

## Jakarta Planning Meetings (Jun 21-25)

### Day 1 Notes/Action Items

Action items in *red*

#### Ireland Release

- No test failures. Release still on schedule.
- Two late arriving bugs to be triaged:
  - <https://github.com/edgexfoundry/edgex-go/issues/3586> (attempting to query for 65K of readings) – issue being closed and worked by IOTech with adopter
  - <https://github.com/edgexfoundry/edgex-go/issues/3585> (issue of failure to register with 60 second startup time – asking adopter to increase to 90)

#### EdgeX Web Site

- The web site managing company (and hosting organization) recently split. Transitioned contracts and work to Capitan Systems
- Funding for the web site is currently managed by IOTech until the end of 2021. **Alternate funding will be necessary for 2022.**
- Chinese Web Site will be ready at the time of June 30<sup>th</sup> release.
- Contracted development/hosting company included hosting fees for one year in their contract agreement.

#### China Hackathon

- The 2021 China Hackathon is already underway.
- The opening ceremony will be on July 12<sup>th</sup> (training for the event is already underway)
- The contest goes through the summer and the award ceremony will be in the middle of October.
- Hoping to have more than 50 teams participating.
- **The EdgeX community voiced a desire to hold a US/Europe virtual hackathon this fall. Outreach will take the lead in exploring and organizing this event – leveraging the China teams lessons learned where possible.**

#### Vertical Solutions

- In addition to ORRA, AgStack, and DTC, there is a desire to re-vitalize an industrial focused part of the vertical solutions working group.
- **Outreach will work with IOTech (trying to bring in the likes of Schneider and others) as well as Intel China (Melvin Sun has several industrial groups in China with interest) to re-start an industrial user working session.**

#### Certification

- EdgeX Ready program is ready to launch with the release.
- **Next steps for EdgeX Ready would be to increase protocol support** – that is allow people to submit EdgeX Ready applications using other protocols (Modbus, etc.).

- On Certification, the community would like to explore the option for potentially offering certification through this release cycle. Specific questions to be addressed by the Certification team for the TSC and community to move forward:
- Are there other open-source projects offering a certification? If so, what do they offer and how does their program work?
- Should the program focus on self-certification or have 3<sup>rd</sup> party administration (for fee) program? What is the target of a certification program and how does it benefit the project and the community?
- Outreach / Certification team will take the lead to answer these questions, carry out research and develop/present a potential strawman program (if required) to the community before the next planning meeting in the fall.

#### Jakarta Release – focus, goals, major theme/objectives

- Jakarta will be a stabilization release
- Jakarta will be an LTS release
- Jakarta will explore implementation of the service list and registry ADRs, but may only offer a design or beta implementation for the release.
- The TSC chair will organize the effort to update the LTS support policy and language and cadence over the course of the summer with a goal of having a new LTS policy (on the [Wiki](#)) by US Labor Day 2021.

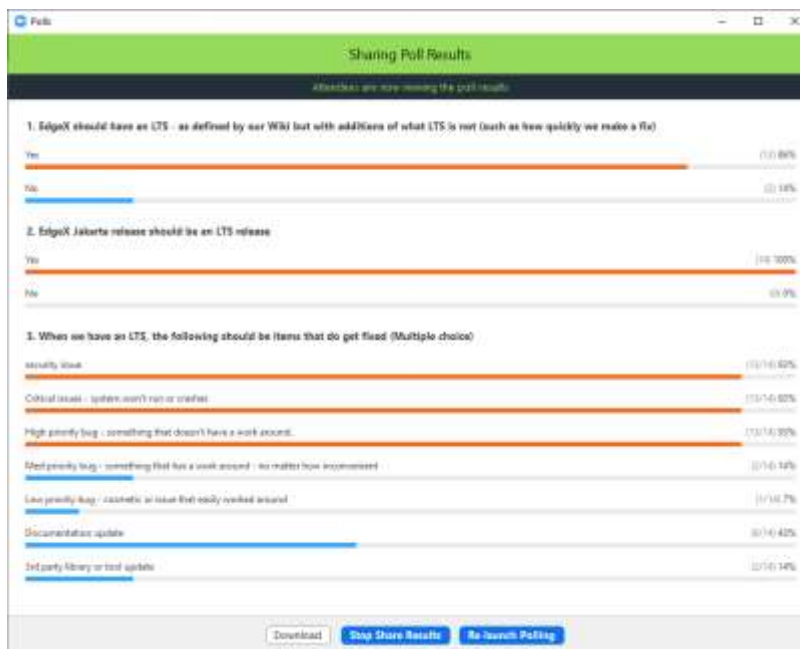
#### *Stabilization has been defined as follows:*

- No major architect changes
- Everything is backward compatible
- No new name changes
- Allowed/encouraged for this release
  - New (additive) APIs/end points
  - Performance/optimization concerns (bloat around services)
    - Explore 3<sup>rd</sup> party platforms for options
  - New config (but can't remove)
  - Performance guidance
    - Footprint per device (started with Modbus)
    - Answer these 3 performance question:
      - 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.
  - Testing
    - Test all configuration options and not just the default config (and dynamic config changes)
    - Test features not yet tested. Examples:

- Store forward
- Other Device services
- Robustness
  - Restarting of services without issue
  - Track / evaluate footprint
    - CPU
    - Memory
    - Image size
    - Especially around 3<sup>rd</sup> party

### Long Term Support

The community was in agreement that EdgeX should offer LTS and that Jakarta should be an LTS release. See Zoom poll results below.



There are issues that must be addressed as part of LTS.

1. The language of the LTS support needs to be made clearer. It should be specific items such as the fact that the community offers no guarantee on timing of fixes – just best effort.
2. What should warrant a fix release (security issue, critical bug, etc.)?
3. The support period of the LTS releases (currently set at 30 months) and cadence (every two years), needs to be re-examined.
4. The cadence of patch releases needs to be defined/explored as part of the policies.
5. How we handle application services, device services, user interface components (GUI/CLI) and other EdgeX artifacts/components that release on an independent schedule must also be explored in relation to LTS.

The TSC chair will organize efforts to answer these issues and update the policy on our EdgeX Wiki by Labor Day.

## Day 2 Notes/Action Items

Action items in *red*

### Cadence Check

- Fall/Spring cadence still feels comfortable and right.
- For the Jakarta release, since it will be an LTS, we probably need more time to complete testing after the freeze, so let's return to the 3-week freeze period.
- After Ireland, and Jakarta, we can relook whether to generally shorten "normal" freeze period based on a much smoother devops release procedures than in the past.
- The M release will be Minnesota – thanks to the selection of Brett Preston. Our thanks to Brett for all the years of support and help to our project. (Jim to update the Wiki site accordingly)
- The fall planning meeting will still be virtual due to the pandemic and companies still not planning to travel until later this year or even 2022.
- Our target to return to face-to-face meetings for planning meetings is the spring of 2022. Organizations wishing to host should contact members of the TSC.
- EdgeX will not participate in any face-to-face conferences until 2022. In the fall, we'll make some more planning on which conferences and goals of those appearances.

### TSC at-large elections

- EdgeX is in the midst of TSC at-large elections with Tony Espy, Gavin Lu, Melvin Sun and Henry Lau all running.
- We expected to announce a winner today, but the voting system we are using gave us a three-way tie for two of the seats. This seems suspicious and subject to a lot of interpretation on the formula used by the system.
- The decision of the TSC (with LF suggestion and support) is to scrap this vote, return to the [Condorcet CIVS tool](#).
- Registration under the tool will occur this week. Election will occur next week with a decision to be reached by July 1.
- TSC chair election will occur after that.

### Ireland Release Update

- No test failures. Release still on schedule.
- Issues discussed yesterday
  - <https://github.com/edgexfoundry/edgex-go/issues/3586> (attempting to query for 65K of readings) – issue being closed and worked by IOTech with adopter
  - <https://github.com/edgexfoundry/edgex-go/issues/3585> (issue of failure to register with 60 second startup time – asking adopter to increase to 90)
- New Issues today
  - Profile "." (dot) issue (<https://github.com/edgexfoundry/go-mod-core-contracts/issues/636>). Decision was to not allow dots in profile names (can relook this later if there are use cases that demand it). Lenny already has a PR in to address.
  - Ireland snap – errors in Consul for ACL not found after system sleep. Vault tokens got revoked. Services have to be running to keep renewing Vault token. Need to address

this issue in documentation (running on lower power device with security – need to keep service running). May be an issue for consideration in Jakarta release (related – what if system reboots on power loss, etc. that goes beyond TTL for tokens). **Added to scope discussion for tomorrow under security.**

- App Service Configurable – expiration of tokens when profile switches on restart or new start of service to switch (to be looked at with expiration of Vault Tokens for Jakarta)
- GUI ready – include or handle after the release? Decision – try to get it in with the release. However, Security WG has identified a number of security audit issues (some critical and high). NPM updates are needed. **Jim to work with team to address.**

#### Regular EdgeX Meeting Times

- Generally, schedule of EdgeX meetings is to hold with the following moves:
  - App services WG meeting to move from alternate Thursday afternoon/Friday morning meetings to alternate Tuesday morning/afternoon meeting. **Lenny to move in the calendar.**
  - TestQA WG has been merged into Core WG so TestWG meetings cancelled. **Jim to remove.**
  - Outreach (now combined with marketing meeting) may be moved to Tuesdays. **Jim to survey the members during the next meeting.**

#### Organizational Start/Stop/Continue/Improve

- Monthly architect's meetings in July should be cancelled (Jim to remove) due to release and summer vacations. Depending on urgency and need, August meeting may also be cancelled.
- Adopter Series should be bi-monthly versus monthly (given difficulty of getting someone each month) and should also be reduced over the summer months (**Jim to coordinate with Henry**).
- TSC meeting organization and frequency appears to be correct. Reducing the simple stat count from the updates (number of bug fixes, etc.) was the only suggestion at this time. The “what's done or what is getting fixed” details are more important than the statistical information.
- There is a need for more beginner on-boarding/training/Q&A – outside of Slack
  - WG or TSC meetings are not the way to do any type of onboarding
  - Hackathons are one way
  - Community open to and actively exploring other means to tackle this issue

#### Architectural Discussions/Decisions

- Per Monday's meeting, Jakarta will be a stabilization release and LTS release.
- Service list ADR and Registry ADR are to be addressed in this release, but may only offer a design or beta implementation for the release.
- **Regarding Tools/documentation for v1 to v2 migration:**
  - **We need documentation as part of Ireland docs for:**
    - Configuration file changes for each core, supporting services and SDKs
    - May need a document for app or device service if there were specific configuration changes from v1 to v2
    - What's in device files and what to transfer from v1 config files
    - Outlining changes from v1 to v2 device profiles.

- Additional tools or docs may be needed, but the difficulty in providing these for Consul migration, Redis data migration, etc. vs the usefulness (depending on how adopters plan to migrate) is the big unknown.
- **The community and TSC will re-evaluate this after the documentation has been produced.**
- Any tool would have to support rollback – so we can't edit-in-place Consul or the database (which would be possible anyway because of the namespace changes).
- **Interval/Interval Action (see [issue](#))**
  - This is an issue of environmental overrides for maps, which is not possible today. So this is not going to be addressed anytime in the near future.
  - An additional and related issue did come out of this discussion which was whether we should allow static definition of provision watchers in the configuration TOML. **This topic was moved to the Device Service scoping discussion.**
- **Command to devices based on label/group (see [issue](#))**
  - We have a way to issue multiple “commands” on a device today if the coreCommands are properly defined with multiple resources.
  - So the target for this issue is the provide a way to send one command (the same command) to multiple devices associated to the same device service.
  - We could potentially do this by using device label.
  - While a reasonable request, the use case demand seems lacking at this point.  
**Therefore, we are making this a stretch implementation goal for Jakarta and put on the roadmap for a future release.**
- **Last connected and last reported**
  - Decision: remove LastReported in a future release (not Jakarta). **Jim to add to roadmap**
  - Keep LastConnected.
  - **Call out differences in documentation and indicate LastReported is deprecated.**
  - LastConnected should only be set in DS (**to be checked by Iain/Cloud**)
- **Error message standardization (per core working group meeting of 4/22/21)**
  - There doesn't appear to be a content issue. If there is an occasional error message that does not express the appropriate level of information/content, this will be addressed per PR process.
  - Development of a common format and common definition of Error/Info/Warning/etc. should be addressed in a future Architect's meeting (**Jim to add to the architect's issue list**)
- Future of SMA
  - SMA to be marked deprecated with Jakarta and to be removed from the default services compose file (an alternate compose file will be provided to add it in with compose builder).
  - In documentation, note that nothing further is going to be done with SMA.
  - Many of its capabilities (such as start/stop/restart) would be provided by deployment/orchestration tools.
  - Metrics such as CPU and memory usage are handled by other means.

- What is needed is system management facilities that deal with application specific metrics (like number of events passing through the system) and alerts/notifications/rules engine execution based on those metrics.
- Need to use the Metrics ADR and future CPE ADR to address SMA's replacement.
- While deprecated, SMA would not be totally removed until that replacement is identified.

## Day 3 Notes/Action Items

Action items in *red*

### Ireland Release Update

- No test failures. Release still on schedule.
- Go mods were to be tagged today, but issues will prohibit go-mod-core-contracts, go-mod-secrets and go-mod-bootstrapping from tagging today.
- New issues that need to be addressed
  - <https://github.com/edgexfoundry/device-sdk-go/issues/980>
    - Could impact core contracts
  - <https://github.com/edgexfoundry/go-mod-core-contracts/issues/638>
    - Shouldn't require description on update of device (needs fixed)
- CoAP service and devops
  - Jenkins file needed (next week – target 30<sup>th</sup> at latest)
  - **lain to handle**
- GUI team has reduced NPM audit issues considerably. Still a couple of high-level audit issues to address. Communications on going to address.
- Changelogs completed for go-mods. Still needed for SDKs and services.

### Ireland Release Features Missed/Didn't need

- This is a list of features we did not get in Ireland that we would still like to have and (to be discussed as part of scoping)
  - DS Record / Replay
  - DS C side – secret provider for all and secrets in general
  - AS - Fork the pipeline and allow multiple pipelines in one service
  - AS - pipeline per topics/per profile
  - AS – integration to AI/ML examples
  - Implement and enforce Max Request Size
- Things we put too much time in and didn't need
  - ADRs – many were way out front of development

### Ireland Release Lessons Learned

- Things that we did well/were wins
  - V2/TAF
    - Lot of work, scheduled well, coordinated well
    - Lot of redesign as we went along
  - Behaving more “agile” in project nature
  - Breaking changes – we got a lot done; removed future issues

- Even things that weren't originally on our radar like port adjustments
  - EdgeX doing well in China
  - Slack communications
  - EdgeX Website
    - EN/Chinese
- Things that we could improve
  - Some design decisions seemed too rushed
  - Redesign did cause churn
  - Did we tackle too much?
  - Outreach organization – needs some focus
  - **Need for hackathon like outreach** – COVID impact, but how do we get more developers
  - **Not overlay freeze week with planning meeting**
  - **Need 3 weeks for freeze with LTS**

Scoping discussion covered in scope slide deck

## Day 4 Notes/Action Items

Action items in red

### Ireland Release Update

- 30 failures; think these are due to the go-mod-messaging issue. Will have better results tomorrow after PRs for below are through.
- Go mods to be tagged today.
- New issues that need to be addressed
  - <https://github.com/edgexfoundry/device-sdk-go/issues/980>
    - Needs to be closed since it was addressed in core contracts.
  - <https://github.com/edgexfoundry/go-mod-core-contracts/issues/638>
    - Fixed
- CoAP service and devops
  - Completed by Iain
- GUI team has reduced NPM audit issues considerably.
  - Documented other needs. Now ready for release.
- Changelogs completed for go-mods and edgex-go. Still needed for SDKs and services.
- Snap PRs in flight – ETA Monday (edgex-go, app-service-configurable, device services)

Scoping discussion covered in scope slide deck

### Architectural Issues

- **On Metrics and UoM ADRs:**
  - Need to finalize these ADRs in this Jakarta release
  - If there are any parts we are comfortable with implementing for Jakarta we do so (with sensitivity to stability and backward compatibility)
  - Full implementation in Kamakura or later
- **Kong on all the time**



- Benefits would be to delete a lot of test code and tests to deal with secure and non-secure modes and make it easier for end user scripting.
  - Added benefit of simplicity to user – only one URL to have to use per API – regardless of secure or non-secure mode
  - Decision: not implement Kong-on-all-the-time for Jakarta
    - Kong image is large
    - In Jakarta and through Kamakura:
      - First, have the QA team get performance numbers on current Kong use
        - How big is the image (including PostgreSQL)?
        - How much memory and CPU does it use?
      - Second research on use of Declarative Kong – how does it work, is it a drop-in replacement, etc.
        - Have QA team get performance numbers on Declarative Kong use
        - Compare Kong with Declarative Kong
      - Third – research the work required to move from Kong to Declarative Kong if the performance numbers indicate this is a good idea.
        - Work to rewrite proxy setup and other setup of services/processes
  - Target is to have the research done by Kamakura planning meeting in this fall.
- **Declarative Kong**
  - Allows us to drop PostgreSQL DB
  - Can configure groups/user ACL
  - Only supports JWT users
  - See above for decision
- **Distributed Services**
  - Agreement on the part of the community to support distributed services in EdgeX and support in secure mode.
    - The thought is that Device services, App Services and analytics are more likely to be distributed than other services.
  - Issue to which the community did not come to agreement at this time is how to support.
    - What is our dependence on orchestration to support security elements in distributed mode?
    - What underlying infrastructure do we want to use (Kubernetes, Swarm, etc.) to help facilitate this?
    - We support docker containers, should we at least have something that works in Kubernetes orchestration?
    - Should we say use Snaps for native deployments and Kubernetes for distributed/containerized deployments?
- **SDO/Fido integration**
  - Task for Jim to follow up with SDO team and Joe Pearson (ORRA and Open Horizon). What would EdgeX integration mean and what benefit?
- **EdgeX 3.0 - what would it look like?**
  - Distributed and/or HA services?

- Secure micro service communications?
- Incorporate secure device onboarding?
- To fuzzy at this time to know
- **Get rid of ZMQ**
  - Decision: yes – after Jakarta
  - Deprecate in Jakarta
  - Should be a small effort to get rid of the ZMQ code
  - Will make install and development easier on some platforms (Windows especially)
- **Get rid of YAML?**
  - Mixed review from community on YAML (some like it, some prefer JSON).
  - Only place it is used is in device and device profiles today.
  - Stretch goal for Jakarta – add alternate JSON device and device profile files in addition to YAML.
- **Message bus between app services and command and device services (north to south)**
  - Decision: Should be a focus feature of Kamakura.
  - Elimination of ZMQ will make it easier.
- **Architecture decisions (small to large) – what's the best place to track them and announce them**
  - Small ones are getting lost in meeting notes
  - Jim to research what other projects are doing and how they handle this and work it through the architect's meetings.
  - Mike J suggested looking at:  
<https://github.com/kubernetes/community/blob/master/sig-architecture/README.md>

#### Unconference Presentations

- IOTech Systems on its new Edge Builder product. Slides available in the wiki.

#### Lessons Learned from this Planning Meeting

- Don't overlap with freeze/release weeks
- Meeting times feel right (alternating 9-1pm and noon-3pm CDT)