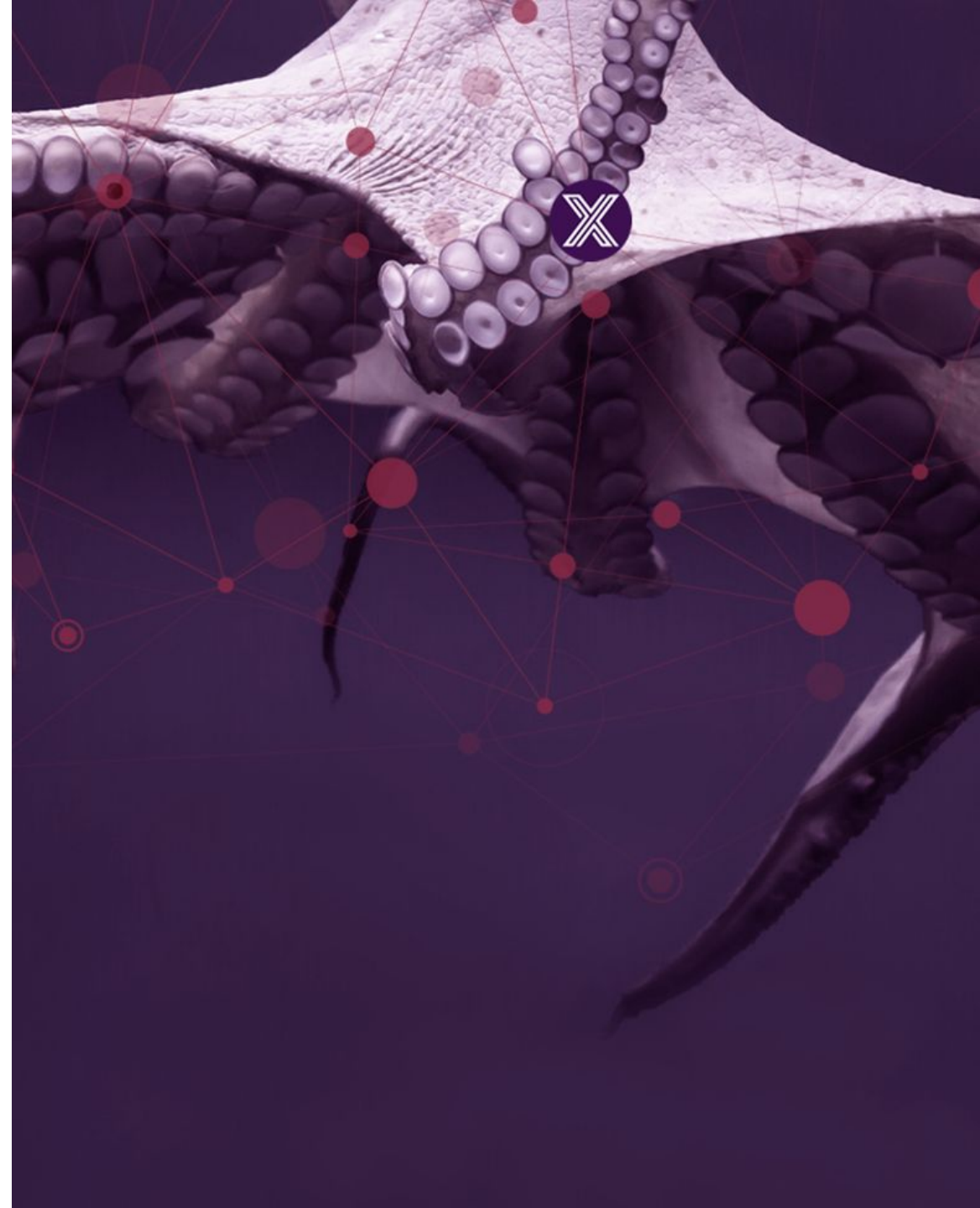


EDGE X FOUNDRY™

TSC Meeting

May 6, 2020



LF Antitrust Policy Notice

EdgeX Foundry meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.

Examples of types of actions that are prohibited at EdgeX Foundry meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at <http://www.linuxfoundation.org/antitrust-policy>. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Updegrove LLP, which provides legal counsel to the Linux Foundation.

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>
Intel	Camilo Dennis	camilo.a.dennis@intel.com
IOTech	Iain Anderson	iain@iotechsys.com
Intel	James Gregg	james.r.gregg@intel.com
IBM	Joe Pearson	joe.pearson@us.ibm.com
IOTech	Keith Steele (TSC Chair)	keith@iotechsys.com
VMware	Malini Bhandaru	mbhandaru@vmware.com
Intel	Mike Johanson	michael.johanson@intel.com
IOTech	Robin Chattergee	robin@iotechsys.com
Beechwoods	Rodney Hess	rodney@beechwoods.com
RSA	Tingyu Zeng	tingyu.zeng@rsa.com
Canonical	Tony Espy	espy@canonical.com
Dell	Trevor Conn	Trevor.Conn@dell.com
Dell	Michael Estrin	m.estrin@dell.com

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

- Geneva Release
- WG Updates
- EdgeX Org 2.0
- LF Edge Positioning White Paper & Presentation
- April #s
- Upcoming Events (Dev Advocate)



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LF Edge Positioning White Paper & Presentation

Links to Material

Whitepaper Working Draft:

https://docs.google.com/document/d/1QRc5u6dKEgEMjQ6U7HPtaAPq9zorb7s_rzclP3h3IVs/edit?usp=sharing

Diagrams:

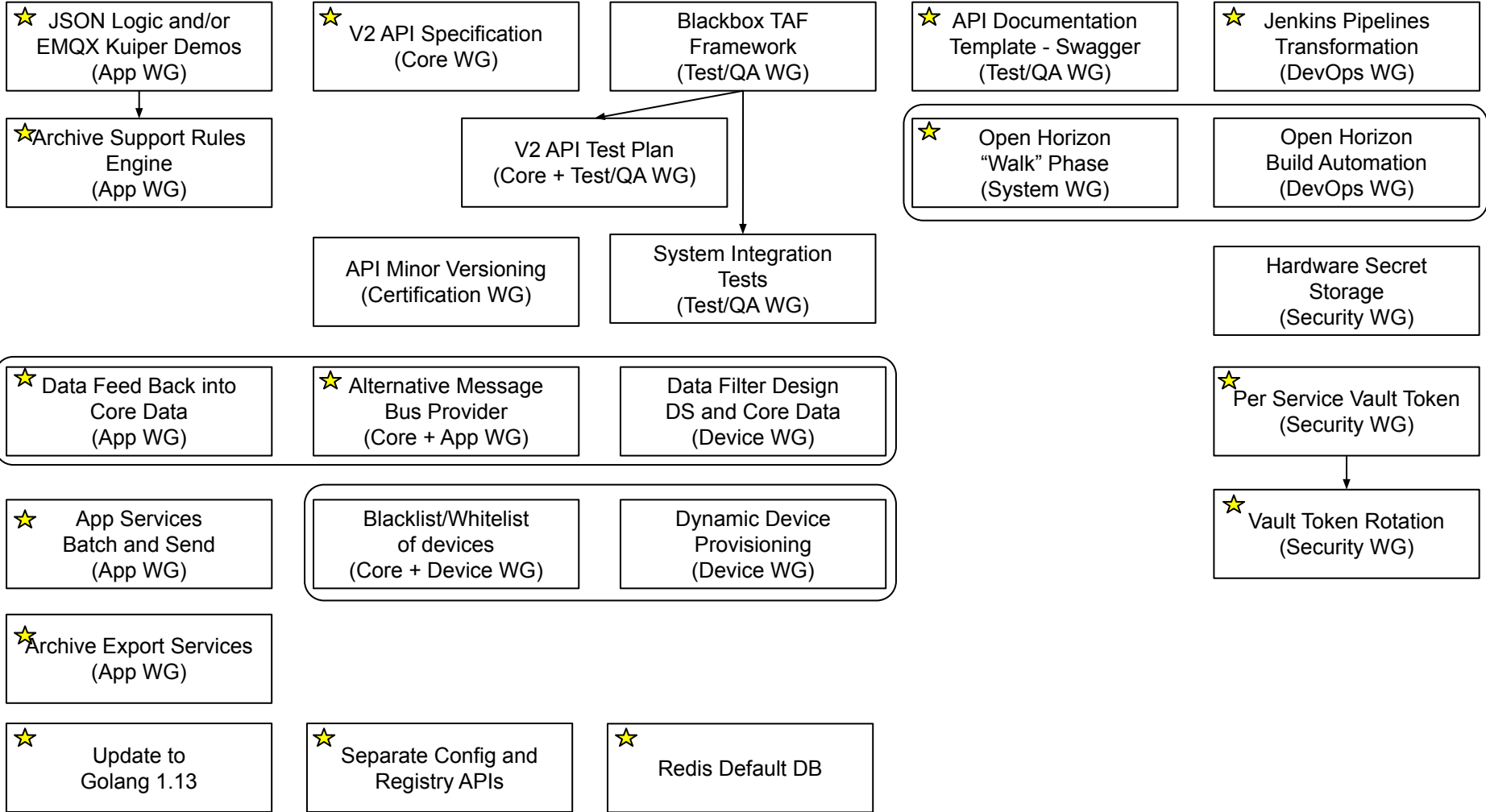
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Geneva Release & Release Czar readout

EdgeX Geneva Release Overview

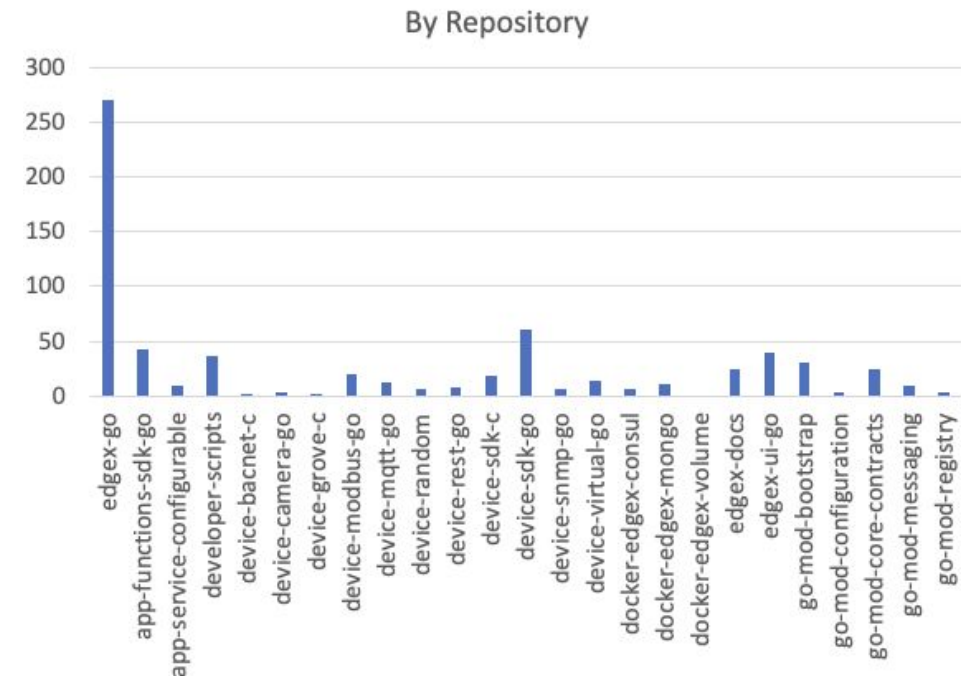
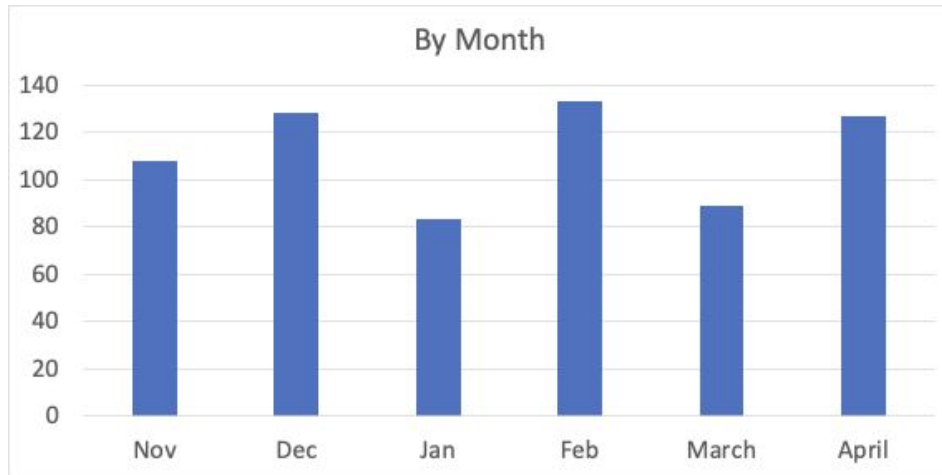


Release Overview

Release Artifact Status

- Docker Images are staged in Nexus for release
- Snap channels are created for Geneva

Closed Issues - 668 Overall



Geneva Release Items (as of planning meeting)

Outstanding PR's for Geneva

- Snaps – has bulk of changes; 1 PR to update Kong : #2534 pending review/merge
- Mongo Deprecation; edgex-go to use go-mod-messaging latest
- Dead code from config seed removal
- Swagger file edgex-go PR – #2533 (DONE)
- Andre's PR (#2501)

Geneva Release Items continued

Known Bugs Still Being Worked

- Issue #2527 – endpoint on event (core data); list with unlimited readings can be big and crash core data
 - Exploring setting max response size
 - Was there an older issue in Fuji with Mongo on this?
- Issue# 190 - Restriction of ports on localhost in compose file **DONE**
- Go-mod-bootstrap
 - Needs to be worked through using services
- Couple of failed test cases
 - Issue #2521 - edgex-go – core data (unstable situation; doesn't fail always) **DONE**
 - Issue #2524 – logs when support notification not running
 - Support scheduler – crashes when remove schedule #2520
 - #442 (blackbox test repository) – security enablement test on ARM system (time out error??) **DONE**

Release notes additions

Mongo deprecation

Redis memory suggestions???



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Work Group Updates

Chairs

Working Group Chair Updates

- Around the horn
 - Core/Supporting - Trevor Conn
 - Applications - Mike Johanson
 - Device Services - Iain Anderson
 - Test/QA - Robin Chatterjee
 - DevOps - James Gregg
 - Security - Malini Bhandaru and Tingyu Zeng
 - System Management - Michael Estrin
 - Open Horizon - Joe Pearson
 - Certification - Rodney Hess
 - Vertical Solutions - Camilo Dennis and Henry Lau
 - Updates from Release Czar - Lisa
 - Updates from Dev Advocate - Aaron

Core Working Group (6-May-2020)

- Not much activity until Geneva release occurs
 - Monitoring issues for bugs/triage
- Support-Logging deprecation
 - Service has been commented out of docker-compose
- Core WG call @ 10AM US/Central tomorrow
 - Call for agenda items. Items so far include
 - Configuration of Redis Memory Limit (questions from F2F)
 - Geneva Milestone items review
 - Kanban review

Applications WG Update (5/6/20)

Bug Fixes:

- ARM intermittently failing unit test
- Configuration changes not being detected properly
- JSONLogic rule was only running once
- Version Check and DB Connection now in a retry loop
- Credentials check in database config for backwards compatibility if not in [InsecureSecrets]

Manual Testing:

- Completed:
 - HTTP export Store and Forward in secure mode for DB access. Verified DB access as expected
 - HTTP export with secrets running in secure mode. Verified AuthToken placed in header as expected
- WIP:
 - MQTT export with secrets running in secure mode with username/password mode

Work In Progress:

- Documentation update for edgex-docs
- Allow overwrite of profile/servicekey name to allow for duplicated

- App Working Group Meeting held on Fridays @ 9AM PDT
 - Next meeting May 8th, 2020

Application Services

Functions (built into SDK)

Current/Complete:

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

Features

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

Reference/Example App Services (Fuji)

(built on top of SDK)

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

Device Services WG Update (6-May-20)

- Go SDK bugfixes - move to 1.2.1 today
 - Device services to be updated accordingly
- device-grove-c and device-bacnet-c to be released post-Geneva

Device Services - current/coming

Open Source connectors (Current):

- Modbus (TCP/RTU)
- Virtual Device
- Grove C - ARM only
- SNMP
- MQTT
- BACnet (IP & MSTP)
- ONVIF Cameras
- REST

Open Source connectors (Future):

- OPC-UA (post-Geneva)
- GPS
- Bluetooth (post-Geneva)
- BLE in Go for Thingy 52 (Ian Johnson)

Commercial connectors (Current):

- GPS
- MEMS
- Zigbee
- Bluetooth
- EtherCat
- PROFINET

Commercial connectors (Future):

- CAN SocketCAN, CANopen
- EtherNet/IP
- Siemens s5/s7

Test/QA WG Update (06-05-2020)

- Blackbox Test

- Issue opened for failed testcases
 - Issue [edgex-go #2526](#), Query core-command device taking long time on first execution (workaround in test script and need to discuss whether we should fix it in Hanoi)
- Fixed issues
 - Issue [#442](#), to rearrange the order of testsuites.
 - Issue [#441](#), to Update provisionwatcher testcase for security-enable testing
 - Issue [#445](#), to Add Get core-command device test with 45 seconds timeout
 - PR [#448](#), refactor: Remove settings no longer needed on app-service-configurable
 - Issue [edgex-go #2521](#), ARM64 Redis: event socket hang up on Jenkins blackbox-testing

- TAF

- **PR [ci-build-images#129](#), to reduce the size of compose image is waiting for reviewing and merging.**
- Integration/functional test scenarios ([Introduce slide](#))
 - PR edgex-taf [#56](#) to add robot files are ready for review
- Fixed issues
 - Issue [issue #89](#), to change the keyword which using to append docker-compose file

- New Business

- Branch out blackbox test repository for Geneva
- Modify the test execution schedule

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	Mongo	1312	0	0	0
		Redis	1312	0	0	0
x86_64 / CentOS	Security	Mongo	1342	1	0	1
		Redis	1342	1	0	1
arm64 / Ubuntu	Non Security	Mongo	1312	0	0	0
		Redis	1312	2	0	2
arm64 / Ubuntu	Security	Mongo	1342	5	0	5
		Redis	1342	7	0	7

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	Mongo	52	0	0	0
		Redis	52	0	0	0
x86_64 / CentOS	Security	Mongo	52	0	0	0
		Redis	52	0	0	0
arm64 / Ubuntu	Non Security	Mongo	52	0	0	0
		Redis	52	0	0	0
arm64 / Ubuntu	Security	Mongo	52	0	0	0
		Redis	52	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	Mongo	4	0	0	0
		Redis	4	0	0	0
x86_64 / CentOS	Security	Mongo	4	0	0	0
		Redis	4	0	0	0
arm64 / Ubuntu	Non Security	Mongo	4	0	0	0
		Redis	4	0	0	0
arm64 / Ubuntu	Security	Mongo	4	0	0	0
		Redis	4	0	0	0

Compatibility tests

x86_64 / CentOS	Non Security	Mongo	12	0	0	0
		Redis	12	0	0	0

DevOps WG Update (05-06-2020)

Geneva

- **Jenkins Transformation to Pipelines**
 - Work completed transformation to Jenkins Pipelines
 - git-semver bugs fixed
 - Jenkins build issues on 05/04/2020
 - Root cause due to ISV making changes to an endpoint - FIXED by Eric Ball / LF - Thank You!

Hanoi

- **Performance Optimizations**
- Build Optimizations for edgex-go
 - Explore completed by Ernesto Ojeda with observable performance improvements in the build time
 - Leverage Docker and Docker Compose within the Pipeline along with caching of the layers
 - DEMO planned for next DevOps WG meeting
 - Explore on use of Kaniko as a build container - Completed with decision it's not for consideration with Linux Foundation infrastructure due to requirement for Kubernetes
- Community Bridge Update
 - Several new feature requests submitted in support of the explore work discussed in Hanoi Planning F2F - Security WG
- LFTools / Sigul latest version that supports Python 3.x
 - Need input from LF on alternative signing tool

Next DevOps WG Meeting 05/07/2020 @9:00AM PST

System Management WG Update (May 6, 2020)

- No meeting this past week (May 1st)
- Next meeting: Friday, May 8th @ 10AM CST
 - No agenda items -- please contact me if you have a topic to discuss (m.estrin@dell.com or @michaelestrin on Slack)

Open Horizon Integration Update (4/22/20)

- Nothing new since previous week
- Meetings will resume May 11th



Security WG Update (05-06-2020)

- Geneva release (200 items done, 2 items in progress/review, 0 items backlog)
- SIR team update - No major issues found
- Security WG meeting
 - no agenda items

Certification WG Update (5-4-20)

- EdgeX “Endorsement” program
- Diving down into what it means, how we want to accomplish it, and... getting sign-off on an official name
- Reviewing [PR-139](#) in EdgeX-docs
- Next meeting is Monday, May 11th, 9 a.m. PDT

Vertical Solutions WG Update (May 5, 2020)

- Next meeting: May 12, 2020, 10:00am PST
 - Guest speaker: RFRain's CEO to present insights/learnings from driving an ecosystem for RFID, standards and opportunities with EdgeX
 - Topcoder Ideation Challenge results
- China project: <https://wiki.edgexfoundry.org/display/FA/China+Events>
 - Apr 24: 2:00pm to 6:00pm China time, online meetup
 - Talks by VMWare, Linux Foundation, Intel, IOTech, EMQ, H3C, Thundersoft, JD.com, etc.

Marketing update (5/6/20)

- Continue to drive Website project with El Roboto (3rd party)
 - Folder with key documents milestones and information at the Marketing WG wiki <https://wiki.edgexfoundry.org/display/FA/Marketing+WG>
- Topcoder challenge closed
 - <https://www.topcoder.com/challenges/3011>
 - 130 participants and a total of 28 submission
- Starting asset creation and planning for Geneva Release
 - PR
 -

Miscellaneous (Jim)

- EdgeX 2.0 Org proposal
 - Doc on the [Wiki](#) and on Slack (on TSC channel)
 - Additional comments?
 - Ready for a vote?
- Mike J suggestion

After digesting this proposal and reflecting on some of the challenges with cross-cutting concerns and how there are still some issues that exist today that I don't yet see being addressed, I propose that we require the role of the At-Large TSC members to be the voice and driving force behind WG chairs to ensure they are aware of things that they need to be responsible for at the "At-Large" level. I'm not suggesting the At-Large members do any sort of implementation, the WG Chairs remain responsible for their slice of the pie of the cross-cutting concern, nor am I suggesting another workgroup be added to the organization. Simply that there be a central point of contact that is surfacing cross-cutting concerns as they are created as well as ensuring the backlog/or issues are presented to each WG that need the combined effort of all groups. In the past we have said that the WG chairs are to attend each others WG to accomplish this issue - however that hasn't seemed to be working and additionally it can create very different views of what needs to be accomplished. For clarity, I am referring to tasks required that may arise out of Test/QA, DevOps, security, potentially the edgex-cli and other aspects of Developer/User Experience in the future that no single WG would be solely responsible for.

Misc

- Hanoi planning conference
 - Wrap up on [Wiki](#) and referenced on Slack
 - Corrections to the decisions/actions/scope welcome
- EdgeX elections
 - Interest in running? Please let Brett P, Jim or Keith know
- April numbers



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Work Group Updates

Chairs

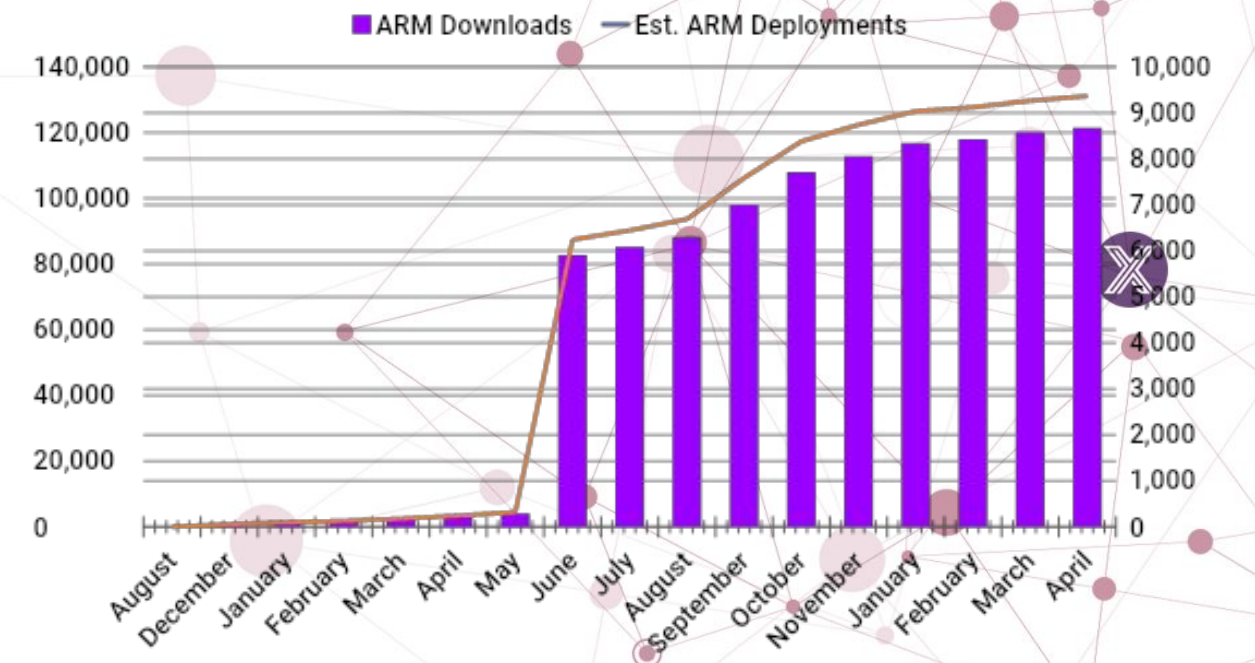
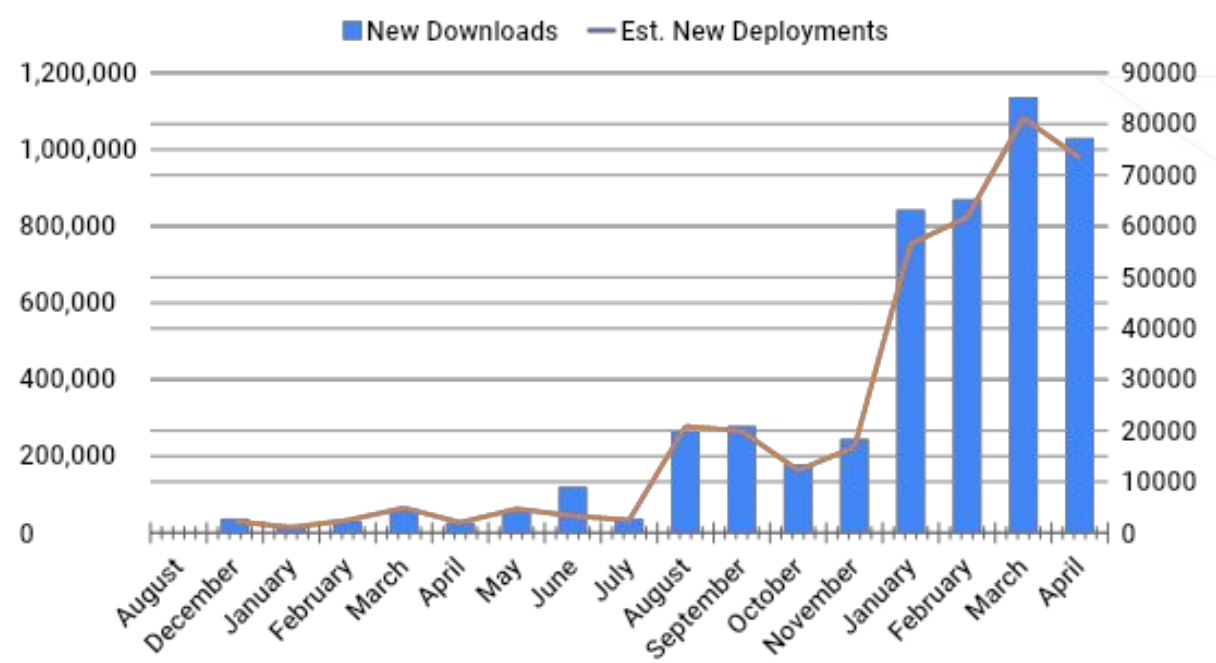
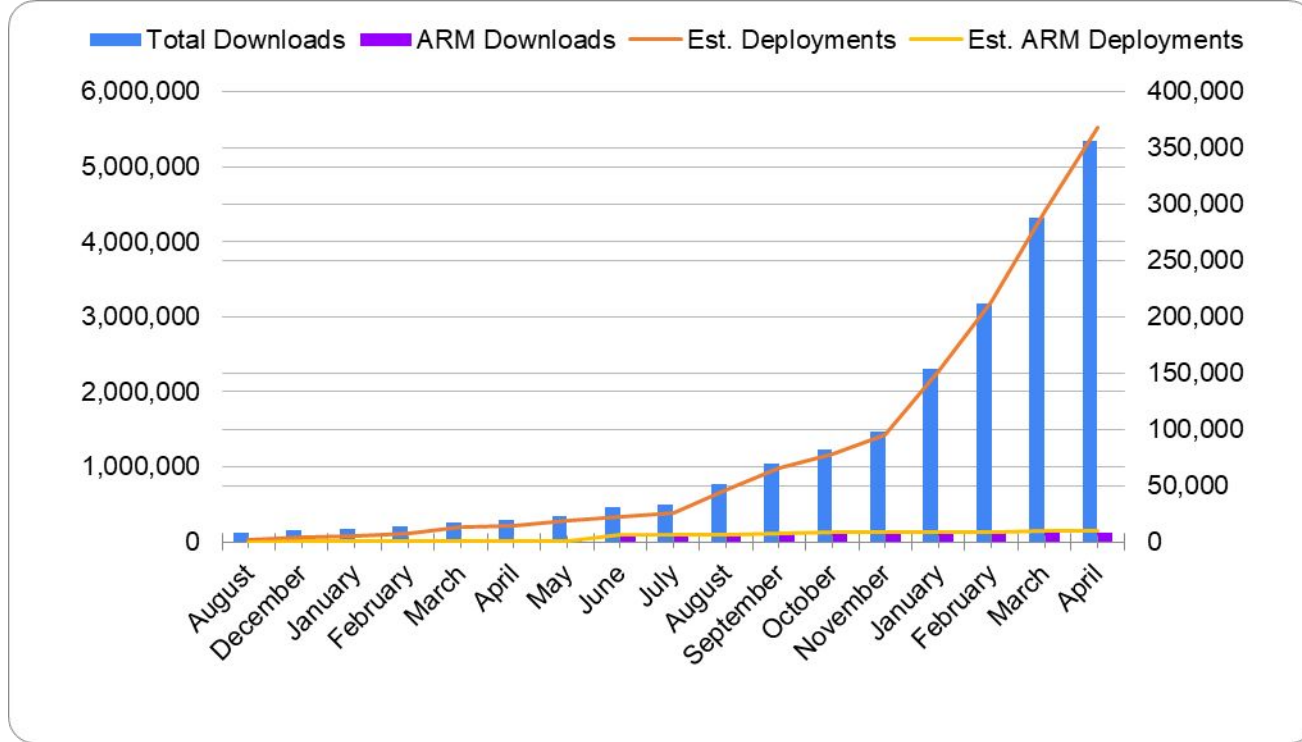


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April's Numbers

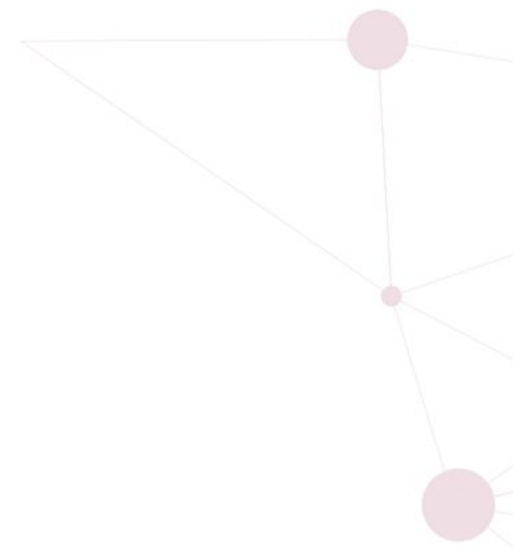
Docker Downloads

- Total Downloads: **5.3 million**
 - 24% growth since last reported in Mar 2020 (36% last month)
- Estimated Deployments: 366K
- Estimated New Downloads: 1.03M
- Estimated New Deployments: 73K



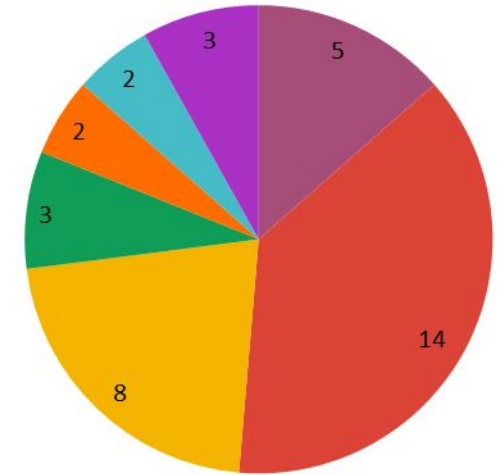
Contributions/Authors (Apr 2020)

- 25 active repositories in April
- 37 Contributors Mar (1 more than Mar)
- 7 new authors (4 more than Mar)
- 229 commits in Apr (level not seen since 2019)
- 24873 LoC added in April



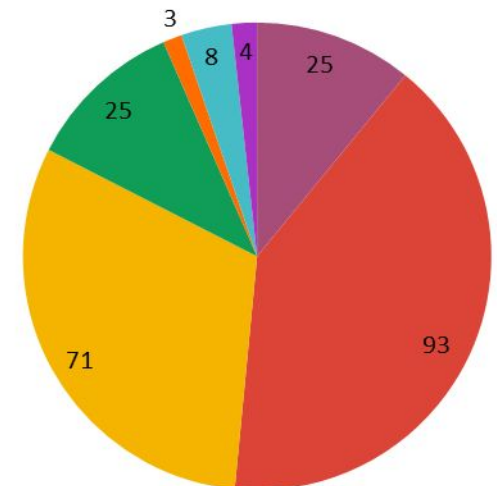
Authors by Company

■ Dell ■ Intel ■ IoTech ■ VMWare ■ Canonical ■ Redis ■ Unknown



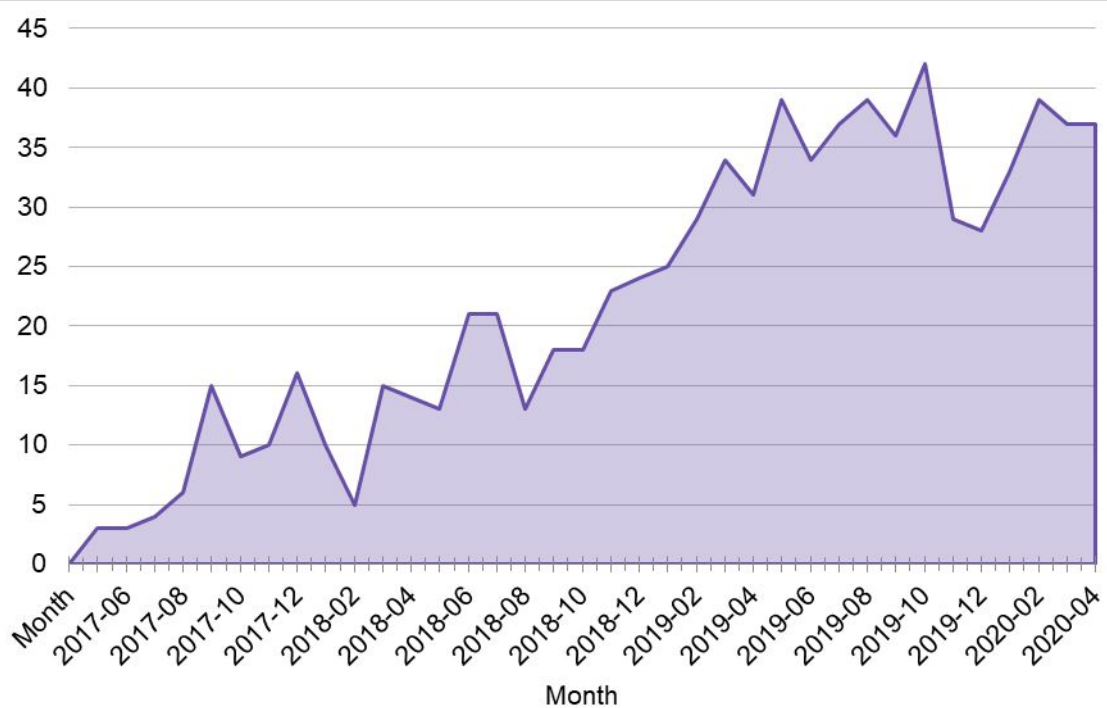
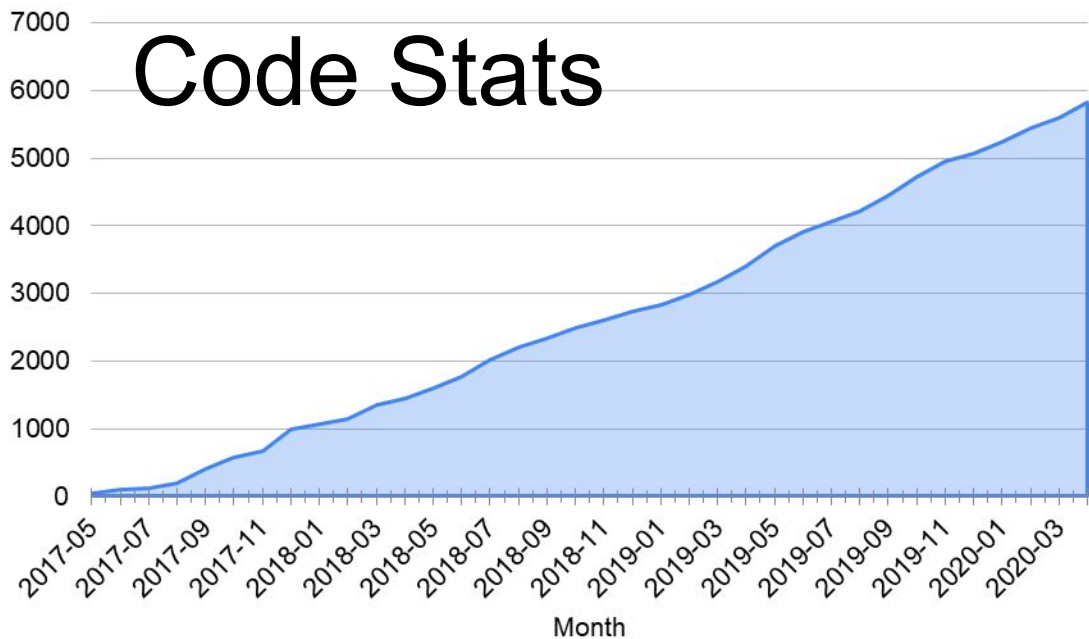
Commits by Company

■ Dell ■ Intel ■ IoTech ■ VMWare ■ Canonical ■ Redis ■ Unknown

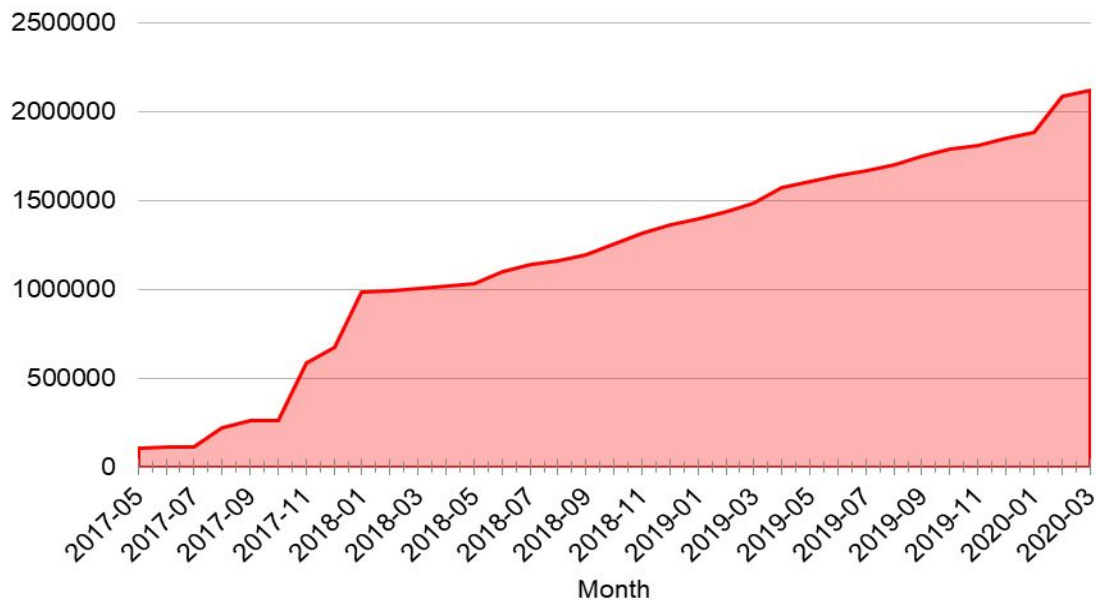


Code Stats

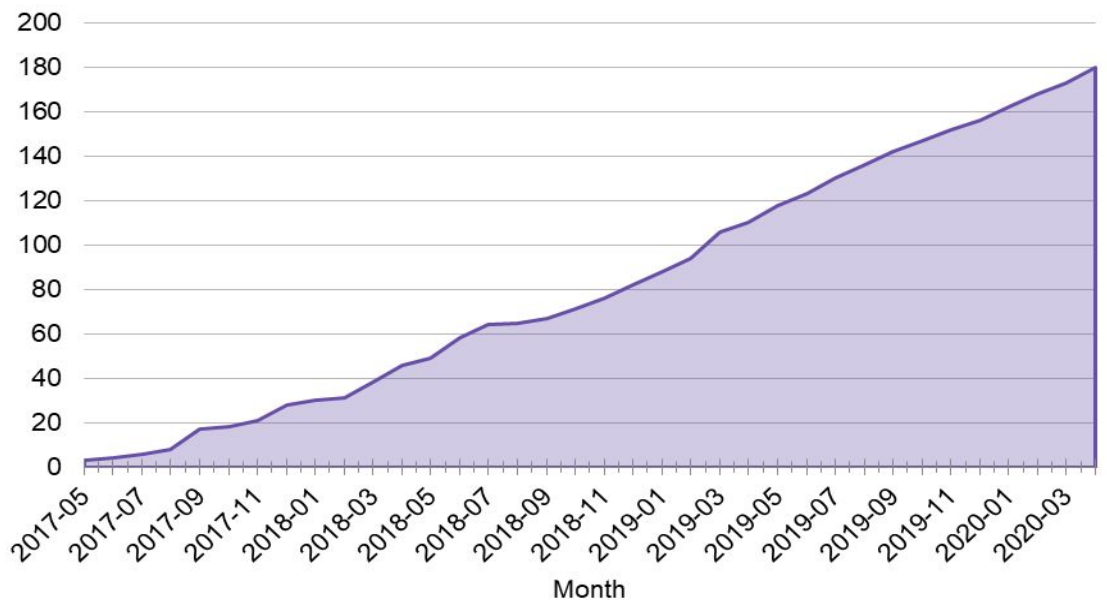
Commits



LoC



Authors





Upcoming Events & Dev Advocate Update

Aaron's updates

Upcoming External Events

- › [RedisConf2020](#): 12 May - 13 May, 2020 - Virtual
 - › EdgeX Foundry project will be featured at the RedisConf2020 Takaway event
- › [Open Source Summit North America](#): 29 June - 2 July, 2020 - Virtual
- › [IIOT World](#): 30 June - 1 July, 2020 - Virtual
 - › Arpit Joshipura: "Uniting the Edge for Tomorrow's Demands."
 - › Jim White: "Using Open Source Technology to Manage IoT/Edge Solutions."
- › [Open Source Summit Japan](#): 15-16 September, 2020 - Tokyo, Japan
 - › CFP Open: <https://events.linuxfoundation.org/open-source-summit-japan/program/cfp/>
- › [Open Networking & Edge Summit North America](#): 28-29 September, 2020 - Los Angeles, CA
 - › [ONES Unconference Track](#)
- › [Open Source Summit Europe](#): 26-28 October, 2020 - Dublin, Ireland
 - › CFP Open: <https://events.linuxfoundation.org/open-source-summit-europe/program/cfp/>
- › [IoT Solutions World Congress](#): 27-29 October, 2020 - Barcelona, Spain
 - › Call for Testbeds Open: <https://www.iotsworldcongress.com/activities/testbeds/>
- › [Open Networking & Edge Summit Europe](#): TBD Q4, 2020 - Antwerp, Belgium
 - › CFP Open: <https://events.linuxfoundation.org/open-networking-edge-summit-europe/program/cfp/>

- › Discussions around upcoming events occur in the LF Edge Outreach Committee
- › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>

LF Edge Webinar Series

- › EdgeX Foundry
 - › [EdgeX Foundry 101: Intro, Roadmap and Use Cases](#)
 - › April 23 @ 9am PT
 - › Register for the Webinar at:
https://zoom.us/webinar/register/4515850788014/WN_xCd6YPjEQrCwLiFhBWPkug

- › Akraino Edge Stack
 - › [Your Path to Edge Computing with Akraino Edge Stack](#)
 - › Held Thursday, April 2
 - › On-demand recording available at: https://zoom.us/webinar/register/WN_Zjdo4-5fTQSlqH7pL8iHrQ
- › More to follow...

Upcoming Project Events

- › [EdgeX Foundry Tokyo Virtual Meetup](#): 12 May, 2020 - Virtual

- › Projects can add their events to this list by sending the Wiki page listing the information to info@lfedge.org



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Thank You