TSC Meeting

October 16, 2019

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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/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

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

- Hackathon Readout
- WG Updates
- Fuji release
- Geneva Planning
  - Features
  - Architectural topics
  - Extra time ?
- Phoenix F2F meeting
- Spring 2020 F2F Meeting
- LF Edge request for 2020 priorities - Keith
- Upcoming Events
- AOB

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Chicago Hackathon

Hackathon Review

- 6 Teams, Five Judged
- NUCs, dell gateways and HP MP9s, retail peripherals
- Room networked with private Access Points and a MQTT simulator
- Winners: 1) Volteo, 2) Intel/Intuiface, 3) UST Global
- Johnson Controls and Havi rounded it out
- Started with instructions to install EdgeX and connect a room simulator via MQTT

Team Summaries

- Johnson Controls: months of exposure, used BACNET, some of their peripherals, and an attempted Matlab AS integration
- Havi: inventory management attempt, multiple app services
- UST global: inventory mgmt, Augmented Reality, RFID and POS
- Intel/Intuiface: formed team - simulated data, openvino, POS, interactive kiosk with sensor kit
- Volteo: loss prevention with RFID and multiple system integrations

Hackathon collected comments

We didn't want to learn Golang

Why are we putting data from MQTT into EdgeX just to put it back into MQTT on export?

We think we fixed it but don't want to restart services to pull the configs

Device profiles - complicated configs and restarts

A lot of work to pull data into EdgeX just to do little with it

Wish we had time or knew how to utilize notifications, telemetry, etc

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
  - Updates from Release Czar - Lisa
  - Updates from Dev Advocate - Michael

Core Working Group (16-Oct-19)

- Dependency Injection changes merged
  - I expect this to be the last major change for Fuji
- For the next week, we will be focused on
  - Completing minor outstanding PRs in go-mod-core-contracts
    - Ensuring empty objects don't result in their properties being included
    - This shrinks JSON payload over the wire
  - Limiting rate of change in Core/Supporting services
    - Stability, addressing bugs

Applications WG Update (16-October-19)

- **Ready for Review**
  - Store & Forward
    - https://github.com/edgexfoundry/app-functions-sdk-go/pull/229
- **In Progress**
  - AWS IoT Core
    - Documentation still pending
  - Swagger Documentation
- Contribution from IBM for App Service Configurable for Watson IoT Platform - Thanks John!
- Hackathon teams used App Service Configurable w/out coding
- Rules Engine now being built in CI - Thanks Lisa!

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

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

- Azure IoT Hub (Fuji) **AVAILABLE**
- Amazon IoT Core (Fuji) **WIP**
- Configurable AppService (Fuji) **AVAILABLE**

Device Services WG Update (16-October-19)

- Camera / ONVIF device service moved out of -holding
- OPCUA service in review
- Targeting two priority issues in Go SDK for next week

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 (Oct)
- GPS (Oct)
- Bluetooth (Oct)
- REST
- 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 (15-10-19)

- Blackbox Test
  - Fixed issue [#274](#)
  - Merged PR [#273](#), [#275](#)
  - Issue [#1909](#), [#1911](#), [#1912](#) opened for failed test-cases.
- New Blackbox Test
  - PR [#10](#) on [edgex-taf](#) and [#5](#) on [edgex-taf-common](#) are under review
- RAML -> Swagger conversion
  - Jim has set up a free trial account, waiting for Smart Bear to make it official
  - PR [#357](#) for Device-SDK API document is updated and under review (no progress due to QA team vacation)
  - PR [#1786](#) opened for converting all existing RAML to OAS 3.0 (Swagger)
- Certification Support (no progress due to QA team vacation)
  - Developing test script for device service
  - Made the general test profile

DevOps WG Update (10-16-19)

Fuji Scope

Static Code Analysis Tools

- Snyk Integration with Jenkins `DONE`
    - Configuration of the GitHub repo (edgex-go) and Docker public image for docker-edgex-mongo `DONE`
    - Configure notifications to repo owner and Security WG (SIR team members) - `DONE`

New Jenkins jobs for Fuji

- The following repos have new build automation slotted for Fuji but are currently still in holding
    - device-bluetooth-c, device-gps, regression-test - `BLOCKED`
    - device-bacnet-c - `WIP`

New Issues

- SonarCloud Duplicated code - Identified as a bug by Sonar community
- support-rules-engine - converting to Pipeline job - `DONE`
- Kong ARM64 image - fixed image - `DONE`

** New Meeting Time for DevOps WG **

Next Meeting 10/17/19 @9:00 PST

System Management WG Update (10-16-19)

- Fuji Release Items Completed
  - Metrics collection
  - Set configuration
- Working some additional long standing issues but otherwise Fuji feature complete on sys mgmt
- Geneva Planning Complete
  - All system management (SMA) APIs to be made asynchronous
  - Start/stop/restart all done by the executor to include stop/restart of SMA
  - CLI improvements (TBD)
  - Open Horizon "Walk" (TBD)

Security WG Update (10-16-19)

- Fuji release scope
  - Security features in Edinburgh with code integration into edgeX-go
  - Improvement: increased unit test coverage
  - Improvement: unique certs, by way of generation at run time vs build time
  - Improvement: Cert import
  - Improvement: Credential generation
  - EdgeX client consuming credentials from secret store
- Details of progress can be found
  https://docs.google.com/document/d/1rZEjaMd3KqFGqGMcQNSTgn8-4Wc0ZEh7zCdVSCo7cnE/edit#heading=h.1akr8w5h08fh

Certification WG Update (10-14-19)

- No progress—team on vacation

- Geneva scoping for EdgeX as a whole means that the Certification effort needs to regroup

- Providing feedback to other WGs about what makes for a more Certification-friendly API


- Next meeting this Monday, October 21th, 11a.m. EDT

Vertical Solutions WG Update (10-14-19)

- Moved to new time slot: every other Tuesday @10AM PST
- Held hackathon review (thank you sponsors and volunteers for a fantastic inaugural event!)
- Starting pre-work for TSC conversations around market adoption and usability challenges

Project Metrics

- ## Over 1 million downloads on Docker Hub!
  - ### 275k new downloads in September
    - Est. 65k deployments (20k new)
    - Continues increasing trend from August
- ## September
  - 35 authors (4 new, 139 total)
  - 186 commits
  - 20 repos
  - 151 issues closed
- ## Edinburgh
  - 94 authors
  - 56 reviewers
  - 36 repos
  - 1437 issues closed
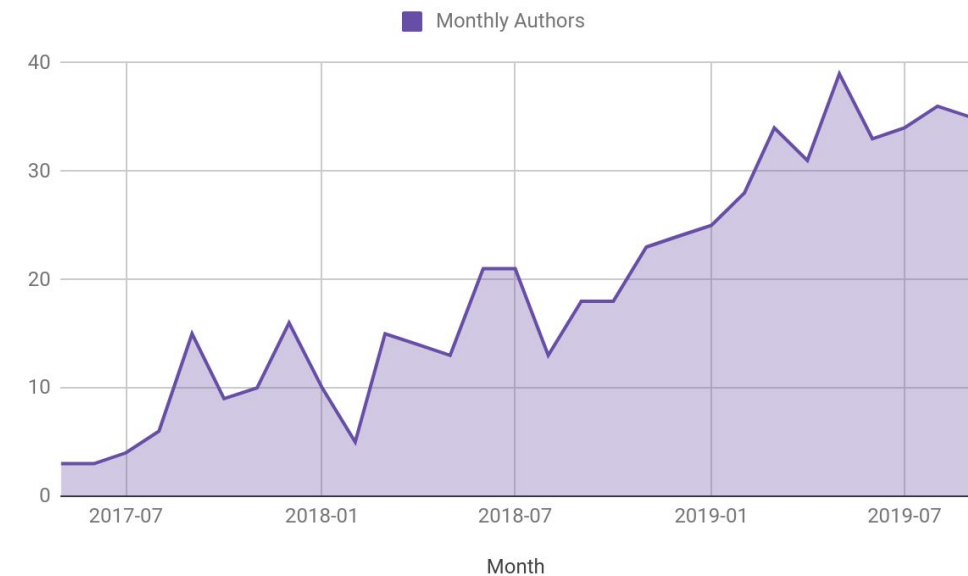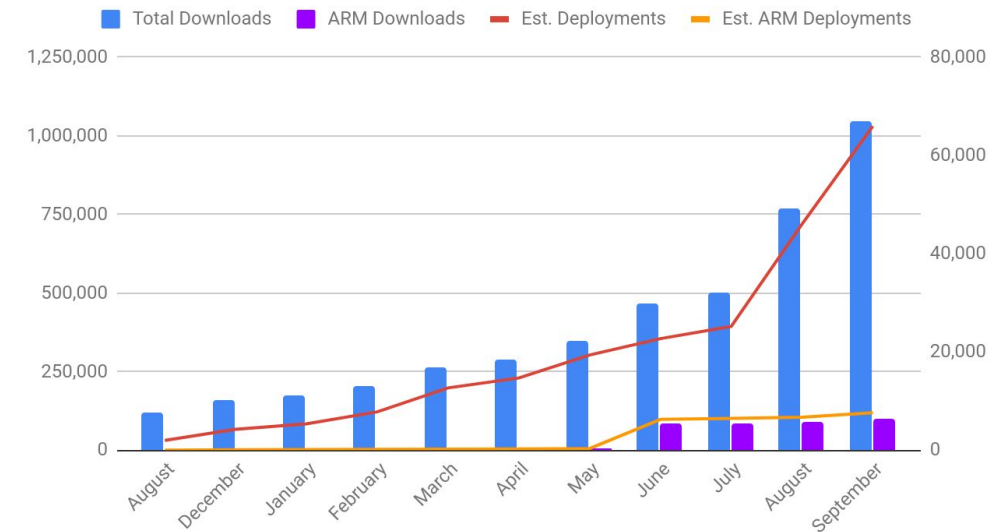
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Fuji Freeze and Release Dates

TSC VOTE REQUIRED!!

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Proposed Freeze and Release dates

- Freeze: Oct 23rd (Wednesday)
- Release: Nov 13th (Wednesday)

Fuji Deliverables at risk or not going to be delivered

At Risk

- ?

Not Gonna Happen

- ?

Current Release page with Lisa's tracking document:
https://wiki.edgexfoundry.org/display/FA/Fuji

Phoenix F2F meeting

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Registration now open

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

- Capacity of 90. Currently with ~45.
- 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

Architect's Day (Nov 4) RSVPs

- Open to all EdgeX contributors or by invitation of TSC member; but does require RSVP
- Attendees (so far)
- WG leads & TSC: Tingyu, Malini, Jim, Michael, Trevor, ~~Iain~~, Steve O (proxy for Iain), Brad, Rodney, James, Keith, Joe, Tony, ~~Robin~~ Andy
- Other RSVPs (9)
  - Lisa (Intel)
  - Lenny (Intel)
  - Eno (Intel)
  - Diana (VMWare)
  - Michael E (Dell)

  Anthony (Dell)
  Andre (Redis)
  Henry (HP)
  Ian (Canonical)

Architect/TSC scope meeting

A group of the architects and TSC members met in Chicago last week to narrow the potential scope and topic list for Geneva

Results are available here:

Geneva Scope

See: scope deck

- Version 2.0 (i.e. there are planned non-backward compatible changes)
- Major themes
  - Improved Security
  - Interoperability testing
  - User guidance on platform needs
    - More performance statistics
    - # of devices/per recommendations
  - Dynamic device provisioning/on-boarding
  - Alternate messaging support (to 0MQ)
  - Archive of Export Services
  - DevOps Jenkins Pipelines

Architectural Topics (part 1)

- How do we fix the issue of missing release deadlines or missing on functions in a release?
    - Mike J to present ideas/policies for improving based on a "train leaves the station on time" approach
- Developer best practices going forward - How to build better developer communications; reduce contention; improve planning
    - James G to present ideas/proposal that came from a sub-group on how we improve
- How can we simplify configuration and bootstrapping?
    - Jim W to present a proposal
- How can we expand our event/reading types to include maps and arrays?
    - Steve O to present a proposal
- Replacing the rules engine in Geneva
    - Malini B to present options (buy v build)
- The Open Horizon project – what's next?
    - Joe P and Jim W to present a plan

Architectural Topics (part 2)

- EdgeX UIs – Combining? Dropping? …
  - Plan presented by UI teams & Jim
- LTS – Fuji nor Geneva are anticipated to be LTS releases at this time. Official criteria for LTS have been loosely established. Discussion and ratification of what LTS means
  - Discussion led by Jim W
- Certification – what do we really want to certify and what do we need in place to do this? When do we want to offer it?
  - Discussion led by Rodney H
- How can we provide better cloud support (AWS, Azure, etc.) without creating a long term maintenance issue?
  - Discussion led by Lenny and Mike
- Collect and record architectural discussion and decisions
  - Discussion led by Jim W
- Other items stemming from Architect's day

F2F Training (so far)

- Intro to EdgeX for users (Alex - VMWare)
- How to build application services with the SDK (Lenny - Intel)
- Intro to Redis & its use in EdgeX (Andre - Redis)

F2F Business Topics

Keith to cover based on marketing meeting

Extra ½ Day at the F2F

Given the scoping exercise, we may have reduced the time need to cover Geneva scope, architecture issues, and backlog review

How can this time best be re-purposed?

- More training
- More business/marketing discussion time
- Hackathon
- Other

Spring 2020 F2F Venue

Keith Steele (our chair / IOTech) has offered to host the spring meeting in Edinburgh Scotland

  ~ April 2020

Thoughts about returning to Scotland?

Would others offer to host in alternate location?

Marketing Committee Meeting

2020 Priorities request from LF

Keith, Camillo, others working on response

What are our 2020 technical / developer priorities?

Upcoming Events

Upcoming External Events

➢ 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
   ○ **Microservices at the Edge - Best Practices: Diana and Malini**
   ○ **From API to CLI. Designing and building a CLI for EdgeX: Alex and Nikolay S**
   ○ **Securely Store IOT Data with IPFS and Distributed Ledger - Trevor Conn**
➢ IoT SWC: 29-31 October, 2019 - Barcelona, Spain
   ○ LF Edge/EdgeX booth
➢ Embedded World: 25-27 February - Nuremberg, Germany
   ○ Call for papers closed, booth opportunities
➢ 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

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Upcoming CFP Due Dates

›

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
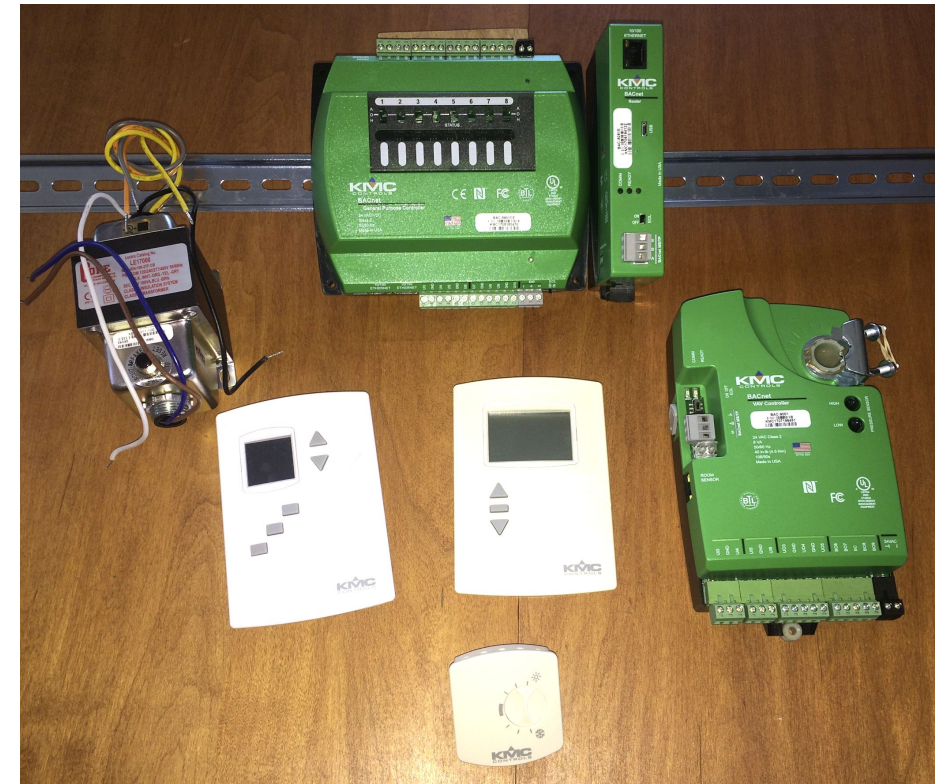
    Call recordings are available on the Wiki

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

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Thank You