Jakarta Pre-Wire

June 4, 8am-11am PDT

Agenda

- Introductions – if needed
- Logistics, ground rules and expectations of our pre-wire meeting
- Address any Ireland high priority release items in advance of the closing dev weeks
- Ireland 2.0.1 release
    - Timing
    - What's in it?
- Jakarta Release
    - General scope
        - LTS release
        - "bug fix only"
        - Help from Canonical and other open source projects on what stability release means.
    - Timeline
        - Hold to early November release
        - Short dev cycle (3+ months of development – with a patch release in the middle)
    - Potential Scope Exploration
        - What new features, enhancements, etc.?
        - What tech debt/clean up remains from Ireland?
    - ADRs to implement in Jakarta

Attendance

Some people may have joined the meeting after attendance was first captured.

Logistics, Ground Rules and Expectations

- Attempt to break every hour for 5 minutes (please keep me aware of the time)
- Don't be shy about interjecting your opinion/thought (we may not always call it out explicitly)
- Purpose of this meeting:
    - Not to scope (done during our planning meeting), but outline all the possible scope for this release. What's being considered vs. what is planned, tasked and coordinated
        - This is where big ideas start – but in order for them to actually take root, they must be accepted as "possible" here and coordinated/tasked as part of the planning meeting later in June.
        - Allow open debate on the future of the project, key features, technical/architectural direction
        - Identify high priority work and eliminate potential work that is beyond this scope

- o Identify areas where research or design/architectural ideas are necessary in advance of the Jakarta scoping. Owners will be assigned to present more details in the planning meeting.
    - o Highlight pain points/issues identified by this (Ireland) release and attempt to offer potential solution options (for determination in the planning meeting)
- Expectations
    - o Pave the way for a smooth Jakarta planning meeting
        - ▪ Jakarta planning becomes a refinement of the overall potential scope collected in this meeting
        - ▪ Focus technical debate around the scope of the single release
        - ▪ Focus architectural/design questions to the immediate scope
    - o At the conclusion of this meeting we have
        - ▪ Identified the larger "potential" release scope (if we haven't talked about it here, there would have to be a very big change to consider it for Jakarta)
        - ▪ Identified technical issues we must solve (or start to solve) with this release and arranged presentation from opposing options to present at the planning meeting.
        - ▪ Set the tone for the major theme(s) of the Jakarta release

Ireland High Priority Items

Any?

Ireland 2.0.1 Patch Release

Agreed by the TSC for later this summer (tentatively August) – per 3/24/21 TSC meeting

Purpose of this Patch Release (Agree??)

- Correct inevitable bugs that will fall out of this very large upcoming 2.0 release
- Release independent artifacts that could not get done by the 2.0 deadline (example CLI, UI, etc.)

Proposed Schedule (Agree??)

- August 18, 2021 (Wednesday before Labor Day in the US)
- Freeze on or about August 11
- Allows 6 weeks for patch release work
- Allows 10 weeks for Jakarta release work to complete
- Would we maintain 2 branches (one for patch release and one for Jakarta)?

Proposed Contents of this Patch Release (Agree??)

- Bug fixes
    - o Any and all or of certain criticality??
- Any Device Services not upgraded to V2 APIs (GPIO, CoAP, LLRP)
- Any Application Services not upgraded to V2 APIs (LLRP)
- EdgeX examples not upgraded to V2 APIs (in edgex-examples repos)
    - o Those not going to be upgraded should be annotated explicitly as 1.x only
- New GUI

- o May have a beta release with 2.0
- CLI V2 (refactor and upgrade to V2 APIs)
- Removal of V1 or otherwise "dead" code
  - o Lenny's PR is bulk of this, but some other clean up around things like System Management stuff that is to be cleaned out
  - o Code for the actual V1 endpoints
  - o Code behind the V1 database clients
- Event tagging in C Device Services (done for Go DS)
- Security implementations for C DS (secure Consul, secure message bus)
- Early seeding of secrets without calling the endpoints (which isn't ready yet)
- IOTech's DCT tool for use with EdgeX Ready – working with V2 profiles

- Readings by timestamp and name (per Slack channel). (#3519)

Jakarta Release

General Scope Question – what is this release about?

- Some context from Canonical, Kong or other projects on what "stability release" means.
- "Bug fix only"
- "LTS"
- Light on new features (or absent of any new features)
- Should we use this release to design out/experiment (but not implement for release) with new features for Kamakura?
  - o Digital Twin
  - o Metrics collection
  - o Kubernetes support
  - o Etc?

Release Timeline

- We'll set formal target dates in the planning meeting.
- Generally, should we target typical late fall timeline or do we want to add more time? Impacts potential scope. (3+ months of development – with a patch release in the middle)

Potential Scope Exploration (remember – for now its in or even possibly in or out)
Based on exploration of Iceboxes, Roadmap lists, etc.

Architecture Topics for Consideration

*Notes in **Green** are from Core WG*

- Implement Device Service Filter ADR? – No, resourcing issue
- Implement Service List ADR?
- Implement Registry ADR?
- Implement Metrics ADR? – No, this is big and would be pushing things on stabalization
- Implement UoM ADR?
- Solve System Management issues?
- Digital Twin – probably out unless DTC just needs what we have with small tweeks

New Features

- General
  - Enable CORS (for API Gateway and service APIs in general)
- Core/Supporting
  - MaxEvent Size a config setting – there now but not being used
  - Improve ability to add interval/interval actions statically
  - Send commands to group of devices based on label
  - Add NATS implementation for message bus – No, too big
  - Add Websocket support for notifications – No, not for Jakarta
- Device Services
  - Support automatic migration of devices between device services
  - Add record and replay function (new device service)
  - Allow for dynamic updates to device profiles
  - Event Filtering in Device Services (per ADR)
  - Implement Validation of ProtocolProperties
  - Allow multiple evens with readings to be created from DS
  - Enable resource command chaining
  - Support regular expressions in assertions
  - Overwrite for profiles / devices loaded from disk
  - Always send CBOR for performance (test first??)
- Security
  - Decouple microservices from configuration (#2420)
  - Build a secret store unsealing daemon (#1944)
  - Build micro service communication security (service to service - #1950)
  - Deploy Consul in secure configuration (2453)
  - Enable Vault identity Secrets (#2456)
  - Add deployment best practices in security documentation (#60)
  - Enable signing of EdgeX images for Docker Hub (#2470)
- App Services
  - Fork the pipeline
  - Flogo integration (awaiting Flogo team)
  - CloudEvent as TargetType in Pipeline configuration
  - Provide example live camera watching Application Service

Tech Dept/cleanup

- General
  - Upgrade YAML library to v3 (vs v2) – research needed and impact understood.
  - Replace poor 3rd party libs based on paper study (not supported, not used, etc.)
    - Includes ZMQ, logfmt, goburrow for modbus etc.
    - Possibly on a case-by-case basis; those with low impact to stabilization
- Core
  - Allow separate PublishHost and SubscribeHost in go-mod-messaging MQTT support – probably not for Jakarta

- o Fix SMA's default service list (also part of general system management and service list ADRs)
- Security
  - o Address defect in secret store paths (#2465)
  - o Configuration of root CA file is inconsistent across services (#2495)
  - o Tag service location and secretstore config to not be in Consul (#2868)
  - o Refactor the anonymous function inside secretstore-setup for init Vault (#3182)
- App Services
  - o Integration tests for Store and Forward
  - o SDK hangs when calling docker-compose stop
  - o Unit testing error cases rely on string literals
- Snap
  - o Redis in the snap triggers apparmor denials
  - o Modify install hook to drop usage of SNAP_INSTANCE_NAME

Future considerations – not for Jakarta but for the community to consider and scope long term

- Get rid of ZMQ
- Get rid of YAML

Project Governance, Processes, Organization Topics to Discuss at the Planning Meeting (in or out for planning discussion)

- PRC Evangelism, how to support, how to leverage, etc.
- Monthly Architects Meetings (continue or alter or stop)
- Outreach organization (working, not-working, room for improvement)
- Certification (Proposed)
  - o Add support for v2 device profiles acceptance to EdgeX Ready
  - o Expand supported device profiles for EdgeX Ready for which:
    - ▪ An EdgeX reference implementation device service exists
    - ▪ We have a validator
  - o Continued support for v1 device profiles
  - o Improve website for EdgeX Ready approved device profiles
  - o EdgeX Certified program on hold until an LTS candidate identified
- Adopter Series (continue, alert, stop)
- Vertical Liaison (more Agstacks?)