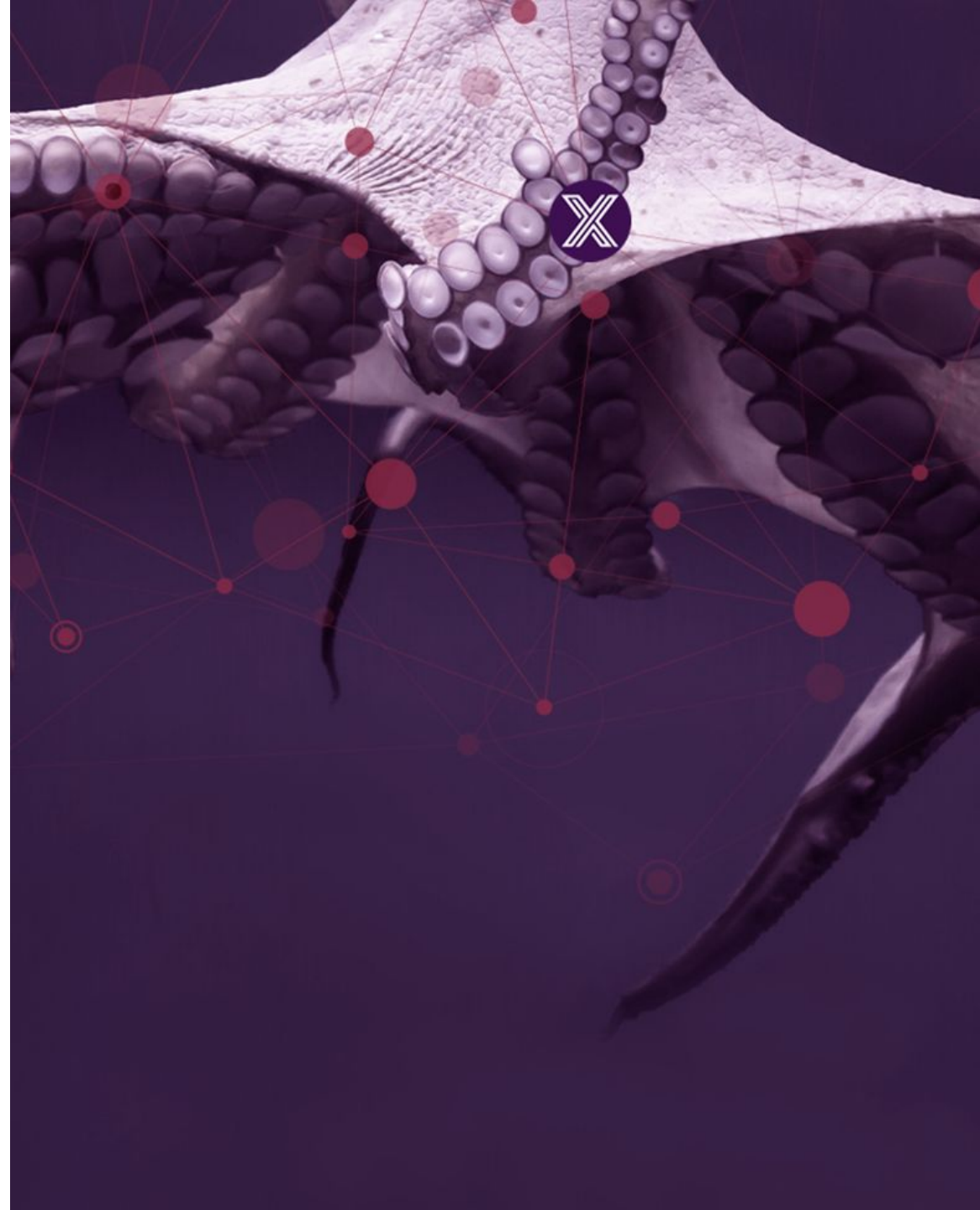


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# TSC Meeting

Aug 21, 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 7am PDT – 8am 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)

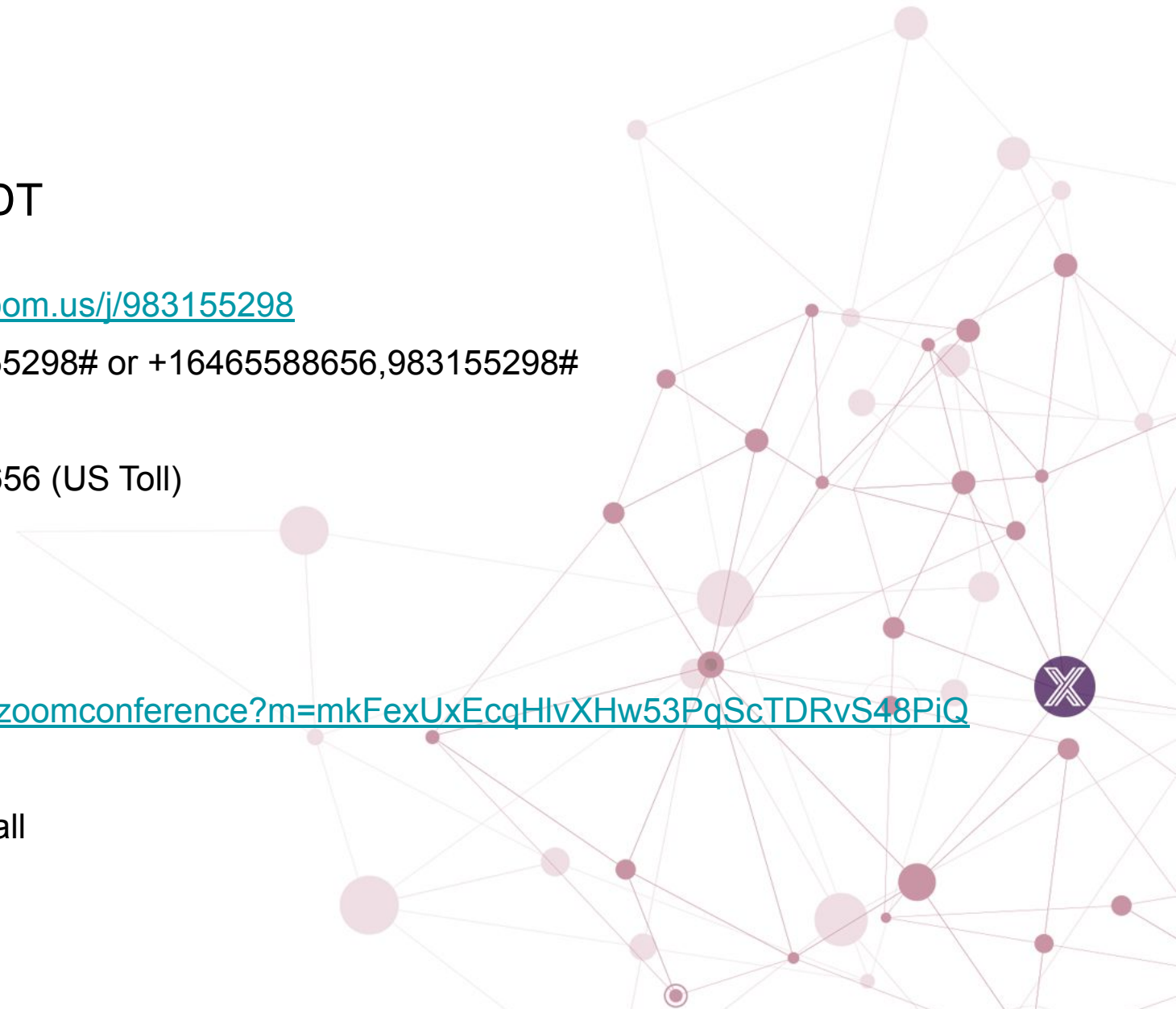
+1 855 880 1246 (US Toll Free)

+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	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>
Canonical	Tony Espy	<a href="mailto:espy@canonical.com">espy@canonical.com</a>
Dell	Trevor Conn	<a href="mailto:Trevor.Conn@dell.com">Trevor.Conn@dell.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

- WG Updates
- Geneva Face-to-Face in Phoenix AZ
- Upcoming Events
- AOB



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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 - Akram for Jim
  - Certification - Rodney Hess
  - Vertical Solutions - Brad Corrin



# Core Working Group (21-Aug-19)

- Not much of an update this week due to vacation
- Re-engaging on the security/core service integration
  - Mongo DB bootstrapping is next item
- Some re-evaluation of our error handling
  - <https://github.com/edgexfoundry/edgex-go/issues/1671>
  - Need to check in with Anthony Bonafide (Dell) on this



# Applications WG Update (21-August-19)

- Cloud Exports:

- AWS Export (In Progress by Alex)
- Azure IoT Export (PR Submitted - pending review)

- Store & Forward Summary

- Data will be persisted in two different scenarios backed by either Mongo or Redis
  - Export Failure (i.e. HTTPPost fails)
  - Manually by choice of developer
- Crawl
  - Data will be discarded if pipeline changes
  - Data is removed after success
- Walk
  - Storage Service?
    - Manage database cleanups and schema migrations?

Want more info? [Store N Forward Summary](#)

**Help wanted on DB layer implementation**

- Other New Features

- TargetType - allows developer to specify type to unmarshal open trigger as opposed to always assuming EdgeX Event
- AppService Configurable - TargetType can be set to byte[]
- Enhanced environment override for Service info sent to Registry

# Application Services

## Functions (built into SDK)

Current/Complete:

### Fuji

- AES Encryption NEW!
- GZIP Compression NEW!
- ZLIB Compression NEW!

### Edinburgh

- Device Name Filter
- Value Descriptor Filter
- XML Conversion
- JSON Conversion
- MQTT(S) Export
- HTTP(S) POST Export

Future:

- MQTT(S) (Fuji) + Vault integration

## Reference App Services (Fuji)

(built on top of SDK)

- Azure IoT Hub (Fuji)
- Amazon IoT Core (Fuji)
- Configurable AS (Fuji)

AVAILABLE  
THIS WEEK

# Device Services WG Update (21-8-19)

- Documentation
  - API specifications (RAML)
  - Legacy usage in examples
- Device services
  - BACnet and Bluetooth services in review

# Device Services - current/coming

## Open Source connectors (Current):

- Modbus (TCP/RTU)
- Virtual Device
- Random
- Grove C - ARM only
- SNMP
- MQTT

## Open Source connectors (Future):

- BACnet (IP & MSTP) (Sept)
- OPC UA (Sept)
- GPS (Sept)
- Bluetooth (Sept)
- ONVIF Cameras (Oct)

## Commercial connectors (Current):

- MQTT
- Modbus (TCP/RTU)
- BACnet (IP & MSTP)
- OPC UA
- GPS
- MEMS

## Commercial connectors (Future):

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

# Test/QA WG Update (21-08-19)

- Blackbox Test
  - edgex-go issue opened for 2 of the failed testcases [#1668](#), [#1669](#), [#1670](#)
  - PR [#1678](#), [#1679](#) are opened for above issues, verifying them
- New Blackbox Test
  - Initial code of [edgex-taf](#) and [edgex-taf-common](#) are under review
  - Initial [robot file](#) of device virtual
  - Approved regression-test PR [#1](#)
  - Need to discuss the naming convention of new repositories of automation test
- RAML -> Swagger conversion
  - Waiting for swaggerhub account
  - Need to discuss where we would put these API document

# DevOps WG Update (08-21-19)

## Fuji Scope

### Container Scanning

- Clair server has now been landed by Linux Foundation on AWS and is now working. - **DONE**
- Thank you Daniel Nunez / Linux Foundation infrastructure team!!!

### Static Code Analysis Tools

- Pricing - <https://snyk.io/plans/>
- Plan is to implement Snyk for one of the new device services inside of a Jenkins Pipeline as a POC (Issue #469)
- Snyk also can be used for Docker image scanning and offers additional functionality that Clair doesn't offer in terms of suggested fixes.
  
- **NEW** Jenkins Pipeline for Application-Service-Configurable - **DONE**
- AWS access coordinated for IOT Core coordinated for Alex Courouble /VMWare related to request from Application WG supporting AWS data export - **DONE**
- Jenkins Pipeline for go-mod-secrets (Issue #468) – WIP

Next Meeting 8/22/19 @7:00 PST

# System Management WG Update (8-21-19)

- Open Horizon POC (Working on standing up POC. Next meeting on 08-26)
- Fuji Release Items
  - Metrics collection - The implementation is being augmented for improved and unified client experience and usability. Wrapped up unit testing.
  - Set configuration - Is underway
  - Start/stop/restart by executor including SMA - Planned
    - Safe shutdown
- Deployment/orchestration/management survey (In progress)



# Security WG Update (8-21-19)

Malini & Tingyu in OSS NA 2019

- 1) Security related PRs in Edgex-Go: PR-1627 & PR-1638 - Inputs & Feature verification needed
- 2) Project of merging secretstore-setup into EdgeX: Decision made to have modular approach. Project flow under EdgeX-Go created & Workable items created & added
- 3) Updated document on secret-setup proposed by Bryon & discussion in progress.
- 4) Malini working on documenting the security components of EdgeX
- 5) Daniel from DELL working on latest user guide document for security-proxy-setup

# Certification WG Update (8-19-19)

- Discussed how Device Profiles impact Certification testing vs QA testing needs
    - Certification may need additional tests
  - Identified support of CBOR data writes to device services would complicate Certification
    - Not yet supported by the EdgeX stack
  - Little progress on the Swagger implementation for Device Services SDK and on the QA tests
- 
- Next meeting this Tuesday, August 27th, 10 a.m. EDT

# Vertical Solutions WG Update (8-21-19)

- The event will be held at TechNexus in Chicago on Oct7/8<sup>th</sup> (Mon/Tue).
- EdgeX Games will be focused on retail solutions based on EdgeX and sponsor's ingredients.
- Use cases being proposed are: Loss prevention, personalized customer experience and inventory management.
- Estimating a total of 100 participants, ~20 teams of 5
- We are working on the website and registration link and can share it once it is available
- Sponsors providing software or hardware should also expect to provide people and supporting materials both pre-event and during the event
- Slack channel is #edgexgames

# Release Update 8-21-19

Lisa

- Version API endpoint
  - The pipeline for app-service-configurable is inserting demos how we are inserting the version at build time using git-semver
  - This will not require any extra tools for the developers to do local development. The implementation details will be discussed in the next DevOps WG.
- Nexus artifact report - WIP

# Miscellaneous



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Geneva F2F

# Registration now open

## EdgeX TSC Face-to-Face meeting (semi-annual)

- Capacity of 90. Currently with ~45. **(HALF FULL!!)**
- If you want to attend Architect's day, send Jim White, Dennis Camilo or a WG chair an email or slack message
  - Architect's day is invite only - any contributor is automatically invited but we request RSVP
  - WG Chairs - will soon be organizing topics for consideration with you.
- Planning for the Geneva release (and lessons learned on Fuji)
- Nov 4-7th
  - Nov 4th - Architects' topics must be a contributor (have at least one Git contribution) or have invitation of WG chair
  - Located @ Galvanize Phoenix at 515 E Grant St, Phoenix, AZ
  - Hotel and other logistical info available on the [Wiki](#)
- Register now at <http://www.cvent.com/d/b6qcr0>





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## Upcoming Events

# Upcoming External Events

Full list of LF events available at:  
<https://events.linuxfoundation.org/>

Additional LF Edge events available at:  
<https://www.lfedge.org/events/>

- [Open Networking Summit EU](#): 23-25 September, 2019 - Antwerp, Belgium
  - LF Edge Members receive a 20% discount on registration. Email [info@lfedge.org](mailto:info@lfedge.org) for code.
  - Jim White's talk accepted
- [Open Source Summit EU / ELC](#): 28-30 October, 2019 - Lyon, France
  - October 31: LF Edge Mini-Summit - Half-day, single-track event on the topic of IoT and Edge Computing
  - **How Secure is your Edge with EdgeX? Tingyu and Malini**
  - **Microservices at the Edge - Best Practices: Diana and Malini**
  - **From API to CLI. Designing and building a CLI for EdgeX: Alex and Nikolay S**

# Upcoming CFP Due Dates

>



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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](#)

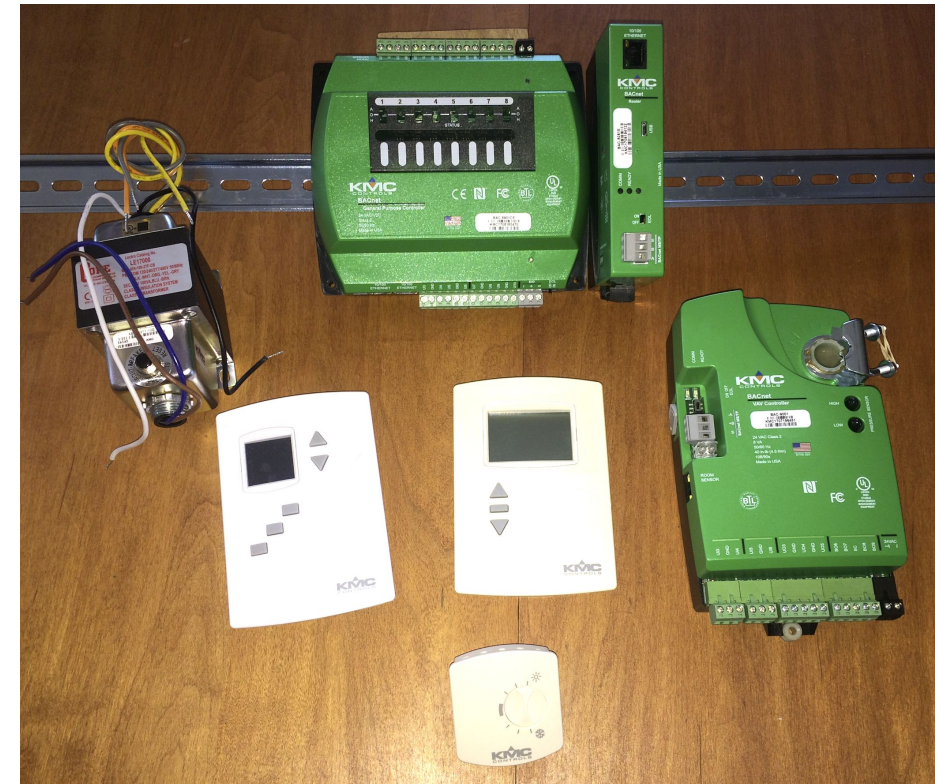
# What is the Device Exchange?

- 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>

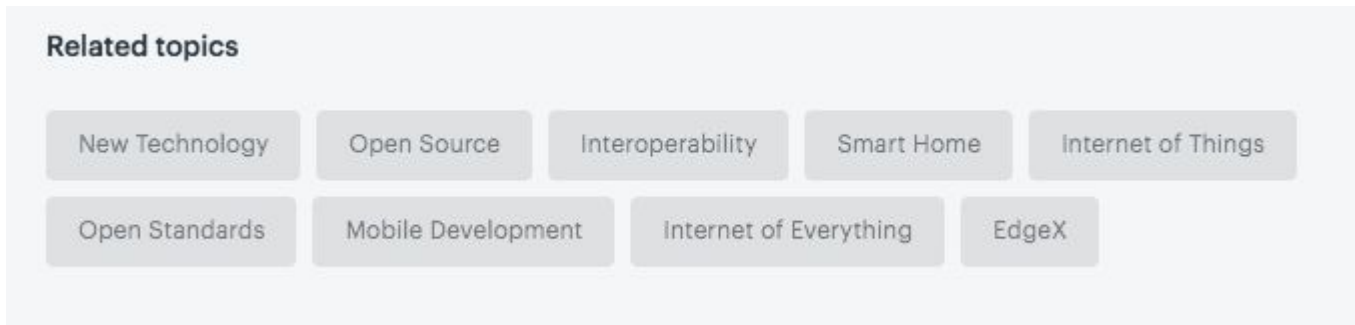


Special thanks to [Dave Bohlman](#) and [KMC Controls](#) for making this awesome kit and how-to guide available to members!!



# 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



## EdgeX ▾

Find out what's happening in EdgeX Meetup groups around the world and start meeting up with the ones near you.

Related topics:



# 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





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Thank You