TSC Meeting

October 21, 2020

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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
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.

One Week Until Freeze

Major Issues?

Major delays?

Warning signs?
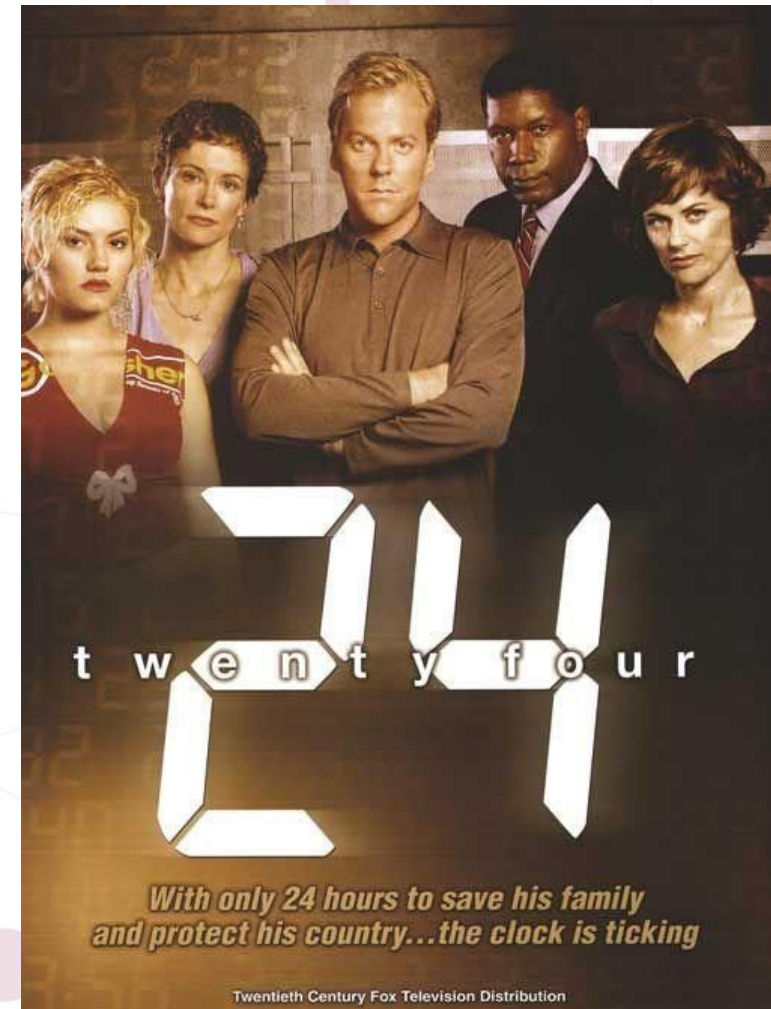
Today's Agenda

- WG Updates
- Ireland pre-wire meeting readout
- Ireland planning meeting details
- Hanoi deliverables
- Upcoming Events (Dev Advocate)

Work Group Updates

Chairs

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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 (10/21/20)

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

In Progress (2, +/-0)

- V2 Implementations
  - App Services APIs - Done
  - TAF testing App Services - Done
  - **Device SDK Go - DONE**
  - **Device SDK C - DONE**
  - **Core Data APIs - WIP**
  - **Core MetaData APIs - WIP**
  - **TAF testing V2 APIs - WIP**

- Conventional Commits for all
  - Core Service - **Done**
  - App Services - Updates WIP
  - Device Services - WIP

Backlog (2, +/-0)

- ADR for Message Bus from Device Service to App Services
- ADR for Secret Provider for all

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
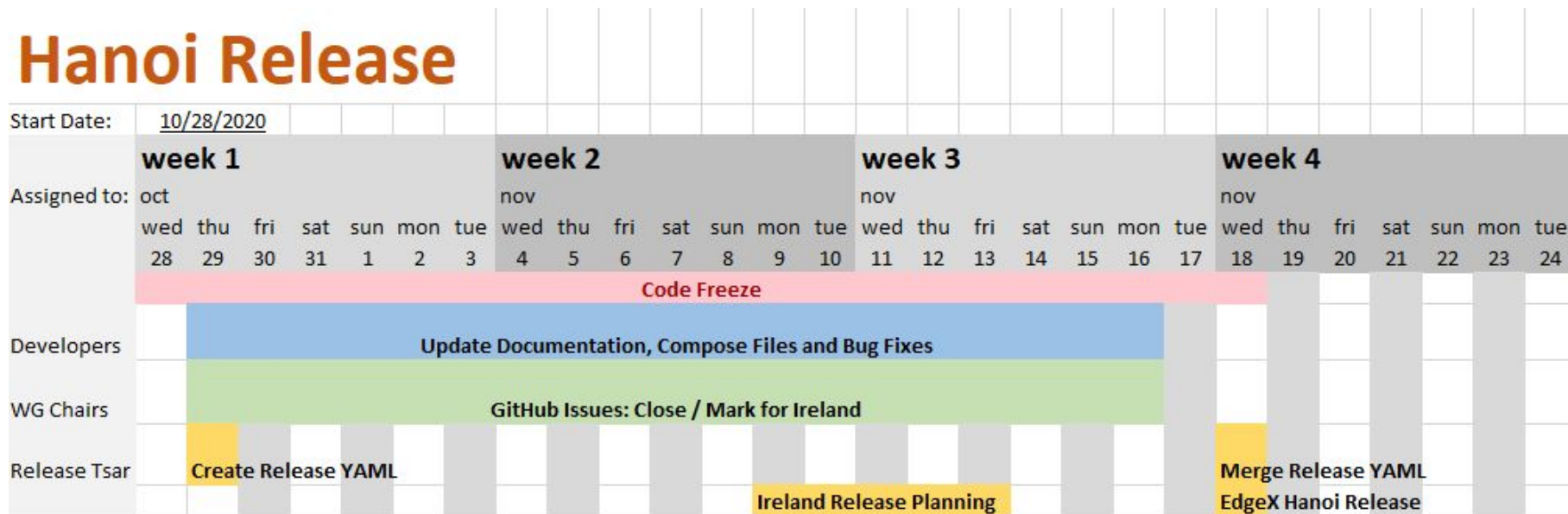
Icebox (9,+/-0)

- V2 API Consumption
- 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

Release Czar (10/21/20)

Hanoi Release -

Code Freeze: October 28th (1 weeks away)

Release Date: November 18th (4 weeks away)

Hanoi Release

Start Date:	10/28/2020																						
	week 1							**week 2**							**week 3**							**week 4**	
Assigned to:	oct							nov							nov							nov	
	wed	thu	fri	sat	sun	mon	tue	wed	thu	fri	sat	sun	mon	tue	wed	thu	fri	sat	sun	mon	tue	wed	thu	fri	sat	sun	mon	tue
	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Code Freeze

Developers — Update Documentation, Compose Files and Bug Fixes

WG Chairs — GitHub Issues: Close / Mark for Ireland

Release Tsar — Create Release YAML / Ireland Release Planning / Merge Release YAML / EdgeX Hanoi Release

Applications WG Update (21-Oct-2020)

Completed:
- HTTP PUT Support for export w/ secrets (#516)
- Bug fix for re-subscribing on auto-reconnect with MQTT (#537)
- Tech debt on Unit Tests
- EdgeX Clients Exposed on SDK so they are accessible to custom endpoint handlers. (#446)

WIP

- Help Create ADR for Device Service to App Services via Message Bus (#241)

App Working Group Meeting Schedule update:
- Next meeting **Oct 23rd, 2020** @ 8:00 AM PDT

Application Services

Functions (built into SDK)

Current/Complete:

- AES Encryption
- GZIP Compression
- ZLIB Compression
- MarkAsPushed
- PushToCore
- Device Name Filter
- Value Descriptor Filter
- Batch
- JSONLogic Filtering
- XML Conversion
- JSON Conversion
- MQTT(S) Export
- HTTP(S) POST Export
- HTTP(S) PUT Export

NEW!

Features

- Store and Forward
- Web Server
- Configurable App Service
- Vault Integration for Secrets
- MQTT Event triggers (via go-mod-messaging)

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

- Azure IoT Hub **AVAILABLE**

- Amazon IoT Core **AVAILABLE**

- IBM Watson IoT
- Cloud Event Transformation **AVAILABLE**
- Secret Retrieval Example

Device Services WG Update (21-Oct-20)

v2 API: Done

Hanoi workpackage:

- 7 in backlog (-8)
- 3 new issues (+2)

Issue disposition:

- 3 SDK bugs to address
- 7 in device services (MQTT, Modbus, SNMP)

Next WG meeting October 26

Device Services - current/coming (as of 5/7/20)

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 in C (summer 2020)
- OPC-UA in C (late 2020)

Commercial connectors (Current):

- File Exporter in C
- BLE in C
- Zigbee in C
- GPS in C
- CAN in C
- MEMS in C
- EtherCat in C
- Profinet in C

There are additional commercial MQTT (Go), Modbus (Go), OPC-UA (in C) and BACnet (in C) that have added features over the community editions

Commercial connectors (Future):

- EtherNet/IP in C (summer 2020)
- CanOpen in C (summer 2020)
- OPC-UA Pub/Sub in C (summer 2020)
- ONVIF in C (summer 2020)

QA/Test WG Update (20th October)

- Postman blackbox test - all tests passing
- TAF blackbox test - all tests passing
  - Fixed issue
    - Issue #190 & #191, smoke test for PR validation - DevOps now using
    - Issue #106 & #107, create Core Metadata V2 API Test Cases
    - Issue #197, implement core-metadata POST deviceprofile and deviceservice V2 API tests
    - Issue #199, implement core-data GET event by id and Get event count V2 API tests
    - Issue taf-common#22, add selenium library for WebGUI test
  - Working issues
    - Issue #201, implement core-metadata DELETE/PUT deviceprofile and DELETE deviceservice testcases
    - Issue #137, Modbus scalability test - priority lowered behind V2 API testing
    - Automated Snap Testing: Postman tests almost complete and merged

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 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	97	0	0	0
x86_64 / CentOS	Security	Redis	97	0	0	0
arm64 / Ubuntu	Non Security	Redis	97	0	0	0
arm64 / Ubuntu	Security	Redis	97	0	0	0

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

Jenkins Job: performance-test

DevOps WG Update (10-21-2020)

Pipeline Enhancements

- [#252](#) [Watching] Build Snaps natively on Ubuntu
- [#78](#) [Complete] Implement Functionality to rebuild artifacts during release/code freeze
- [#325](#) [Complete] EdgeX Global Pipelines auto-generated documentation
- [#325](#) [Complete] Developer Scripts: Run Smoke Tests for PR's
- [#260](#) [Backlog] CodeCov results not uploading
- [#261](#) [In Progress] Research best way to scan docker images pre release
- [#87](#) [Complete] Open source components of GitHub release ([github3api](#))
- [Complete] Misc pipeline library tech debt and bug fixes for git-semver.

Security WG Update (Oct 21)

- Previous Meeting: Sept 30
- Next Meeting: Today Oct 28
- Security Board
  - 41 Done (+2)
  - 8 In Review (+3)
  - 1 In Progress (0)
  - 8 Backlog (-3)
  - 0 New (0)
- Pending Hanoi Deliverables
  - Security Utility
  - Secure Kong Admin

Outreach WG Updates (10/21/20)

Certification Team

- Need volunteers: How-to guide when working with sample data
- Discussions starting on the business presentation of the Endorsement program

Vertical Solutions Team

-

Marketing Team

- Evaluating changing Marketing meeting time from Tue 8AM Pacific to Monday 9AM Pacific
  - Current cadence: Every other week. Next meeting Tue Oct 28th
- Kicked off planning for 2nd EdgeX topcoder challenge

Core Working Group (10-21-2020)

- Current Status
  - Backlog: 14(+2)   In progress: 2 (even)   Done: 125(+20)
  - Bugs: 9 (-2)   Under review: 0 (even)
- V2 API
  - selection of APIs (core/metadata) to allow device provisioning by Hanoi
- UI team working on Ireland prototypes (device wizard)
- VMWare team working on Kubernetes "crawl" phase for Hanoi
  - EdgeX limited instance running in a pod
- Next call - 10/22/20 @ 10AM US/Central tomorrow

  - Review backlog for items to move to Ireland

  - Review Ireland scope

Miscellaneous Issues/Topics

- none

Hanoi release deliverable tracking

Hanoi Progress - Good Progress/Looking to deliver

- Go 1.15
- V2 API core data, DS, App Srv
- Allow DS to be distributed
- SSH tunnel how to guide
- Abstraction and pluggable mechanism to provide generation of secrets
- Design secure subsystem launch/bootstrap dependencies
- Design enablement of Vault PKI secret engine
- Address container security
- Vetting of 3rd party packages
- Design of HRT
- DevOps perf improvements
- Restructure of compose files - *stretch*
  - overrides/remove dupes
- Snap build improvements
- V2 API for core data (other core services a stretch)
- Msg bus between DS and appl srv (design only) - *impl stretch*

- CLI v 1.0
  - Roadmap for CLI
- Roadmap for UI
- Gateway identification (tagging at export)
- Drools removal
- Kuiper enhancements
- LLRP RFID DS - *new*
- TAF blackbox testing
- Performance metrics testing
- Scalability (modbus) testing for user guidance - *stretch*
- Endorsement program
- Web site refresh
- Topcoder challenge, next steps
- Overlay network how-to - *stretch*
- Deployment / orchestration options (Kubernetes)

Hanoi Progress - TBD / delivery not assured

- none

Hanoi Progress - Delivery in jeopardy

- Explore collapse of core command and metadata - *stretch*

- SMA - Service list fix

- ADR 0006 - metrics collection
- Secure message bus connection
- Secret Provider Abstraction
  - go-mod-secrets abstraction
- DS data filter design
- Protect the device fro harmful commands
- Bound checking design - *stretch*
- Service mesh how-to - *stretch*
- Secure Kong admin port with TLS
- Bluetooth in C
- OPC-UA in C
- Binary data for device writes (new)

Hanoi Progress - Deferred to next release

- Remove Mongo
- Remove Logging

Ireland Release Planning

formerly F2F meeting

Ireland Release Planning Meeting

Dates

- ~~Architect's PreWire Meetings: Oct 13-14 (2 x ½ days)~~
- Hanoi Freeze: Oct 28th
- Ireland Planning Meeting: Nov 9-13th (5 x ½ days)
- Hanoi Release: Nov 18

Register NOW

- See Wiki for details:
  https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=52330532
  - Initial agenda deck should be available sometime next week
- Registration sight now available - please register (its FREE)
  - https://events.linuxfoundation.org/edgex-foundry-ireland-release-planning-conference-fall/

Biz Topics

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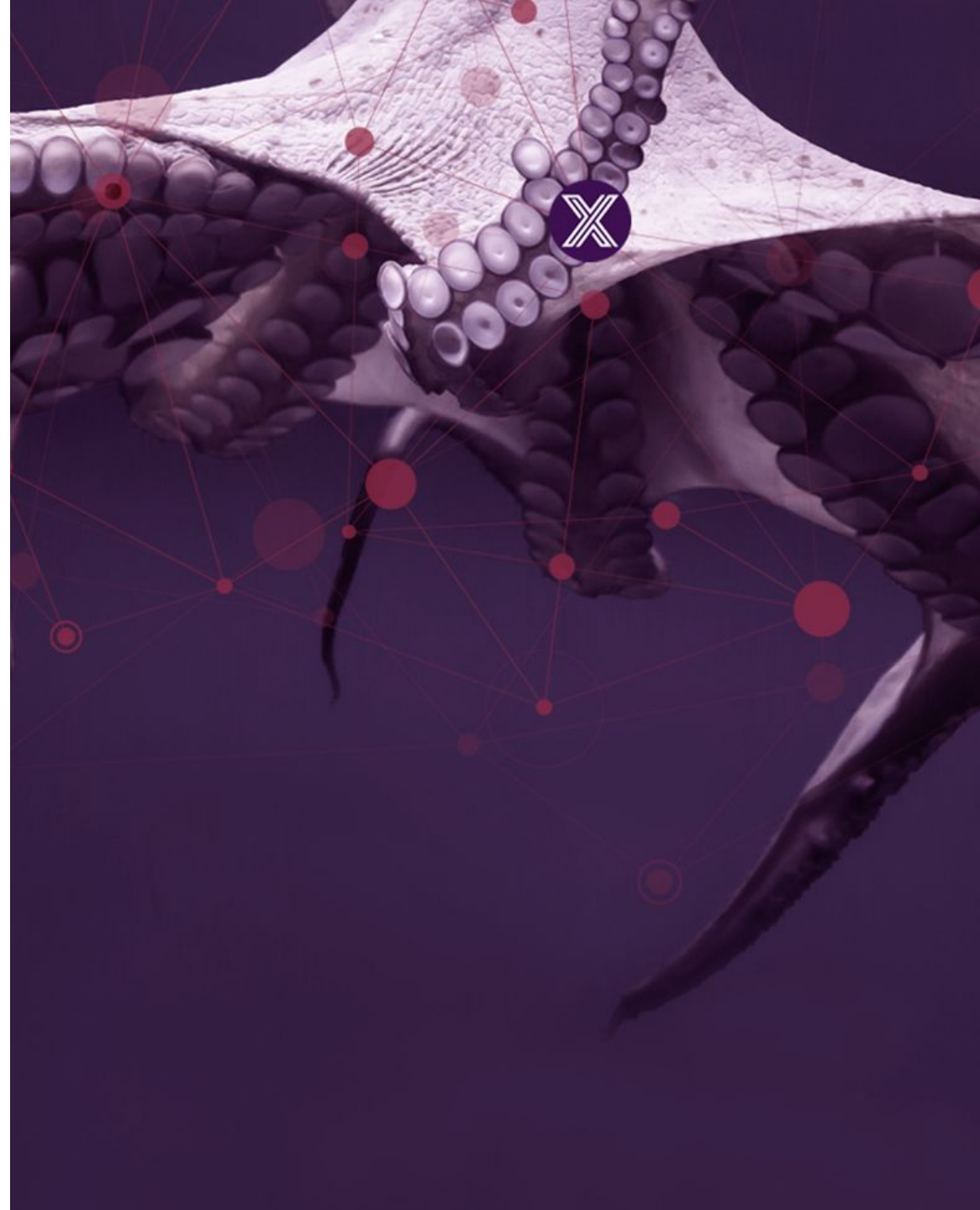
Business Topic Agenda

- All time approximate/all times shown in PDT
- 6:30 Web site (Andy/Camilo)
  - Current status
  - Website funding for 2021
  - Website revamp
- 6:45 Topcoder challenges (Camilo)
- 7:00 China Hackathon – readout on developer experience survey (Camilo and Melvin)
- 7:30 Industry Vertical Solutions Group (Keith)
- 8:00 Endorsement & Certification program (Rodney)
  - Current status of endorsement program
  - Certification program – Jiangxing Intelligence offer to help

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Unconference
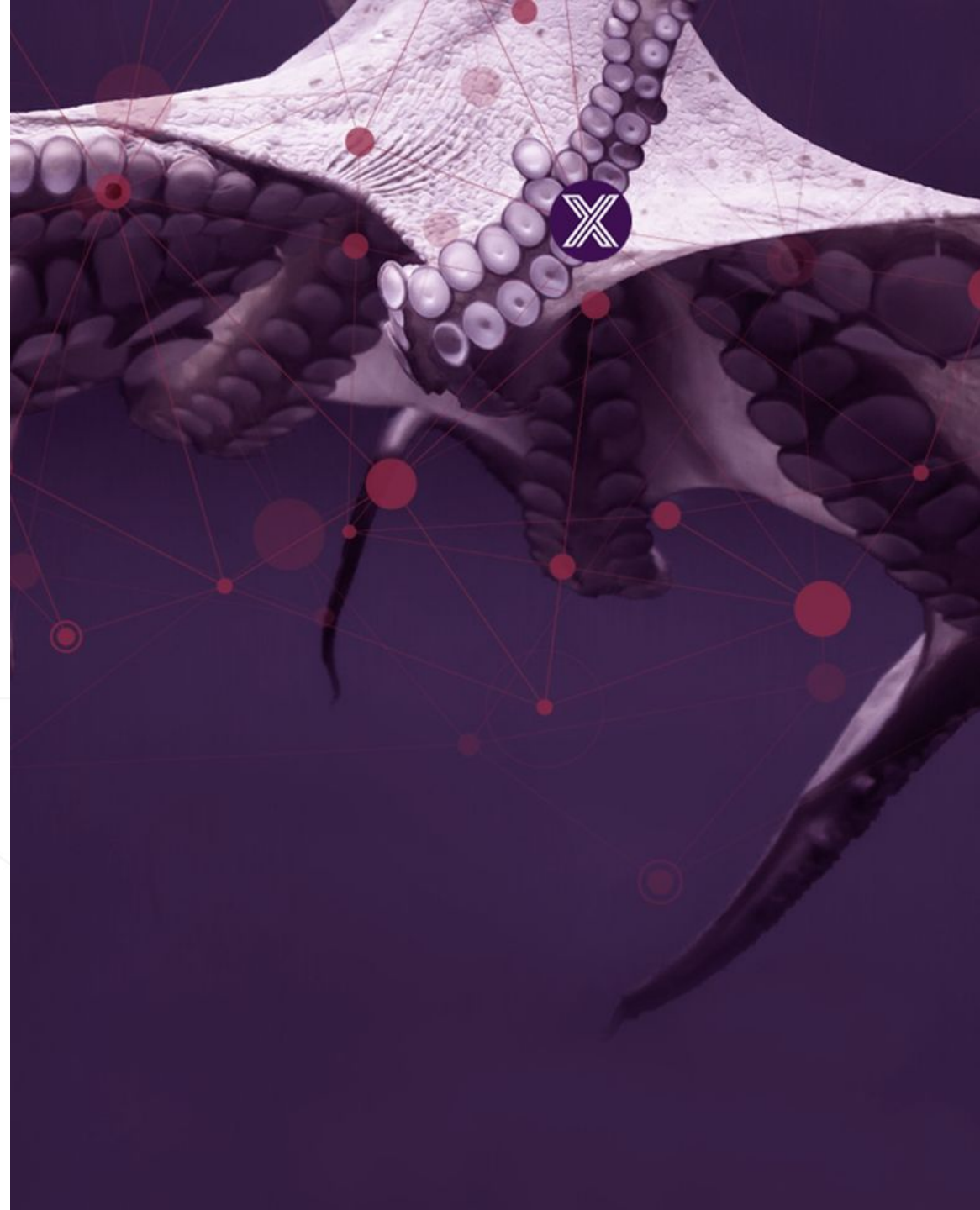
Unconference Topics

- edgex-global-pipelines deep dive/training session - 15 minutes
- Edgex release process demo - 15 minutes
- Tibco product demo - 15 minutes

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Pre-Wire Readout
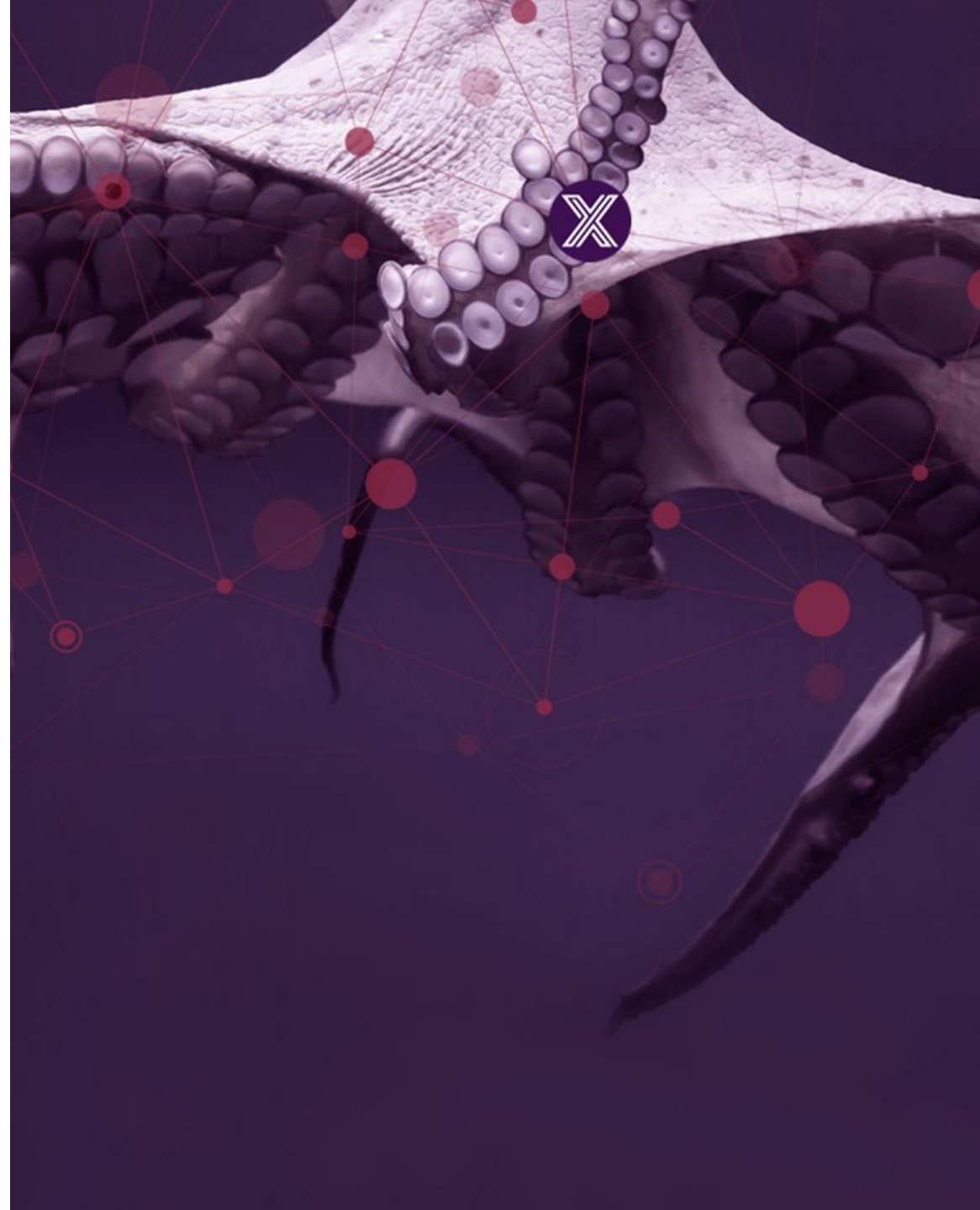
Ireland Major Themes and Objectives

- EdgeX 2.0, complete with V2 APIs (deprecation of V1 APIs)
- Additional major features:
  - Metrics/Control Plane Eventing (design if not some implementation)
  - Security store for all (Device Services using Vault)

Architect's Topics list

- Roadmap/pipeline for certification with Jakarta

- Tools, scripts, etc. for migration of config, databases, profiles (what would they look like)

- Improve the configuration structure (especially in the writable area)

- Walk phase on Kubernetes roadmap

- Metrics/control plane eventing & what to do with existing infrastructure (callbacks, notification service, 0MQ, etc.); may be more design vs implementation

- Endpoints on metadata for pulling value descriptor like info from a profile

- Device resource naming issue (how to make them unique)

- Message bus between DS and core (as well app services)
  - Do we remove non-query APIs on core data?
  - Default to send data to core

- Determination of command data database (separate DB vs metadata REST requests)

- Kong on all the time (secure and non-secure modes); impacts to proxy setup

- Modifying device profiles on the fly (dynamically add resources)

- Official Docker images (2 different certifications)

- From Adopter Series
  - Digital twin or LWM2M for command offering to external parties
  - Device Simulator – playback simulator
  - Container optimizations
    - Reduce size of containers or offer small images (that may lack debugging)
    - Need base image size numbers to know impacts
    - DevOps to explore tools?

Research areas

- Timeseries databases (Andre?)

- Declarative Kong (Colin)

- Docker official images – 2 types of certification (DevOps)

- Digital Twin (and LWM2M) applicability (Jim)
  - Solve any command needs today?

Adopter Questions and Feedback

- Help from Adopters on roadmap/plan/prototypes for certification

- Are tools/scripts needed for EdgeX 1 to EdgeX 2? Configuration, databases and profile migration.

- What are the needs / requirements for timeseries database inclusion?

- Additional language support/English only prohibiting or slowing adoption?

- EdgeX has never removed Docker images from our Docker Hub account since the inception of the project. While the world is free to use any of the old Docker images, the EdgeX community's support policy (as laid out here) makes clear we do offer any support changes or updates to images beyond the current release or any LTS release. What is your expectation about how long Docker images should be made available?
    - We would only pull the latest images or any LTS release image and so this does not affect us.
    - We would expect EdgeX Docker container images to be available for _____ years and understand the limits of support for old images
    - We would expect EdgeX Docker container images to be available indefinitely and understand the limits of support for old images
    - (Provide an answer in your own words) Our expectation is: _____.

- Today, sensor data is picked up by device services and put into an event/reading, forward to core services for local persistence, and then processed through application services to export the data (or make it available to local analytics). However, due to the asynchronous nature of the EdgeX micro services, there is no guarantee that messages flowing from south to north (that is from device services to application services and beyond) will arrive in any order. In other words, there is no order assumed with regard to the arrival and processing of events and associated reading in EdgeX micro services. Would you ever have a need for the order that event messages are processed by EdgeX micro services be preserved (from device service collection to export outside of EdgeX)?
    - Yes - We would like the option to preserve event/reading message order through EdgeX and understand that could result in slower processing times
    - Yes - We would like the option to preserve event/reading message order and this should be the default means of dealing with sensor data – even at the expense of slower processing times
    - No - We understand the nature of asynchronous micro services and messaging systems and understand order is not guaranteed. This works for our use case(s).
    - (Provide an answer in your own words) Our expectation is: _____.

Adopter ?'s/Feedback – specific to Accenture

- Regarding your device data simulator – could you provide more information on what you have done? Would this be something you would be willing to contribute? Is the "playback" mechanism the most important part of your simulator and can you provide some scenarios of use? How is the playback stored?
- With regard to your losing data from battery powered devices (as they wakeup and report) – can you provide more details on how data is lost and can you provide thoughts on how you think EdgeX can help in this area? Are EdgeX store/forward capability and device service hooks a means to deal with these losses?

Adopter ?'s/Feedback specific to Thundersoft

- With regard to EdgeX providing more data caching, can you help us understand this request. What data is being cached and when? What is the need for caching – where are the current performance bottlenecks. How/when would you expect the cache to be reset?
- You have provided your own device virtualization. Can you explain more details behind this? What could EdgeX do to offer assistance in this area?

Adopter ?'s/Feedback specific to Jiangxing Intelligence

- Would JI consider donating some of their application services that send data to Alibaba, Tencent, Baidu, etc. to our EdgeX examples. We currently lack examples for the Chinese clouds.
- Do you like how the Device Service SDK in C works? Would you prefer a C library to be delivered vs having to build from source?
- You have requested EdgeX provided "device registration optimization where currently a unique device ID is required per instance of Edge Box". Can you help provide more detail and clarity to this request?

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Pre-Wire Scoping

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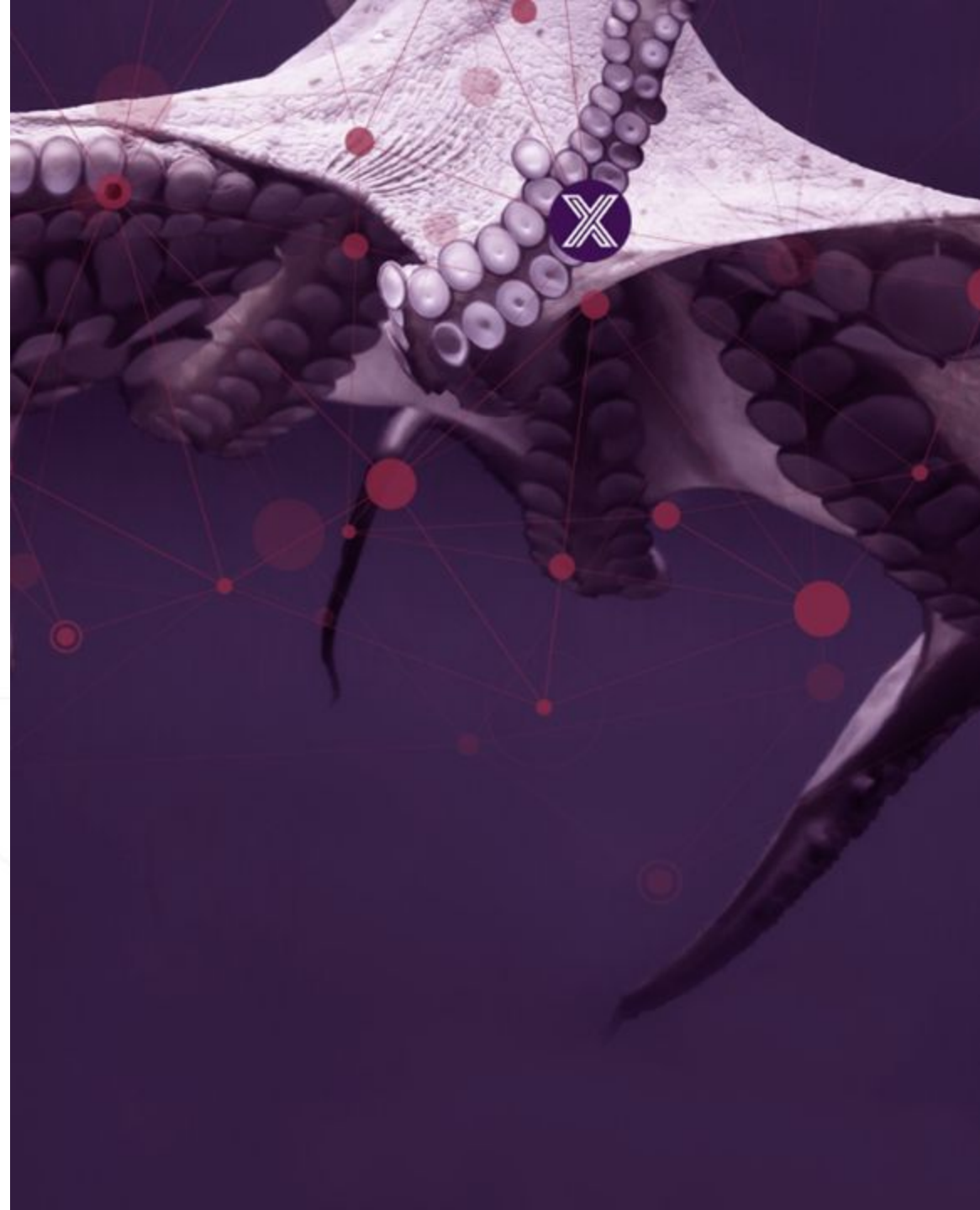
General – new

- EdgeX 2.0?
  - LTS considerations? ==No – wait on dot release for stabilization==
  - Certification considerations? ==No – wait for LTS, but start planning what this looks like==
  - What's the upgrade path and tools (DB, config, etc.)? – ==Yes we need to consider==
- V2 API for all services; deprecate V1
  - Get rid of V1 or just mark it deprecated? - Deprecate
  - We said in the last planning meeting that we should have one cycle where V2 API is beta
- ==Standardization of units of measure==

General – tech debt

- Remove value descriptor
  - For backward compatibility, can only be removed if in a 2.0 situation
  - Where do the other elements go?
  - We need conveniences to get VD stuff from device profiles
  - May need to add new elements like units

- Archive deprecated services/infrastructure
  - Mongo
  - Logging
  - Drools

- Code clean up for backwards compatibility
  - rip out stuff that is provided for backward compatibility that won't be necessary; example config vars that uppercase and lowercase

Core and Supporting – new

- Core data
  - Device service to appl service via message bus 1st
  - Device service to core data via message bus 2nd
  - ~~Core data changed to support data 3rd~~ (Not for this release)
  - Make sending data to core data optional by default
  - Question on whether to keep REST API

Core and Supporting – tech debt

- Command service – disposition
  - ~~Combine with metadata?~~
  - More than a proxy? For now, but to hopefully change in the near future
  - Refactor to allow separation of data concerns (database)?
- Don't support writes for binary (through command to DS)
  - May be there for core command, but not Go DS SDK

System Management – new & tech debt

- Better facilitate Kubernetes
  - <mark>Architect's discussion: what does walk phase look like?</mark>

- Service list
  - Both the SMA and the security-proxy-setup service enumerate a set of hardcoded "default services", services which are expected to be up and running in any EdgeX installation. Currently that list of services is hardcoded in edgex-go ListDefaultServices.
    - Service names are not service keys
      - to be done with non-backward comp V2 of EdgeX
    - Static list when not using Consul; Consul list when using Consul
    - Do not pay attention to default services list from Consul; only use the default services when Consul is not being.
    - How security handles it: services that setup proxy or tokens - add to env vars
  - Metrics collection first steps? <mark>– from architect's discussion</mark>

EdgeX UI – new & tech debt

- Implement the roadmap
- #1 priority - create a device UI "wizard" that allows adding a new device much quicker.
  - Takes a user through screens to create a new device, reference or create a device profile, add addressable, provide AutoEvent schedule, etc. and associate it to a device service
- #2 priority - Add some data visualization to the UI
  - Need the ability to "click and see" the data
  - See the data in the core database
  - Perhaps peek at the messages coming from the core->app services bus
  - Integrate with something like Grafana for additional visualization
  - May require we export data to a time series database or use Redis time series database
- #3 priority - SMA integration
  - Offer metrics visualization of memory and CPU offered by SMA
  - Get the status of the services (up / down)
  - Provide ability to call on start/stop/restart of services
- Addition to roadmap -> link to Endorsement page of existing profiles

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
  - #4 - Additional API coverage (exact APIs to be determined - high priority commands not covered with version 1)
  - Stretch goals - subject to additional work force, availability of time, etc.
    - Address CLI working with security on - allowing CLI to work with EdgeX on a remote instance
    - Support for i18n/l10n

Test / QA - new

- TAF for V2 API
  - Deprecated blackbox tests
  - <mark>Might be some tests cases not covered by TAF yet</mark>

- User guidance on platform needs
  - More performance statistics
  - # of devices/per recommendations
  - Providing EdgeX users guidance on platform needs, sensor data throughput and deployment based on performance metrics. Specifically, with the Geneva performance testing apparatus, the EdgeX community will be able to answer these questions for the user:
    - Will EdgeX fit on my system? - size of EdgeX services, infrastructure, etc. and hardware/platform requirements
    - What is the speed of data through the system? - from device service sensor data ingestion to the rules engine and back down through command to another device service to trigger a put command, how long does this take?
    - How many "things" can be processed at a time? – with caveats on the type of thing, type of data, etc.
    - These questions need to be answered on real hardware (both Intel and ARM)
  - <mark>Where does this performance info and guidance go? Docs?</mark>
  - <mark>How do we highlight what "minimum deployment" is and what "box" to show this with (Dell/HP/RP3/etc).</mark>
    - <mark>Vs typical deployment</mark>

Test / QA – tech debt

- Additional Integration/Functional test cases
- Configuration testing – testing non-default and dynamic config changes
- Add unit tests/testing for global libraries.
- TAF tests against snaps

Device Service – new

See wiki:
https://wiki.edgexfoundry.org/display
/FA/Ireland+planning
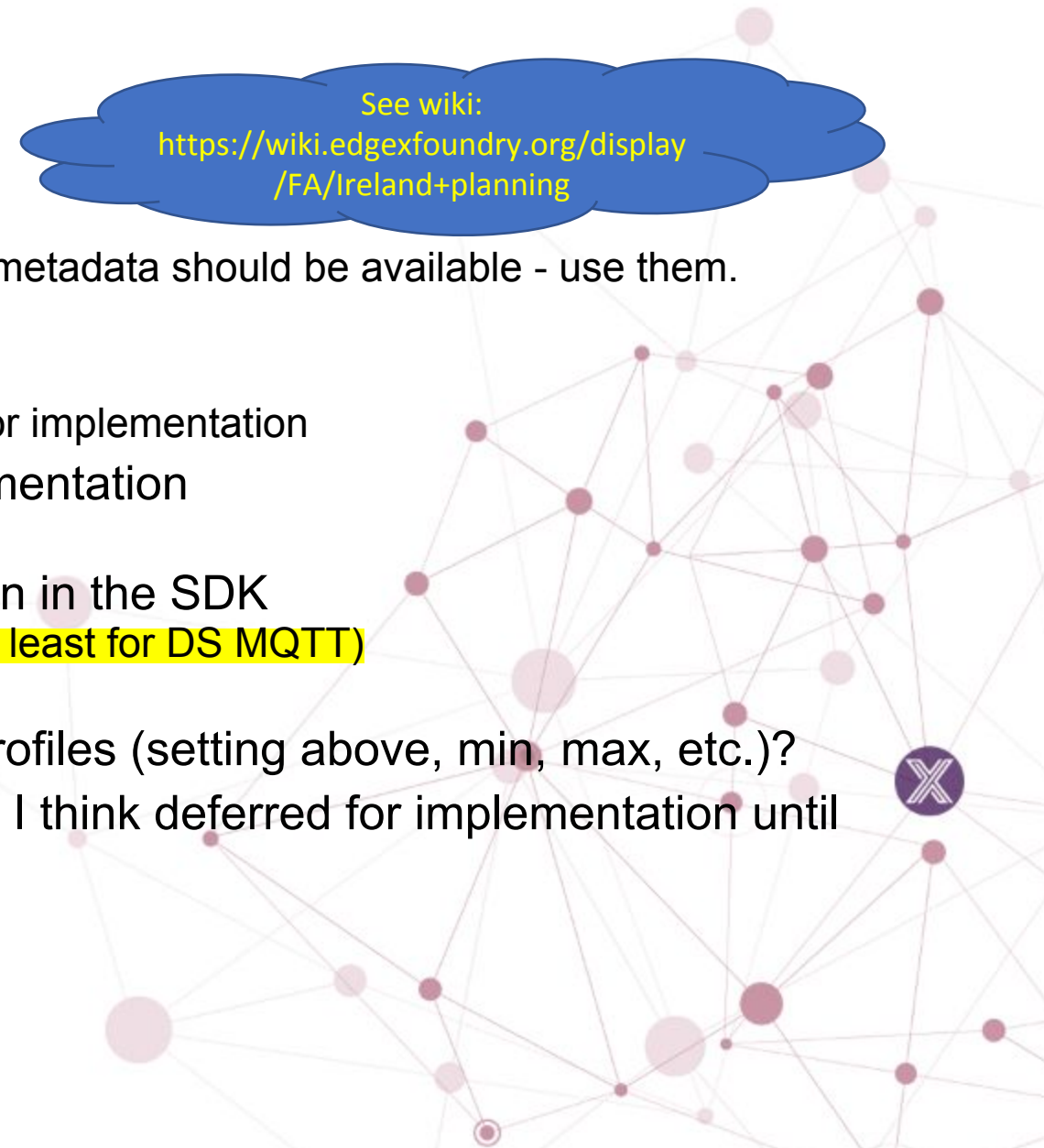
- Consume v2 API
  - At Hanoi, the v2 REST interfaces for core-data and core-metadata should be available - use them.
  - Unconditionally or should this be a config option?
- Event filtering: implementation
  - Requires 1) design phase completed 2) volunteer effort for implementation
- Messagebus for Device Service → Core Data: implementation
  - Impl of DS to AS
- Obtain security credentials from secret store: provision in the SDK
  - Stretch: use in device service implementations (desire: at least for DS MQTT)
  - vault credentials for both SDKs
- Check of requests against a device service against profiles (setting above, min, max, etc.)?
- Max request size check as discussed this release but I think deferred for implementation until Ireland?

Device Service – tech debt

- Old items on-hold because they are breaking changes
  - support-logging removal
  - Naming scheme changes for config.Clients (key name change)
  - Continued refactoring for global vars
- Remove binary representation (base64) for floating point values
- Remove OperationalState for device services
- Rename OperationalState values for devices (currently ENABLED/DISABLED, suggest UP/DOWN)
- Refactor of provision watcher and device to remove embedded device profile
  - Explore other such embedded objects for removal.
  - Postponed until EdgeX 2.0
- A couple of other device profile cleanups:
  - Both units and values have a ReadWrite property, but as far as I can tell, there's no enforcement of these fields.
  - PropertyValue still includes Precision and Size attributes, neither of which I think have ever been used (at least in the Go SDK).
- Getting rid of the coreCommands section of the device profile. In theory, it should be possible for the SDKs to auto-generate this information required to populate the commands in Core Metadata.
- Per LLRP needs
  - Dynamic (add/remove) deviceResource in profile
  - TBD in WG

Application Services – new

- Integrate additional analytics frameworks
  - Tensor Flow
  - OpenVino
  - Relook at TensorFlow (or others) Example
  - Predictive Analysis (Temp, Vibration Data, Combination)
  - Data Streaming support?

- Media Streaming (Audio/Video) Support
  - Recommend for Device Service integration to retrieve inference data (media streaming outside of edgex)
  - Transform to monitor object in stream (Object Recognition inference data)
  - Send commands to control device for streaming
  - Plugin for App Services to integrate/leverage Accelerators?
  - OpenVINO can handle this directly

- Output aggregator/multiplexor? Something to think about ---

- Fork the pipeline & have a pipeline per topic
  - Support multiple topics in SDK - go mod messaging
  - Allow various paths for different sensors for example
  - Can be done with code internal to a function - but a bit kludgy; could be useful and nice

- V2 API Consumption
  - New Event DTO on the bus

- App Service leverage notification/alert service (Reference Design for Intel Loss Prevention)
  - Subscription added to client APIs

- Implementation of DS to App Services via Message Bus

Application Services – tech debt

- <mark>Batch mark/push –how to push after a big batch is sent</mark>
- Address array of types in rules engines/analytics engines
  - Kuiper, JSONLogic
- Better handle (gracefully) binary data in analytics engines
- Remove/Archive Drools Rules Engine associated artifacts
  - <mark>Logging, Mongo</mark>
- Filter based on value type (such as int)
  - Within the same app service
- "Conditionalizing/Branch" the pipeline
  - Pipeline per topic or device
  - Multiple Export Destinations
- <mark>Refactor; SDK interfacing; cleanup</mark>

By Device or any condition -
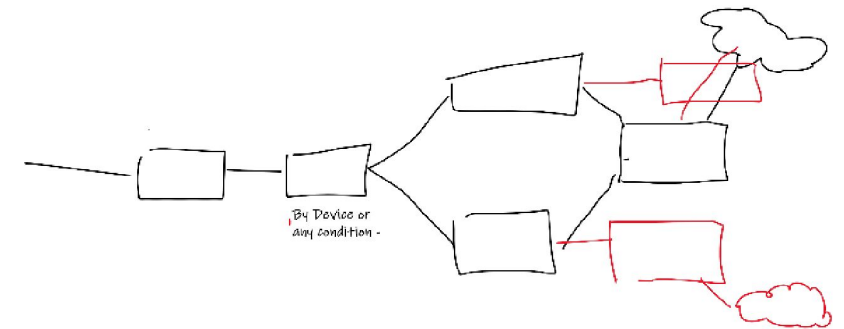
Security – new

- Secret Provider Abstraction
- Consul support for security proxy setup
- Enable Vault PKI secrets engine
- Secret store unsealing daemon
- Secure Kong admin port with TLS
- Consul in secure configuration
- Vault should manage on-device A and self seed
- Require TLS on REST APIs with security is enabled
- Implement network micro-segmentation in docker compose
- Image signing for images in docker hub
- Make docker container images run as non-root users
- Enable TLS for Redis v6
- Bring your own TLS
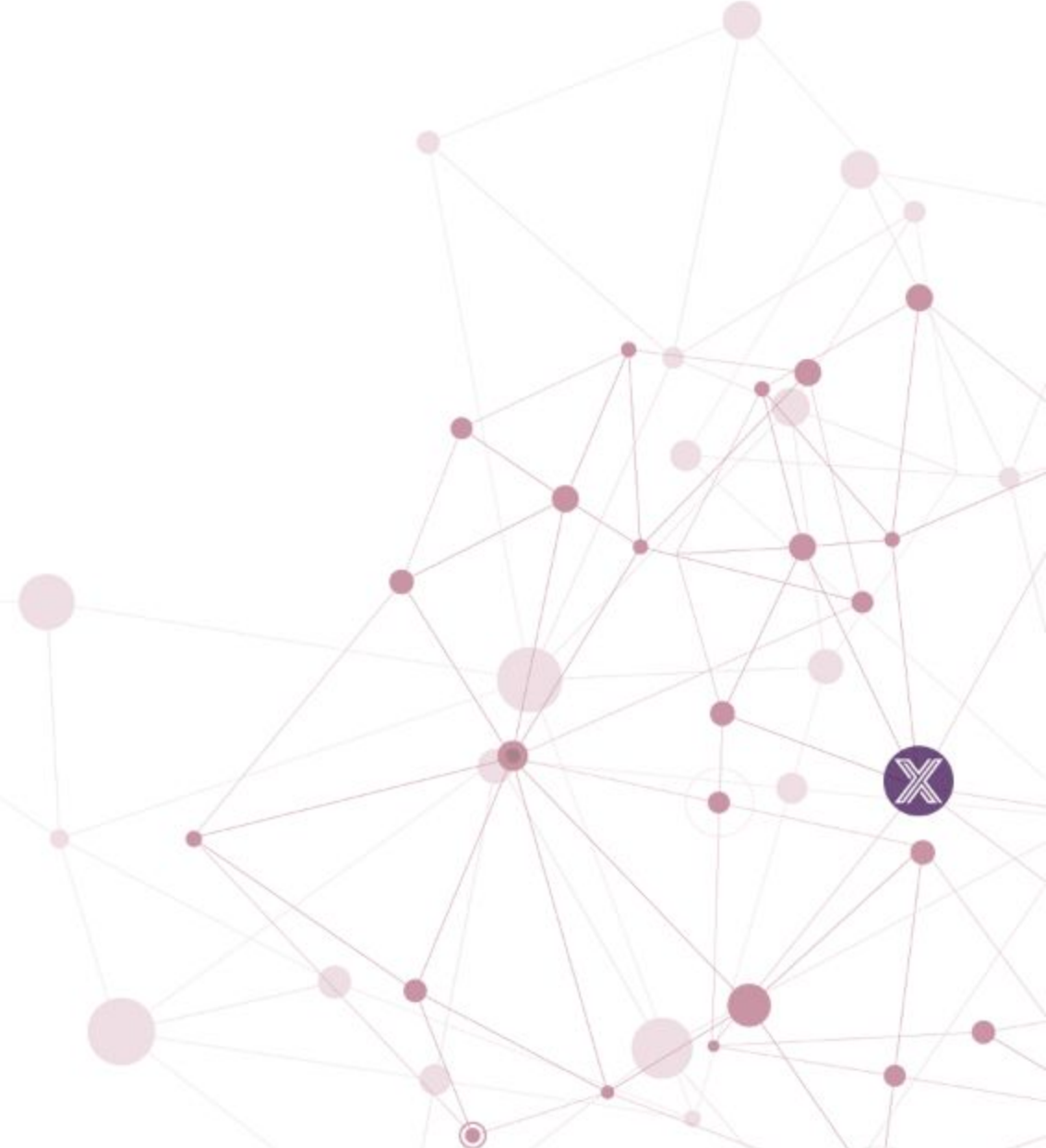
Security – tech debt

- Use Redis Library consistently
- Streamline proxy certificate upload flow
- Rewrite security-secret-setup to remove legacy cruft
- Kong DB password is exposed in docker compose
- Defect in EdgeX secret store paths
- Redis in the snap triggers Apparmor denials

DevOps – new & tech debt

- Repo badges for EdgeX repos. See https://github.com/dwyl/repo-badges, Also version badges to show latest semver version (would need infra to support this).
- Potentially discuss automated release notes creation now that conventional commits is being adopted (stretch).
- Developer enablement
  - Docs (how pipelines work)
  - Tutorials
- Release automation streamlining (replace Bill with automation)
- Official Docker items
- Research projects
  - Semantic versioning (what are other big OS using)

Outreach

- Certification
  - ==Endorsement==
    - ==Web pages and marketing==
    - ==Pilot program and roll out with early adopters/tweaks and improvements==
  - ==Accelerate certification?==
    - ==J.I. involvement==
- Vertical Solutions
  - Adopter series
- Marketing
  - TBD
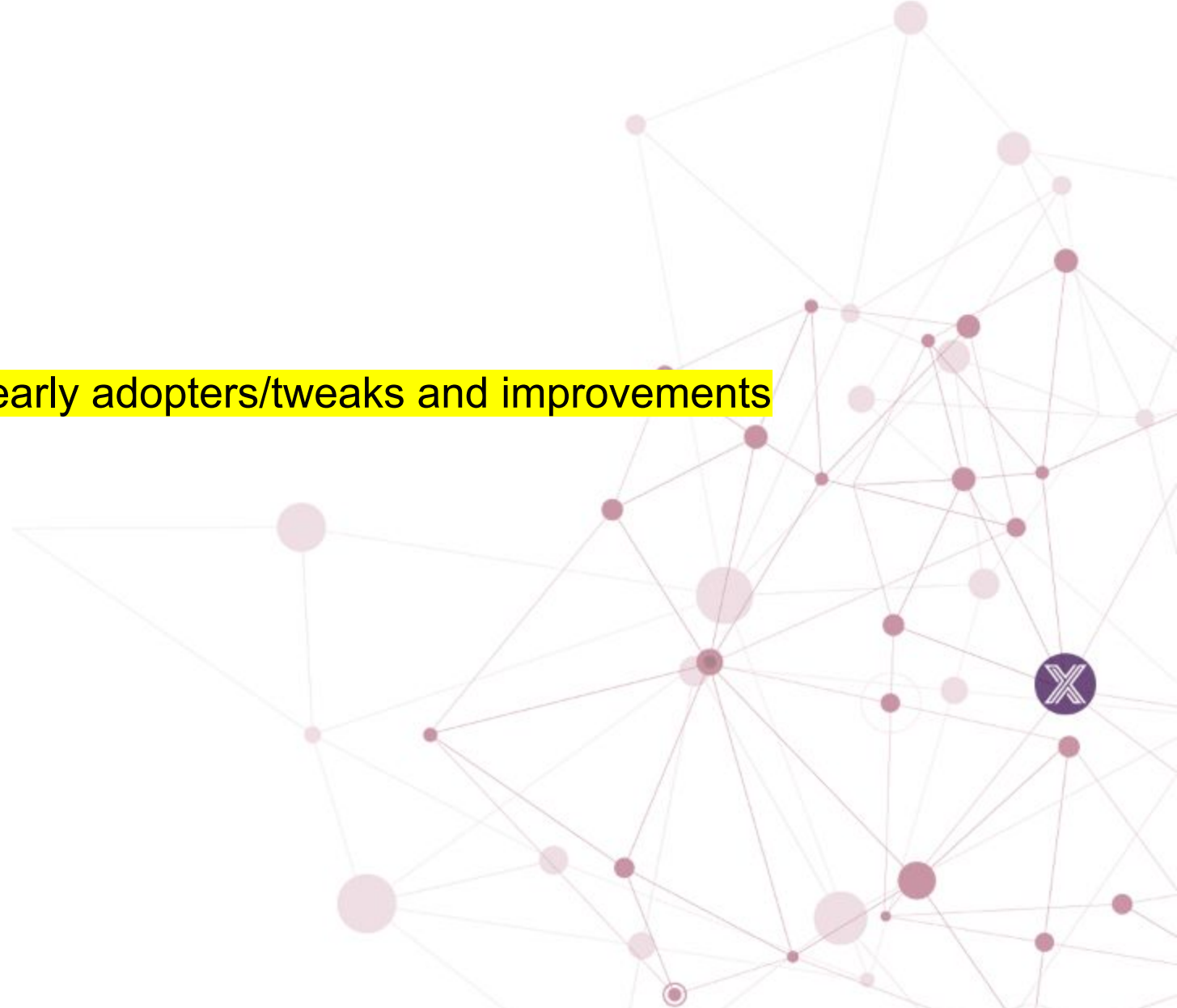
Upcoming Events & Dev Advocate Update

Aaron's updates

Call for Speakers for Co-located events

1. [Edge Computing World](#) on October 20, 2020. Target speakers is are current or potential consumers of code from any LF Edge project. These can be end user organizations or OEMs that build solutions for their own customer base. The submission deadline for this session is October 6 and the agenda will be finalized on October 9.

2.

For more information visit the event wiki:
https://wiki.lfedge.org/display/LE/2020+Fall+Kickoff+Virtual+Event+Series

Upcoming External Events

› Open Source Summit Europe: 26-29 October, 2020 - Virtual
› 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

› Discussions around upcoming events occur in the LF Edge Outreach Committee
› Members may subscribe at: https://lists.lfedge.org/g/outreach-committee

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Thank You