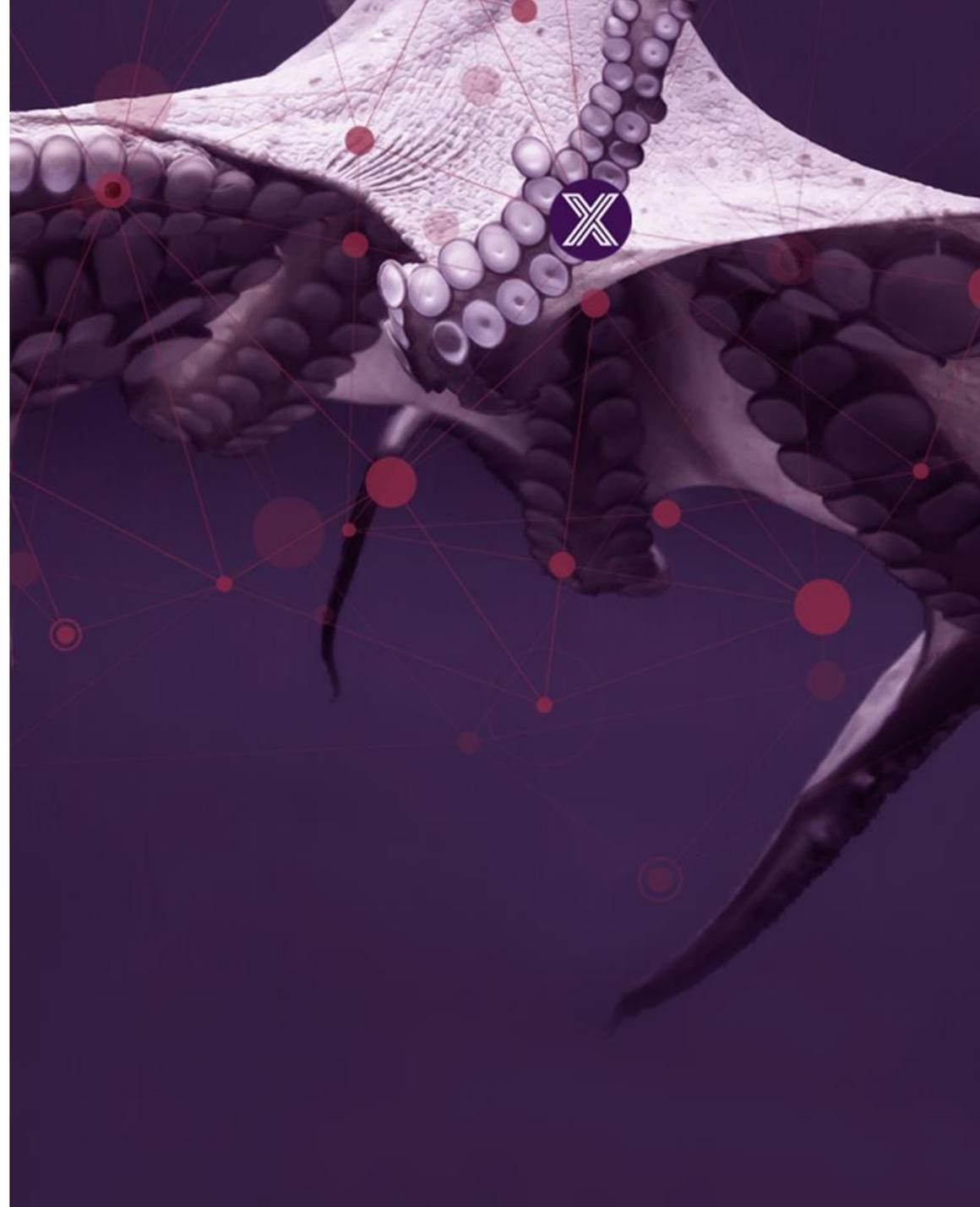


EDGE X FOUNDRY™

# TSC Meeting

December 4, 2019



# 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/zoomconference?m=mkFexUxEcqHlvXHw53PqScTDRvS48PiQ>

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

# TSC – Members Present Today

<u>Company</u>	<u>Name</u>	<u>Email</u>
Intel	Brad Corrion	<a href="mailto:bradley.w.corrion@intel.com">bradley.w.corrion@intel.com</a>
IOTech	Iain Anderson	<a href="mailto:iain@iotechsys.com">iain@iotechsys.com</a>
Intel	James Gregg	<a href="mailto:james.r.gregg@intel.com">james.r.gregg@intel.com</a>
Dell	Jim White (TSC Vice Chair)	<a href="mailto:james.white2@dell.com">james.white2@dell.com</a>
IBM	Joe Pearson	<a href="mailto:joe.pearson@us.ibm.com">joe.pearson@us.ibm.com</a>
IOTech	Keith Steele (TSC Chair)	<a href="mailto:keith@iotechsys.com">keith@iotechsys.com</a>
VMware	Malini Bhandaru	<a href="mailto:mbhandaru@vmware.com">mbhandaru@vmware.com</a>
Intel	Mike Johanson	<a href="mailto:michael.johanson@intel.com">michael.johanson@intel.com</a>
IOTech	Robin Chattergee	<a href="mailto:robin@iotechsys.com">robin@iotechsys.com</a>
Beechwoods	Rodney Hess	<a href="mailto:rodney@beechwoods.com">rodney@beechwoods.com</a>
RSA	Tingyu Zeng	<a href="mailto:tingyu.zeng@rsa.com">tingyu.zeng@rsa.com</a>

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

- Weekly arch decisions/actions summary
- WG Updates
- Fuji release - last call
- Hanoi TSC F2F planning
- Upcoming Events
- AOB



EDGE X FOUNDRY™

# Weekly Architecture/Action Summary

Per Phoenix F2F

# Architecture Decisions / Discussions Summary

No meetings last week due to Thanksgiving holiday

## Device Service

- Discussions on **automatic discovery/provisioning design/architecture now occurring**. See <https://github.com/edgexfoundry/device-sdk-c/issues/212>
- REST DS being reviewed. Expect WG approval next week and TSC vote starting next Wednesday

## Cert WG

- NSTR

Per our new process, WG must approve and then we have to allow review by TSC and vote by email. Just a heads up for now and you may want to start reviewing these if you have interest

## Test QA

- Discussion on where / how to organize TAF tests
- Decision made to use Swagger v3 (vs v2) for all API docs going forward

## System Management (from 2 weeks ago)

- CLI being reviewed for move from holding. Expect WG decision and TSC vote starting new week



EDGE X FOUNDRY™

# 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
  - Certification - Rodney Hess
  - Vertical Solutions - Brad Corrion
  - Updates from Release Czar - Lisa
  - Updates from Dev Advocate - Michael

# Core Working Group (4-Dec-19)

- Not much to report due to holiday and two full day planning sessions on the Dell side this week.
- All Core/Support service APIs redefined in OpenAPI 3.0
  - <https://github.com/tsconn23/edgex-geneva-api>
  - First pass only. Iterations will follow based on feedback.
- New holding repo -- go-mod-bootstrap
  - Action item from previous Core WG
  - Not yet populated as of this writing
- Core WG tomorrow @ 10AM Central/US
  - Cross-WG attendance is encouraged

# Applications WG Update (4 December 2019)

- **Done**

- Started discussion of Rules Engine
- Consolidate Cloud Export examples into **app-service-examples** repo in holding
- API Swagger Documentation finished for Fuji
  - <https://app.swaggerhub.com/apis/EdgeXFoundry1/app-functions-sdk/1.0.0>

- **Next Up**

- TAF tests for Store and Forward
- Batch and Send Feature Implementation

# Device Services WG Update (4-December-19)

- Go SDK 1.1.1
  - Release this week
  - Rebuilds of device services to follow
- Dynamic Discovery
  - Design in progress

# Device Services - current/coming

## Open Source connectors (Current):

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

## Commercial connectors (Current):

- GPS
- MEMS
- Zigbee
- Bluetooth

## Open Source connectors (Future):

- OPC-UA (Dec)
- GPS (Dec)
- Bluetooth (Dec)
- REST (Dec)
- BLE in Go for Thingy 52 (Ian Johnson)

## Commercial connectors (Future):

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

# Test/QA WG Update (04-12-19)

- Blackbox Test
  - Failed testcases on arm64 which failed by response time
    - Use newman 4.5.1 has response time issue, but not on newman 3.9.4
    - We will investigate suitable newman version for arm64 platform
- New Blackbox Test
  - Open [#14](#) on edgex-taf and [#7](#) on edgex-taf-common under review
  - Open PR [#516](#) on ci-management under view
  - Above PRs are for running device-virtual and device-modbus on LF Jenkins
- Swagger API document creation
  - Waiting for the decision of the process we presented and the consistent Swagger version
- Certification Support
  - Developing test script for device service
    - Finished testcases: 43 (All completed)
    - Passed testcases : 41, Failed testcases: 2
    - Issue [#390](#) for failed testcases is fixed, waiting for new image to verify.

# DevOps WG Update (12-04-19)

## Geneva

- Jenkins Transformation to Pipelines
  - Coordination of work needed for GitHub plugin changes
    - Need working session / Review of training
    - LF Release Engineering requests TSC vote of approval
- New Snyk issue discovered
  - Unable to scan Public Docker images which are Scratch based
    - Work around will be to continue using Clair + Snyk combined
- Nexus Upgrade to address build issues and and new GOPROXY cache functionality to address Go Module dependency caching
  - No new issues reported since upgrade

## CommunityBridge - Advanced Snyk Reporting

- New Contact from LF identified with James to follow up - WIP
- Funding for additional Snyk licensing as per LF Edge budget

Next Meeting 12/05/19 @9:00 PST

# System Management WG Update (12-04-2019)

- Discussed CLI maturity and potential move from holding into main project
  - Identified/created GitHub issues to complete before requesting move
  - Related discussions
    - Q/A - how to test CLI, potential usage in testing regime
    - Certification - potential usage in certification
  - Anticipate further status/discussion in January
- Open Horizon
  - IBM is documenting use cases; expects to create GitHub issues by Jan 20th
  - Integration (OH/EdgeX) code/issues to be in new holding repository
- Next meeting: December 6th

# Security WG Update (12-04-19)

- Issue management workflow (presented by Bryon) discussed within the group last week & will share with the community
- A major security feature ( token provider server) under review
- Manual testing for security features on aarch64 passed
- Multiple issues/backlogs addressed for Geneva

# Certification WG Update (12-2-19)

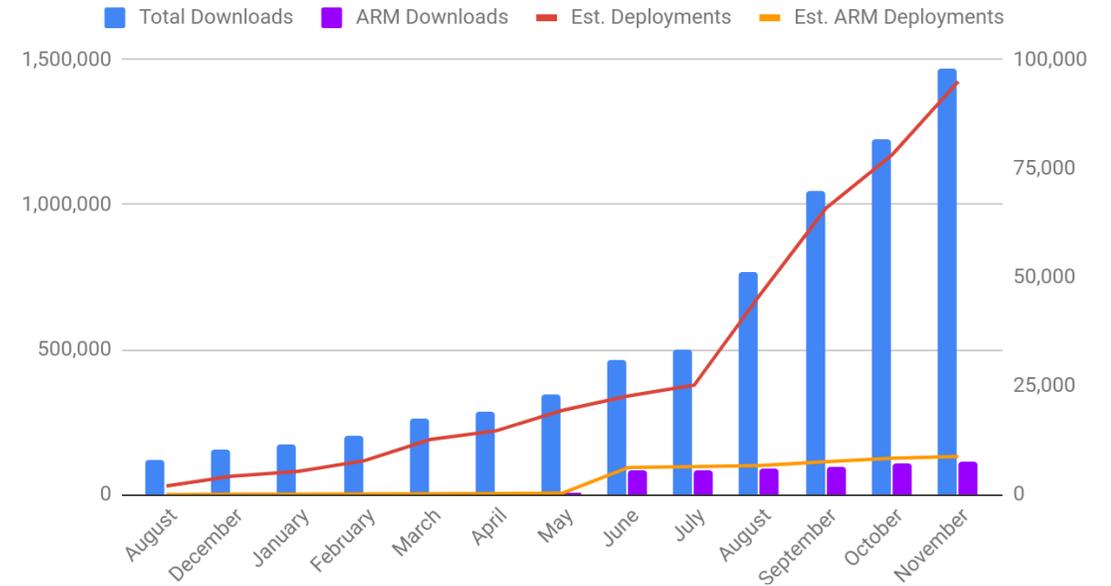
- Discussion on transport agnostic APIs
- Need for an EdgeX architecture and design document
  - No one is working on this right now
- Need for a programmatic service orchestration tool
  - Anyone familiar with BPMN/CMMN/DMN tool suites?
  - WS-CDL has been orphaned
- Swagger weak on defining DTOs
- Next meeting Monday, December 9th, 9 a.m. PST

# Vertical Solutions WG Update

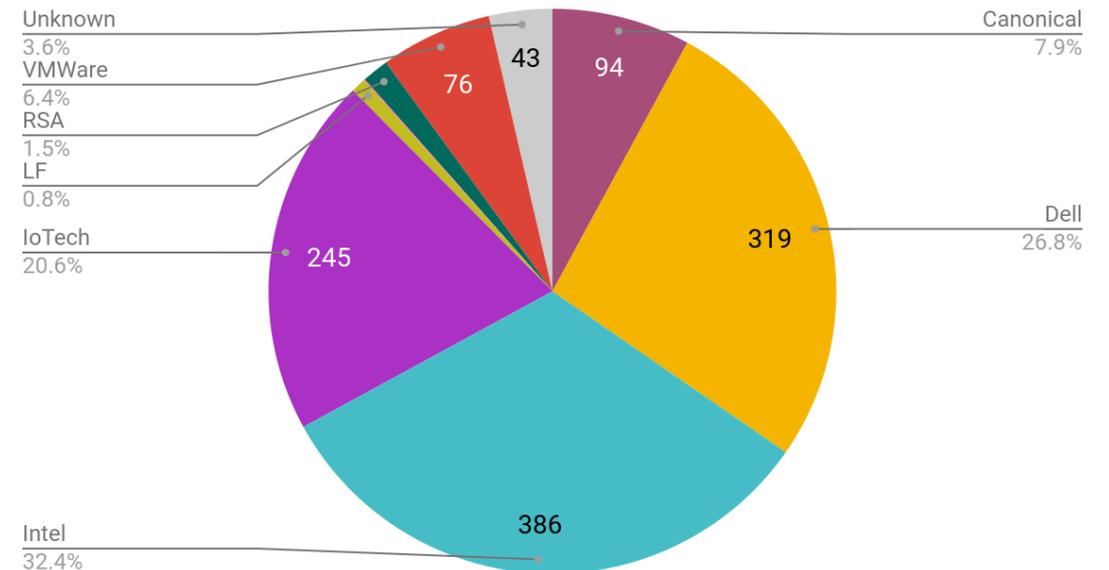
- Pleased to announce the formation of the “China Project” under the VS WG:
  - Broad market community forum for vendors, partners and end users in China.
  - Chair: Gavin Lu, R&D Director, VMWare CTO Office (gguanglu@vmware.com)
  - First meeting: targeting face to face meeting in mid-December
- Please join me in welcoming Gavin
- We’ll be getting LF logistics set up shortly

# Project Metrics

- Nearly 1.5 million downloads
  - ~10,000 deployments
- 152 all-time authors
- ~6,000 website users per month
  - 85% new users
- USA still #1 source of traffic
  - China, India, Japan, S. Korea
- Most viewed:
  - Getting Started & Devkit
  - Quick Start & Getting started users



Commits by Company



# Miscellaneous (Jim)

- Developer Advocate
  - Michael Hall leaving LF at the end of Dec
  - Current task list
    - Web site updates - working with Andy
    - Community dev kit - up to date with Fuji
    - List of docs that need to be created - working with WG leads
      - Issue #49 outlines needs (mostly minor fixes)
    - RP3 dev kit - I asked Michael to update for Fuji if he can
    - Other needs from the community
  - Please join me in thanking Michael for all his contributions, hard work and dedication. We wish Michael much success in his next job.
- ARM system update
  - Working with LF Edge/Akraino for possible use of Akraino community lab
  - Rec'd info from Linaro and probably our best hope in immediate term
  - We also have \$20/month to get time on cloud based ARM systems (Steve O has used)
  - **Need WG's to specify what they need for ARM hardware in order to make formal requests**



EDGE X FOUNDRY™

# Fuji Release

# Fuji Release Wrap Up 12-04-2019

- Fuji Release Retrospective was on 11-21-2019 in the DevOps WG
- We had a good participation - Thanks everyone!

Fuji Release Retrospective Board: <https://github.com/orgs/edgexfoundry/projects/33>



EDGE X FOUNDRY™

# Spring TSC Planning

Hanoi release

# Hanoi TSC

Arrangements for the spring TSC meetings has been finalized

- **WG Chair/Architects Pre-Wire meeting will be March 31st (Tue)**
  - Dell EMC office , Research Triangle Park, 62 T.W Alexander Dr., Durham, NC 27709, Room: Aspen Cedar, first floor, Capacity: 50
- **Hanoi TSC F2F will be April 27-30**
  - Dell IOT Lab, Limerick Ireland
  - April 27 - Architect's day (invite only)
  - April 28-29 - General planning sessions with business topics to lead off
  - April 30 - Training day (additional hackathon or other planning meetings as necessary)

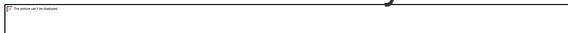


EDGE X FOUNDRY™

## Upcoming Events

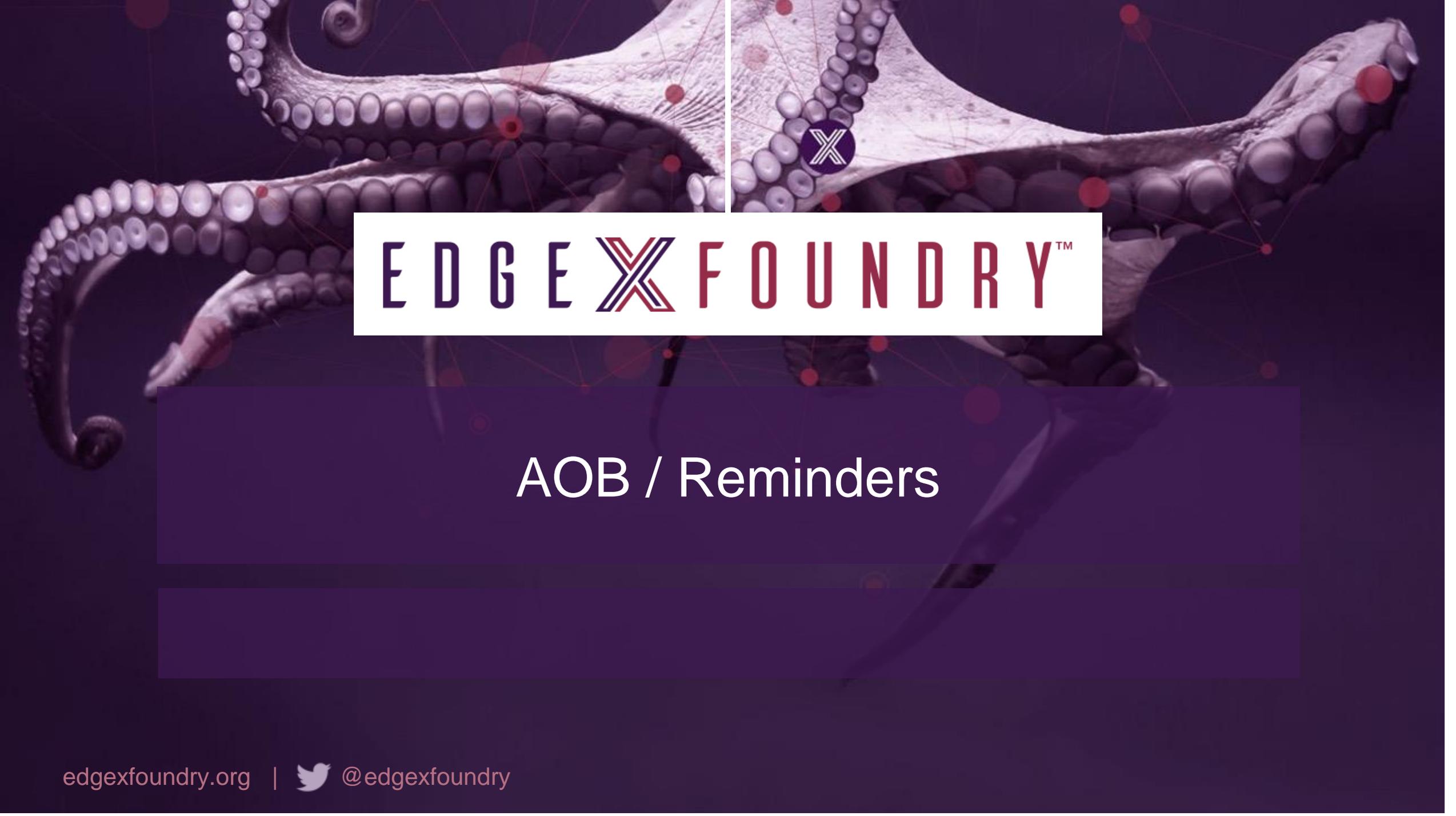
## Upcoming External Events

- › [IoT For India: Open Source IoT Day 2019](#): 7 December, 2019
  - › Arpit Joshipura, LF
- › [Edge Computing World](#): 9-12 December, 2019 - Silicon Valley (CA)
  - › Hands-on sessions secured for EdgeX Foundry and Project EVE
- › [Embedded World](#): 25-27 February - Nuremberg, Germany
  - › Jim White: **Extending EdgeX Foundry– How to Build an IoT Solution from an open source, platform independent framework**
- › [Industry of Things World](#): Mar 12-13 - San Diego CA
- › [IoT Tech](#): Mar 17-18 - London, UK
- › [IoT World](#): Apr 6-9 - San Jose, CA
- › Open Networking & Edge Summit North America: 20-21 April, 2020 - Los Angeles, CA
  - › CFP Status: Details Available Late 2019
- › Open Source Summit North America: 22-24 June, 2020 - Austin, TX
  - › CFP Status: Details Available Late 2019
- › Open Source Summit Japan: 15-16 September, 2020 - Tokyo, Japan
  - › CFP Status: Details Available Late 2019
- › Open Networking & Edge Summit Europe: 30 September - 1 October, 2020 - Antwerp, Belgium
  - › CFP Status: Details Available Late 2019
- › Open Source Summit Europe: 26-28 October, 2020 - Dublin, Ireland
  - › CFP Status: Details Available Late 2019
- › Discussions around upcoming events occur in the LF Edge Outreach Committee
- › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>



## Upcoming CFP Due Dates

- › [KubeCon EU 2020](#): 31 March - 2 April, 2020 - Amsterdam
  - › CFP closes 22 November



EDGE X FOUNDRY™

## AOB / Reminders

# AOB/Cadence

- Meeting Cadence Reminder
  - Currently held weekly at 7am PDT on Wednesday's
  - Calls without TSC quorum will still be used to review issues
  
- **Next Meeting: June 26, 2019**

# Marketing

- **CTA:** If your company will be presenting EdgeX at an upcoming event/webinar/other, please email [pr@lfedge.org](mailto:pr@lfedge.org) so that we can help promote

# EdgeX in Market

- Page showcases momentum in the project, including solutions already available
- <https://www.edgexfoundry.org/edgex-in-market/>
- Email [info@edgexfoundry.org](mailto:info@edgexfoundry.org) if you have any additions

# Project Contributions Welcome!

- Our objective is to make EdgeX use & deployment pervasive!
- EdgeX success is 100% dependent on the vibrancy of a proactive community
- Getting Involved
  - Project membership growing - want to join contact Mike Woster at LF ([mwoster@linuxfoundation.org](mailto:mwoster@linuxfoundation.org))
  - First Priority is the MVP - potential contributors please contact [keith@iotechsys.com](mailto:keith@iotechsys.com) (people, equipment, technology)
  - If interested in adding new projects please contact the relevant working group chair

# Project Resources

Quick links to most commonly used Community Resources

- Code: <https://github.com/edgexfoundry>
- Documentation: <https://wiki.edgexfoundry.org/>
- Discussion: <https://slack.edgexfoundry.org/>
- Mail Lists: <https://lists.edgexfoundry.org/mailman/listinfo>
- Twitter: <https://twitter.com/EdgeXFoundry>
- LinkedIn: <https://www.linkedin.com/company/22298339/>
- YouTube: <https://www.youtube.com/c/EdgeXFoundry>

# EdgeX - Where to learn more

- EdgeX Foundry Wiki

<https://wiki.edgexfoundry.org/display/FA/EdgeX+Foundry+Project+Wiki>

- EdgeX Foundry Slack

<https://slack.edgexfoundry.org/>

- [Weekly EXF Technical Spin up calls](#)

30 minute deep-dive topics followed by 30 minute open Q&A

Call recordings are available on the [Wiki](#)

# What is the Device Exchange?

- A great way to put your products in the hands of other members so they can help build a better EdgeX!

• <https://wiki.edgexfoundry.org/display/FA/Device+Exchange>

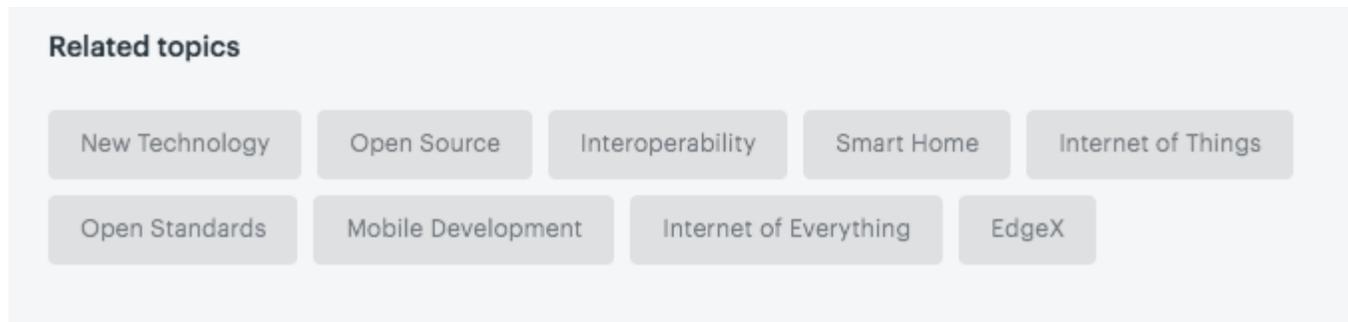


Special thanks to [Dave Bohlman](#) and [KMC Controls](#) for making this awesome kit and how-to guide available to members!!



# Meetups

- Help us grow awareness!
- Present, and Tag, EdgeX in your local IoT Meetups
- <https://www.meetup.com/topics/edgex/>
- Email [info@edgexfoundry.org](mailto:info@edgexfoundry.org) for assistance



# Meetups: Reimbursement Program

- <https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=7602724>
- Wiki page built for the community to leverage
- Encourage community to begin introducing EdgeX in your local Meetup groups
- EdgeX Foundry will fund/sponsor the talk in which EdgeX is scheduled to be presented
  - Up to \$250 for F&B, once per Meetup group, per quarter
- Let us help drive traffic to your event! Email [pr@lfedge.org](mailto:pr@lfedge.org) once Meetup has been scheduled
- Post-event, please consider doing a blog about the event

# Hackathons: How can you help?

- <https://wiki.edgexfoundry.org/display/FA/Hackathons>
- Provide any local volunteers onsite to help with technical work, potentially help judge, etc. (see list below of known hackathons coming up and locations)
- Sponsor breakfast/lunch/dinner for the participants (usually things like donuts/coffee, pizza lunch or cater sandwiches)
- Sponsor \$ rewards (incentives) for teams that successfully implement projects (these could even be projects that particular sponsors want to see accomplished - we just need them scoped appropriately so as to be something that can be accomplished in a 2 day period)
- Help provide or resource hackathon winner prizes
- Sponsor or provide any swag (t-shirts, mugs, etc.)
- Provide marketing assistance



EDGE X FOUNDRY™

Thank You