

EDGE X FOUNDRY™

TSC Meeting

March 30, 2022



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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)

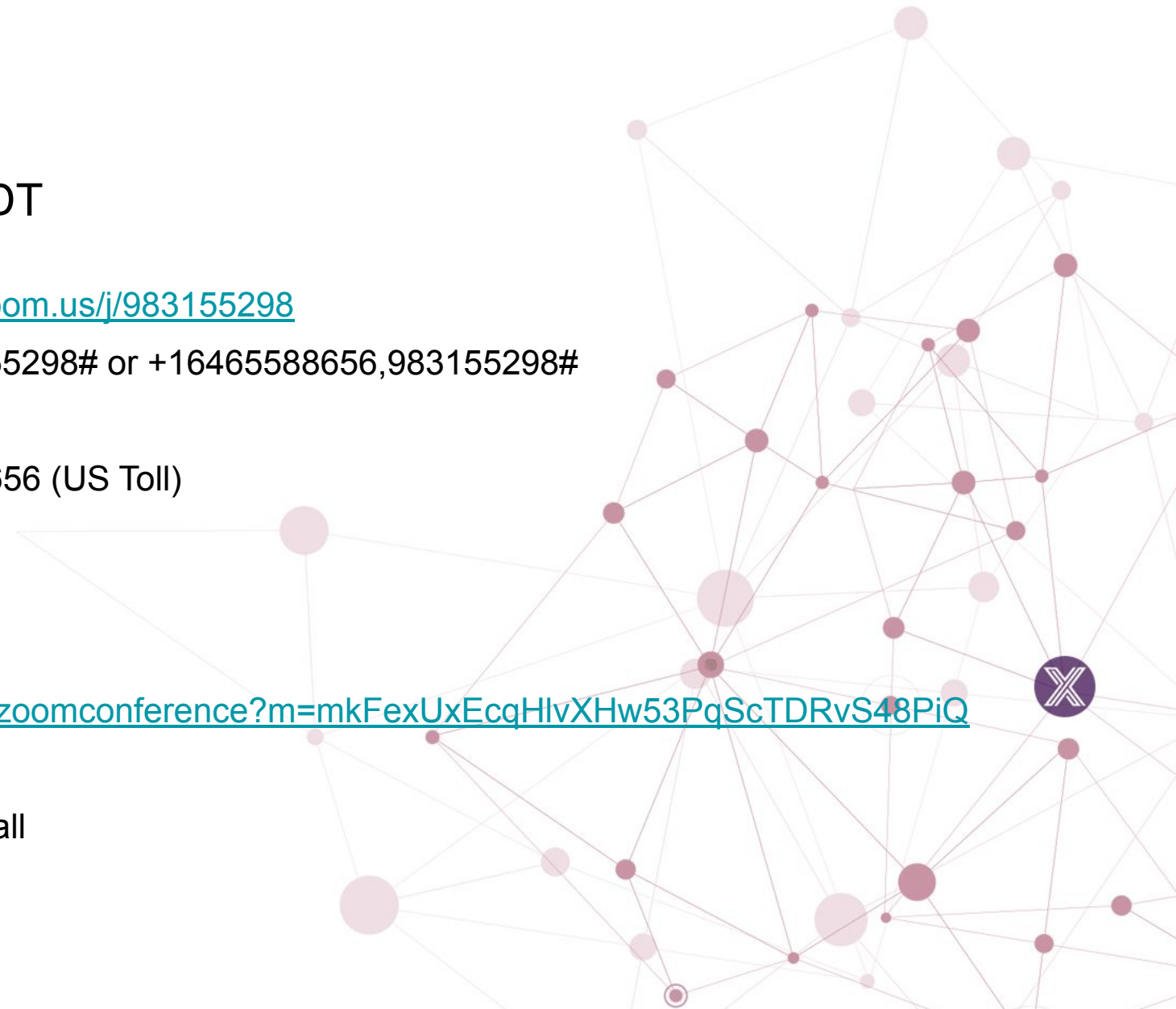
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Meeting ID: 983 155 298

International numbers available: <https://zoom.us/join?j=983155298>

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



TSC – Members Present Today

<u>Company</u>	<u>Name</u>	<u>Email</u>	<u>Position</u>
IOTech	Iain Anderson	iain@iotechsys.com	Device Services WG Chair
Intel	Ernesto Ojeda	ernesto.ojeda@intel.com	Dev Ops WG Chair
IOTech	Jim White	jim@iotechsys.com	Outreach WG Chair
Intel	Bryon Nevis	bryon.nevis@intel.com	Security WG Chair
Intel	Lenny Goodell	leonard.goodell@intel.com	Applications & Analytics WG Chair
IOTech	James Butcher	james@iotechsys.com	Core/Test/QA WG Chair

Gavin Lu (VMWare), Tony Espy (Canonical), Melvin Sun (Intel)

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.

Today's Agenda

- Spring schedule TSC vote
- WG Updates
- Kamakura deliverable review
- ADR updates
- Miscellaneous
 - Monthly Architect's meeting date change
 - Kamakura executable size growth (due to spiffe)
 - Deprecation and Archive policy (proposed)
 - EdgeX Awards



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Work Group Updates

Chairs

Spring Schedule for TSC approval vote

- Per our new [planning schedule policy](#)
- Release on May 11th (Wednesday)

Freeze: Apr 27th, Wednesday
Pre Wire: Apr 20th, Wednesday
Planning: May 16-19, Monday-Thursday

Memorial weekend: May 28-30th

UK bank holiday & Taiwan Labor Day: May 2

Release Czar (2022-3-30)

TSC Vote on Kamakura release date

Upcoming:

Kamakura - May 2022

Releases of GPIO and LLRP App / Device Services

Working Group Chair Updates

- Around the horn
 - Product Manager - Lenny Goodell
 - Applications - Lenny Goodell
 - Core - James Butcher
 - Device Services - Iain Anderson
 - DevOps - Ernesto Ojeda
 - Release Czar - Bill Mahoney
 - Security - Bryon Nevis
 - PRC Updates
 - Outreach - Jim White
 - Certification - Rodney Hess
 - Marketing - Camilo Dennis
 - Vertical Solutions (and LF Edge TAC) - Henry Lau

Product Manager (03/29/22) - Kamakura [Cross Cutting Issues](#)

Icebox (0)

Backlog (0)

In Progress (6, -3/+2)

- [Securing Consul with Access Token](#)
 - C Device SDK - TBD
 - C Device Services - TBD
- **Request new Consul token on Auth failures**
 - Go Services - DONE
 - C SDK/Services - TBD
- **Service Metrics**
 - go-mod-core-contracts - **Draft PR**
 - go-mod-bootstrap - **Draft PR**
 - Core Data - **Draft PR**
- **Add a "make lint" target**
 - Go Device Services - **WIP**
 - LLRP App Service - DONE
 - edgex-go - DONE
 - App Services - DONE
 - go-mods - DONE
 - Go Device SDK - DONE
 - C Device Services - N/A

- **Security: Implement CGO binary hardening**
 - edgex-go - **DONE**
 - Device SDK - **WIP**
 - App SDK - TBD
 - App Services - TBD
 - Device Services - TBD
- **Delay Start Services**
 - edgex-go - **DONE**
 - Compose - **WIP**
 - App Services - TBD
 - Device Services - TBD

Done (12, +3)

- **Implement Generate/Inject passwords into Vault (C SDK/DS)**
- **CORS for all (secure and non-secure) (C SDK/DS)**
- **Secure Message Bus connection (C SDK/DS)**
- Metrics ADR - Approved
- Use latest Redis (redigo) version (ignore bad v2.0.0 tag)
- Use of Registry when init Clients
- [Secret Provider for All](#) - C Device Services - DONE (COAP)
- Add service name to common response DTOs
- Switch to Go 1.17
- Update Swagger publishing to use version 2.2.0 (docs to point to 2.2.0)
- No ZMQ on Windows
- Secret store tokens for delayed-start services ADR

Applications WG Update (03/29/22)

Completed (2)

- Issue overriding AppCustom settings with environment variables #314
 - Fixed in go-mod-bootstrap
- App SDK Controller tests not actually run

WIP (2)

- /api/v2/config doesn't return Custom Config sections #1035

Backlog (9)

- <https://github.com/orgs/edgexfoundry/projects/23>

New (3)

- LLRP: Security: Implement CGO binary hardening #66
- ASC: Security: Implement CGO binary hardening #391
- Streamline App Template #1064

Next

- Continue Bug fixes
- Metrics (when prototype approved)

Eaton App discussions

- Defined crawl steps for ADRs to enable Eaton apps
 - Control Plane events (Core Metadata)
 - Core Data as better cache engine

eKuiper

- 1.4.4 <https://github.com/lf-edge/kuiper/milestone/8>
 - Targeted release on March 24th
 - Changed to using older image of tdengine and don't see issue.
 - This is a work around until TDengine team root causes and fixes
 - Other bug fixes (see link above)
 - General so EdgeX users could run into these
- 1.5.0 <https://github.com/lf-edge/kuiper/milestone/6>
 - Targeted for April

Reminder: Weekly morning App Service WG meetings are now being used for Eaton's App discussions. These discussions will continue on **April 5th, 2022 @ 9am PST**

Project Board: <https://github.com/orgs/edgexfoundry/projects/23>

Next meeting **April 5th, 2022 @ 3:30pm Pacific**

Application Services - Ireland

Functions (built into SDK)

- Add Tags
- Batch
- Compression (GZIP & ZLIB)
- Conversion (XML & JSON)
- PushToCore
- ~~MarkAsPushed~~
- Encryption (AES256)
- Encryption (AES) **** DEPRECATED****
- Export
 - MQTT
 - HTTP POST & PUT
- Filtering
 - By Profile Name
 - By Device Name
 - By Source Name
 - By Resource Name
- JSONLogic
- Set Response Data

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
- Received Topic
- Context Storage
- Clients
 - Logging, Event
 - Command
 - Device, DeviceService
 - DeviceProfile
 - Notification
 - Subscription
 - Registry

Reference/Example App Services

(built on top of SDK)

- Simple Filter
- Simple Filter and MQTT Export
- Simple Filter and HTTP Export
- Simple CBOR
- Azure IoT Hub
- Amazon IoT Core
- Cloud Event Transformation
- Secret Retrieval
- JsonLogic

- Send Command
- Convert & Publish
- Custom Target Type
- IBM Watson IoT (ASC Profile)
- Custom Trigger
- Influx DB Export
- Fledge Export

Core WG Snapshot (30 March 2022)

- Kamakura:
 - TAF
 - Functional tests: 545, Integration tests: 43 - all pass
 - Performance tests: 10 - 1 failure, due to image size increases (Spiffe go package)
 - WIP
 - Device Profiles - Ginny implementing [#710](#)
 - DTOs completed - two API PRs have been opened for review. On track to finish API implementation next week
 - Remaining work is new core service configuration. All should be done by middle of April
 - Metrics - Lenny's Core Data work - draft PR to review [#709](#). Demo on Core call tomorrow

Core Project Board Status

- 8 New Issues (+1)
- 6 Release Backlog (+0)
- 0 Bug Backlog (+0)
- 3 In Progress/QA (+04)
- 54 Done (+1)
- 2 Kamakura Stretch (+0)
- 14 Icebox (+2)

QA/Test Project Board Status

- 2 New Issues (+0)
- 1 Release Backlog (+0)
- 0 In Progress/QA (+0)
- 9 Done (+0)
- 0 Icebox (+0)

Next meeting: **Tomorrow** Thursday March 31 @ 8am Pacific Time

Device Services WG Update (30 Mar 2022)

Services

- LLRP upcoming
- GPIO : Snap packaging done; one issue under investigation
- Camera services reviews in progress
 - Will need dependency approval

SDKs

- Some security-related functionality landed for C
 - Still missing secure tokens for Consul

Project board

- 24 issues New+Backlog (-1)
- 4 In Progress+Review (=)

Next meeting: April 11th

Device Services - current/coming (as of v2.1)

Open Source connectors (Current):

- Modbus (TCP/RTU) in Go
- Virtual Device in Go
- SNMP in Go
- MQTT in Go
- BACnet (IP & MSTP) in C (v1 only)
- ONVIF Cameras in Go
- REST in Go
- Grove in C
- CoAP in C
- LLRP / RFID in Go
- GPIO in Go

Open Source connectors (Future):

- UART in Go
- OPC-UA in Go

Commercial connectors (Current):

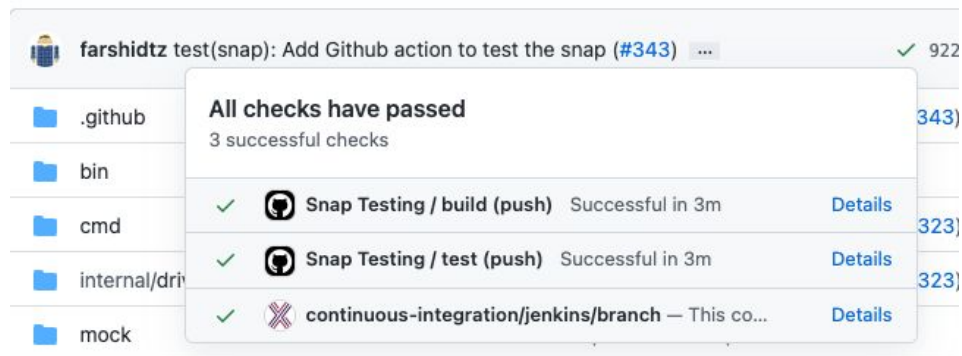
- BLE in C
- Zigbee in C
- GPS in C
- CAN in C
- CANOpen in C
- MEMS in C
- EtherCat in C
- EtherNet/IP in C
- PROFINET in C
- OPC-UA in C
- OPC-UA Pub/Sub in C
- Siemens S7 in C
- File reader in C

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

DevOps WG Update (03-30-2022)

Pipeline Related

- [In Progress] edgex-docs release automation
- GitHub Actions for snaps led by Frashid. Demo in last week's WG recording.
 - Run as separate checks during PR and merge into main. Can also be manually triggered by committers.
 - Setup for device-mqtt-go








Other

- [Complete] [#703](#) edgex-docs: mkdocs htmlproofer updates.
- [Backlog] edgex-global-pipelines documentation

Next DevOps WG Meeting: Thursday, April 7, 2021 @ 9AM PST

FROM the November Planning Meeting - final action/scope slides


DevOps Scope

- Pipeline Optimizations:
 -  [Complete] Tech Debt: Fix multiple nodes being spun up during edgeXBuildGoApp and edgeXBuildCApp
 - T-shirt size: small
 -  [Complete] Spike: docker image multi-arch builds with buildx (spin up less nodes, speed up builds)
 - T-shirt size: small for the research; implementation TBD (see below)
 - Use of Docker buildx so we wouldn't need to spin up ARM image to build docker arm images
 - Explored in the past; revisit approach (separate images)
 - Implementation: depending on spike docker image multi-arch builds with buildx
 -  [In Progress] Spike: rewrite git-semver in python
 - T-shirt – medium size (impl TBD)
 - Implementation: depending on spike, rewrite git-semver in python
 - Punt on Semantic release work for now
- Assist in go lang linting/scanning
 -  [Complete] See security scope
- Documentation
 - T-shirt size: medium
 -  [In Progress] Continued documentation updates (DevOps online docs)
 - Find it through README of DevOps repository

Security WG Update



Next Meeting: Today, next

- Delayed start status update
 - Have successfully tested the full-stack implementation with a delayed-start device service
 - Need to make update to device-sdk-go to pull in new go-mod-bootstrap, update attributions
 - Binary availability issue (pre-compiled spire binaries only available on x86!)
 - Binary size issue
 - TODO: Roll out configuration.toml updates everywhere
- 

Security Project Board Status

- 5 New Issues (n/c)
- 4 Release Backlog (n/c)
- 2 In Progress/QA (-1)
- 5 In review (+5)
- 17 Done (+1)

Secure Consul Project Board Status

- 0 In-review
- 0 In-progress
- 2 Phase 1 To-do
- 1 Phase 2 To-do
- 4 Phase 3 To-do

Updates on EdgeX China Project

- Held quarterly meeting the past week and had 8,000+ sign up (virtually or live)
 - Whole Day 1- Developers summit: 16 speakers from key members of EdgeX China community, top CSPs, ecosystem partners;
 - Afternoon of Day 2 - Hands on workshop: 4 speakers from VMware, Intel, EMQ, Baidu, introducing how to develop programs and make EdgeX demo on “hello-world”, Edge.AI, rules engine, Edge-to-Cloud.

EdgeX China community channels:

- Website: <https://cn.edgexfoundry.org/>
- OSChina: <https://www.oschina.net/group/edgex-foundry>
- CSDN: <https://blog.csdn.net/edgexfoundry>
- Zhihu: <https://www.zhihu.com/people/edgex-foundry>
- Bilibili: <https://space.bilibili.com/550595847>

Outreach WG (3/30/22)

Next meeting Monday April 4 at 9am PST

Web Site

- Stats for February available on the Wiki
- English traffic down a little (hits from China down)
- Traffic on China site up a little (after the new year)

Certification

- Still working on update of the Wiki for V2

Kamakura Scope To-Do

Yellow - in jeopardy to slip

Green - done

General

- Dynamic Profiles implementation - <https://github.com/edgexfoundry/edgex-docs/pull/605>
- Metrics Collection implementation - <https://github.com/edgexfoundry/edgex-docs/pull/268>
 - proof of concept service and module additions in Go
 - Lenny presenting to Core on Thursday
- UoM ADR - <https://github.com/edgexfoundry/edgex-docs/pull/386>
 - Complete
- North-South Message Bus ADR
 - Device functions ADR
- Kubernetes Support
 - Helm Chart example - merged
- Add “make lint” target
- Support
 - Build services on Windows; need docs

Kamakura Scope To-Do

Yellow - in jeopardy to slip

Core

- Update lastConnected should not trigger device service callback (low priority)

GUI

- Fix to no allow banned activity (ex: modify device profile)
 - Fixing OpState update
 - Checking on device profile updates

Device Services

- Complete securing consul with access tokens
- Complete securing the message bus
- Injecting secrets during bootstrapping
- CORs support in C SDK / C device services
- Implement ProtocolProperties validation mechanism
- CoAP DS accepted
- GPIO DS accepted
- UART DS accepted
- Grove DS accepted
- ONVIF DS accepted
- USB DS accepted

Kamakura Scope To-Do

Yellow - in jeopardy to slip

Security

- Implement ADR 0019 - Delayed start secret store tokens (SPIFFE ADR)
- Update Swarm for remote Device Service how to for V2
 - Half done
- Doc how to use SPIFFE as example of how to do distributed services in edgex-examples (Stretch)

Snaps

- Updating the basis for core 22
- Set env vars via Snap CLI (today we map between env names to snap lowercase names)
- Add github action to build full snap when changes made to all snaps

Docs

- Many areas of doc updates, additions, etc.

ADR review

ADR name and PR number	Status	owner	Work Group
ADR on unit of measure / #386	DONE	Jim White	Core
Device functions / #644	On deck	Iain Anderson	DS
North-south message bus / #656	New edits as of Monthly Architect's meeting Seeking Core WG approval this week	Jim White	Core
Microservice Authentication / #659	discussed in security WG On hold for the moment	Bryon Nevis	Security
control plane events	New - needed for Eaton work (and beyond)	Jim White	Core
core data cache	New - needed for Eaton work	Jim White	Core
cmake options to optimize dependencies	Needed per planning meeting	Eaton	
Global config	Needed per planning meeting (low priority this release)		
Securing the EdgeX message bus when using MQTT	Needed per planning meeting		
device parent/child relationship	Needed per planning meeting (labels vs other option)	Eaton	

Miscellaneous

- Monthly Architect's Meeting held on 3/28
 - Reviewed N/S Message Bus ADR (getting closer)
 - Also reviewed increase in service size due to spiffe (cover in next slide)
 - Next meeting April 18th
 - Farshid's ADR suggestions
 - Probably some pre-wire & planning meeting coverage
- **EdgeX Award Nominations now open**
 - Send in your nominations for Innovation Award or Contribution Award to LF's Kendall Waters Perez: kperez@linuxfoundation.org
 - Nominations due by April 14th
 - See <https://wiki.edgexfoundry.org/display/FA/EdgeX+Awards> for past winners and the two types of awards

EdgeX Award Nominations

- Award Type: Innovation or Contribution
- Nominee's Name (and email address if you have it)
- Nominee's Company
- Nomination paragraph (why you are nominating this person)
- Supporting links (optional - ex: links to Github PR, documentation, design proposal, etc.)
- Your name and company



Anyone can nominate and anyone can be a nominee

TSC will vote later in April. Awards to be presented during our planning meeting.

Note: last year's winners are ineligible (sorry Lenny, Ernesto, Cloud, Jack Chen, Lindsey Cheng, Ginny Guan, Wendy Huang, Bruce Huang, Jude Hung, Chris Hung, Felix Ting, and Cherry Wang)

Deprecation and Archival policy

Per TSC meeting of 3/16

Action item on TSC chair to propose policy on these

(Jim to bring up doc that was emailed to TSC yesterday)

Service Growth Issue

- Testing tipped us off to executable growth
- Spiffe go package added approximately 15.2 MB to all core and supporting services
 - Will add to app and device services too once incorporated
 - Adds about 300MB to overall EdgeX deployment
- Questions:
 - Are we ok with this size of increase?
 - Did we anticipate this size?
- Ideas/suggestions about what to do?
 - Do we research alternate builds/executables
 - Do we research alternate means to incorporate/exclude for these security features?



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Thank You