EDGE X FOUNDRY™

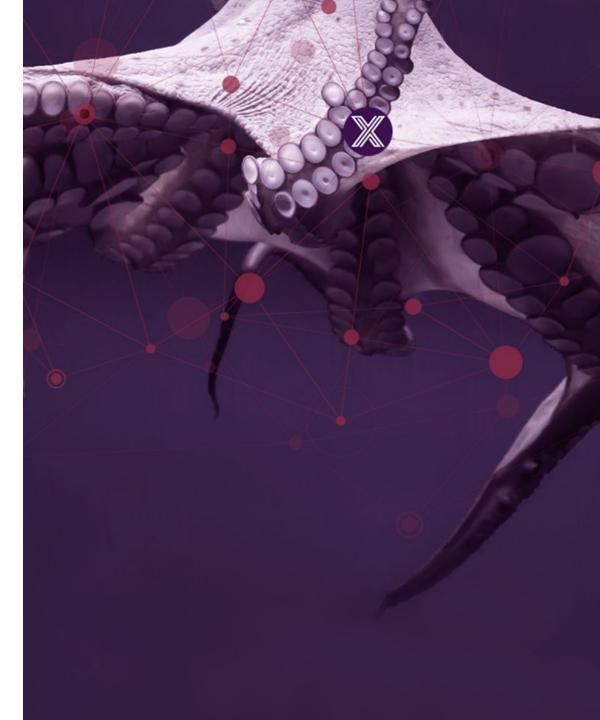## TSC Meeting

Feb 21st, 2024

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Meeting Logistics

Time: Wednesdays 8am- 9am Pacific Time (Alternate Weeks)

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)

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Meeting ID: 983 155 298

International numbers available: https://zoom.us/zoomconference?m=mkFexUxEcqHlvXHw53PqScTDRvS48PiQ

** TSC calls are recorded and added to Wiki post-call

EdgeX TSC Members

Working Group Chairs:

• Cloud Tsai (IOTech)	cloud@iotechsys.com	Core & Test/QA WG Chair
• Lenny Goodell (Intel)	leonard.goodell@intel.com	Applications & Analytics WG Chair
• Lindsey Cheng (IOTech)	lindsey@iotechsys.com	Device Services WG Chair
• Ernesto Ojeda (Intel)	ernesto.ojeda@intel.com	Dev Ops WG Chair

At Large Members:

- Farshid Tavakolizadeh (Canonical)
- Corey Mutter (Eaton)
- Elizabeth Lee (Intel)
- Melvin Sun (Intel)
- James Butcher (IOTech)
- Darryl Mocek (Oracle)

Current quorum = 6 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

- Working Group Updates
  - Some personnel changes
  - Emerging CVEs to address or at least triage
- Odessa Deliveries Summary

Work Group Updates

Chairs

Working Group Chair Updates

- Around the working groups:
  - **Product Manager** - Lenny Goodell
  - **Applications** - Lenny Goodell (co-chair Elizabeth Lee)
  - **Core** - Cloud Tsai (co-chair Melody Liu)
  - **Device Services** - Lindsey Cheng (co-chair Felix Ting)
  - **DevOps** - Ernesto Ojeda
  - **Release Czar** - Bill Mahoney
  - **Outreach and Marketing**
    - **Certification** - Rodney Hess
    - **China Updates** - Melvin Sun
    - **LF Edge TAC** - James Butcher (acting)

Product Manager (02/21/24) - Odessa

Cross Cutting Issues

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

Backlog (3)
- **URIs For Files**
  - C services - **TBD**
- **OpenBao**
- **Go 1.22 (Feb'24) and Alpine 3.19**
  - **Released!!**
    https://tip.golang.org/doc/go1.22

In Progress (4)
- **Odessa Doc Refactoring**
  - Device Services
    - Device Commands - **DONE**
    - Device Definitions - **DONE**
    - Auto Events - **DONE**
    - BacNet - **TBD**
    - COAP - **TBD**
    - RFID LLRP - **TBD**
    - SNMP - **TBD**
    - Virtual - **TBD**
  - Refactor APIs Section - **TBD**
  - Refactor Security Section - **TBD**

- **Compiler flags to Strip Debug Info**
  - edgex-go - **DONE**
  - edgex-ui - **TBD**
  - App SDK and ASC - **DONE**
  - App LLRP & App Record Replay - **TBD**
  - Device SDK and Device Services used by TAF - **DONE**
  - Remaining Device Service - **TBD**

- **Zero Trust (OpenZiti)**
  - go-mod-core-contracts - **WIP PR**
  - go-mod-bootstrap - **WIP PR**
  - edgex-go - **WIP PR**
  - edgex-ui - **WIP PR**
  - ekuiper - **WIP PR**

- **Core Keeper - WIP**
  - go-mod-core-contracts - **TBD**
  - go-mod-registry - **TBD**
  - go-mod-configuration - **TBD**
  - edgex-go - **TBD**

Done (0)
-

Applications WG Update (02/21/24) - Odessa

Newly Completed (<mark>1</mark>)

- docs: Add missing package to Attribution.txt #1551

Newly added (<mark>1</mark>)

- App service MQTT question (no response to reply in 4 weeks)

WIP (0)

Done for Odessa (<mark>16</mark>)

Backlog (2) https://github.com/orgs/edgexfoundry/projects/50/views/2

ICE BOX (0)

Next

- Compiler flags to Strip Debug Info
- Document Commands via MessageBus for App Services

eKuiper

- No update

Application Services - Napa

Functions (built into SDK)

- Add Tags
- Batch
- Compression (GZIP & ZLIB)
- Conversion (XML & JSON)
- EventWrapper
- Encryption (AES256)
- 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)

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~~
- Direct Publish to MessageBus

- Received Topic
- Context Storage
- Service Metrics
- 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
- App Record and Replay

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

Core WG Update (Feb 20 2024)

- TAF
  - Functional tests:
    - Non-Security **612** tests - All pass / Security **612** tests - All pass
  - Integration tests
    - Non-Security **132** tests - All pass / Security **135** tests - All pass
  - Performance tests:
    - Non-Security **10** tests - All pass / Security **10** tests - All pass
- Core/QA Progress
  - Integrate edgex-core-keeper back to edgex-go
  - Create ADR for performance test harness #1327 is still under review, its UCR has been merged and approved
- Note
  - Cancel the meeting Feb 28 Due to national holiday in Taiwan

Next meeting: Tuesday Mar 5 2024 @ 4 PM Pacific Time

Emerging Common Vulnerabilities and Exposures (CVEs)

Cloud Tsai's analysis:

1. cjson package issue from USB Camera Device Service.
https://security.snyk.io/vuln/SNYK-ALPINE318-CJSON-6156886
Remediation: Upgrade Alpine:3.18 cjson to version 1.7.17-r0 or higher.

2. openssl issue and happens in several docker images.
https://security.snyk.io/vuln/SNYK-ALPINE318-OPENSSL-6191692
However, I don't know why it happens, because there is no openssl installed to those Docker images.
https://github.com/edgexfoundry/edgex-go/blob/64231a640c2d3928f8098b6641f84e2829903aa1/cmd/security-secretstore-setup/Dockerfile#L35
Remediation: Upgrade Alpine:3.18 openssl to version 3.1.4-r5 or higher.

3. mbedtls package issue from USB Camera Device Service
https://security.snyk.io/vuln/SNYK-ALPINE318-MBEDTLS-6208087
Remediation: Upgrade Alpine:3.18 mbedtls to version 2.28.7-r0 or higher.

4. expat package issue from the Coap Device Service
https://security.snyk.io/vuln/SNYK-ALPINE318-EXPAT-6241039
Remediation: Upgrade Alpine:3.18 expat to version 2.6.0-r0 or higher.

For those four issues, Alpine 3.18 provides the latest package version to resolve.
I tried to build a new docker image with the latest apk upgrade command, and the package versions all meet the remediation.

Installed:
cjson-1.7.17-r0
openssl-3.1.4-r5
mbedtls-2.28.7-r0
libexpat-2.6.0-r0

As a result, our new docker images could automatically resolve those issues.
Since there is no critical level CVE, I don't think we need to trigger v3.1.1 release.

OpenBao Update

- James acting as EdgeX contact for OpenBao and TSC member
- Nathan Phelps (IBM) voted as TSC Chair
- Sub-project meetings are weekly (Thursday @ 8am Pacific Time for 30 mins)
- OpenBao being presented at LF Edge TAC for potential adoption as full LF Edge project…

https://wiki.lfedge.org/display/OH/Hashicorp+Vault+Replacement+Feature+Design+Candidate

Device Services WG Update (21 February 2024)

- **New S7 device service**
  - Initial PR merged, request approved from community to move device-s7 repo to edgexfoundry

- **New OPC-UA device service**
  - v3.2 PR merged, will request approval from community to move device-opc-ua repo to edgexfoundry

Next meeting: Tuesday, March 12 2024 @ 4 PM Pacific

Device Services - current/coming (as of v3.1)

Open Source connectors:

- Modbus (TCP/RTU) in Go
- Virtual Device in Go
- SNMP in Go
- MQTT in Go
- BACnet (IP & MSTP) in C
- ONVIF and USB Cameras in Go
- REST in Go
- CoAP in C
- LLRP / RFID in Go
- GPIO in Go

Open Source connectors (Future):

- UART in Go
- Siemens S7 in Go

IOTech commercial connectors:

- Modbus in C
- BACnet in C
- OPC-UA in C
- BLE in C
- Zigbee in C
- GPS in C
- CAN in C (+ J1939 Extensions)
- CANOpen in C
- EtherCat in C
- EtherNet/IP in C
- Siemens S7 in C
- PROFINET in C
- WebSockets in Go
- MQTT in Go
- REST in Go

DevOps WG and Release Czar - No Updates

- No Technical updates today

- Sorry to see Ernesto and Bill step away from the project and extremely grateful for their work with EdgeX
- Short-term transition of build tasks etc to Cherry and Ginny from the IOTech team
  - Plan to add as committers to the dev-ops related repos
  - https://github.com/orgs/edgexfoundry/teams/devops-core-team
  - https://github.com/orgs/edgexfoundry/teams/cd-management-committers
  - https://github.com/orgs/edgexfoundry/teams/ci-build-images-committers
  - https://github.com/orgs/edgexfoundry/teams/ci-management-committers
  - https://github.com/orgs/edgexfoundry/teams/edgex-global-pipelines-committers

Recent and Upcoming Releases

Napa (3.1)
- Release Date - 2023-11-15

Odessa (3.2)
- ~Spring 2024

Next DevOps WG Meeting: Tuesday, March 12, 2024 @ 9AM PST (TBC)

Outreach Update

Biweekly LF TAC meeting (ran just prior to this meeting)

- LF Events (calls for talks and attendees)
  - ONE Summit in San Jose CA, April 29-May 1st.
  - Open Source Summit North America, Seattle WA, April 16-18th
  - Open Source Summit Europe, Vienna Austria, Sep 16-18th
- New Project Proposal: OpenBao

EdgeX China Update

- No Update Today

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Other Topics

Odessa Deliveries Summary

Theme / Title	In Scope	Priority	T-Shirt	Notes
Replace Hashicorp Consul with EdgeX-Core-Keeper WIP	✔	High	L	Work to update/review/approve core-edgex-keeper (code, docs, tests). Owner: IOTech and Eaton
Replace Hashicorp Vault with Open-Bao Monitoring	✔	High	S	Liaise with Open-Bao group for delivery timing but expecting to be drop-in replacement. Only docker-compose changes needed
Zero Trust / Secure Distributed EdgeX (OpenZiti Integration) WIP	✔	High	M/L	ADR (now approved). Impl largely by Clint
Continue EdgeX Documentation redesign WIP	✔	High	M/L	Device Services, Security and API section
URI for Files - Parity for C Device Services SDK	✔	High	S	Implementation is clear. Owner: Felix. Assistance and reference impl from Elizabeth (Go)
Modelling & Relationships – Virtual Device Resources Deprioritised by Eaton	Now Out	Med	S	Limited to Device SDKs and Metadata. Owner: Eaton
Modelling & Relationships – Protocol Info in Device Definitions	✔ (UCR)	Med	S	UCR owner Oracle. ADR & Impl TBC
Modelling & Relationships – Device Functions	✔ (UCR)	Med	S	UCR owner Oracle. ADR & Impl TBC
Modelling & Relationships – Parent/Child Devices Eaton	✔ (STRETCH)	Low	S	Limited to Metadata. Owner: Eaton. Progress via attending Devices WG. Does a UCR need to be updated here?
Modelling & Relationships – Device Metadata in Provision Watchers	✔ (STRETCH)	Low	S/M	Limited to Device SDKs and Metadata. Owner: Eaton
NanoMQ – Add security to our NanoMQ option	✔ (STRETCH)	Low	S	Continue communication with EMQ team

Thank You

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