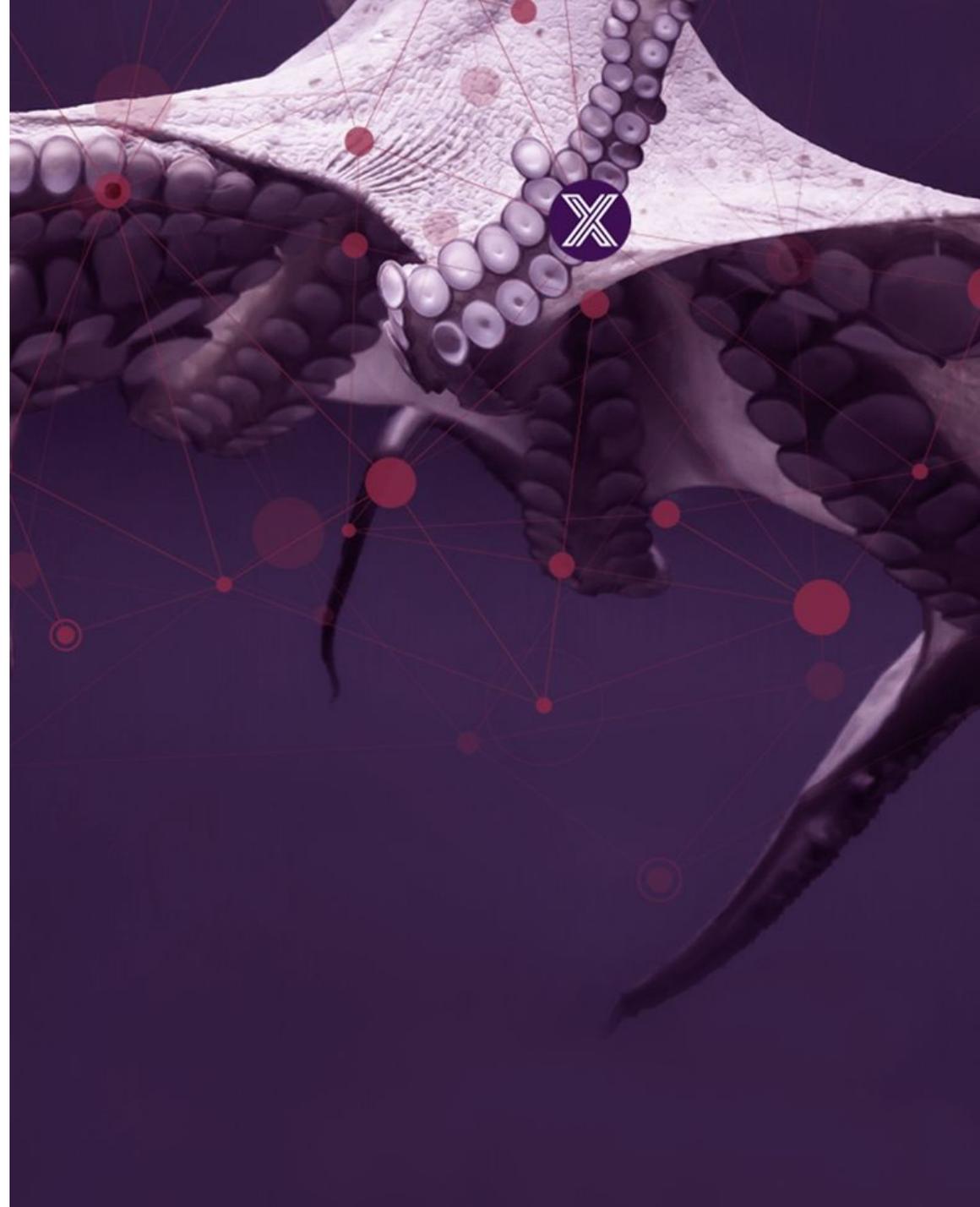# TSC Meeting

July 27, 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:

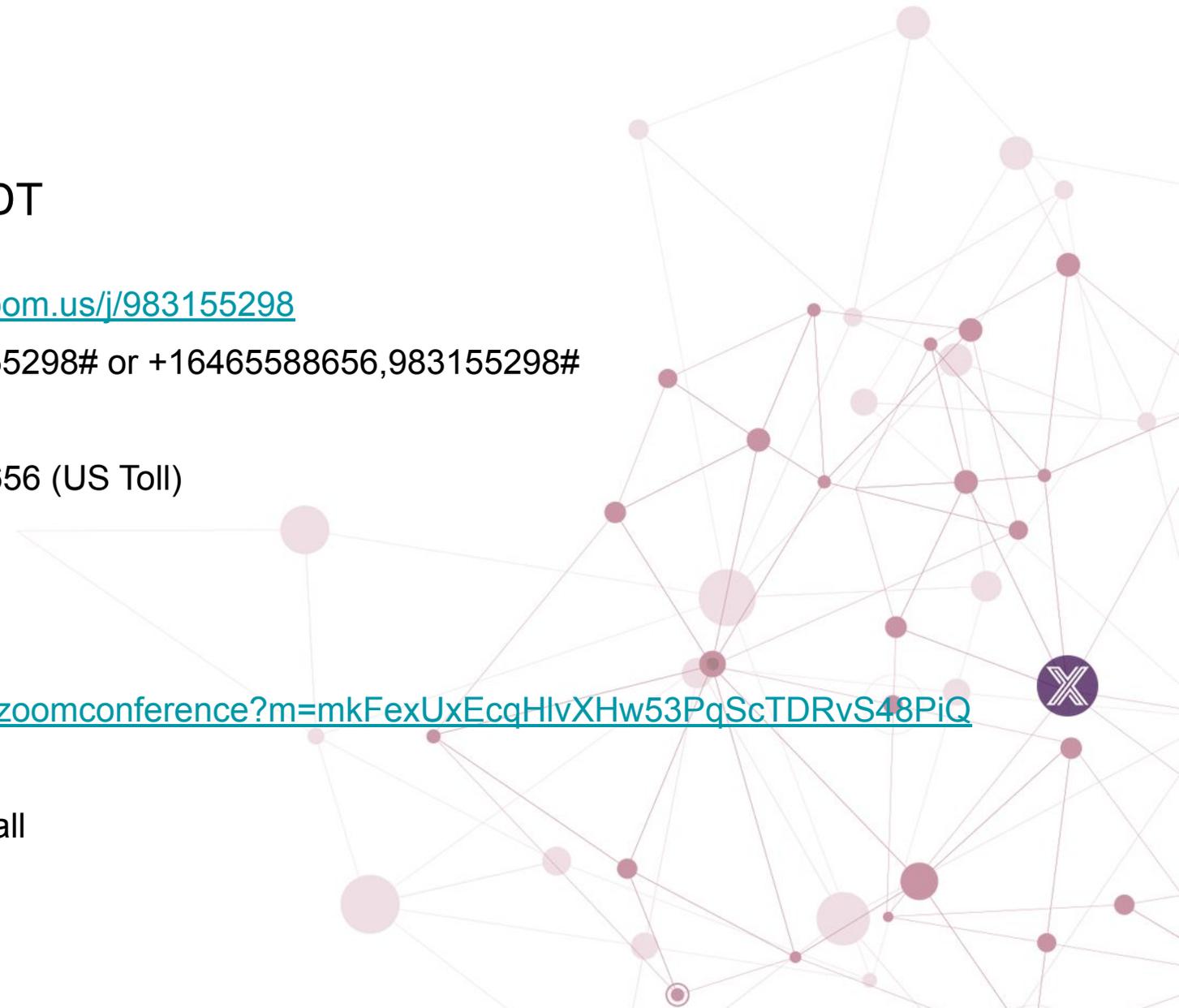   Dial: +1 408 638 0968 (US Toll) or +1 646 558 8656 (US Toll)

   +1 855 880 1246 (US Toll Free)

   +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 |
| Intel | Bryon Nevis | bryon.nevis@intel.com | Security WG Chair |
| Intel | Lenny Goodell | leonard.goodell@intel.com | Applications & Analytics WG Chair |
| IOTech | Cloud Tsai | cloud@iotechsys.com | Core & Test/QA WG Chair |

**At Large Members:**

Gavin Lu (VMWare), Farshid Tavakolizadeh (Canonical), Melvin Sun (Intel), James Butcher (IOTech), Tom Brennan (Eaton)

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
- ADR updates
- Doc updates
- Monthly Architect's Summary

# Work Group Updates

Chairs

# Working Group Chair Updates

- Around the horn
  - Product Manager - Lenny Goodell
  - Applications - Lenny Goodell
  - Core - Cloud Tsai
  - Device Services - Iain Anderson
  - DevOps - Ernesto Ojeda
  - Release Czar - Bill Mahoney
  - Security - Bryon Nevis
  - PRC Updates - Melvin Sun and Gavin Lu
  - Outreach and Marketing
    - Certification - Rodney Hess
    - Vertical Solutions (and LF Edge TAC) - Henry Lau

# Product Manager (07/27/22) - Levski     <u>Cross Cutting Issues</u>

Icebox (1)
- **Lite Builds (no security features) via Build Tags**

Backlog (3)
- **Commands via MessageBus (aka N/S MessageBus)**
- **Secure MQTT MessageBus**
- **Microservice Auth**

In Progress (==4, -1==)
- **Request new Consul token on Auth failures**
  - C SDK/Services - ==**WIP**==
- **Go 1.18**
  - ONVIF/USB Camera - **OnHold**
- **Additional Metrics**
  - App Services - **Done**
  - Device Services - **Defined**
  - Core - **Defined**
  - Security - **Defined**

- **System Events (aka CPE) (UC/ADR/Impl)**
  - UCR **- Approved**
  - ADR - ==**Approved**==
  - Bootstrap - ==**DONE**==
  - Core Contracts - ==**PR Pending**==
  - Core Metadata - ==**PR Pending**==

Done (==4, +1==)
- **NATs MessageBus**
- Explore goweight to see impact of individual libs (nothing actionable)
- eclipse/paho.mqtt.golang 1.4.1 (License update to v2.0)
- <u>Securing Consul with Access Token</u>

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# Applications WG Update (07/27/22) - Levski

**Newly Completed (2)**

- Add pipeline function to wrap raw data from previous function into an Event/Reading #1149
- feat: docs for built-in pipeline function to wrap event #799

**New (0)**

- None

**WIP (1)**

- feat(microservices): Add NATS MessageBus Overview for App Service Trigger #805

**Backlog (12)**

- https://github.com/orgs/edgexfoundry/projects/50/views/2

**ICE BOX (5)**

- Leftovers not planned for Levski

**Next**

- UCR for Record and Replay
- Build option on ASC for including NATS MessageBus

**eKuiper**

- Release 1.6 is code complete
  - In process of creating the release.
  - https://github.com/lf-edge/ekuiper/milestone/10
  - EdgeX will update to 1.6 for Levski once it is ready

**New Project Board**: https://github.com/orgs/edgexfoundry/projects/50/views/2

Next meeting **August 9th, 2022 @ 3:30pm Pacific**

# Application Services - Levski

## Functions (built into SDK)

- Add Tags
- Batch
- Compression (GZIP & ZLIB )
- Conversion (XML & JSON)
- PushToCore ** DEPRECATED**
- **EventWrapper - NEW**
- 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
- **ToLineProtocol (transforms Metric DTO) - NEW**

## 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
- Service Metrics - NEW
- Clients
  - Logging, Event
  - Command
  - Device, DeviceService
  - DeviceProfile
  - Notification
  - Subscription
  - Registry

## Reference/Example App Services
(built on top of SDK)

**Released Services**
- App Service Configurable
- App RFID LLRP Inventory

**Examples**
- Simple Filter
- Simple Filter and MQTT Export
- Simple Filter and HTTP Export
- Simple CBOR
- Cloud Export

- Cloud Event Transformation
- Secret Retrieval
- JsonLogic
- Send Command
- Convert & Publish
- Custom Target Type
- IBM Watson IoT (ASC Profile)
- Custom Trigger
- Influx DB & Flege Exports
- Camera Management - NEW

# Core WG Snapshot (27 July 2022)

- Levski:
    - TAF
        - Functional tests: 594 - all passing
        - Integration tests: 55 - all passing
        - Performance tests: 10 - all passing

**Core Project Board Status**

- 5 New Issues (-4)
- 20 Release Backlog (+6)
- 4 In Progress/QA (+3)
- 48 Levski Done (+2)
- 17 Icebox (+0)

**QA/Test Project Board Status**

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

Next meeting: Tuesday 2nd August @ 5 PM Pacific Daylight Time

# Device Services WG Update (27 July 2022)

- 2.2 releases for Camera device services, C SDK: still expected imminently
- GitHub discussions area created on new repository
- New UCR for Provision Watcher enhancements
- New UCR for Hybrid Application/Device services

Project board : 18 issues new/backlog (+1); 6 in progress/review (+2)

*Next meeting: August 1st*

# Device Services - current/coming (as of v2.2)

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 (v1 only)
- CoAP in C
- LLRP / RFID in Go
- GPIO in Go

Open Source connectors (Future):

- UART in Go
- OPC-UA in Go
- USB Cameras 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
- WebSockets in Go

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 (07-27-2022)

**Pipeline Related**

- [#400](#) [Complete] Go 1.18 upgrade for Go pipelines.
- [#401](#) [Complete] Mkdocs–support for variables
- [#402](#) [Complete] htmlproofer checks on each edgex-docs PR
- [#408](#) [Complete] Add retry capability to edgex-docs pipeline
- [#407](#) [Backlog] Standardize make `version` between Jenkins and Snap builds
- [#409](#) [Backlog] edgex-ui: add UI unit test to pipeline `(ng test)`

**Other**

- [#389](#) [In Review] Help optimize local developer make docker builds

**Next DevOps WG Meeting: Thursday, August 4, 2022 @ 9AM PST**

# Release Czar (2022-7-27)

**Kamakura (2.2.0):**

- Released (2022-5-11)
- device-onvif-camera released - 7/26/22
- device-usb-camera released - Pending
- C SDK / Device Services - Pending

Misc

- Next Week Release Scheduling

# Security WG Update

## Next Meeting: July 27

- Starting to make a dent in the release backlog
- Will cancel Security WG meeting to make time to review PRs
- Snyk was noisy last week:
  - https://security.snyk.io/vuln/SNYK-ALPINE316-OPENSSL-2941806 (inadequate encryption strength for AES OCB mode). Don't use AES OCB and don't use libssl from Alpine base image. Dashboard no longer reporting it (must have been fixed in base image already).
  - gopkg.in/yaml.v3 vulnerability affecting Unmarshal() call…. false alarm. We are now tagging our scans with :main and :jakarta and need to go back and remove untagged from monitoring.

**Security Project Board Status**

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

**Secure Consul Project Board Status**

- 1 In-review (+1)
- 0 In-progress
- 0 Phase 1 To-do (-2)
- 0 Phase 2 To-do (-1)
- 2 Phase 3 To-do (-1)

# EdgeX China- EdgeX challenge 2022 (China region)

Updates of EdgeX challenge China 2022
- Entry level training (5 courses in total) on each workday this week
- Opening ceremony is scheduled on Aug 3rd
- Calling for sponsorship till end of July

| Level | Cost | | Benefits | | | |
|---|---|---|---|---|---|---|
| | RMB | USD | Logo exposure on KV, news reports, blogs | Keynote | Judge | OSS ingredient included in EdgeX Hackathon |
| Strategic Partner | 260K | 40K | Y | Y | Y | Y |
| Diamond | 100K | 15K | Y | Y | Y | |
| Gold | 70K | 10K | Y | Y | | |
| Silver | 35K | 5K | Y | | | |

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

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# Outreach WG (7/26/22)

Ready/Certification

- Rodney working on Wiki update

Social Media

- Performance blog post coming this summer

Events

- Exploring 2023 options

WebSite Changes (order or priority)

- Tech talk reference from web site being explored
- Looking at spend of funding for ($4500 budget)
  - WIP - invoiced, Security Audit issues
  - SEO updates (shared between English and China sites)
- Update some content (diagrams, et al) - internal
- Google Analytics for all versions of docs being worked on

Outreach WG

- Looking for new leader

Next meeting Aug 2nd @ 11am CDT (noon EDT)

# ADR & UCR ==PROCESS== review (as of 7/26/22)

| ADR name and PR number | Status | owner | Work Group |
|---|---|---|---|
| Parent/Child device relationship & Application Services Extending Device Data (UCR) | https://github.com/edgexfoundry/edgex-docs/pull/800  UC review ongoing | Tom-Eaton | Core |
| control plane events (ADR) | https://github.com/edgexfoundry/edgex-docs/pull/795  **completed** | Lenny | Core |
| Provision Watch more Device Properties (UCR) | https://github.com/edgexfoundry/edgex-docs/pull/806  New | Tom-Eaton | Core |
| Hybrid App-Device Services (UCR) | https://github.com/edgexfoundry/edgex-docs/pull/809  New | Tom-Eaton | Core |
| Record and replay service | Lenny working | | App Services |
| core data cache | Levski release | | Core |
| global configuration | EdgeX 3.0 item (not in scope now) | | |
| URI reference (profiles, config, etc.) | EdgeX 3.0 item (not in scope now; may be sub part of global config) | | |

==Legacy CPE and core data cache ADR out there in PR purgatory.  Should these be closed?==

# Document work (as of 7/26/22)

#685 L [build/run ARM32]                                   <u>Nice to have</u>

    <mark>PR in  - still needs review</mark>                    #643 M

#641 L [EdgeX w/ K8s]                                       #642 L

    <mark>Work in progress</mark>                             #598 L

#788 M [fix notifications pages]                            #489 M (with #121, #21)

#787 M [fix scheduler pages]

#731 M [V2 migration guide fix event/reading DTO]

#732 L [role based access for Mosquitto]

#778 S [broken links]

#784 M [document how to decrypt data]

#808 M [add document section for the internal EdgeX MessageBus

# Monthly Architect's Summary - EdgeX 3.0 Planning

**Deprecated items list**

- References to ZeroMQ (allowing for the refactor of go-mod messaging - see next slide)
- Remove SMA and executor
- Username/password for SMTP
- App Services old AES encryption
- Legacy Snap options
- Old tagging in edgex-UI
- LastConnected and lastReported in Device Services
- Kong Oauth2 plugin (keping JWT)
- Deprecated aspects of App Functions SDK:
    - MessageProcessor interface
    - SetFunctionsPipeline and LoadConfigurablePipeline
    - NewTags factory method in app functions

# Monthly Architect's Summary - EdgeX 3.0 Planning

**Focused on non-backward compatible changes:**

## New Features

**Yes:**


**Needs more discussion:**
- Global configuration


**No**
- Internationalization of metadata
- Time Series DB in place of Redis

## Technical Debt

**Yes:**
- refactor go-mod messaging to support single host messaging (relating to removal of ZeroMQ)
- Move protocol properties to JSON typing

**Needs more discussion:**
- Lowering JSON overhead (gzip an option)


**No**
- Move command service and API into core metadata
- Move some config options to static vars in code
- Force units on a device resource to be mandatory

**Still to process: backward compatible changes - James TODO**

Thank You