EDGEXFOUNDRY™

TSC Meeting

December 11, 2019

edgexfoundry.org | @edgexfoundry
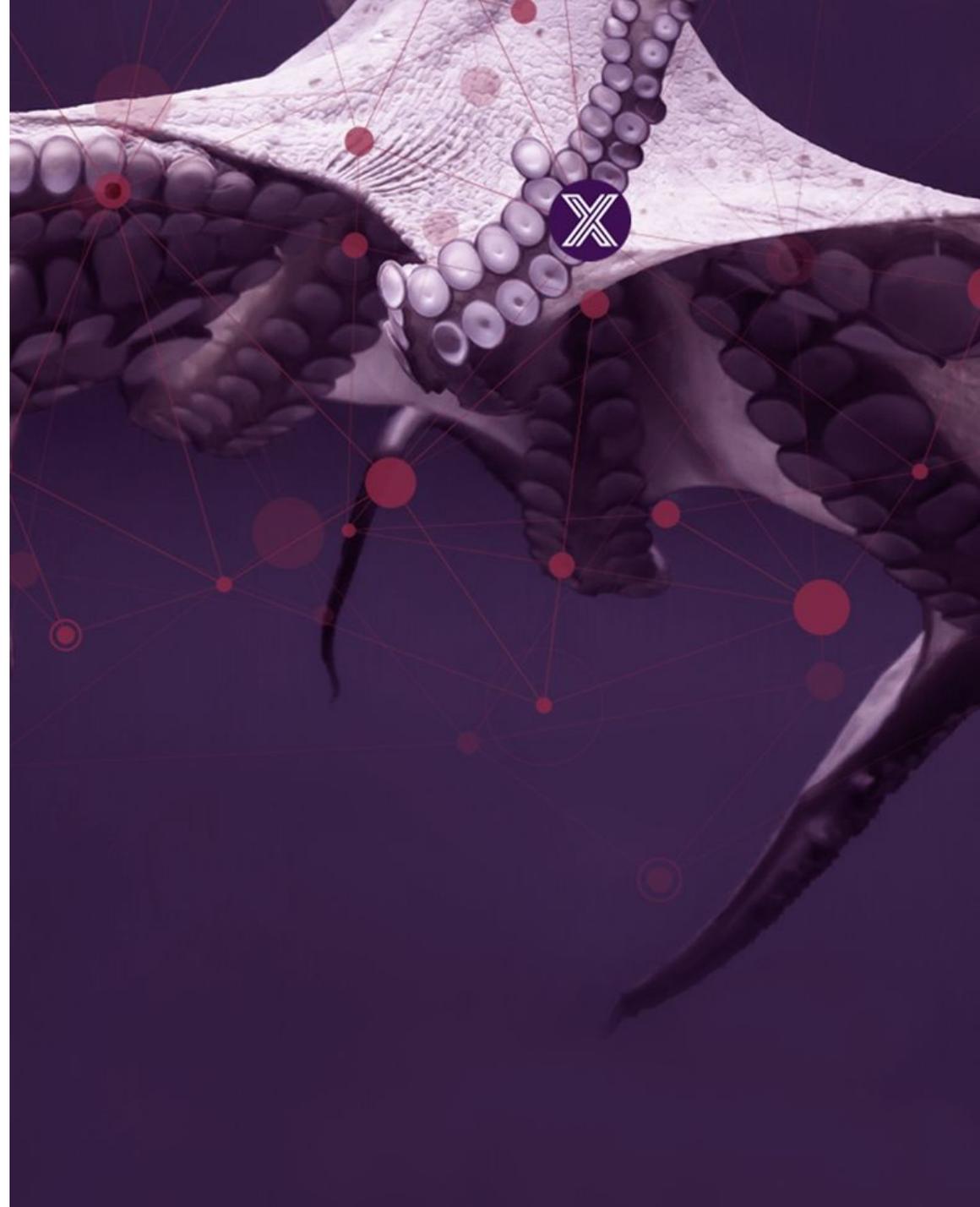
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Meeting Logistics

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:

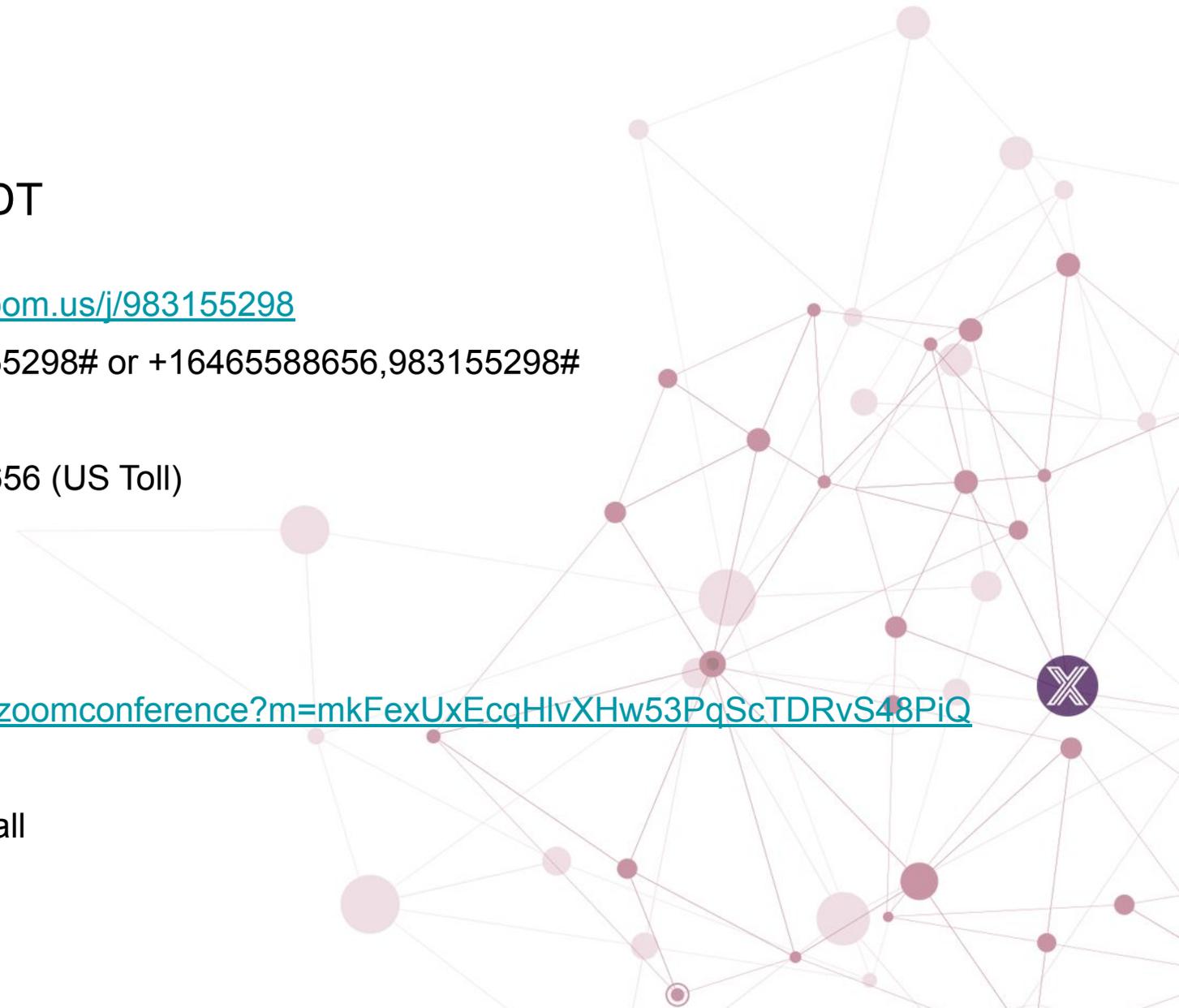Dial: +1 408 638 0968 (US Toll) or +1 646 558 8656 (US Toll)

+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

Company	Name	Email
Intel	Brad Corrion	bradley.w.corrion@intel.com
IOTech	Iain Anderson	iain@iotechsys.com
Intel	James Gregg	james.r.gregg@intel.com
Dell	Jim White (TSC Vice Chair)	james.white2@dell.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

- Weekly arch decisions/actions summary
- WG Updates
- Upcoming Events
- AOB

Weekly Architecture/Action Summary

Per Phoenix F2F

Architecture Decisions / Discussions Summary

Security WG - worked backlog and Geneva priorities

Core WG

- Common service bootstrap / DI container design coming soon
- Go Mod Registry/Go Mod Config split
- Comments on Geneva API by Dec 15
  https://github.com/tsconn23/edgex-geneva-api
- discussion on going on value descriptor changes

DevOps - no meeting

Applications WG

- Rules engine alternatives

System Mgmt WG

- what metrics collection in the future

Cert WG

- Use of CLI

Test QA

- Discussion on where / how to organize TAF tests

Device Service

- 1.1.1 is released, re-release of device services in progress
- On going 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

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 (11-Dec-19)

- Whole Iotta Geneva planning going on
  - ValueDescriptors
  - Dynamic Device Provisioning
  - Module refactoring
    - go-mod-registry (thanks, Lenny!)
    - go-mod-bootstrap now created and populated (thanks, Michael!)
- Work has begun to remove Export services
  - code, docs, tests, etc.
- All Core/Support service APIs redfined in OpenAPI 3.0
  - https://github.com/tsconn23/edgex-geneva-api
  - First pass only. Iterations will follow based on feedback.
- Core WG tomorrow @ 10AM Central/US
  - Cross-WG attendance is encouraged

Applications WG Update (11 December 2019)

- Begun Implementation of Batch And Send
- Rules Engine
  - Will support JsonLogic in App Functions SDK for now
- All Github issues have been groomed (labeled, prioritized, categorized)
- App Working Group Meeting held on Fridays @ 9AM PST

Application Services

Functions (built into SDK)

Current/Complete:

Fuji
- AES Encryption
- GZIP Compression
- ZLIB Compression
- MarkAsPushed
- PushToCore `EXPERIMENTAL`

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

Features

- Store and Forward
- Web Server
- Configurable AppService

Reference/Example App Services (Fuji)
(built on top of SDK)

- Azure IoT Hub (Fuji) `AVAILABLE`
- Amazon IoT Core (Fuji) `WIP`

Device Services WG Update (11-December-19)

- Services 1.1.1 release
- REST device service - in review
- Dynamic Discovery - design phase
- Automatic device migration - considering API implications

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 (11-12-19)

- Blackbox Test
  - Fixed issue [#337](), [#339]()
  - Merged PR [#340](), [#341](), [#345]()
- New Blackbox Test
  - Open [#14]() on edgex-taf under review and merged [#7]() on edgex-taf-common
  - Merged PR [#516]() on ci-management to build taf-common docker image
  - 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 test cases is fixed, waiting for new image to verify.

DevOps WG Update (12-11-19)

Geneva

- Jenkins Transformation to Pipelines
    - Coordination of work needed for GitHub Org plugin changes
    - Once this change is made to Jenkins (production) all of the current Pipelines will build
    - All Geneva Pre-Work completed - moving into Phase 1
- Nexus Life Cycle Policy for images

CommunityBridge - Advanced Snyk Reporting

- No Update - New Product Owner from LF identified - WIP
  https://jira.linuxfoundation.org/servicedesk/customer/portal/4/SUPPORT-715

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

System Management WG Update (12-11-2019)

- System Management service -- work started on Geneva deliverables
  - PR pending for concurrent metrics gathering (Issue 2008)
  - PR pending for concurrent operation execution (Issue 2009)
- CLI
  - Discussions/PoC underway with Q/A
  - Discussed in certification; use as potential certification runner/UI
- Open Horizon -- next action expected on/about Jan 20th
- Discussed additional system-wide metrics ("instrumentation of the code")
  - Focused on near real-time support for EdgeX-specific cross-service metrics (e.g. latency/throughput statistics, validation failures, queue status, etc.)
  - Intend to bring to security group
- Next meeting: December 13th

Security WG Update (12-11-19)

- Ongoing work for token provider server
- Docker-compose file update in blackbox testing due to recent security component bug fix & improvements
- Issues evaluation & triage for Geneva during last security WG meeting
- Next security WG meeting in one hour & will be focusing on issue evaluation

Certification WG Update (12-9-19)

- Discussion on usefulness of the cli effort for certification self-assessment—too early in our schedule to assess
- Next meeting Monday, December 16th, 9 a.m. PST

Vertical Solutions WG Update

Thundersoft launched their TurboX EdgeX distribution:

As an EdgeX distributor, Thundersoft created TurboX based on EdgeX open source version, blended with additional features and supports:

- Ready to use southbound/northbound EdgeX APIs of camera, sensors and clouds;
- Tool for Edge workload deployment and remote management;
- End technical supports and customization.

Release Czar - 12/11/19

- blackbox-testing has been updated to point at the master branch of repositories to track Geneva changes
- In Geneva the major dependency is the API work in the Core WG

Miscellaneous (Jim)

- Architecture Decision Records - do or don't do, require or suggest??
  - Decision @ F2F was to hold off
  - Seems to be a desire to start to us
- Developer Advocate
  - Working with LF on Michael's replacement
  - Working with Michael on tasks to be completed
    - list of roles/responsibilities
      - https://docs.google.com/document/d/1c4yUoQrJYh_PV2g_vMFuxA-u3K5a4eEirXrcdFdPN04/edit#
    - Web site updates - working with Andy
    - List of docs that need to be created - working with WG leads
      - Issue #49 outlines needs (mostly minor fixes)
    - RP3 dev kit - (John Luo from IOTech taking it over)
- ARM system update
  - Waiting for WG leads to specify ARM hardware needs
  - LF Edge Community lab now has request process
  - Linaro has environments
  - We have $20/month for cloud ARM systems

Upcoming Events

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)

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

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 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 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)
  - 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://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
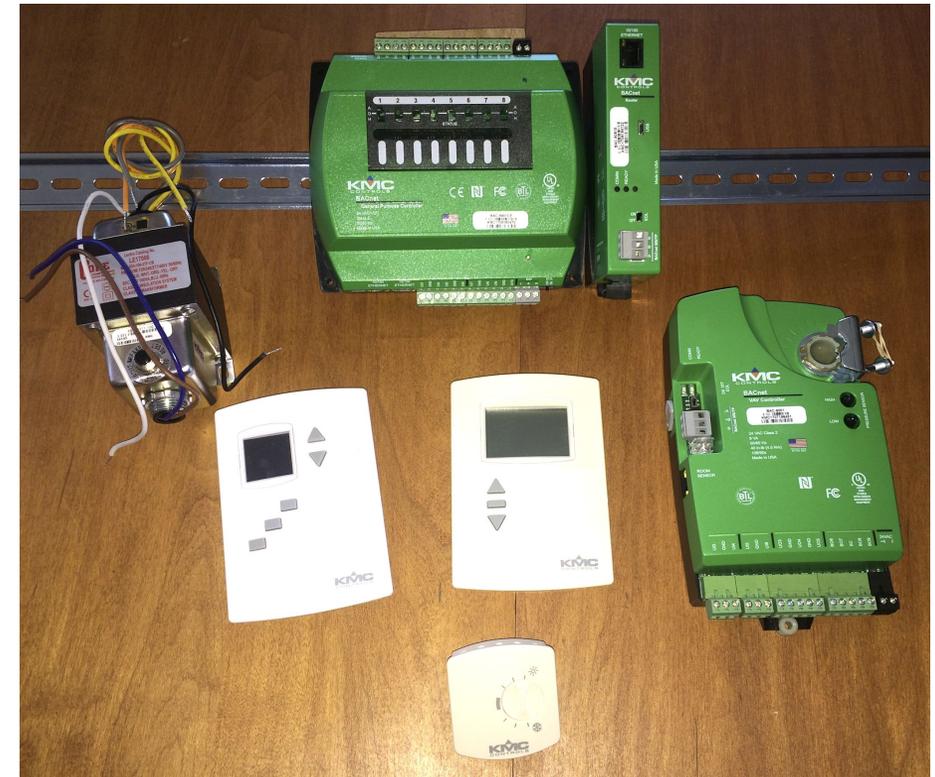
  Call recordings are available on the Wiki

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 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 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

Thank You