

EDGE X FOUNDRY™

TSC Meeting

July 18, 2018

edgexfoundry.org |  [@edgexfoundry](https://twitter.com/edgexfoundry)



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Meeting Logistics

Time: July 18, 2018 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>
IOTech	Andy Foster	andy@iotechsys.com
ForgeRock	David Ferriera	david.ferriera@forgerock.com
Analog Devices	Doug Gardner	doug.gardner@analog.com
Mainflux	Drasko Draskovic	drasko@mainflux.com
Mainflux	Janko Isidorovic	janko@mainflux.com
The Linux Foundation	Jeremy Phelps	jphelps@linuxfoundation.org
Dell	Jim White (TSC Vice Chair)	james.white2@dell.com
IOTech	Keith Steele (TSC Chair)	keith@iotechsys.com
Samsung	Moonki Hong	moonki1.hong@samsung.com
IOTech	Steve Osselton	steve@iotechsys.com
Canonical	Tony Espy	espy@canonical.com
Dell	Trevor Conn	Trevor.Conn@dell.com

Current quorum = 8 members

*Note: TSC meetings shall require a **quorum of two-thirds of the TSC total members to take a vote or make a decision.** If a TSC meeting fails to meet the quorum requirement, discussions may proceed, however there shall be no voting or decisions.*

Today's Agenda

- Security Progress - Special Meeting Wednesday 18th July
- Quick WG updates and Binary Encoding Decision if time permits

- MongoDB Presentation - Wednesday 25th July
- Next TSC F2F Meetings
- IIC Update
- Upcoming Events
- AOB



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Security Progress - Special Meeting Wednesday 18th July

David Ferriera



California Release & Work Group Updates

Jim White

Working Group Chair Updates

- Around the horn
 - Core/Supporting - Trevor
 - Applications - Janko
 - Device Services - Steve
 - Test/QA - Andy
 - DevOps - Jeremy
 - Security - David
 - System Management - Jim
 - Vertical Solutions - Moonki
- Others

**Time permitting -
quick up date from
WGs**

Binary Encoding Recommendation

Covered in detail next week

Core WG recommending CBOR implementation

Details to be covered in Core WG tomorrow

For Consideration

- Per request by Hitachi Vantara @ June F2F, need EdgeX to consider adding binary data support to EdgeX for Delhi release
 - EdgeX community agreed to provide our thoughts and planning by Jul 15th
 - Present this recommendation for consideration/adoption by Core WG today
 - Send this recommendation with approval to TSC for discussion/adoption as EdgeX position and response to Hitachi

Recommendation by Core WG for TSC approval and response

Approved unanimously by the TSC during the July 18 TSC call

- EdgeX does see the need to support the collection, analysis and disbursement of binary data (from sensor south to enterprise north)
 - Hitachi Vantara use cases just highlighted attention to the general need
 - There are other known use cases for binary data that EdgeX must start to support
- Based on EdgeX community research, CBOR appears to be the best fit to ...
 - meet the binary data encoding requirements and technological concerns
 - Keep within the EdgeX architectural vision/approach
- We thereby recommend to the TSC...
 - EdgeX implement the use of binary encoded data via CBOR (over REST) for Delhi between DS and Core and Core and Export Distro
 - Note: resources needed to implement the solution across all services are to still to be identified and may require implementation to be done shortly after Delhi release
 - Consideration of implementation schedule may, in part, be determined by Hitachi acceptance of this solution and joining EdgeX

Rationale

- CBOR (Concise Binary Object Representation)
 - does not require a schema
 - is a IETF spec/standard (albeit arguably weak one from use and adoption)
 - has bindings for the languages EdgeX is more likely to use
 - is used by the likes of ARM mbed, OCF data encoding, and is the recommended data serialization layer for the CoAP Internet of Things protocol suite
 - can be converted to/from JSON
 - more easily allows for data encryption (or other transformations)
 - has an encoding overhead that, based on some testing, is not over burdensome
 - overhead would probably be less than %0.00002 difference versus protobuf for significantly sized files (based on testing by Steve O.)
- Counter arguments
 - Protobuf (the leading alternative) is backed by/used by Google
 - There is concern over CBOR implementation use and longevity/staying power
 - One study (Uber) suggests Protobuf sent the smallest messages
 - It should be noted that CBOR still did well in this study and was marginally larger)
 - Hitachi favors Protobuf



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MongoDB - Presentation Wednesday 25th July

Drew Dipalma



EdgeX Project Visibility - Progress

Keith Steele



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Next TSC F2F Meetings

Keith Steele

EdgeX TSC F2F Meeting(s)

- Wednesday & Thursday 24th/25th October -- Location Edinburgh, UK -- [Wiki page](#)
 - Working Group technical meetups on Tuesday, October 23
 - **RSVP at <https://goo.gl/forms/QR3WgP4ybB5KUT3w2>**
 - Current registration count: 5 in-person; 0 dial-in
 - Tuesday Working Group Counts
 - Core: 1
 - Applications: 1
 - Security: 1
 - Hotel/Travel:
<https://events.linuxfoundation.org/events/elc-openiot-europe-2018/attend/venue-travel/>
 - For Wednesday night dinner/activity, Scotch whisky tasting!!
-
- April 2019 -- Location Seoul or Suwon (South Korea)



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IIC Updates

Keith Steele

Next steps for planning IIC/EdgeX Workshop (11-July-2018)

Sept 10-14

Chicago, IL

- Exact date/time for the workshop still under discussion
 - In part depends on the content and timing requirements for other security sessions during the September member meeting (this workshop is part of the Security Track at the member meeting)
 - Hoping to discuss topic during the upcoming IIC Security WG call on Thursday, July 12
- Social evening event TBD
 - Waiting on confirmation on the details including exact location, to be able to research and provide options

Note: Just FYI and for planning considerations for those traveling to Chicago: At the same time as IIC meeting, there is also Hannover Messe USA and Intelligent Transportation Forum (ITS) happening in Chicago. On Friday 9/15, IIC and ITS are planning some joint activities.

<https://hannovermesseusa.com/>

Agenda

- 1. Introductions and Workshop Overview (10 min)**
Speakers: Sven Schrecker, SWG Chair, Wael William Diab, Liaison WG Chair, Jason Shepherd: EdgeX (title)
- 2. Overview of the IIC Liaison Working Group (10)**
Speaker: Wael Diab, Senior Director, Huawei Technologies
- 3. Overview of EdgeX Foundry Initiatives/Activities (10)**
Speaker: Keith Steele (title)
- 4. IIC Security Initiatives (30)**
Speakers:
- 5. EdgeX Architecture/Security Overview (30)**
Speakers: Jim White/ David Ferriera
- 6. Break (15)**
- 7. Joint IIC/EdgeX Activities (15)**
Speakers: TBD
- 8. Panel Discussion & Q/A on Collaboration/Way Forward(55)**
Moderator: Sven Panelists: all presenters
- 9. Closing (5)**

Total: 3 hrs



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Upcoming Events

Upcoming Events - Confirmed

- [Open Source Summit North America](#), August 29 - 31, 2018, Vancouver, Canada
 - Community Partner: Save 15% on Attendee Registration with discount code OSSNA18COM15
- [EdgeX / IIC Workshop](#), September 12, 2018, Chicago, IL
 - Hosted jointly by:
 - IIC Security (Chair: Sven Schrecker, Intel)
 - Liaison Working Group (Chair: Wael William Diab, Huawei)
 - EdgeX Liaisons: James Clardy, NetFoundry, Riaz, Salim AbiEzzi VMware
- [Open Networking Summit Europe](#), September 25 - 27, 2018, Amsterdam, Netherlands
 - Community Partner: Save 15% on Attendee Registration with discount code ONSEU18COM15
- [IOT Solutions World Congress](#), October 16-18, 2018, Barcelona
 - CFP and Call for Testbeds have closed. Email pr@edgexfoundry.org if you were selected so that we can track/promote
 - EdgeX has secured a booth (call for booth staff volunteers will follow)
 - Community Demo will debut at the show
 - Who is planning to be on-site?
 - Brett Preston (LF), Keith Steele (IOTech), Michael Hall (LF) ...

Upcoming Events - Confirmed (continued)

- [Open Source Summit Europe](#), October 22 - 24, 2018, Edinburgh, UK
 - Community Partner: Save 15% on Attendee Registration with discount code OSSEU18COM15
 - Schedule announced August 14
- [ELC / OpenIoT Summit Europe](#), October 22 - 24, 2018, Edinburgh, UK
 - Schedule announced August 14



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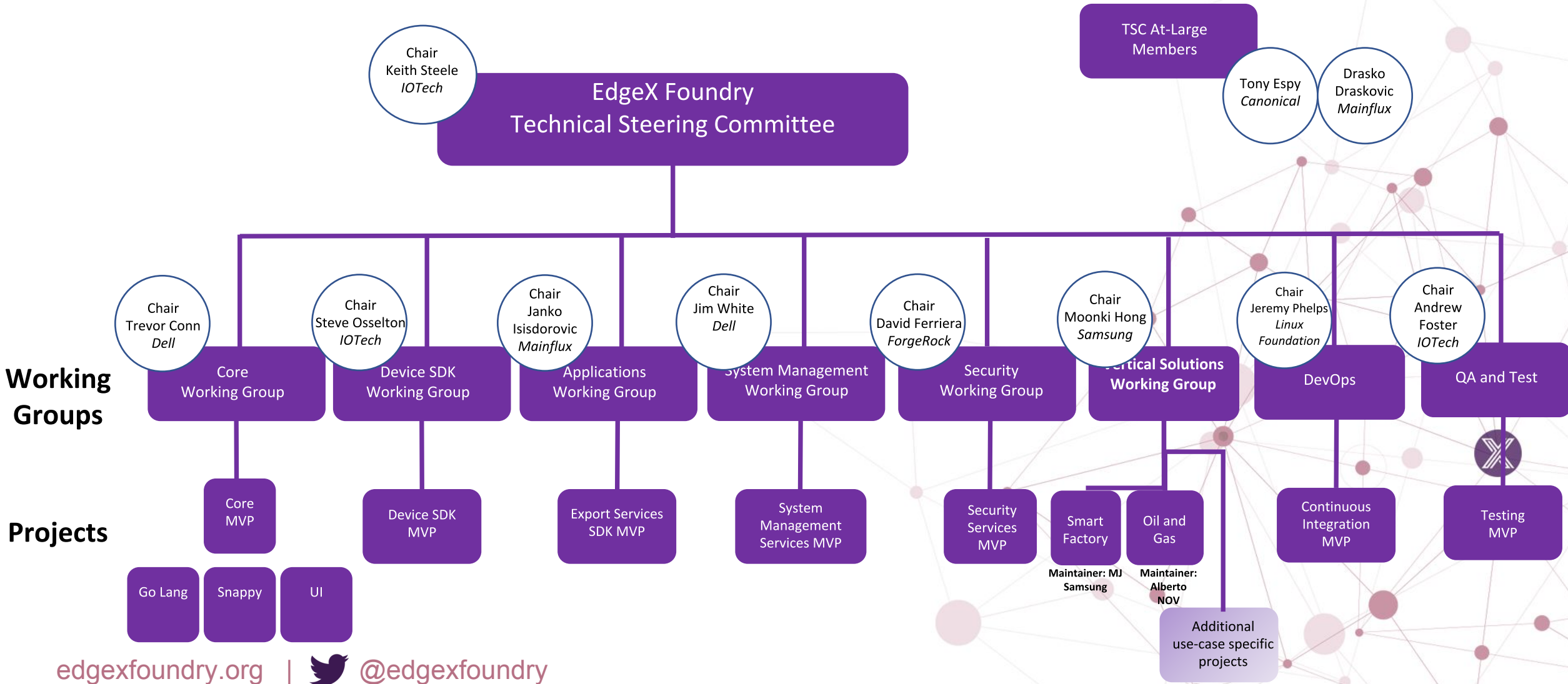
AOB / Reminders

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: July 25, 2018 (MongoDB presentation)**

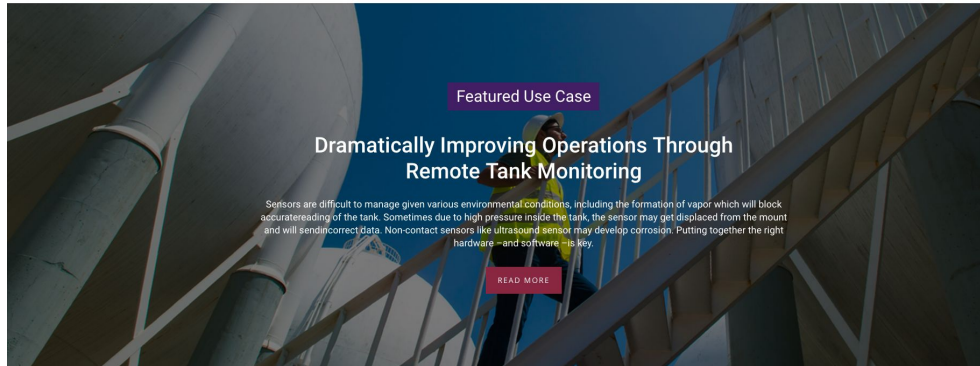
EdgeX Project Organization



Marketing

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

EdgeX Use Case Campaign



Use Cases

1. Draft site is available for review:
 - <https://www.edgexfoundry.org/use-cases/>
 - all passwords set to UseCase!
2. Seeking volunteers to help work in EdgeX connection
 - EdgeX specific use cases
 - examples of how EdgeX helps with a use case; which can include how a third party applies their commercial value add
 - email usecases@edgexfoundry.org to sign up

Use Cases

Enterprises, government agencies and service providers are starting to experience the benefits of implementing large-scale IoT and Industrial IoT projects. Whether they are reducing the cost of operations, improving safety on work sites and in factories, or building their own connected products to remain closer to their customers, bringing value to them, decision makers need solid business cases to attract funding.

EdgeX Foundry's technology ecosystem makes it easier to roll out robust enterprise IoT and Industrial IoT systems with less risk, given more predictable, proven integration of multiple elements at the very edge of the network, from silicon to sensors, from connectivity to cloud, with security and reliability ensured along the entire system.

EdgeX Foundry's members are working across vertical industries on exciting projects we will share here, along with use cases to stimulate thinking and support creativity and innovation, with practical use cases that stand to save businesses money, while making them more competitive and profitable in an increasingly hyper-connected, digital world.

View All

Agriculture

Oil & Gas

Manufacturing

Retail

Smart City

Smart Building



Agriculture: Precision Irrigation

**DECREASING WATER USAGE,
IMPROVING CROP YIELD, AND
ENSURING FOOD SECURITY**



Oil & Gas: Tank Monitoring

**DRAMATICALLY IMPROVING
OPERATIONS THROUGH REMOTE
TANK MONITORING**



*Retail: Inventory Optimization
& Theft Detection*

**MAJOR GAINS IN RETAIL SHELF
INVENTORY OPTIMIZATION AND**

EdgeX in Market

- Page showcases momentum in the project, including solutions already available
- <https://www.edgexfoundry.org/edgex-in-market/>
- Email 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 Brett Preston at LF (bpreston@linuxfoundation.org)
 - First Priority is the MVP - potential contributors please contact 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://chat.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 Rocket Chat

<https://chat.edgexfoundry.org/home>

- [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](#)

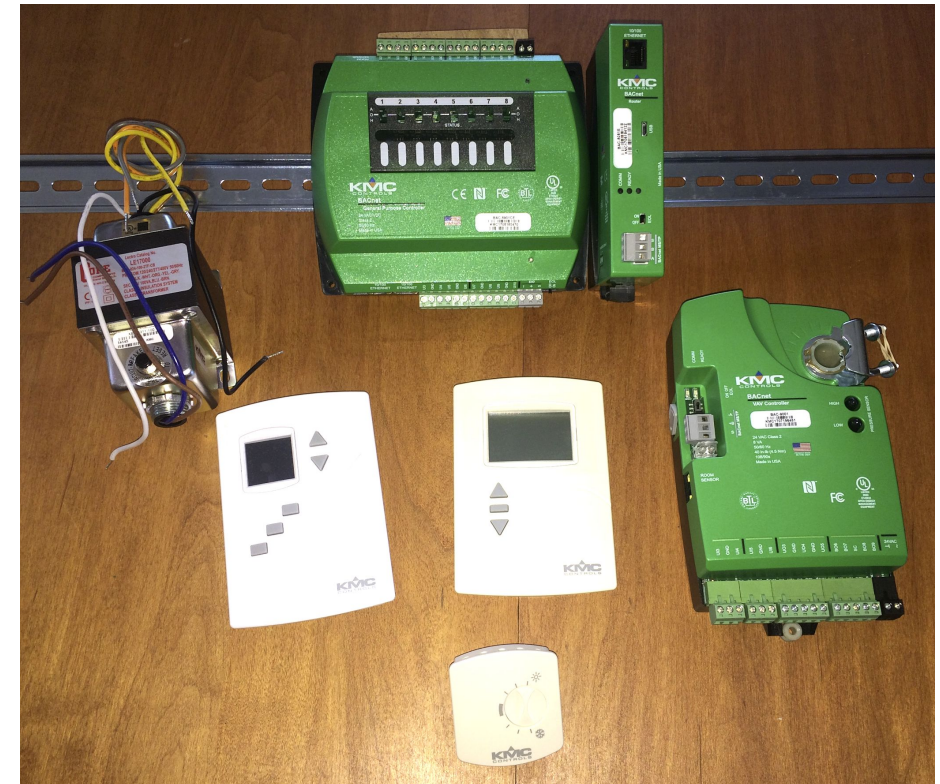
What is the Device Exchange?

- 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>

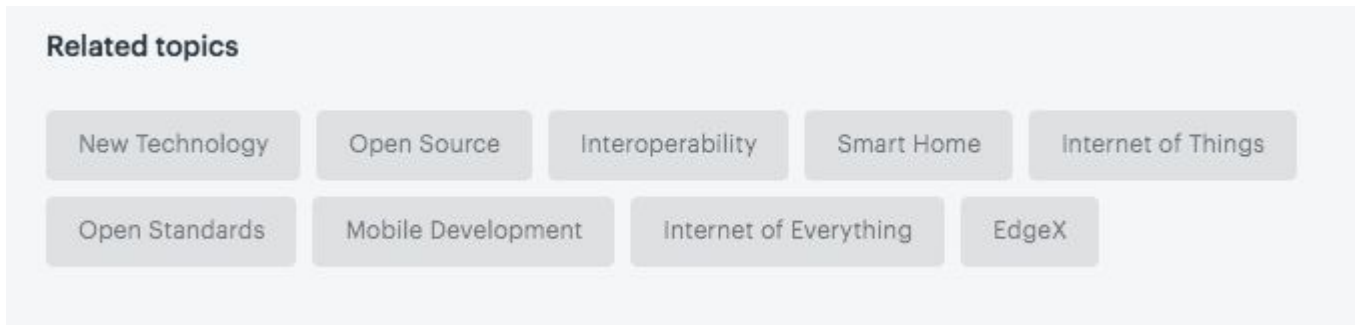


Special thanks to [Dave Bohlman](#) and [KMC Controls](#) for making this awesome kit and how-to guide available to members!!



Meetups

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