

EDGE X FOUNDRY™

# TSC Meeting

October 7, 2020



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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)

+1 855 880 1246 (US Toll Free)

+1 877 369 0926 (US Toll Free)

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	<a href="mailto:iain@iotechsys.com">iain@iotechsys.com</a>	Device Services WG Chair
Intel	Ernesto Ojeda	<a href="mailto:ernesto.ojeda@intel.com">ernesto.ojeda@intel.com</a>	Dev Ops WG Chair
IOTech	Keith Steele	<a href="mailto:keith@iotechsys.com">keith@iotechsys.com</a>	Outreach WG Chair
Kong	Colin Hutchinson	<a href="mailto:colin@konghq.com">colin@konghq.com</a>	Security WG Chair
Intel	Mike Johanson	<a href="mailto:michael.johanson@intel.com">michael.johanson@intel.com</a>	Applications & Analytics WG Chair
IOTech	James Butcher	<a href="mailto:james@iotechsys.com">james@iotechsys.com</a>	Test/QA WG Chair
IOTech	Jim White	<a href="mailto:jim@iotechsys.com">jim@iotechsys.com</a>	Core WG Chair

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

- WG Updates
- Monthly Stats
- Ireland planning meetings
  - Pre-wire agenda
- Hanoi deliverables
- Upcoming Events (Dev Advocate)



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# Work Group Updates

Chairs

# Working Group Chair Updates

- Around the horn
  - Product Manager - Lenny Goodell
  - Release Czar - Bill Mahoney
  - Applications - Mike Johanson
  - Device Services - Iain Anderson
  - Test/QA - James Butcher
  - DevOps - Ernesto Ojeda
  - Security - Colin Hutchinson
  - Outreach - Keith Steele
    - Certification - Rodney Hess
    - Marketing - Camilo Dennis
    - Vertical Solutions (and LF Edge TAC) - Henry Lau
  - Core/Supporting - Jim White



# Product Manager (10/7/20)

Cross Cutting Issues (<https://github.com/orgs/edgexfoundry/projects/35>)

## In Progress (2, -1)

- V2 Implementations
  - App Services APIs - Done
  - TAF testing App Services - Done
  - **Device SDK Go - WIP**
  - **Device SDK C - WIP**
  - **Core Data APIs - WIP**
  - **Core MetaData APIs - WIP**
  - **TAF testing V2 APIs - WIP**
- **Conventional Commits for all**
  - Core Service - WIP
  - App Services - Updates WIP
  - Device Services - WIP

## Backlog (2, +1)

- ADR for Message Bus from Device Service to App Services
- **ADR for Secret Provider for all**

## Done (11, +1)

- Refactored Compose files
- Remove Support Rules Engine (just from compose files)
- Remove Client Monitoring
- Dockerfiles incorrectly uses ENTRYPOINT
- Configurable address for ListenAndServe
- Startup Configuration/Env does nothing
- EdgeX Go services move to Go 1.15
- Design metadata about the “gateway” or host platform (Tags)
- Allow device services to be distributed to alternate hosts
  - SSH & Overlay network
- Dependabot for All
- **ADR for Generate/Inject random passwords into Vault**

## Icebox (9, +1)

- V2 API Consumption
- Explore possible collapse of core command and metadata
- EdgeX Metrics Collection & Control Plane Event Handling
- Drop Logging Service completely (Revert WIP)
- Remove Mongo code (Revert WIP)
- Update config.Clients usage for new naming scheme
- Secure Message Bus connection
- Secret Provider abstraction for all
- **Implement Generate/Inject random passwords into Vault**



# Release Czar (10/07/20)

ADR 007/010 Updates - Hanoi release artifact type definitions. (Snap / GitHub Release/Assets) - Snap Release Cadence Documentation

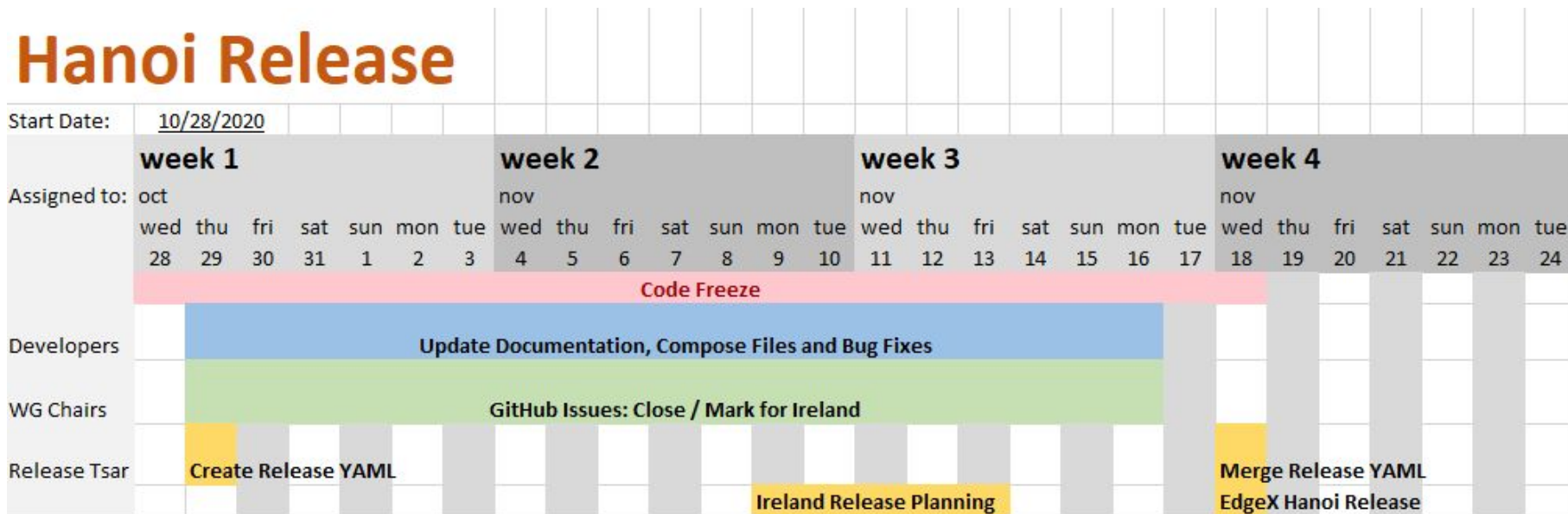
## Release Activity:

9/21/2020 - device-bacnet-c - v1.2.0 released

## Hanoi Release -

Code Freeze: October 28th (3 weeks away)

Release Date: November 18th (6 weeks away)



# Applications WG Update (7-Oct-2020)

## Upcoming

- HTTP PUT Support for export w/ secrets (#516)
- Expose EdgeX Clients on SDK so they are accessible to custom endpoint handlers. (#446)
- App Service High Availability Discussion (#515)
- Help Create ADR for Device Service to App Services via Message Bus (#241)

- Next meeting **Oct 15th, 2020 @ 4:30pm PDT**

# Application Services

## Functions (built into SDK)

Current/Complete:

- AES Encryption
- GZIP Compression
- ZLIB Compression
- MarkAsPushed
- PushToCore
- Device Name Filter
- Value Descriptor Filter
- Batch
- JSONLogic Filtering
- XML Conversion
- JSON Conversion
- MQTT(S) Export
- HTTP(S) POST Export

## Features

- Store and Forward
- Web Server
- Configurable App Service
- Vault Integration for Secrets
- MQTT Event triggers (via go-mod-messaging)

## Reference/Example App Services (Geneva)

(built on top of SDK)

- Azure IoT Hub
- Amazon IoT Core
- IBM Watson IoT
- Cloud Event Transformation
- Secret Retrieval Example

AVAILABLE

AVAILABLE

NEW!

# Device Services WG Update (7-Oct-20)

WIP: v2 API

- Final 2 PRs in review

Hanoi workpackage:

- 15 in backlog (-1)
- 1 new issue (-1)

Ireland scoping - preliminary

Next WG meeting October 12, includes presentation of CoAP device service

# Device Services - current/coming (as of 5/7/20)

## Open Source connectors (Current):

- Modbus (TCP/RTU) in Go
- Virtual Device in Go
- SNMP in Go
- MQTT in Go
- BACnet (IP & MSTP) in C
- ONVIF Cameras in Go
- REST in Go (NEW!)
- Grove in C

## Open Source connectors (Future):

- Bluetooth in C (summer 2020)
- OPC-UA in C (late 2020)

## Commercial connectors (Current):

- File Exporter in C
- BLE in C
- Zigbee in C
- GPS in C
- CAN in C
- MEMS in C
- EtherCat in C
- Profinet in C

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

## Commercial connectors (Future):

- EtherNet/IP in C (summer 2020)
- CanOpen in C (summer 2020)
- OPC-UA Pub/Sub in C (summer 2020)
- ONVIF in C (summer 2020)

# QA/Test WG Update (6th October)

- Postman blackbox test - all tests passing
- TAF blackbox test - all tests passing
  - Fixed issue
    - Issue [edgex-go#2702](#), Add Core Metadata v2 API Response Examples
    - Issue [device-sdk-go#555](#), Update V2 swagger file to consist with edgex-go
    - Issue [#187](#), implement core data V2 API Post Event test cases.
  - Working issues
    - Issue [#107](#), Create Core Metadata V2 API Test Cases
    - Issue [#137](#), Modbus scalability test - delayed with vacations & national holidays
    - Issue [#190](#), create smoke test for developer-script PR validation
    - Issue [#191](#), make the path of docker-compose files retrieval configurable.
    - Snap on TAF - encountered some issues, TAF demo slightly delayed

**Next QA/Test WG Call 10/13/20 Cancelled due to Ireland Pre-wire**

# Postman Blackbox Test Cases

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Non Security	Redis	1309	0	0	0
x86_64 / CentOS	Security	Redis	1339	0	0	0
arm64 / Ubuntu	Non Security	Redis	1309	0	0	0
arm64 / Ubuntu	Security	Redis	1339	0	0	0



# TAF Functional Blackbox Test Cases

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Non Security	Redis	79	0	0	0
x86_64 / CentOS	Security	Redis	79	0	0	0
arm64 / Ubuntu	Non Security	Redis	79	0	0	0
arm64 / Ubuntu	Security	Redis	79	0	0	0

# TAF Integration Test Cases

## Integration tests

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Non Security	Redis	6	0	0	0
x86_64 / CentOS	Security	Redis	6	0	0	0
arm64 / Ubuntu	Non Security	Redis	6	0	0	0
arm64 / Ubuntu	Security	Redis	6	0	0	0

## Compatibility tests

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Security	Redis	12	0	0	0
arm64 / Ubuntu	Security	Redis	12	0	0	0

# TAF Performance test

## Performance test Number Count

OS		DB	Total TCs No.	Failed TCs No. of Past Week	Failed TCs No. of This Week	Fixed TCs No.
x86_64 / CentOS	Non Security	Redis	10	1	0	1
arm64 / Ubuntu	Non Security	Redis	10	0	0	0

Jenkins Job: [performance-test](#)

# DevOps WG Update (10-07-2020)

## Pipeline Enhancements

- [#252](#) [Watching] Build Snaps natively on Ubuntu
- [#78](#) [In Progress] Implement Functionality to rebuild artifacts during release/code freeze
- [#260](#) [Backlog] CodeCov results not uploading
- [#261](#) [Backlog] Research best way to scan docker images pre release
- [In Progress] Misc pipeline library tech debt and bug fixes for git-semver.

## Other

- [In Progress] Update ADR10 and ADR07 to include changes for Snaps and GitHub releases
- [Complete] Geneva branch created for edgex-docs repo. Version 1.3 setup for Hanoi

**Next DevOps WG Call 10/08/20 Cancelled**

# Security WG Update (Oct 7)

- Previous Meeting: Sept 30
- Next Meeting: ???
- Security Board
  - 39 Done (0)
  - 5 In Review (0)
  - 1 In Progress (0)
  - 11 Backlog (+1)
  - 0 New (-1)
- Pending Hanoi Deliverables
  - Security Utility
  - Secure Kong Admin
  - Hardware assisted protection

# Outreach WG Updates (10/7/20)

## Certification Team

- Need volunteers: How-to guide when working with sample data
- Discussions on the workflow on how users join the Endorsement program

## Vertical Solutions Team

- 

## Marketing Team

- Evaluating changing Marketing meeting time from Tue 8AM Pacific to 9AM Pacific
  - Current cadence: Every other week. Next meeting Tue Oct 13th
- Kicked off planning for 2nd EdgeX topcoder challenge

# Core Working Group (10-7-2020)

- Current Status
  - Backlog: 10(-2)      In progress: 2 (even)      Done: 106(+15)
  - Bugs: 11 (-3)      Under review: 0 (-4)
- V2 API
  - Core data APIs
- Next call - 10/8/20 @ 10AM US/Central tomorrow



# Miscellaneous Issues/Topics

- Conventional Commits
  - WG chairs have lead for their repositories
- Request for procedure change: Vote out on TSC member has unilateral rights to request committer without further TSC member approval
- Hanoi Docs

# Ireland Planning Needs

- For pre-wire: architectural issues to *possibly* address
- Business topics
- unconference topics (training, demos, new ideas, etc.)
- WG leads to complete their scoping lists (what's under consideration)
- How to best get adopter / user feedback



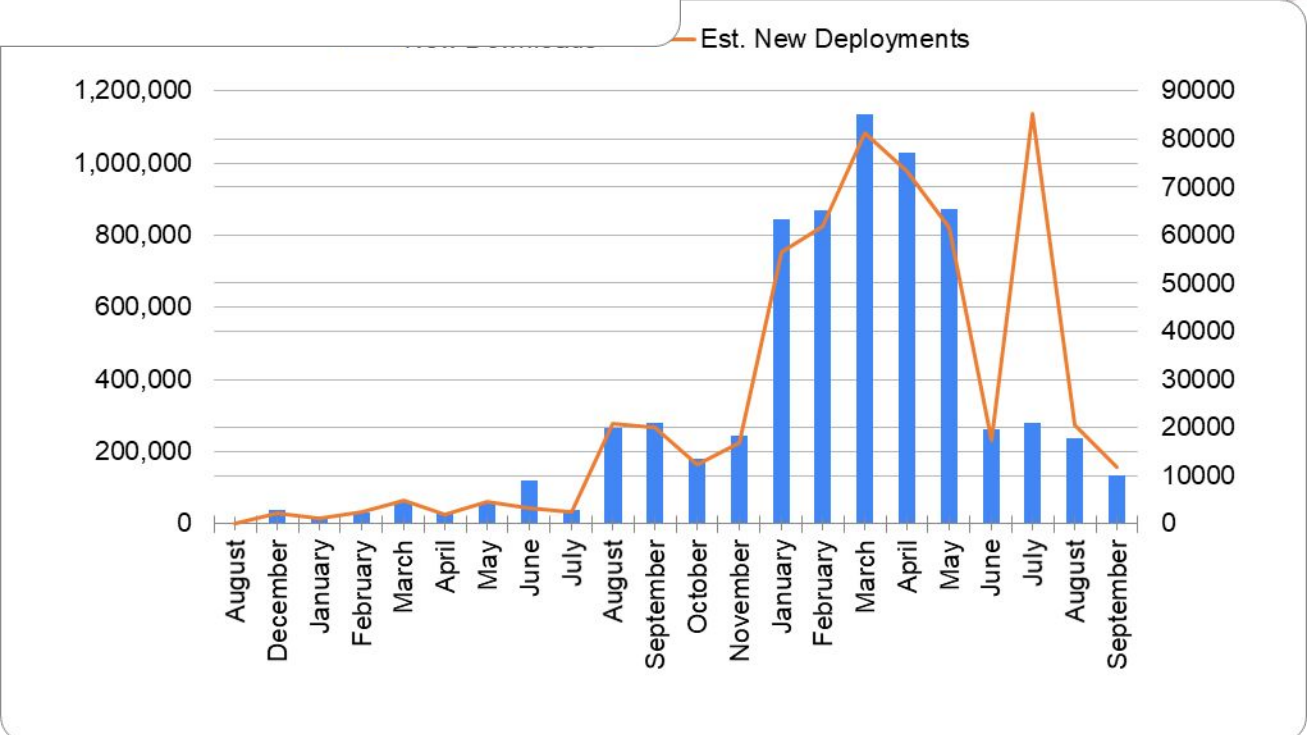
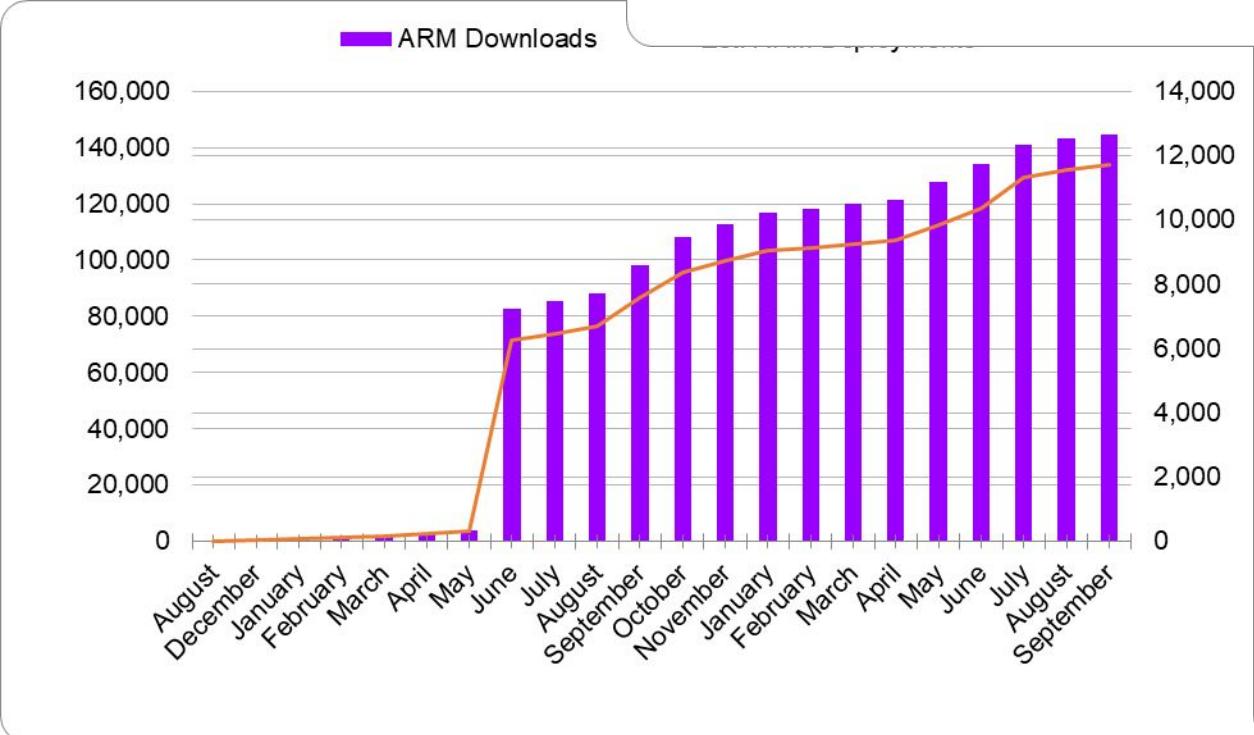
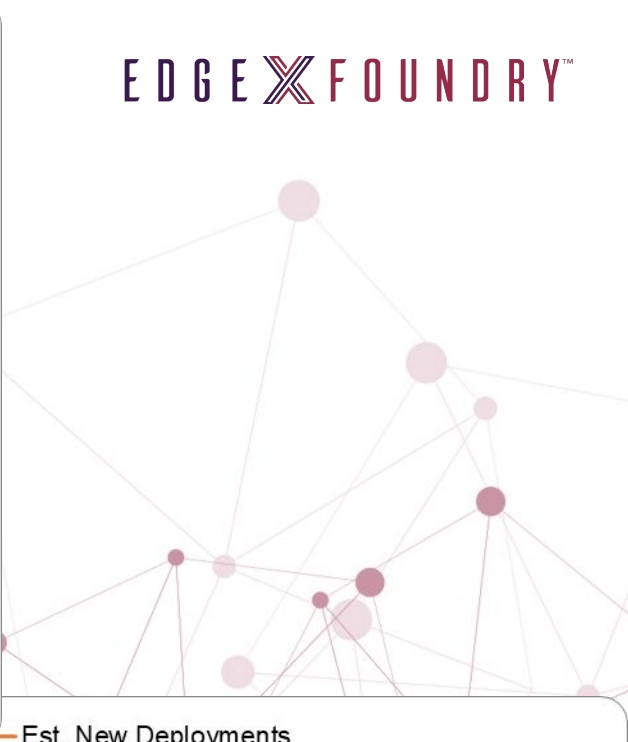
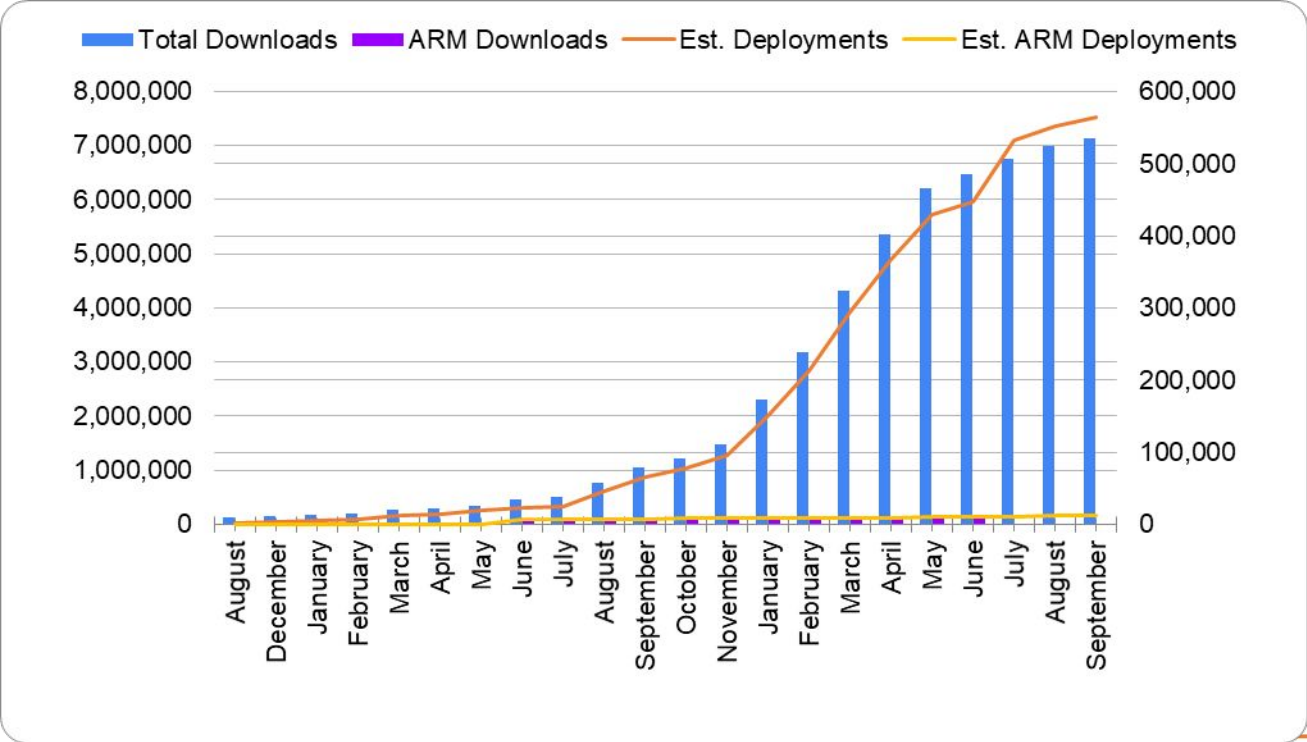
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## Monthly Dev Stats

# Docker Downloads

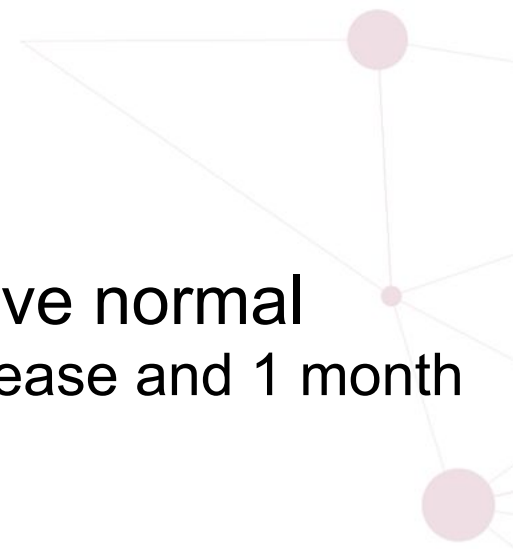
- Total Downloads: 7.1 million
- Estimated Deployments: 564K
- Estimated New Downloads: 134K
- Estimated New Deployments: 12K





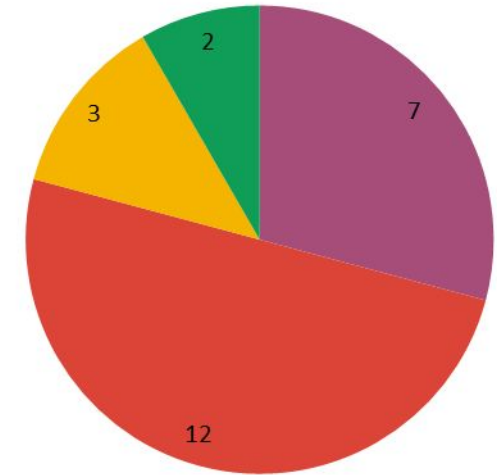
# Contributions/Authors

- 33 active repositories
- 32 Contributors
  - Back to normal or a bit above
  - Summer vacations ended
- 6 new author
- 232 commits
  - Above normal
- 11407 LoC added
- Contribution levels at or above normal
  - Typical for this time of the release and 1 month before freeze



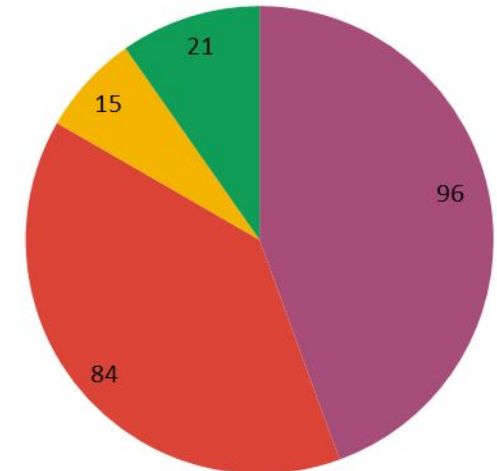
## Authors by Company

■ Intel ■ IoTech ■ VMWare ■ Unknown



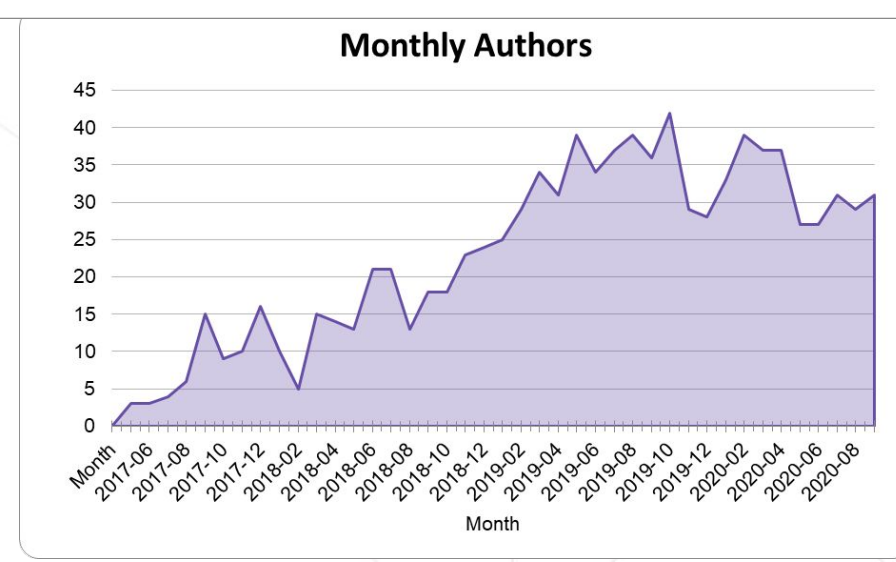
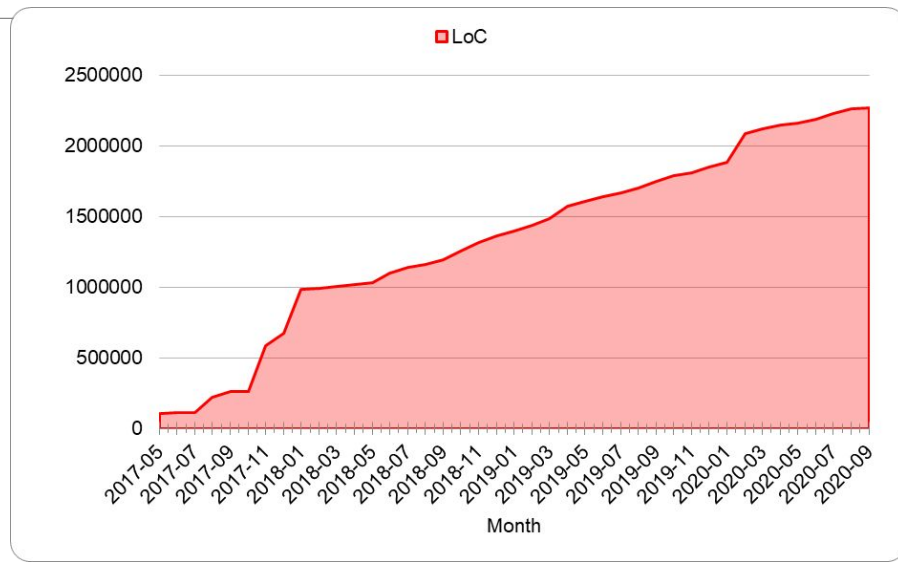
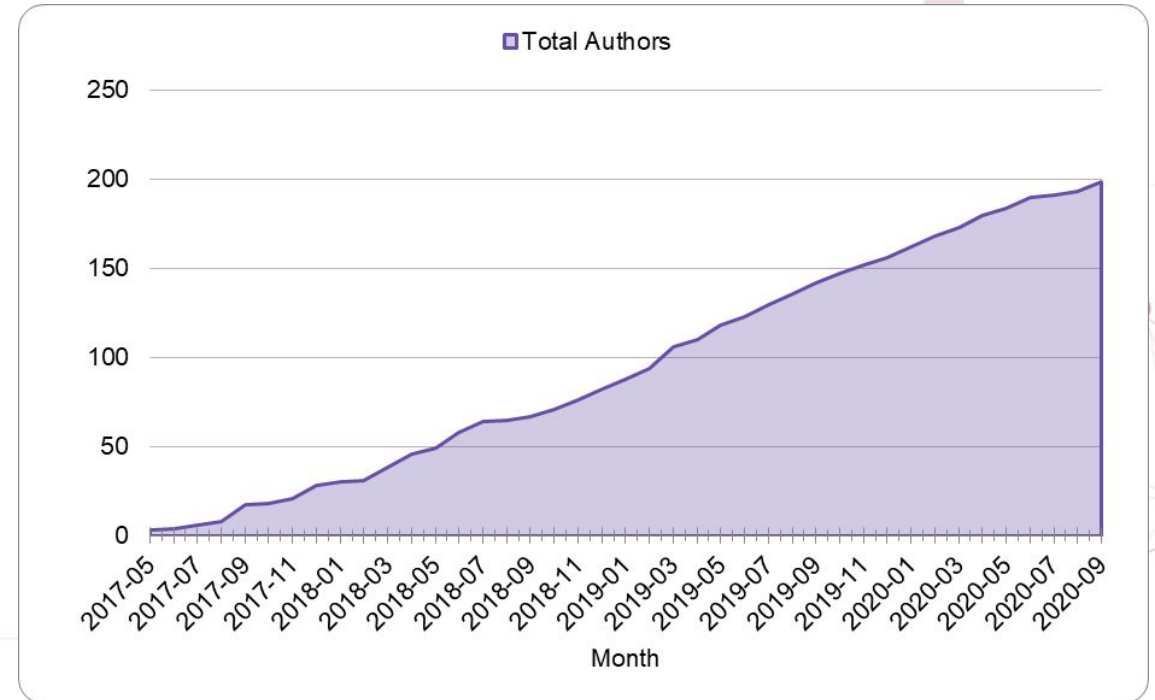
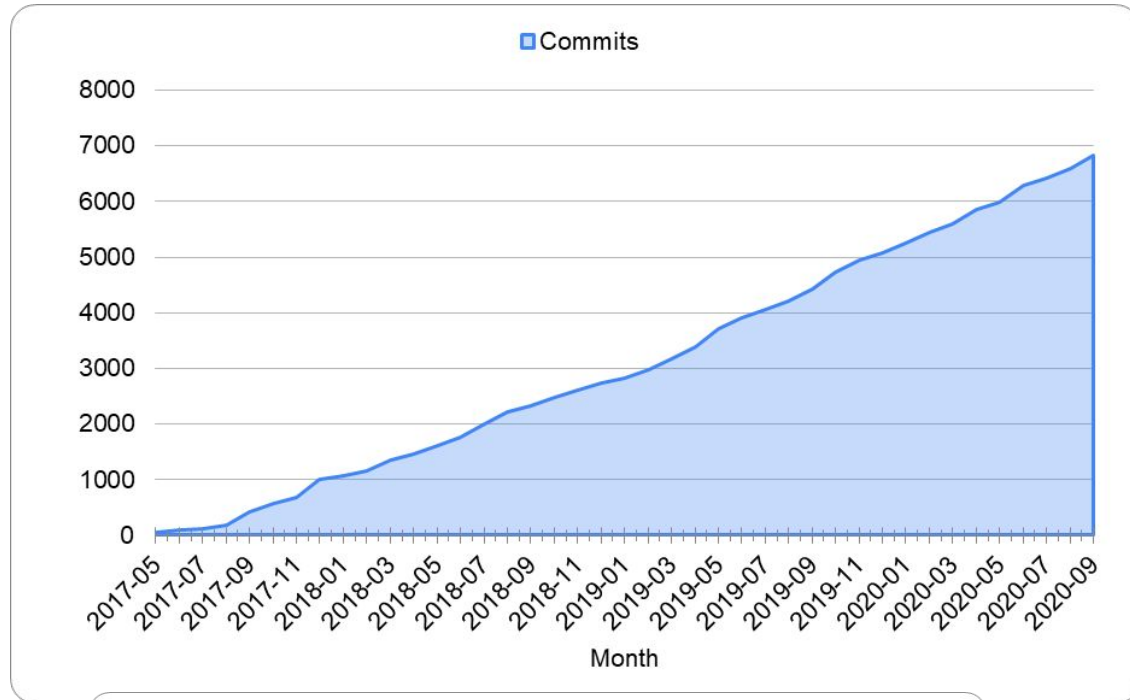
## Commits by Company

■ Intel ■ IoTech ■ VMWare ■ Unknown





# Code Stats





# Website (edgexfoundry.org) stats

- Jan - August: average ~4850 visits a month
- Sept: 5350 visits
  - Where from
    - ~45% US
    - ~25% China
    - ~5% UK
  - Referral
    - ~50% organic search
    - ~35% referral (baidu.com, github.com, lfedgex.org, wiki.edgexfoundry.org)
    - ~30% direct
  - Most hit pages
    - main page
    - get-started
    - version 1.2
    - Quick Start





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# Ireland Release Planning

formerly F2F meeting

# Pre Wire Topic List

Intent of the pre-wire discussion is

- prioritize (push some items from consideration for this release)
- assign any research duties for the full planning session around a topic

- V2 API, EdgeX 2.0, and LTS, and certification
- Upgrade path from v1 to v2 (especially around databases)
- Metrics / control plane data collection
- Timeseries database integration
- Remove value descriptor
  - Where do other elements go?
  - Need conveniences/syntax sugar around value descriptor “stuff”
  - Don’t want to get device provide and week through it for VD stuff
- Message bus between DS and core
- Collapse of services
  - Example: single core
- Core data vs support data
  - Device service to appl service via message bus 1st
  - Device service to core data via message bus 2nd
  - Core data changed to support data 3rd
- What do we do with command service? Ever be more than a proxy?
  - Combine with Metadata?
  - Should we separate it with its own DB (separate concerns)?
  - How to provide commands North?
- Distributed services
  - Beyond DS distribution
- Next level of performance/scale testing
  - Operational guidance
- Sys Management list of default services (also an issue with security proxy setup)
- Better way to tag or describe what’s in the binary payload
- Should we be archiving artifacts (Docker images)?
  - Other organizations do not
  - New Docker rules will likely not help here
- Message order in and out of EdgeX services is non-deterministic
  - Is this ok?
  - Would users need messages to stay in order through all the services?
- Alternate language support (Chinese)
  - Made a request of LF for documentation translation
  - Chinese teams ready to help
  - CLI? UI?

# Pre-Wire Scoping

- WG Chairs - be prepared to cover you preliminary scoping targets
  - What might land in Ireland (error on the side of inclusion for this meeting)
  - What are high priorities and what are dependencies
- Most work groups have a tentative scope outline
- Most work groups have reasonable expectations
  - Everyone looking at the impact of V2 to what can be delivered
- Preliminary scoping discussions probably just a removal of some items as lower priority and move to the backlog (“NGH in Ireland”)

# Register NOW

- See Wiki for details:  
<https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=52330532>
- Initial agenda deck should be available sometime next week
- Registration sight now available - please register (its FREE)
  - <https://events.linuxfoundation.org/edgex-foundry-ireland-release-planning-conference-fall/>

# Ireland Release Planning Meeting

## Dates

- **Architect's PreWire Meetings: Oct 13-14 (2 x ½ days)**
- Hanoi Freeze: Oct 28th
- Ireland Planning Meeting: Nov 9-13th (5 x ½ days)
- Hanoi Release: Nov 18

# Proposed Schedule

Day 1: Business Topics and Architecture Tee up

Day 2: Cadence & Process Check, Architecture Topics

Day 3: Ireland Scoping Part 1

Evening time to accommodate APJ

Day 4: Ireland and beyond Scoping Part 2 & Adopter reaction

Day 5: lessons learned, training and “un-conference”





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Hanoi release deliverable tracking



# Hanoi Progress - Good Progress/Looking to deliver

- Go 1.15
- V2 API core data, DS, App Srv
- Allow DS to be distributed
- SSH tunnel how to guide
- Abstraction and pluggable mechanism to provide generation of secrets
- Design secure subsystem launch/bootstrap dependencies
- Design enablement of Vault PKI secret engine
- Address container security
- Vetting of 3rd party packages
- Design of HRT
- DevOps perf improvements
- Restructure of compose files - *stretch*
  - overrides/remove dupes
- Snap build improvements
- CLI v 1.0
  - Roadmap for CLI
- Roadmap for UI
- Gateway identification (tagging at export)
- Drools removal
- Kuiper enhancements
- LLRP RFID DS - *new*
- TAF blackbox testing
- Performance metrics testing
- Scalability (modbus) testing for user guidance - *stretch*
- Endorsement program
- Web site refresh
- Topcoder challenge, next steps
- Overlay network how-to - *stretch*

# Hanoi Progress - TBD / delivery not assured

- V2 API for core data (other core services a stretch)
- Msg bus between DS and appl srv (design only) - *impl stretch*
- Deployment / orchestration options (Kubernetes)

# Hanoi Progress - Delivery in jeopardy

- Explore collapse of core command and metadata - *stretch*
- SMA - Service list fix
- ADR 0006 - metrics collection
- Secure message bus connection
- Secret Provider Abstraction
  - go-mod-secrets abstraction
- DS data filter design
- Protect the device fro harmful commands
- Bound checking design - *stretch*
- Service mesh how-to - *stretch*
- Secure Kong admin port with TLS
- Bluetooth in C
- OPC-UA in C
- Binary data for device writes (new)

# Hanoi Progress - Deferred to next release

- Remove Mongo
- Remove Logging



# Upcoming Events & Dev Advocate Update

Aaron's updates

## Call for Speakers for Co-located events

1. [Edge Computing World](#) on October 20, 2020. Target speakers is are current or potential consumers of code from any LF Edge project. These can be end user organizations or OEMs that build solutions for their own customer base. The submission deadline for this session is October 6 and the agenda will be finalized on October 9.
- 2.

**For more information visit the event wiki:**

<https://wiki.lfedge.org/display/LE/2020+Fall+Kickoff+Virtual+Event+Series>



## Upcoming External Events

- › [Edge Computing World](#): 12-15 October, 2020 - Virtual
  - › [Open Source Summit Europe](#): 26-29 October, 2020 - Virtual
  - › [KubeCon/CloudNativeCon North America](#): 17-20 November, 2020 - Virtual
  - › [Open Source Summit Japan](#): 2-4 December, 2020 - Virtual
  - › [IoT Solutions World Congress](#): 11-13 May, 2021 - Barcelona, Spain
- 
- › Discussions around upcoming events occur in the LF Edge Outreach Committee
  - › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>





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Thank You