release
 - Impacts Command and device services
 - Example: ONVIF – camera has a SOAP based web service; function call that takes multiple parameters
 - Supporting REST vs SOAP or GRPC calls
 - Modeling we have is not up to the task to support these more complex function calls
 - Research and discuss this feature prior to ADR development in Monthly Architects Meeting
 - Discuss how to start and where work originates
 - Create ADR in this release if architect's concur
 - Avoid inventing something from scratch if we can
 - Potentially some research prior to ADR
 - Discuss in architecture group about how to start and where work originates

We can build the services
Running native - Some cleanup /
clarification work to do

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General/Cross Cutting Concerns Scope

- Upgrade Go (1.17)
 - Owner: smoke test: Core/James, apply across services: DevOps/Ernesto
 - T-shirt size medium
 - Do in December
- Add "make lint" target and add to "make test" target (only for GO)
 - Owner: Jim/Lenny
 - T-shirt size: medium; roll out as we can through the release period
 - <https://github.com/edgexfoundry/go-mod-secrets/issues/129>
 - Needs to be done in mods and DS SDKs and DSs, LLRP AS
 - Based on what the lint tool finds, could add to scope of work to all services

Just go device services remaining

Applications WG Update (03/09/22)

Completed (5)

- [Support Custom Clients for Store & Forward #1045](#)
- [feat\(microservices\): Custom Store/Forward Client Registration #706](#)
- [Improve service initialization process #1046](#)
- [feat: Update External MQTT Trigger Docs #705](#)
- [Not using latest Redis \(regigo\) module version due to bad tagging #1048](#)

WIP (1)

- App SDK Controller tests not actually run

Backlog (11)

- <https://github.com/orgs/edgexfoundry/projects/23>

New

- None

Digital Twin

- Defining new requirements for Digital Twin

Next

- Bug fixes
- Metrics

eKuiper

- 1.4.3 Released
 - <https://github.com/lf-edge/ekuiper/releases/tag/1.4.3>
- 1.4.4 planned
 - Address issue with TDengine in plugin-mode
 - Only impacts rule that use the TDengine sink plug-
 - User must change the compose-file to use slim image
- Working on 1.5.0 (targeting April 14th)
 - <https://github.com/lf-edge/ekuiper/milestone/6>

Reminder: Weekly morning App Service WG meetings are now being used for Eaton's Digital Twin Service discussions. These discussions will continue on **March 15th, 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

FROM the November Planning Meeting - final action/scope slides

Application Services Scope

- Research how to provide your own custom function that gets called in/from the pipeline
 - T-shirt size: small
 - Via nano message vs MQTT vs ?
 - Protocol of choice to be determined
 - Compare this to just another AS
- Research CloudEvent library
 - T-shirt size: small to research
 - If still big, push onto backlog
 - If smaller, explore AS export with CloudEvents (TBD size)

Core WG Snapshot (9 March 2022)

- Kamakura:
 - TAF
 - Functional tests: 545 - 1 fail [#1052](#) Store same app-service secret fails on second request
 - Integration tests: 43 - 1 fail - not sure reason.. maybe [#591](#) App service with mqtt export and security enabled
 - Performance tests: 10 - all passing
 - ADRs ongoing
 - Device Profile Changes. Vote passed. Implementation WIP - Ginny
 - Metrics. Vote passed. Implementation WIP - Lenny prototyping the pattern with Core Data example
 - UoM. Addressing final comments. Vote soon
 - N/S Message Bus (review in Core WG call)

Core Project Board Status

- 4 New Issues (-2)
- 9 Release Backlog (+0)
- 0 Bug Backlog (+0)
- 1 In Progress/QA (-1)
- 47 Done (+3)
- 2 Kamakura Stretch (+0)
- 12 Icebox (+0)

QA/Test Project Board Status

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

Next meeting: **Tomorrow** Thursday March 10th @ 8am Pacific Time

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Scoping colouring applied. James' comments in pink

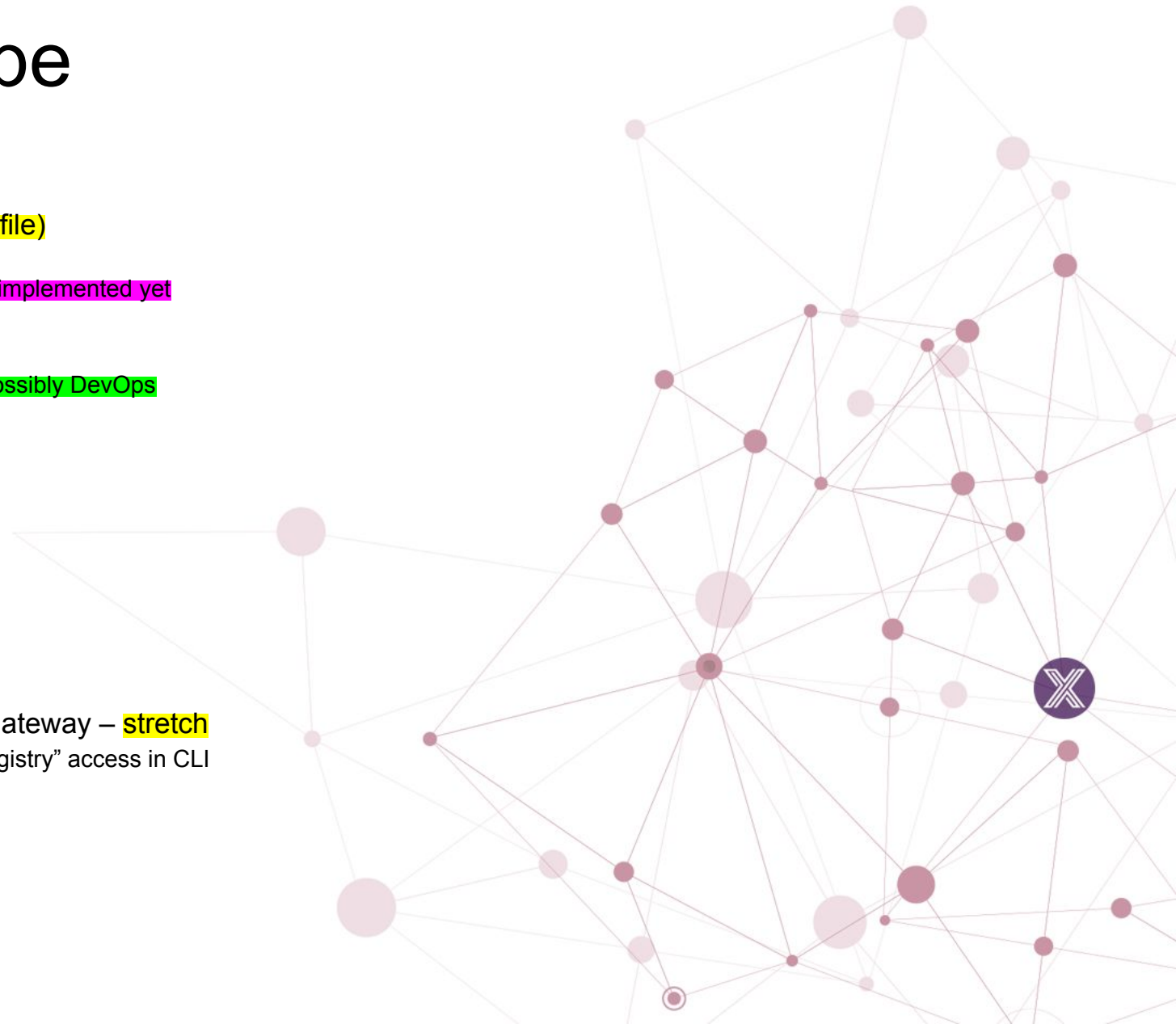
Core Scope

- What is required to trigger performance tests from edgex-taf? Is this already being done? - yes triggered weekly, every Friday
- Always send CBOR option for performance - become lower priority, believe JSON fast enough, one to de-scope
 - T-shirt size: medium
 - Test first and apply if it makes sense
 - Run functional tests at the same time to make sure we are not breaking something
 - What would "significant" savings look like: >100 milliseconds
- Update lastConnected should not trigger device service callback - lower prio, currently in Icebox
 - T-shirt size: small – tech debt we need to clean up
- Refactor the pkg.Encode func name
 - T-shirt size: small - tech debt; just need better naming
- Research move to typing in JSON (Impl stretch) - icebox
 - T-shirt size: small to research; impl TBD
 - Protocol properties; not just internal because of provision watcher
 - Tech debt to use interfaces vs string:string in properties
 - Complexity - using the string match on provision watcher
- ADR for addressing support of specifying parent/child relationship - don't think this happened yet?
 - Owner: Eaton
 - T-shirt size: small
 - Use of labels vs use of custom attribute in device object
- Add new tests to address any new features - more like adding tests for issues found, part of general dev strategy
 - T-shirt size: TBD
- Test with Core Data not in place - need to check this
 - T-shirt size: ?
- Test send of sensor data from DS via REST (vs message bus)
 - T-shirt size: ?
- Test that data successfully comes back from eKuiper
 - T-shirt size: ?
 - Coming with eKuiper 1.4
 - We did add Kuiper stream test
- Define what other stress testing we need
 - T-shirt size: small
 - Implementation may be in scope
- Test Redis use of memory
 - T-shirt size: ?
 - Test Redis in-memory database and how much can we persist
 - What's the breaking point?
- Real hardware testing
 - Owner: Jim
 - T-shirt size: small for pilot
 - Research setting up accessible hardware in LF Edge Lab
 - Understand CI/CD implications
 - May be manual testing to start

FROM the November Planning Meeting - final action/scope slides

Core GUI and CLI Scope

- GUI
 - Fix to no allow banned activity (ex: modify device profile)
 - T-shirt size: small
 - To be handled after we address dynamic profiles - Not implemented yet
 - Don't validate in the GUI, just react to API call responses
 - Add testing
 - T-shirt size: large – impacts GUI team, testing team & possibly DevOps
 - What tools to use?
 - How much is automated versus manual
- CLI
 - Complete V2 implementation and update docs
 - T-shirt size: ?
 - Support app and device services - stretch
 - T-shirt size: ?
 - Scrub issues list - stretch
 - T-shirt size: ?
 - Support registry and proxy setup going through API Gateway – stretch
 - T-shirt size: medium; concern on what is covered via “registry” access in CLI
 - Research first
 - Likely to complete only one of these at best



Device Services WG Update (9 Mar 2022)

SDKs

- GPIO device service - updated to v2
- Provisioning - device services to populate Provision Watchers
- Resource aliasing for REST, MQTT services - options under discussion
- Code style enforcement for C - potential

Project board

- 25 issues New+Backlog (-2)
- 4 In Progress+Review (-2)

Next meeting: March 14th

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

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Device Service Scope

- C SDK work outstanding
 - T-shirt size: medium to large
 - Complete securing consul with access tokens
 - Complete securing the message bus
 - Injecting secrets during bootstrapping
 - Secret provider for all
- BACNet DS (in C)
 - T-shirt size: small to medium
 - “Not as far to go as we thought”
- CORs support in C SDK / C device services
 - T-shirt size: medium (due to no library support)
 - Lower priority for this WG – therefore a stretch goal
- Research / ADR on use of cmake options to optimize dependencies
 - Owner: Eaton ([Jim to connect with Eaton](#))
 - T-shirt size: small
 - CBOR, MQTT – conditional compiles to minimize size of DS executable; so as to not include stuff they are not using
- Update/Upgrade to use Yaml v3 library
 - T-shirt size: small
 - Tech debt, needed for code hygiene
- Implement ProtocolProperties validation mechanism
 - T-shirt size: medium
 - Crawl first – callback defined in Metadata; way for the device service to set it
 - Endpoint on DS SDK to be passed device information
 - Metadata to start calling it
 - Involves both Go and C SDKs and services
- Assist in implement ADR 0019 - Delayed start secret store tokens
 - See Security Scope
- Approve/Accept new DS
 - CoAP, GPIO, UART, Grove

Camera device service

DevOps WG Update (03-02-2022)

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

- edgex-docs: mkdocs htmlproofer updates.

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

Release Czar (2022-3-9)

No Updates This Week.

Upcoming:

Kamakura - May 2022

Releases of GPIO and LLRP App / Device Services coming soon

FROM the November Planning Meeting - final action/scope slides

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

- Summary: Colin Peters' presentation
 - <https://wiki.akraino.org/display/AK/Smart+Data+Transaction+for+CPS+Blueprint+Architecture>
 - Uses single-pod approach.
Containers that terminate with success (i.e. proxy-setup) are problematic since restart policies can't be set at a container level.
Kong doesn't run in the single pod environment without low-level patching.
 - Will miss the Blueprint 6 release for Akraino in April
 - If we get Kubernetes support stable for Kamakura we could help them meet their October release window
- Delayed start summary
 - Making good progress. Hope to be able to demo soon.

Security Project Board Status

- 5 New Issues (n/c)
- 4 Release Backlog (n/c)
- 3 In Progress/QA (n/c)
- 1 In review (n/c)
- 16 Done (n/c)

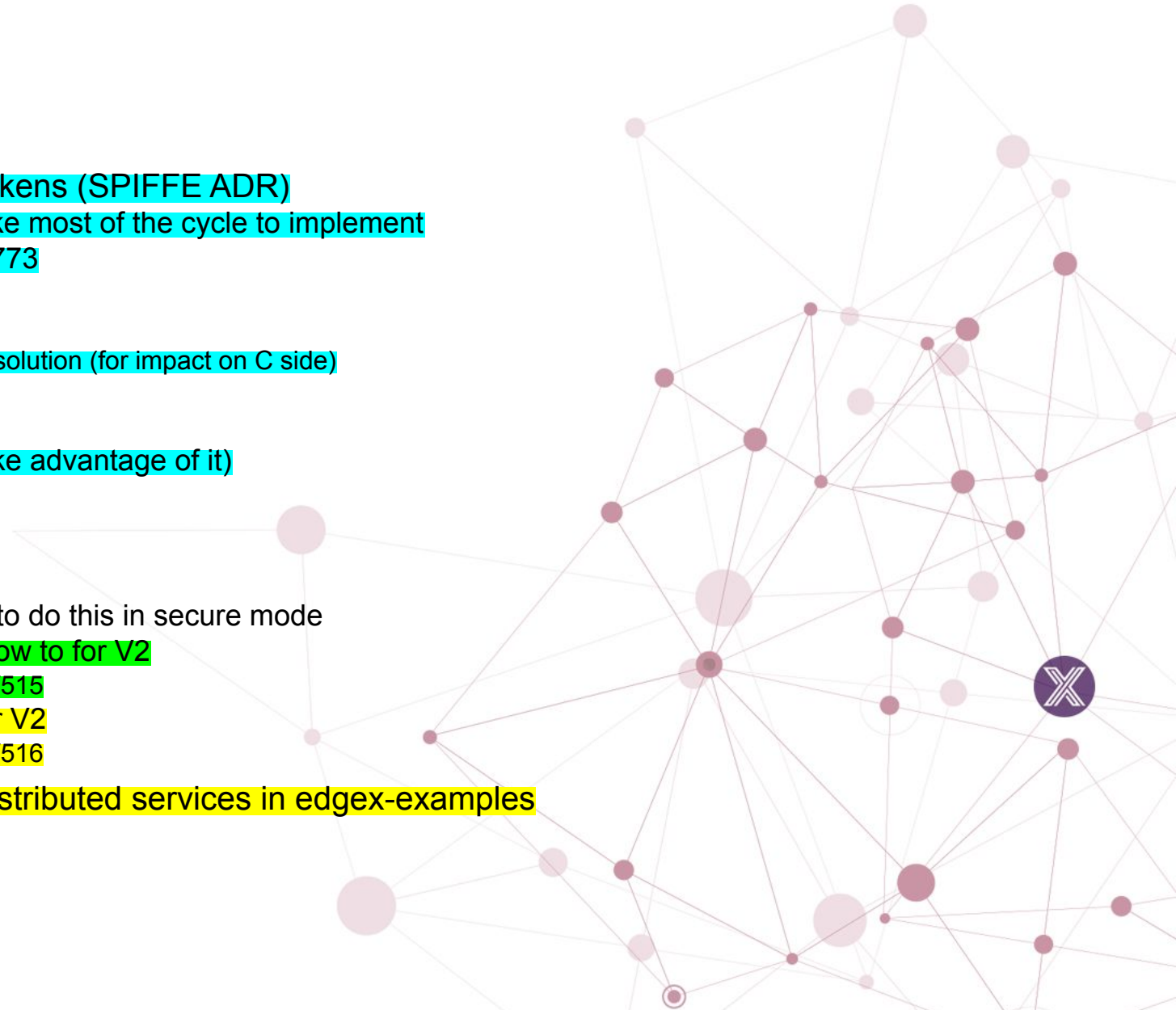
Secure Consul Project Board Status

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

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Security Scope

- Implement ADR 0019 - Delayed start secret store tokens (SPIFFE ADR)
 - T-shirt size: large; cross cutting concern that will take most of the cycle to implement
 - <https://github.com/edgexfoundry/edgex-go/issues/3773>
 - Need to get the ADR done in early Dec
 - Need GRPC clarification (requirement in C) in SDK
 - Bryon – research whether GRPC is needed for this solution (for impact on C side)
 - See <https://grpc-c.lixiangyun.top>
 - Important for enabling Kubernetes
 - Built to be opt-in (in Kamakura – only DS and AS take advantage of it)
 - Probably a common library everyone uses
 - Another C SDK dev need
- Update docs and edgex-examples
 - T-shirt size: medium; some work to determine how to do this in secure mode
 - Update SSH Tunneling for remote Device Service how to for V2
 - <https://github.com/edgexfoundry/edgex-docs/issues/515>
 - Update Swarm for remote Device Service how to for V2
 - <https://github.com/edgexfoundry/edgex-docs/issues/516>
- Doc how to use SPIFFE as example of how to do distributed services in edgex-examples
 - T-shirt size: medium – stretch for Kamakura



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)

Next meeting Monday April 4 at 9am PST

Certification

- New EdgeX Ready applicant
- Update of the Wiki

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Business and Outreach

- **Web site**
 - No major changes to the site (English or Chinese) for next release
 - Looking to move costing to LF/LF Edge (**Jim** action to work with LF)
 - Find out situation with funding/costs on Chinese site (**Jim** action) (Done✓)
 - Goal: get more stats from Chinese site, docs, Wiki
 - Try to understand what is driving traffic to any of these
- Developer Evangelism
 - EdgeX Ready – evangelism/marketing social media campaign – **Rodney/Jim** action
 - Participation an results from EdgeX Ready will determine what comes next
 - Developer Badging – kick off with Jakarta release
 - **Ernesto** to demo at next DevOps
 - Need marketing campaign at time of the release – **Jim** action
 - EdgeX Smart * Challenge 2022
 - Need sponsors – **Jim** action **Postponed til summer**
- Adopter series
 - Hold more ad hoc than try to do it monthly
 - Create separate Wiki page to highlight this series and the recordings from it – **Jim** action
- Events/Shows – on hold until spring 2022
- Regular blog/vlog – shooting for something every month – **Jim** action **Working on - something before release**

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Snap Scope

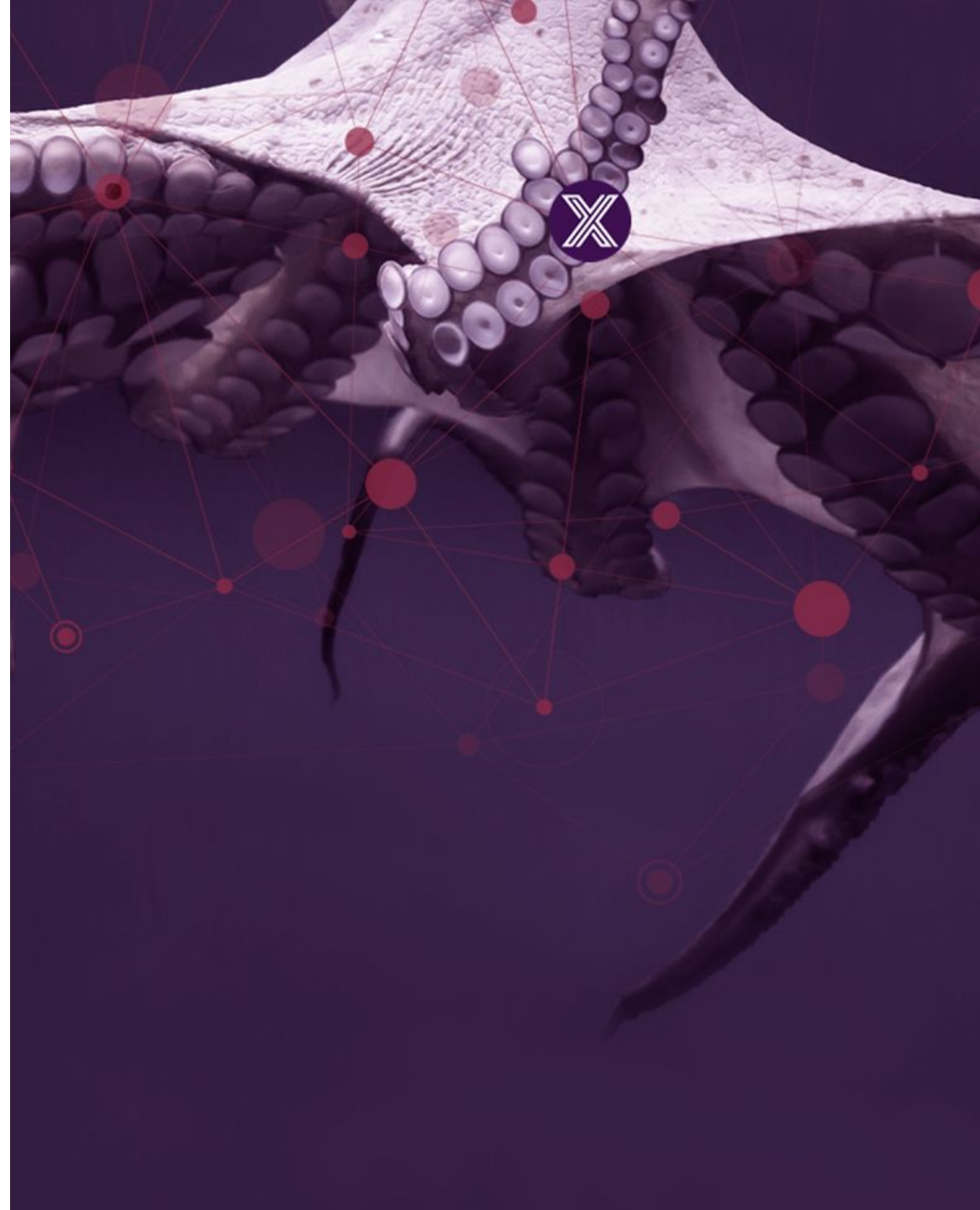
- “Under the hood work”
 - Updating the basis for core 22
 - Set env vars via Snap CLI (today we map between env names to snap lowercase names)
 - Research – separate eKuiper into separate snap (eKuiper not actively maintaining their snap)
- Add github action to build full snap when changes made to all snaps
 - T-shirt size: medium
 - Process outside verification pipeline
 - Branch protections? (Jim to try to get some background on)
 - Need it for all the snaps not just edgex-go
 - Device services (work in progress)
 - LLRP, config AS
 - Parallel workflow
 - Review by DevOps (to make sure CI pipeline isn't broken by it)
- EdgeX GUI will be made a separate snap
- Expose Consul UI on the host when EdgeX is operating in secure mode (snap)
 - T-shirt size: small – Stretch goal for Kamakura
 - <https://github.com/edgexfoundry/edgex-go/issues/3744>
 - Add a config option in consul; snap option

FROM the November Planning Meeting - final action/scope slides

Docs and Examples Scope

- Examples updates/improvements
 - Cloud export – more explicit for Azure, AWS, Google
 - Updated to already work with Ireland
 - Update cloud templates
 - RP4
 - **More Kubernetes support/examples**
- Docs
 - Device service restructuring and adding undocumented features
 - Documenting the API (like discovery)

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ADR review

<i>ADR name and PR number</i>	<i>Status</i>	<i>owner</i>	<i>Work Group</i>
ADR on unit of measure / #386	Need approval checkers and then TSC Vote	Jim White	Core
Device functions / #644	discussed in last DS Working Group; awaiting N/S	Iain Anderson	DS
North-south message bus / #656	To be reviewed/finalized in Core WG this week	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

- Time changes:
 - March 13th (US)
 - March 27th (UK)
 - Meetings will stay at the same time in the US (except for places like AZ)
 - UK community members will have a shift for 2 weeks!
 - We'll update all the meeting times after this week (clean your calendars)
- Jim out March 21-25 - canceling TSC unless someone wants to lead it
- 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_CeFluESritp7VRmIO-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

Monthly Architect's Meeting

Next one: scheduled for March 21st.

Jim is out

OK to move to March 28th (same time at 10am PST*)?

This will be after daylight savings time shift in the US and UK

Spring Schedule for TSC approval

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

4th	11th	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



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Thank You