

EDGE X FOUNDRY™

TSC Meeting

October 23, 2019



LF Antitrust Policy Notice

EdgeX Foundry meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.

Examples of types of actions that are prohibited at EdgeX Foundry meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at <http://www.linuxfoundation.org/antitrust-policy>. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Updegrove LLP, which provides legal counsel to the Linux Foundation.

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/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	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

- WG Updates
- Fuji release - **we are on freeze as of today**
- Phoenix F2F meeting - Geneva Planning
 - Schedule finalization
 - Features & Architectural topics
 - Spring 2020 F2F Meeting
- LF Edge issues
- Upcoming Events
- AOB



EDGE X FOUNDRY™

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 (23-Oct-19)

- Trevor on vacation this week (Michael Estrin is backup)
- Blackbox testing Jenkins failures
 - Identified Sunday night
 - Working session (Ian J, Tingyu, Michael E, Trevor, James G) on Monday
 - Made a couple changes
 - Enabled pipeline build on docker-edgex-consul (should publish to Nexus)
 - Modified default blackbox test run to disable security via env. var.
 - Still no resolution
 - Discussed w/QA-Test WG on Tuesday
 - Action Items
 - Hold working session with IOtech in Taiwan @ 6AM CST this morning
 - As I write this, waiting for the results on that
 - Michael Estrin should be able to provide additional details
- Core WG 24-Oct-19 is cancelled

Applications WG Update (22-October-19)

- **Done**

- Store & Forward!
- Swagger Documentation
- MQTT SkipSSLVerify Setting is now configurable
- Rules Engine now accepts messages from App Service Configurable

- **In Progress (Will be merged by EOD)**

- PR open for Version Compatibility Check with Core
- PR open for overwrite registry config w/ local settings
- PR open for Snap for App Service Configurable

- **Next Up (post code-freeze)**

- Updated black box tests for S&F
- Review Documentation
- Consolidate Examples into one holding-repo

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)
- Amazon IoT Core (Fuji)

AVAILABLE

WIP

Device Services WG Update (23-October-19)

- C SDK Fuji branch cut
- Go SDK later today
 - Awaiting resolution on one issue (possible bugfix or documentation)
- Expect to release device services with Fuji:
 - Modbus, MQTT, Grove/PI, SNMP, BACnet, Virtual
- Expect to release device services post-Fuji:
 - Camera, REST, OPCUA, Bluetooth LE

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 (Nov)
- GPS (Nov)
- Bluetooth (Nov)
- 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 (23-10-19)

- Blackbox Test
 - Fixed issue [#278](#), [#280](#), merged PR [#279](#), [#281](#), [#283](#)
 - Issue [#1909](#), [#1911](#), [#1912](#) on edgex-go for failed test-cases are closed.
 - Recent problems that caused the blackbox test jobs to fail are on their way to be resolved. Two non-security jobs appear to be working. Changes required to get security jobs working.
- New Blackbox Test
 - PR [#10](#) on [edgex-taf](#) and [#5](#) on [edgex-taf-common](#) are merged.
 - Moving edgex-taf and edgex-taf-common to official repositories
- RAML -> Swagger conversion
 - Swaggerhub account is available
 - PR [#357](#) for Device-SDK API document is merged
 - API docs are pushed to [edgex-api-docs](#) repository
 - Waiting for the SwaggerHub new feature to integrate with GitHub
- Certification Support
 - Developing test script for device service.
 - Finished test-cases: 22, remaining 28

DevOps WG Update (10-23-19)

- **Developer Communications Subteam**

- Slack participation from core subteam members
- Rev 1.0 of a deck Work in Progress
- Working to drive some consensus prior to Geneva F2F
 - Good Feedback on use of Pull Request Templates
 - Explore work completed to understand what the role of LF Release Engineering is on setting up branch protections on holding repos and carrying the same setting forward to main Org when moved from holding

- **CommunityBridge - Advanced Snyk Reporting**

- **Device Services**

- docker-edgex-consul Pipeline
- device-camera-go WIP

Next Meeting 10/24/19 @9:00 PST

System Management WG Update (10-23-19)

- Fuji Release Items Completed
 - Metrics collection
 - Set configuration

Security WG Update (10-23-19)

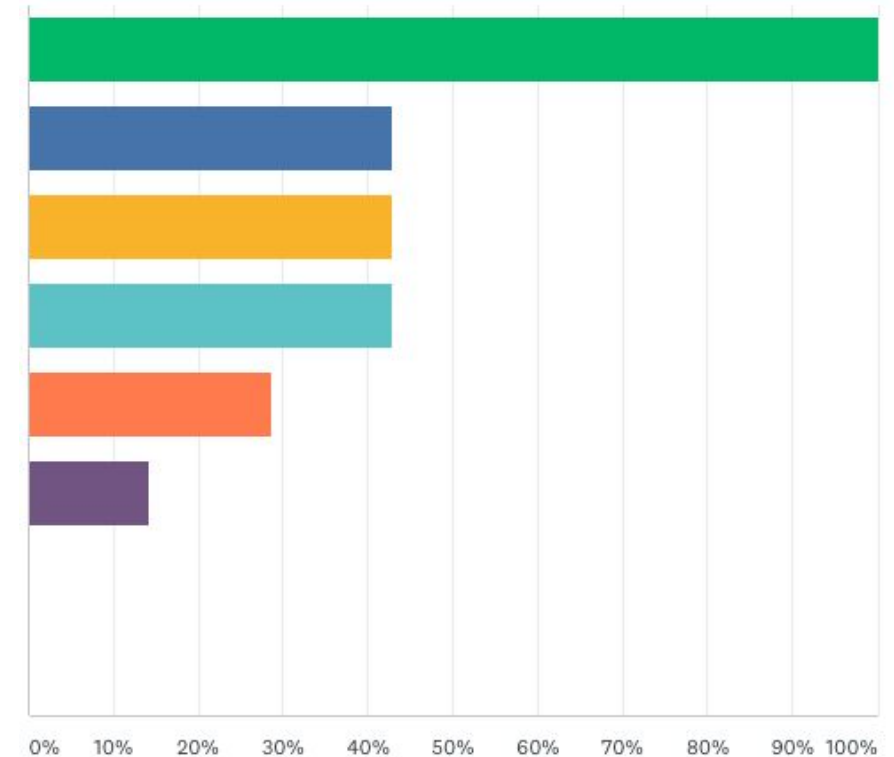
- Fuji release scope
 - Security features in Edinburgh with code integration into edgeX-go
 - Increased unit test coverage
 - Unique certs, by way of generation at run time vs build time
 - 3rd-party cert import
 - Credential generation for MongoDB
 - EdgeX client consuming credentials from secret store
 - Dependence check
- Integration testing started from Oct 21st
 - Mainly on update on docker-compose file

Certification WG Update (10-21-19)

- 6 additional tests released for review/feedback/play!
 - Remaining tests to be completed by end of next week
 - Additional discussion self-assessment UX and on how certification results may be reported/logged
-
- Next meeting Monday, November 18th, 11a.m. EDT

Vertical Solutions WG Update

- Next meeting: Oct 29 10AM PST
- Please fill out the survey!
 - <https://www.surveymonkey.com/r/LGSGFGV>
 - Real graph shown, labels removed to protect the innocent.
 - Already creating some great talking points for the TSC presentation



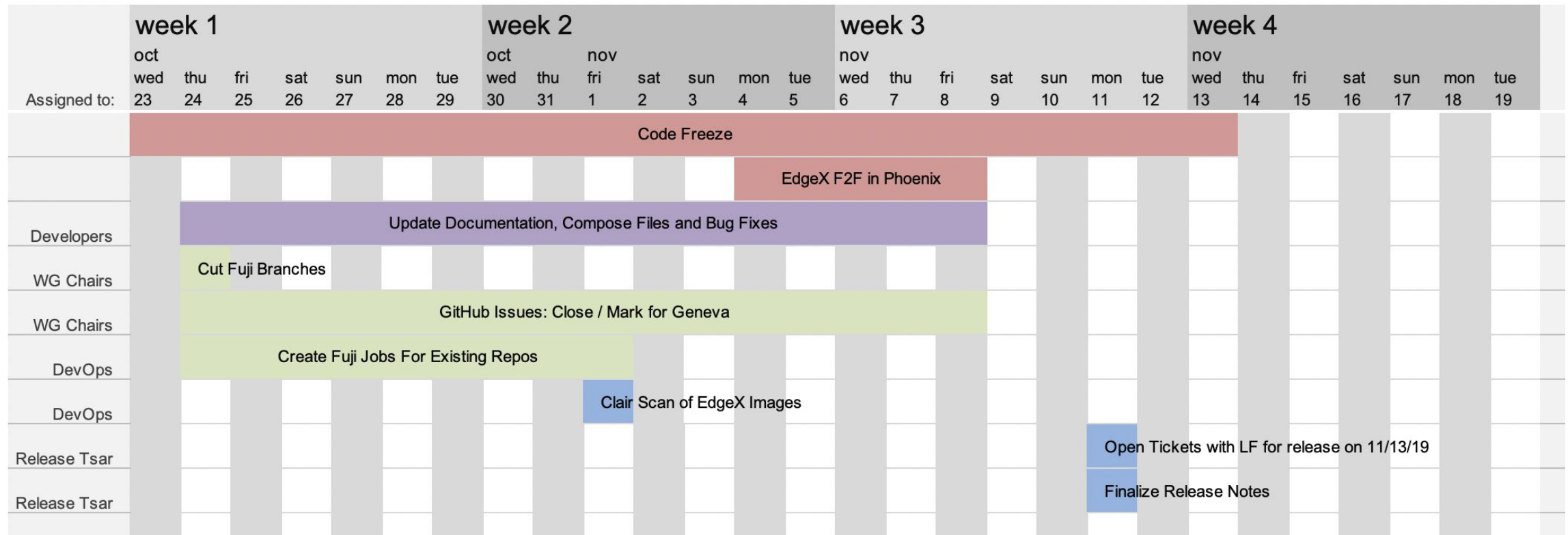


EDGE X FOUNDRY™

Fuji Release

Fuji Release dates

Start Date: 10/23/19



Fuji Deliverables at risk or not going to be delivered

At Risk

- ?

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>



EDGE X FOUNDRY™

Phoenix F2F meeting

Geneva Release Planning

Registration now open

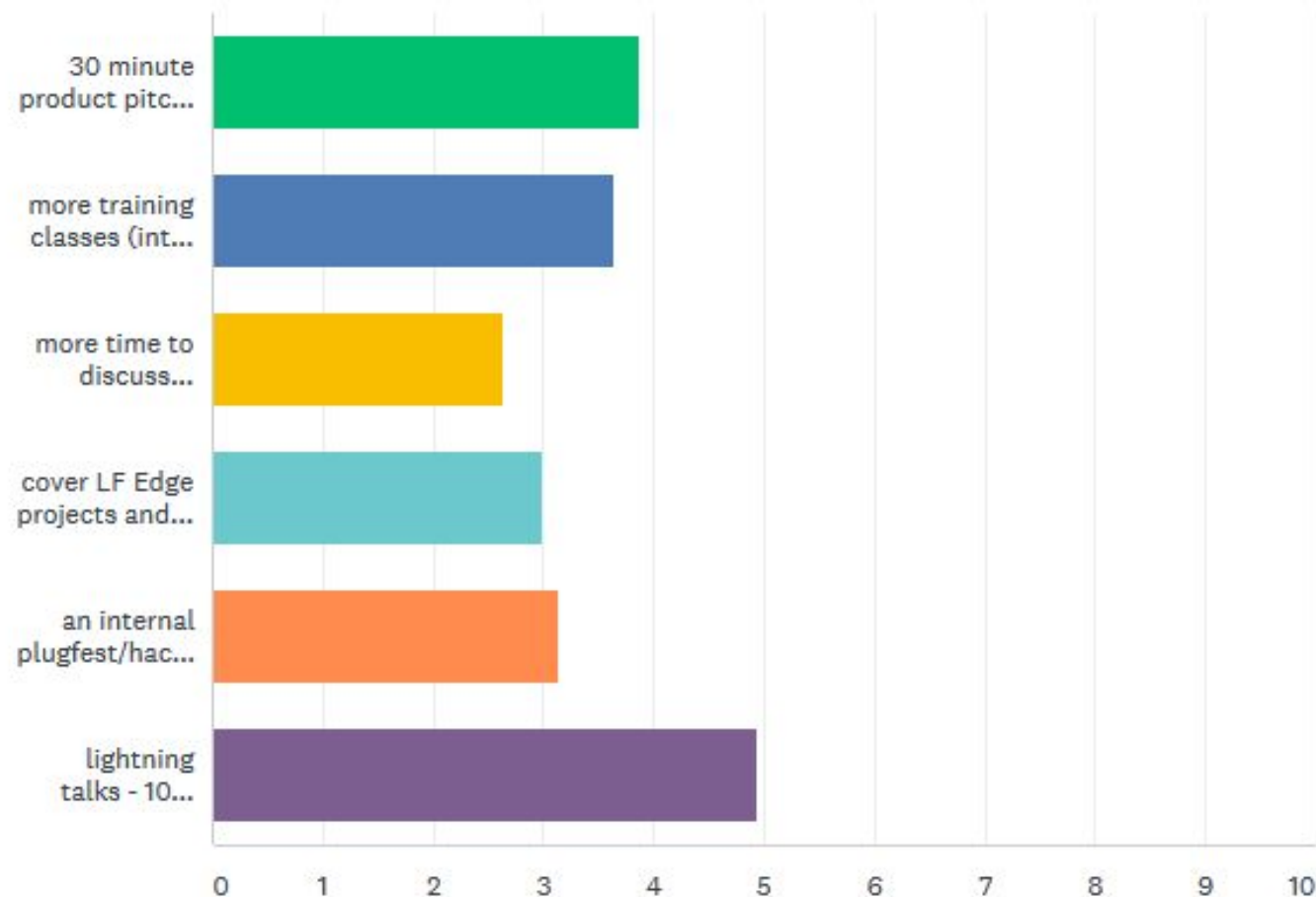
EdgeX TSC Face-to-Face meeting (semi-annual)

- Capacity of 90. Currently 47 registered.
- Nov 4-7th
 - Nov 4th - Architects' topics must be a contributor (have at least one Git contribution) or have invitation of WG chair
 - Nov 5th - Training Day/Biz Topics
 - 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>

Extra 1/2 Day at the F2F

- Per Monkey Survey...
- Contingent on some training / business topic agenda alternates to be reviewed

Answered: 15 Skipped: 0



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

Current Agenda

Nov 4 - Architect's day (all day)

Nov 5 - Training and Business day (Rm 1) - **Plan A**

9am - EdgeX Introductory Tutorial (Alex Courouble - VMWare)

10:00am – Security Services Intro (Malini, Tingyu, Byron, Jim Wang)

11:00am – An introduction to Redis (Andre Srinivasan - Redis)

1:00pm – CLI Tutorial (Alex – VMWare)

1:45pm – Dependency Injection Intro (Michael Estrin – Dell)

2:30pm – Jenkins Pipelines (Lisa/James – Intel)

3:15pm - Application Services SDK and App Configurable lab
(Mike/Lenny - Intel)

Nov 5 - Training and Business Day (Rm 2) - **Plan A**

Starting at 3pm

- Objectives for EdgeX 2020/21 - What's our ideal state
- EdgeX place in LF Edge/Shaping LF Edge
- EdgeX Marketing Priorities/Budgets
 - EdgeX Project marketing Autonomy
 - Co Marketing/Matching Funds
 - Hackathons/Plugfests
 - Digital Marketing Strategy
 - Trade shows plans
 - Website Strategy & Development
- Ecosystem positioning and support
- Vertical Solutions plans
- Certification status/plans

Current Agenda Days 2-3

Nov 6-7 - Edge TSC F2F meetings (Plan A)

•Day 1 – Planning & Scoping Day

- 9am Welcome and intro by Host and Chairman
- 10am Architecture issues tee-up
 - Review and explanation of upcoming items of discussion for day 2
- 11:30am Fuji Wrap Up Planning
- 1pm Project Cadence Check
 - Release Naming
 - April 2020 Venue
- 1:30pm Geneva Planning – what’s in/out
 - Scope definition
 - Per Work Group “Kanban” Creation
- 4pm Future Release Roadmaps - Hanoi and beyond
 - Long range scoping and roadmap review

•Day 2 – Architecture issues day

- 9am Architecture discussion and decisions
- 1:00pm Lightning Talks
- 4pm Action item Review
- 4:30pm Lessons Learned and Hanoi Meeting Changes

Nov 6-7 - Edge TSC F2F meetings (Plan B)

•Day 1 – Planning & Scoping Day

- 9am Welcome and intro by Host and Chairman
- 10am Architecture issues tee-up
 - Review and explanation of upcoming items of discussion for day 2
- 11:30am Fuji Wrap Up Planning
- 1pm Project Cadence Check
 - Release Naming
 - April 2020 Venue
- 1:30pm Geneva Planning – what’s in/out
 - Scope definition
 - Per Work Group “Kanban” Creation
- 4pm Future Release Roadmaps - Hanoi and beyond
 - Long range scoping and roadmap review

•Day 2 – Architecture and Business issues day

- 9am Business Discussions
- 11am Architecture discussion and decisions
- 4pm Action item Review
- 4:30pm Lessons Learned and Hanoi Meeting Changes

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 (11)
 - Lisa (Intel)
 - Lenny (Intel)
 - Eno (Intel)
 - Diana (VMWare)
 - Michael E (Dell)
 - Anthony (Dell)
 - Andre (Redis)
 - Henry (HP)
 - Ian (Canonical)
 - Ernesto (Intel)
 - Emilio (Intel)

Architectural Topics (part 1)

- Geneva API Review

- Trevor C to present (based on <https://github.com/tsconn23/edgex-geneva-api>)

- 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

Spring 2020 F2F Venue

April 2020 (approximate) F2F

- Keith Steele (our chair / IOTech) has offered to host the spring meeting in Edinburgh Scotland
- Dell IOT Center in Limerick Ireland has also offered
 - Wanted us to know that Limerick is a little remote
 - 2hr drive from Dublin
 - 3hr train ride from Dublin
 - Flights to Shannon from London

Thoughts?



EDGE X FOUNDRY™

LF Edge Situation

Current Situation

Akraino has requested Stage 3 (like EdgeX)

- Some (outside telco) believe Akraino is not ready for stage 3
- Requiring a super-majority vote, passing is in question and will be divisive
 - estimated 18 of 21 votes of TAC required at this time - just got voted down 10/23
- Some question what Akraino is
 - umbrella inside an umbrella (if so, who determines what gets into Akraino?)
 - the integration project (if so, where is the integration work?)
- Some of us are also suggesting the staging criteria are way too loose and ill defined
 - integration was supposed to be demonstrated for stage 3
 - stage 1 and 2 projects are looking to accelerate (some competitive to EdgeX)
- Members of EdgeX are not feeling LF Edge has been helpful to our project
 - Marketing efforts and priority have not favored our project
 - Questions about future project funding
 - Competitors have been allowed into LF Edge

EdgeX decision point

With the recent TAC vote, we have a little reprieve, but we need to formulate our reaction and game plan?

- a) take a firm stance and use this stage 3 request to finally get clarity on issues of
 - i) project acceptance and advancement
 - ii) what Akraino is in relation to LF Edge
 - iii) force projects to integrate
- b) recognize that LF Edge is not meeting our needs and attempt a formal withdraw
- c) focus on EdgeX and don't worry about LF Edge; do our thing while they do theirs
- d) acquiesce on the issue of Stage 3 for Akraino; work for improvement in LF Edge; continue as best we can with the other projects
 - i) do the best we can within the confines of the LF Edge community
 - ii) hope there are more benefits being part of something bigger
 - iii) do the best we can with funding/resource priorities and competitive project issues

LF Edge options simplified

Wage war

Withdraw

Withdraw technically (don't participate)

Continue to play nice - deal with the shortcomings

We really need your thoughts and input so we can speak for the community.



EDGE X FOUNDRY™

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 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

Upcoming CFP Due Dates

>



EDGE X FOUNDRY™

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

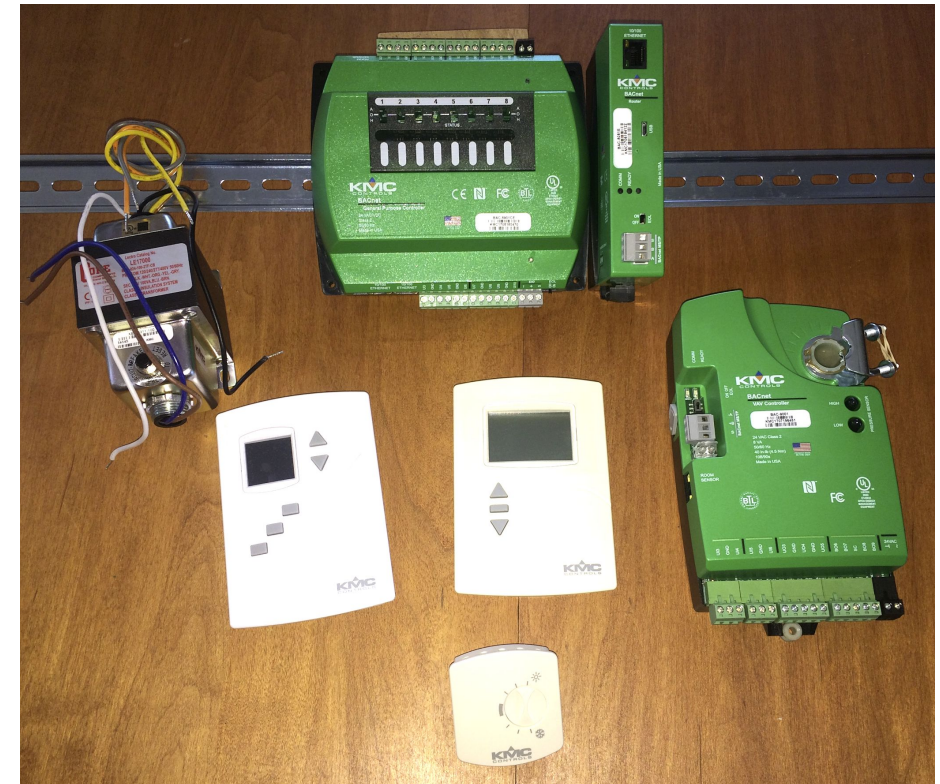
Call recordings are available on the [Wiki](#)

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

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 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



EDGE X FOUNDRY™

Thank You