

Ireland Pre-Wire Summary

Oct 13-14, 2020

Ireland Focus/Theme

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)

Potential Architecture Topics in Scope

- 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, OMQ, 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/Education needs

- Timeseries databases (Andre?)
- Declarative Kong (Colin)
- Docker official images – 2 types of certification (DevOps)
- Digital Twin (and LWM2M) applicability
 - Solve any command needs today?

Deferred until beyond Ireland

- LTS
- Certification
- All configuration dynamic

- Timeseries database
- Collapse or removal of services
- Rename of core data to support data
- Address more distribution of services or HA concerns
- Allow for strict message order
- TestQA to explore how chatty our services are and the energy footprint

Adopter Questions

- 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: _____.

Specific Adopter questions

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?

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?

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?