EDGEXFOUNDRY™

TSC Meeting

November 20, 2019

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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

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Intel	Brad Corrion	bradley.w.corrion@intel.com
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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
- Fuji release wrap up items
- Upcoming Events
- AOB

Weekly Architecture/Action Summary

Per Phoenix F2F

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Architecture Decisions / Discussions Summary

Security WG

- For Redis – Andre recommends not creating custom credentials – given it is behind the proxy and we have ACL there. Security group recommends protecting Redis instance.
- ARM Blackbox tests fail, unstable - cross group concern

Core WG

- go-mod-registry design proposal deferred to next meeting
- Michael looking to provide common service bootstrap / DI container provided via Go module for next meeting
- Module versioning discussed - more in upcoming meetings

DevOps WG - no major decisions/actions

Sys Mgmt WG

- Asynch APIs - discussed Restful API with token for future restful API callback to get status and metrics results
- Updating readable properties from registry or file and restarting individual services would not be in scope. Updating writable properties in registry implemented; updating writable properties in file is potential future change.

App WG

- App services batch and send functionality/requirements discussed
- Multiple export destinations discussed - on hold but should be rejected?
- go-mod-registry discussions (per core WG)
  - 2 modules/2 separate APIs
  - command line option changes: configuration provider not stored in configuration file and provided by command line option on env var (or not and then points to local file)
  - See https://github.com/edgexfoundry/edgex-go/pull/2133

Arch Dec/Disc Summary 2

Certification WG - no meeting notes

DS WG - no meeting

DS and Cert WG's switching meeting times

Monthly Arch Meeting

- Action – Test/QA provide some strawman/demo of how TAF tests get added to repo to address several questions (see meeting notes)
- ARM issue and need for infra
  - Jim to research available options (Akraino & Linaro)
  - Security and Test/QA to provide DevOps with formula for causing ARM failures in testing or CI/CD
  - DevOps to do some root cause analysis of what happened during security issues in ARM failures in Fuji – infrastructure failures
  - Make decisions after that on what ARM resources we need

Test/QA

- Discussed ARM issues (see Arch Meeting for actions)
- Suspending RAML to Swagger document development for Fuji (not a lot of value and APIs about to change for Geneva)
  - For Geneva, each WG to create their Swagger documents for any service with APIs and post them to SwaggerHub
  - See Robin or Cloud if you want/need tool Swagger design tool
  - Swaggerhub has ability to sync docs to Github if we want to do that.

TestQA wants to switch meeting times with Marketing WG - TBD

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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 - Michael Estrin
  - Certification - Rodney Hess
  - Vertical Solutions - Brad Corrion
  - Updates from Release Czar - Lisa
  - Updates from Dev Advocate - Michael

Core Working Group (20-Nov-19)

- Refactoring continues in master branch to remove global variables from services
  - Following from new service bootstrap via DI container
- Starting to refactor/streamline error handling
  - Includes definition of specific error types
- Geneva OpenAPI specification development continues
  - core-metadata and core-data nearly complete
    - pending design on value descriptors and dynamic device provisioning
    - https://github.com/tsconn23/edgex-geneva-api
  - Expect to have core-command and support services broadly defined by end of November
- Forward-looking topics to discuss in tomorrow's Core WG
  - 10 AM Central

Applications WG Update (20 November 2019)

- **Done**
  - Discussion and planning of Batch & Send Feature
  - Agreed "Ice Boxed" items
    - ZMQ Export
    - HTTPS Trigger
  - Geneva Issues created for project tracking

- **In Progress**
  - Consolidate Cloud Export examples into **app-service-examples** repo in holding
  - Documentation PR Open for Fuji

- **Next Up**
  - TAF tests for Store and Forward
  - Batch and Send Feature Implementation

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 (13-November-19)

- Fuji release
  - One late bugfix landed
  - Some doc/example updates including Attribution files
- Creating issues, project for Geneva agreed scope
- REST device service under review
- No WG meeting 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 (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 (20-11-19)

- Blackbox Test
  - Fixed issue #322, #329, #334
  - Merged PR #333, #336
  - New issues for failed test cases: #332, #337
- New Blackbox Test
  - Open PR #12, #14 on edgex-taf and #7 on edgex-taf-common under review
  - Open PR #516 on ci-management under view
  - Above PRs are for running device-virtual and device-modbus on LF Jenkins
- RAML -> Swagger conversion (No update)
  - API docs are pushed to edgex-api-docs repository
  - API can be synced from swaggerhub to github, but not from github to swaggerhub. We are looking for an alternative solution
- Certification Support (No update)
  - Developing test script for device service
    - Finished testcases: 43 (All completed)
    - Passed testcases : 39, Failed testcases: 4
    - Opened issue #390 for failed testcases.

DevOps WG Update (11-20-19)

Lisa filling in for James

Geneva

- Recap of the Jenkins Transformation to Pipelines Training - Thank you Ernesto!
- Fuji Release finalized by Lisa / EdgeX Foundry Release Czar - Thank you Lisa!
- Clair scan post Fuji completed
- Nexus Upgrade to address build issues and and new GOPROXY cache functionality to address Go Module dependency caching

CommunityBridge - Advanced Snyk Reporting

- New Contact from LF identified with James to follow up

Next Meeting 11/21/19 @9:00 PST

System Management WG Update (11-20-19)

- Reviewed Geneva scope in last meeting
  - Created GitHub project board and issues.
- Next meeting: November 22nd
  - Review SMA/Executor-related Geneva work
  - Review CLI-related Geneva work
  - Review Open Horizon Geneva work
  - Discuss CLI maturity and potential move from holding
- November 29th meeting has been cancelled (US Thanksgiving Holiday)

Security WG Update (11-20-19)

- Target Fuji release
  - Black Box security testing on x86 all successful
  - Black Box testing on ARM had failures - QA group reports progress and fixes
  - Manual test on ARM also failed (Rules Engine, Kong to Postgres)
- Examining and tagging Geneva security items and issues
- Reached out to Linaro/ARM folks on testing infrastructure
- Security best practices doc to be added for Fuji - WIP
- Lenny requested API and support for App Func SDK specific secrets

Certification WG Update (11-18-19)

- Swapping time slots with Device & Device SDK WG
- Creating a repo in holding for self-assessment assets
- Progress update on API rework: Core Data & Metadata
  - Dependent on value descriptor and dynamic provisioning design work that's in progress
  - Pulling in asynchronous communications support being discussed in other working groups
- Discussion on transport agnostic APIs
- Next meeting Monday, November 25th, time TBD

Vertical Solutions WG Update

- Pleased to announce the formation of the "China Project" under the VS WG:
  - Broad market community forum for vendors, partners and end users in China.
  - Chair: Gavin Lu, R&D Director, VMWare CTO Office (gguanglu@vmware.com)
  - First meeting: targeting face to face meeting in mid-December
- Please join me in welcoming Gavin
- We'll be getting LF logistics set up shortly

Miscellaneous (Jim)

- Swagger docs
  - All WG's are responsible for creating Swagger docs for their services
  - Put Swagger docs in SwaggerHub
  - Design tools available (see Robin/Cloud) - we have 25 designer seats
- https://www.edgexfoundry.org/edgex-in-market/ (EdgeX in Market)
  - Currently hosts EdgeX member products/services
  - Are we open to others posting products there?
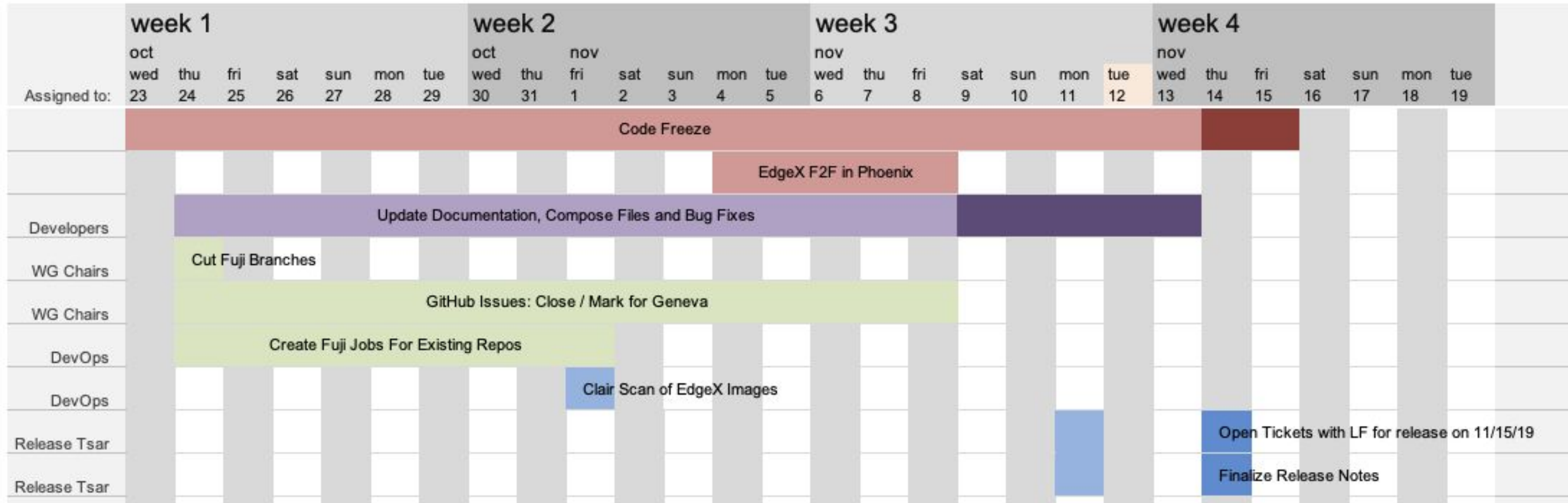 - ObjectBox would like to post there

Fuji Release

Fuji Release dates

Fuji Release Progress 11-20-2019

- Docker images for EdgeX are released on Docker Hub.
- Tags have been added for the rest of the repositories.

Overall the release is complete! Thanks to Eric Ball at the LF for the quick turnaround on this!

Fuji Release Retrospective Board: https://github.com/orgs/edgexfoundry/projects/33

Please add your input we will be reviewing this in the DevOps WG on Nov 21st - tomorrow!

Fuji Release Pain Points (so far)

- Confusion about the Device SDK and when they will be tagged. It was brought up that we need to tag these earlier to update dependencies. <mark style="background-color:green">MINOR</mark>
  - Device SDKs released early for dependency updates
- Snap builds need to be updated to support a different branching strategy. <mark style="background-color:green">MINOR</mark>
  - Order of operations matters in the release. We released app-service-configurable early to include it in the snap.
- Blackbox testing is unstable and failing during execution of the test script <mark style="background-color:red">MAJOR</mark>
  - Blackbox testing has been unstable since ~Oct 23rd for ARM executions
  - We are now seeing some stability issues in the x86 executions as well

Fuji Deliverables at risk or not going to be delivered

- ?

Not Gonna Happen

- Query parameters whose names start with "ds-" will be allowed. They should not be and they will be blocked in future versions.
- overwrite flag (re-upload text-based config to the registry) is not implemented.
- The OnChange option for AutoEvents is not effective on Binary data. So in the case where two successive Binary readings are identical, both will be sent to core-data regardless of the OnChange setting.
- Device services will not unregister from Consul when they shut down.

Current Release page with Lisa's tracking document:

https://wiki.edgexfoundry.org/display/FA/Fuji

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Upcoming Events

Upcoming External Events

➢ IIC Quarterly meeting, Nov 18th, Sydney AUS: Salim AbiEzzi to provide EdgeX update at that meeting
➢ 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

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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 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
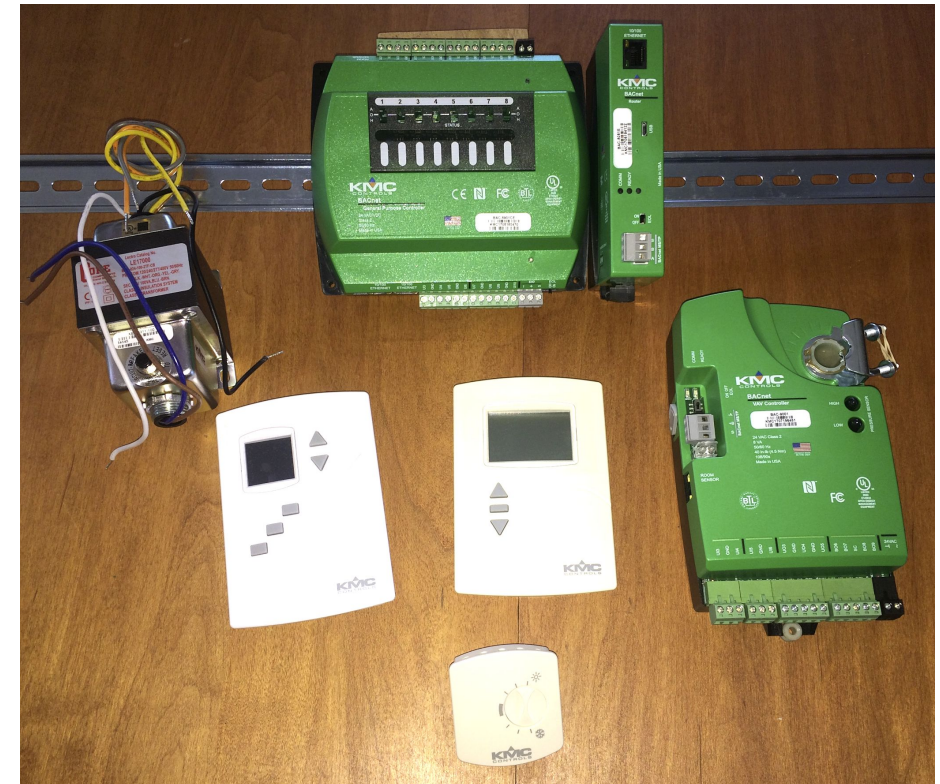
  Call recordings are available on the Wiki

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

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