

EDGE X FOUNDRY™

# TSC Meeting

July 03, 2019



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# Meeting Logistics

Time: July 03, 2019 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)

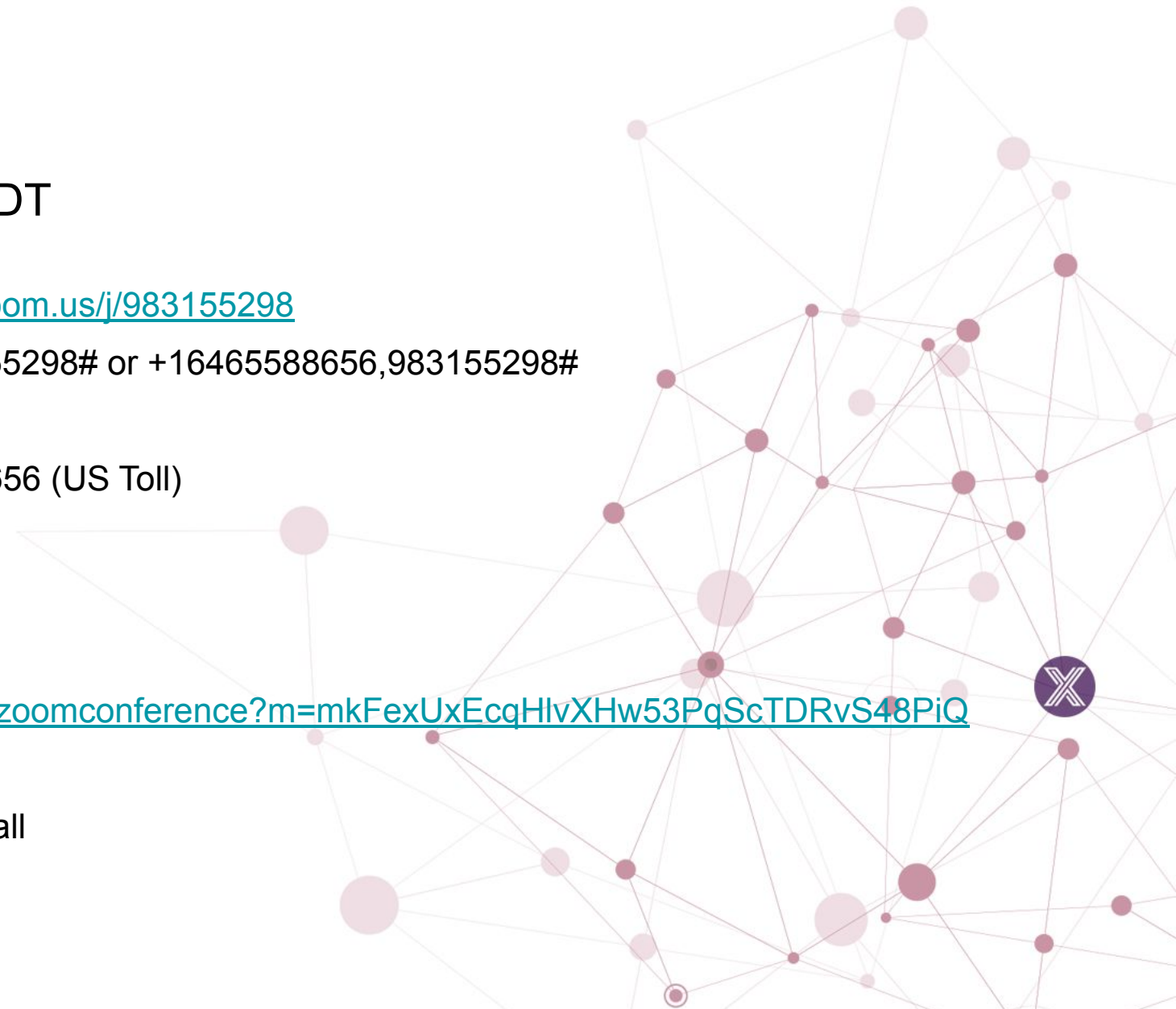
+1 855 880 1246 (US Toll Free)

+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>
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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

- Release Final
- WG Updates
- Fuji Scope
- Early Performance #'s
- Upcoming Events
- AOB



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Release Final

# Release Update

Release artifacts now available (Nexus, Docker Hub, etc.)

Docker Compose files in GitHub (developer-scripts repo)

Documentation released ([docs.edgexfoundry.org](https://docs.edgexfoundry.org))

Marketing message being finalized

Please use social media to spread the news!



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

# Core Working Group (3-Jul-19)

- Feature work
  - Finished w/requirements for Value Descriptor rework (Fuji)
    - Two preliminary issues created in edgex-go to begin with
    - #1494, 1495
    - These will fulfill the requirement that a DeviceProfile cannot be modified (or deleted) if devices are assigned to it.
  - ProvisionWatcher discussions continue
    - Geneva deliverable
  - PR Pending for first security service conversion (PKISetup)
    - <https://github.com/edgexfoundry/edgex-go/pull/1500>
    - As a side note, Guardrails raised erroneous security alert on this PR
      - Will revisit next week with DevOps WG
- Unit test coverage continues
  - Current PR backlog will raise the coverage to %20 when merged
    - We started Fuji dev cycle at %17

# Applications WG Update (03-July-19)

- Dynamic/Configurable Function Pipeline in Validation
- Documentation for the configurable App Service
- Black Box Tests work in planning

# 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 Post Export

Future:

- MQTTS (Fuji) + Vault integration
- HTTPS (Fuji) + Vault integration

## Reference App Services (Fuji)

(built on top of SDK)

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

# Device Services WG Update (3-7-19)

- Provision Watcher design agreed
- Device tracking for drivers
- Service implementations update

# Device Services - current/coming AS

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

## Open Source connectors (Future):

- BACnet/IP & MSTP (Aug)
- OPC UA (Aug)
- MQ
- Bluetooth (Aug)
- ONVIF Cameras (Oct)
- TT
- 

## Commercial connectors (Current):

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

## Commercial connectors (Future):

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

# Test/QA WG Update (03-07-19)

- Blackbox Test
  - Fixed issue [#244](#)
  - Merged PR [#245](#)
- Performance Test
  - Preparing automation script to collect data for performance summary report
    - Fixed arm64 memory statistics issue on Raspberry Pi
  - Opened a new ticket on LF help desk to request the instruction on setting up TIG Server. Most performance data is kept in the latest run. Only lost a little data. It shows the situation is unstable.
  - Updated document for developing performance test script. PR [#36](#) is under review
- Fuji
  - Created first draft initial draft of test Test Plan for Device Service blackbox tests - needs more work before wider review
  - Continued, discussions and planning for rollout of new Robot test framework
- Next QA/Test meeting July 11th, 4pm PST

# DevOps WG Update (07-03-19)

## Edinburgh Release

- Edinburgh wiki updated with release artifacts
- Image scan report WIP using Intel hosted Clair endpoint to be shared with Security WG

## Fuji Scope - Container Scanning (Clair Server landing request)





- Update as of WW23 from LF Infrastructure team indicated the solution has been approved but not resourced yet.  
**Risk** for Fuji if the landing doesn't happen.
  - Update Needed from Linux Foundation on this scope of work.
- Codecov global function completed by Tyler Powers
  - Working on coordination of the GitHub configs for all remaining repos
- Guardrails - Static Code Analysis Tools - added to edgex-go last week and now disabled after initial findings failed to take into consideration microservices architecture
- edgex-go docs - migrated out, but needs a new build job created - pulling into next Sprint

No DevOps WG meeting tomorrow due to US Holiday

Next DevOps WG meeting - 7/11/2019 Thursday 7AM PDT



# EdgeX DevOps Commitments (Fuji)

Scope of Work	
Add static artifact analysis into the EdgeX Jenkins Pipeline (analysis of Docker /runtime artifacts, not the source code)	
Add code and artifact signing with semantic versioning	
Conduct build performance optimizations by: <ul style="list-style-type: none"><li>• Adding Pipelines for EdgeX Foundry base build images</li><li>• Allow base build images to be managed locally within Nexus</li><li>• Leverage <a href="#">PyPi Proxy</a> for local pip dependencies</li></ul>	
Explore static code analysis like <a href="#">Checkmarx</a> , <a href="#">Coverity</a> , <a href="#">GuardRails</a> , <a href="#">Synk</a> , <a href="#">SonarQube</a>	

- Clair Server landing at **Risk** for Fuji
  - Work Around will be to use Intel hosted Clair server until decision is made by LF to support landing dedicated infrastructure
  - Work related to automating the scans as part of the build, will defer to Geneva scope
- [gitsemver](#) along with [lftools](#) used for artifact signing and semantic versioning
- Jenkins build performance optimizations for base build images completed
- All base build images will now be stored in Nexus (Snapshot):10003
- [PyPi](#) enabled as part of Edinburgh scope
- Initial review of [GuarRails](#) showed that the product was identifying issues which were not applicable for microservices architecture

# System Management WG Update (7-2-19)

- Open Horizon discussion on going
  - POC defined and being worked
- Fuji Focus
  - Set configuration work underway
  - Designing executor for metrics collection
  - Next items
    - Start/stop/restart all done by the executor to include stop/restart of SMA
    - Safe shutdown
    - WatchForChanges blocking function handling
    - SMA Translation layer (stretch)
- Added to roadmap
  - handling multiple key sets
  - caching

# Security WG Update (7-3-19)

Malini (Tingyu on vacation)

- August 1, 2019 Security F2 in Santa Clara at Intel
  - Host Jim Wang [yutsung.jim.wang@intel.com](mailto:yutsung.jim.wang@intel.com)
  - Location: SC-12/Intel, 3600 Juliette Ln, Santa Clara, CA 95054
  - Attendees: Jim Wang, Bryon Nevis, Tingyu, Jim White, Malini, Doug (remote).
  - Agenda: Hardware Security
- EdgeX Security abstract submitted to OSS/Europe (just-in-time!)
- Created a secure deployment related issue that should be documented that reduces Docker Container user privileges (Snaps already do so).
- Seeking Input: who reviewed the secret store code? Any concerns?
- Security Group meeting cancelled for this week.

# Certification WG Update (7-1-19)

- No meeting this week
- Reviewing Device Service Functional Requirements
  
- Next meeting Monday, July 8th, 10 a.m. EDT

# Vertical Solutions WG Update (6-25-19)

- Andy Laudato, CTO of Vitamin Shoppe, walked through his innovation plan and fielded many questions
  - Great overview about retail trends for those that would like to learn
  - Webcast is posted on the Commerce Project Wiki
- Seeking new energy and leadership for additional VS projects, starting with Industrial
  - All feedback is welcome
  - As well as leader nominees
- ORI Roadshow held in Chicago 6-24-19, soliciting ecosystem participation in Open Source and EdgeX
  - Kudos to Jason, Keith and extended teams for contributing as guest speakers

# Miscellaneous

FYI - Lisa R (Intel); our new Release Czar is on sabbatical until August



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Fuji Scope

# Fuji Scope

- Message out to WG leads to provide update based on best available information.
- WG leads, please review, update and return to Jim before July 9
- Review @ July 10 TSC





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Performance

early numbers from Test QA

# Edinburgh early performance numbers

<b><i>Edinburgh Release</i></b>				
	<b>Dell Gateway 3001 (2GB RAM)</b>	<b>Raspberry Pi 3 B+ (1GB RAM)</b>		
Total Memory Footprint <sup>1</sup>	331 MB	358 MB		
EdgeX Services Memory Footprint	44 MB	50 MB		
Total CPU Utilization <sup>1</sup>	25%	27%		
EdgeX Services CPU Utilization	12%	14%		
Startup time <sup>2</sup>	10.2sec	21sec		
Size, Containerized (Docker)	846 MB	641 MB		
Size, Raw Executables	178 MB	218 MB		

*1 – includes MongoDB, Consul, rules engine/Drools infrastructure but not some security and system management services*

*2 - not including rules engine which can take a minute to start*



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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 Source Summit Japan](#): 17-19 July, 2019 - Tokyo, Japan
  - › July 17: BoF - Getting the Edge in Edge Computing
  - › July 19: Tiejun Chen, VMware - Build Edge Computing with EdgeX Foundry over Kubernetes
  - › July 19: Hyde Sugiyama, Red Hat - Kubernetes Native Infrastructure and CoreOS Operator Framework for 5G Edge Cloud Computing
- › [Open Source Summit / Embedded Linux Conference](#) NA: 21-23 August, 2019 - San Diego
  - › LF Edge Members receive a 20% discount on registration. Email [info@lfedge.org](mailto:info@lfedge.org) for code.
  - › August 20: [LF Edge Mini-Summit](#) - Half-day, single-track event on the topic of IoT and Edge Computing
  - › August 21: Tingyu Zeng, Dell: An Agile Approach to Threat Modeling for Securing Open Source Project EdgeX Foundry
  - › August 22: Malini Bhandaru, VMware & Trevor Conn, Dell - IoT Action at the Edge - EdgeX Foundry 1.0 Released!
  - › August 23: Alexandre Courouble, VMware - Easy as a pi: EdgeX on Raspberry Pi for Automotive IoT
  - › August 23: Gavin Lu, VMware - Open and Neutral Edge Computing Architecture on Heterogeneous Devices
- › [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.

## Upcoming External Events continued

- › [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
  
- › 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

- › [Open Source Summit Europe](#): Oct. 28 - 30, 2019, Lyon
  - › CFP Due: July 1
    - › <https://events.linuxfoundation.org/events/open-source-summit-europe-2019/program/cfp/>
- › [Embedded Linux Conference](#) (Co-located w/ OSS Europe): Oct. 28 - 30, 2019, Lyon
  - › CFP Due: July 1
    - › <https://events.linuxfoundation.org/events/embedded-linux-conference-europe-2019/program/cfp/>
- › [KubeCon + CloudNativeCon NA](#): Nov. 19-21, 2019, San Diego
  - › CFP Due: July 12
    - › <https://events.linuxfoundation.org/events/kubecon-cloudnativecon-north-america-2019/cfp/>

# EdgeX TSC F2F Meeting(s)

**4 November - 8 November, 2019** -- Location Phoenix, Arizona (USA) -- [Wiki page](#)

- Latest agenda available on the [Wiki](#)

## Venue

- Galvanize – 515 E. Grant Street, Phoenix, AZ 85004

## Coming Soon (before EoM June):

- **RSVP:** Links to register will be available on [Wiki](#). Will include registration for each section.
- **Hotel/Travel:** Recommended hotels



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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](#)

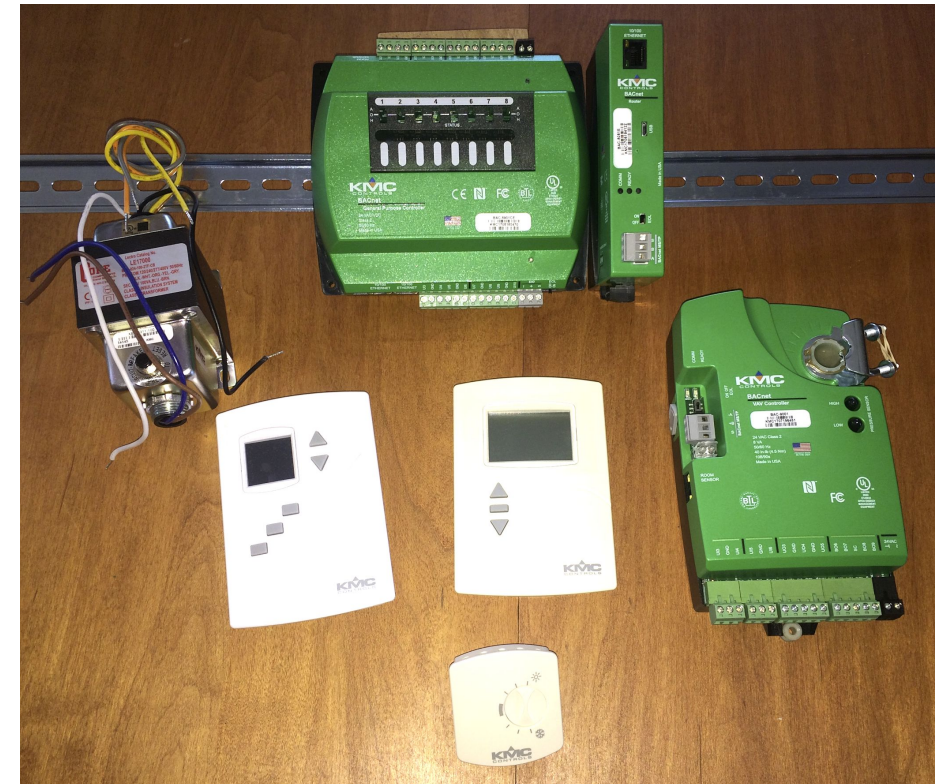
# What is the Device Exchange?

- 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

**Related topics**

New Technology   Open Source   Interoperability   Smart Home   Internet of Things

Open Standards   Mobile Development   Internet of Everything   EdgeX

## 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