

A background graphic consisting of a network of blue lines connecting various yellow circular nodes, set against a dark blue gradient background.

LF Edge TAC Technical Advisory Council

30 June 2021

 THE **LINUX** FOUNDATION

 **LF** EDGE

Meeting Details

- › June 30, 2021 (@ 7:00am PDT)
- › Meeting Info:
 - › Meeting URL: <https://zoom.us/j/94796108342?pwd=VjlaMTBxcXFOQ3pVcU85NTJvWkxaZz09>
 - › Calendar Subscription: <https://lists.lfedge.org/g/TAC/calendar>

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LF Edge TAC

Project/Member	Representative	Named Alternate	Project/Member	Representative	Named Alternate
Altran	Shamik Mishra	Nilanjan Samajdar	HP Inc.	Henry Lau	
Arm	Reed Hinkel	Tina Tsou	Huawei	JianGuo Zeng	Gabriel Yuyang
AT&T	Kaustubh Joshi (KJ)		IBM	Joseph Pearson	Ryan Anderson
Baidu	Leding Li		Intel	Jim St. Leger (TAC Chair)	Sharad Mishra
Charter	Jeffrey Saelens	Mohammad Zebetian	Nokia	Tapio Tallgren	
Dell	Trevor Conn		NTT	Takeshi Kuwahara	
Dianomic	Mark Riddoch	Tom Arthur	OSIsoft	Daniel Lazaro	
Equinix	Justin Dustzadeh		Radisys	Adnan Saleem	Prakash Siva
Ericsson	Torbjörn Keisu	Andrew Wilkinson	Red Hat	Anil Vishnoi	Thomas Nadeau
Fujitsu	Toshimichi Fukuda	Hatsumi Iino	Samsung	Moonki Hong	Chi-Hyun Cho
Futurewei	Chaker Al-Hakim	Deepak Vij	Tencent	Yachen Wang	Wei Chen

LF Edge TAC

Project/ Member	Representative	Named Alternate	Project/ Member	Representative	Named Alternate
Western Digital	Jorge Campello De Souza		Akraino	Tina Tsou	Oleg Berzin
Wipro	Subhas Mondal		EdgeX Foundry	Henry Lau	
ZEDEDA	Erik Nordmark	Roman Shaposhnik			

Topics

1. TAC Community Lab Subcommittee: Budget Approval request - *Lincoln Lavoie (10 min)*
2. 5G Super Blueprint - *Chaker Al-Hakim (10 min)*
3. Project Update: EdgeX 2.0 Release (Ireland), EdgeX Ready - *Jim White (20 min)*
4. Project Update: Baetyl integration with EdgeX - *Leding Li (15 min)*
5. Upcoming Events / Next Meeting (*5 min*)

TAC Community Lab Subcommittee:
Budget Approval request
Lincoln Lavoie

TAC Community Lab Subcommittee: Budget Approval request

- › Ask: The annual support contracts for the Cisco equipment: ISR44 (terminal server), Mgmt Switch, and TOR Switch
 - › Need: Mgmt Switch and TOR Switch are shared across all labs for all the PODs. If one goes down, the lab goes out of service
- › Cost: Renewal of support is \$2,935.74 total for 1 year (July to June). Note, the newest TOR switch is not due for renewal until the January time-frame (about \$1k)
 - › Falls within the 2021 equipment/support approved budget
- › Subcommittee Proposal: The lab proposes the renewal of these support agreements, which includes hardware replacement / coverage in event of failures
- › Lab 2021 Budget included \$3,200 allocation for support contracts (planned for 3 devices), did not account for the additional TOR switch added in January 2021
 - › Lab 2021 spend-to-date \$40,396.60

- › **Action Item:** TAC Vote to approve

5G Super Blueprint

Chaker Al-Hakim

5G Super Blueprint

- › Home: <https://wiki.lfnetworking.org/display/LN/LFN+Demo%3A+5G+Super+Blueprint>
- › Clickable dashboard: <https://safratech.net/5g-bp/>
- › Best way to ensure adequate/accurate LF Edge Project Representation is to **join the discussion** (links below)
- › LFN Demo group split into two workstreams that will meet in the same timeslot on alternating weeks. The next meeting is the group working on improving the blueprint. Please attend and give your feedback.
- › [Group Communications](#)
- › **Mailing List:** <https://lists.lfnetworking.org/g/lfn-demo>. Please subscribe to remain up to date on demo evolution and planning.
- › **Bi-Weekly Meeting Calendar:** <https://lists.lfnetworking.org/g/lfn-demo/calendar>. Get the meeting information here.
- › **Slack Channel:** https://join.slack.com/t/lfn-demo/shared_invite/zt-nkmmn4gh-Z5wUZNgo_tOJ958s31PGTQ. See and contribute to the latest technical conversations here.
- › **Meeting Agenda/Minutes:** <https://wiki.lfnetworking.org/x/GgADAw>. Catch up on the latest and see what's coming up.
- › **Questions:** Email: superblueprint@lfnetworking.org

Project Update: EdgeX 2.0 Release (Ireland), EdgeX Ready

Jim White

Project Update: EdgeX 2.0 Release (Ireland), EdgeX Ready

EdgeX's 8th release

Available June 30th

- › Some documentation, examples, migration assistance coming this summer

Our 2nd Major release

- › Major releases include significant new features and non-backward compatible changes



Ireland Major Feature Summary

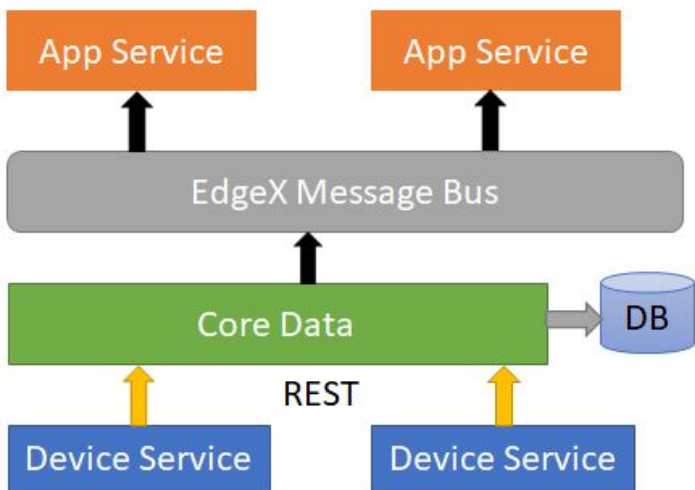
- › All new API set for each of the micro services (the V2 APIs)
- › Simplified Device Profiles (specification for “things”)
- › Device service to App Service via Message Bus
 - › Core data and persistence are optional and secondary subscribers
- › Improved security
 - › Standardized secret provider for all services
 - › Enable Consul API through the API Gateway
 - › Secure Consul access
 - › Streamlined and stabilized the security bootstrapping process
- › New device services (“thing” connectors)
 - › GPIO, LLRP, CoAP
- › New GUI (based on Angular JS)
- › Elimination of tech debt (ex: port assignment)

Why a new API set (the V2 APIs)?

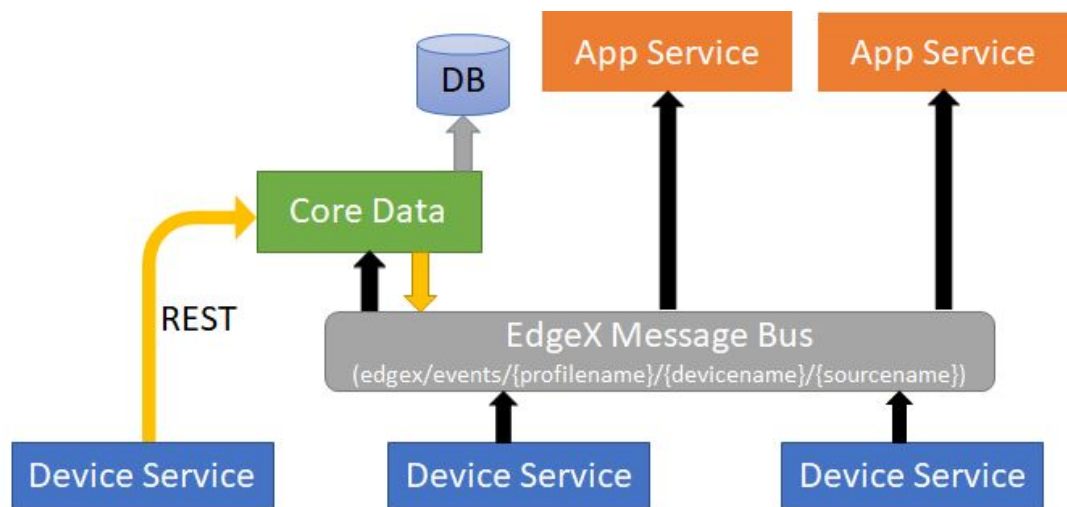
- › Elimination of 4 years of tech debt
- › Provide response objects and consistent status across the APIs
- › Allow tracking of data through the system (correlation id)
- › Setting EdgeX up for new modes of service-2-service communications
- › Allow for more security to be added to the exchange

Data Flow in EdgeX

EdgeX 1.x

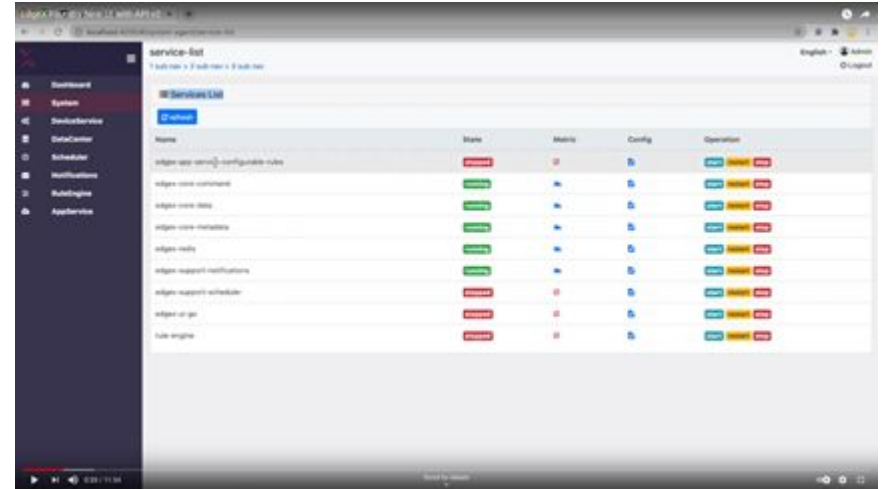


EdgeX 2.0



New GUI

- › Built on Angular.js
 - › Technology more aligned to industry standards
- › Appropriate EdgeX branding
- › Covers all services
- › Much better UX
- › For dev/test/demos but allows others to extend it for production



Non-code Work in this release

- › Upgraded/Improved EdgeX Web Site
- › Improved contribution review process
 - › 4 new organizations contributing under this process
- › Use of conventional commits for code contributions
 - › Providing professional looking release notes and change logs
- › Vetting process for 3rd party dependencies
- › Open Retail Reference Architecture Project started under EdgeX
- › Liaisons
 - › Digital Twin Consortium
 - › AgStack
- › Explosion of adopters in PRC
 - › “EdgeX PRC TSC” started

EdgeX Ready Program



- › Launched with EdgeX 2.0
- › Allowing adopters to demonstrate their ability to work with EdgeX
 - › Signal to community that you have a certain level of EdgeX expertise and knowledge
- › Self-application/assessment process
 - › With community oversight
 - › Community providing tools/templates to help
- › Requirements
 - › Get and run an instance of EdgeX (and associated services)
 - › Create and validate a device profile.
 - › Use the profile with an EdgeX device service to provision a device and send sensor data into EdgeX.
- › Requires adopters to be EdgeX Foundry members
 - › Get “badged” on successful submission
- › <https://wiki.edgexfoundry.org/display/FA/EdgeX+Ready>

Jakarta Planning



- › Semi-annual roadmap and planning session just completed
- › Fall Release - code named Jakarta
 - › Likely EdgeX 2.1
 - › Stabilization release
 - › No significant architecture changes
 - › Only backward compatible changes
 - › Careful with adding new features
 - › Long Term Support Release
 - › Our first LTS
 - › Current plan is to support it for 2.5 years (30 months)
 - › Any critical or high priority issue or CVE will be fixed and ported into the LTS release
 - › Emphasis on expanded testing
 - › Test all configuration options
 - › Test optional service removal
 - › More integration/end-to-end testing
 - › More performance #'s

Project Update: Baetyl integration with EdgeX Leding Li

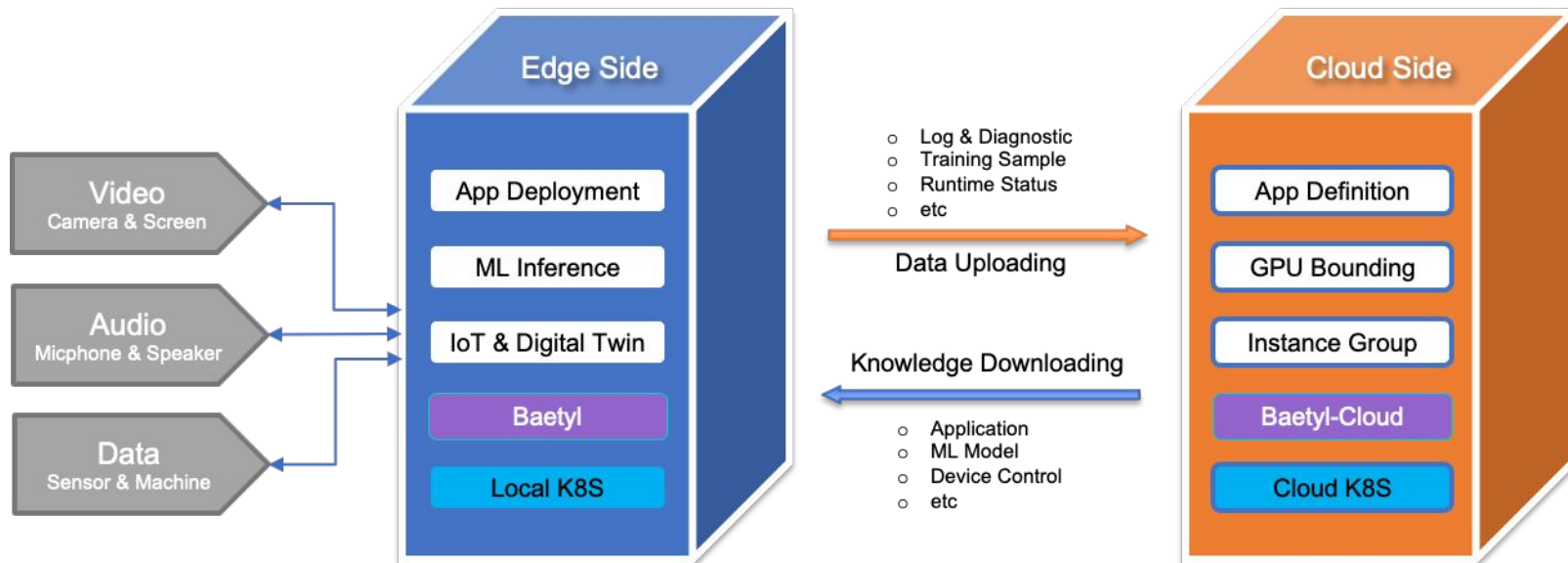


- ❑ More Cloud-Native
- ❑ More Remote Management
- ❑ More Tools & Services

Baetyl new release, v2.2

- ❑ Support for working with EdgeX Foundry
- ❑ Support for Kubernetes DaemonSet applications
- ❑ New API definition for Edge Cluster
- ❑ New API definition for remote logging and debugging
- ❑ New API definition for GPU bounding and monitoring
- ❑ More system modules

Baetyl and EdgeX Foundry



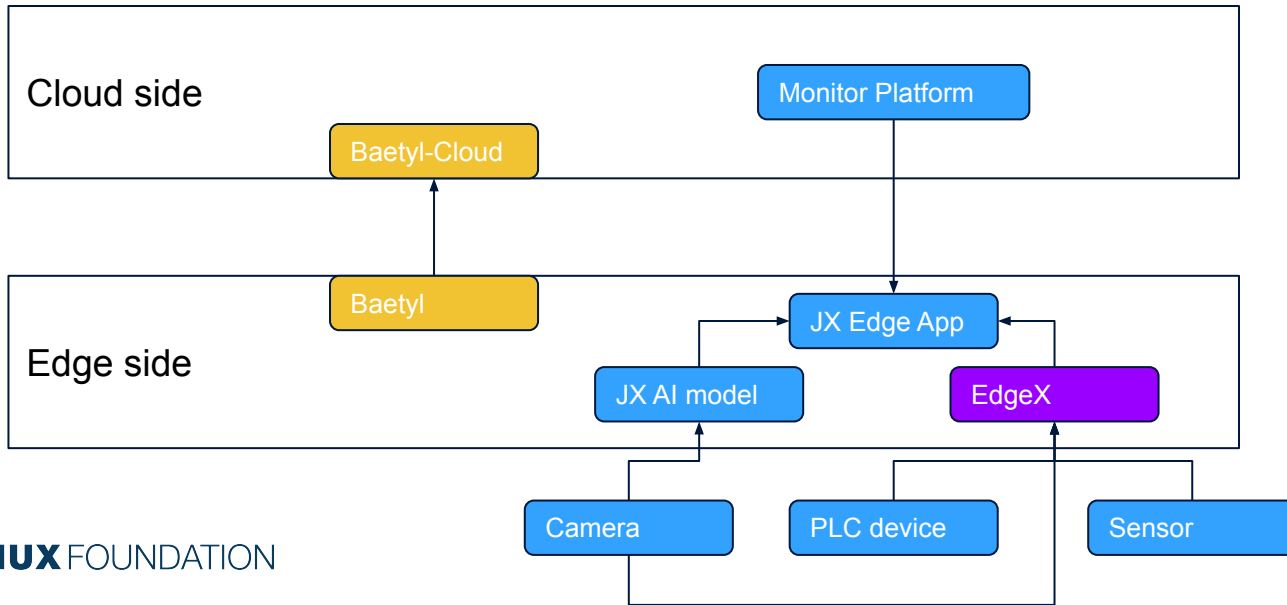
Distribute EdgeX from Cloud to the Edge

- ❑ EdgeX Envolve
 - ❑ Original running as Docker-Compose file
 - ❑ Restructured as K8S Deployment YAML file
- ❑ Baetyl-Cloud
 - ❑ Submit EdgeX YAML file as a new Application Definition
 - ❑ Specify edge node selector, eg. region=Asia
 - ❑ Do a baetyl-deploy
- ❑ Baetyl
 - ❑ Always connected to baetyl-cloud in TLS
 - ❑ Receive a “baetyl-deploy” message and decode YAML file
 - ❑ Do a kubectl-apply to local K8S cluster

A demo in practise

Presented at Baidu's Developer Conference on June 4

- ❑ Baidu - Baetyl v2.2 preview
- ❑ Intel - EdgeX integration preview
- ❑ JjiangXing.ai - Security Monitoring Platform based on EdgeX



Console UI

智慧安监管理平台

首页 监控中心 告警管理 设备管理 AI配置 人员管理 szdemov

实时动态 历史数据

设备列表

设备名称/分组名称

所有设备

- 深圳办公室
 - 推理服务器
 - 测温摄像头
 - CM-1
 - CM-2
 - CM-3
 - CM-4
 - CM-5
 - CM-6
 - 展台TD202
 - 压板展示摄像头
 - 水尺变焦摄像头

实时动态

测温摄像头 06-15-2021 星期二 09:32:45 26.2°C 18.5°C Camera 02 深圳 09:32:46

正在告警 10527

大于20°C 测温摄像头 2天前

大于20°C 测温摄像头 2天前

大于20°C 测温摄像头 2天前

共1条

Upcoming Events

Upcoming External Events

- › [The Global Open Source Technology Conference \(GOTC\)](#): 9-10 July, 2021 - Shenzhen/Shanghai
- › [OSPOCon](#): 27-29 September, 2021 - Seattle, WA (and Virtual)
 - › [CFP](#) closed (notifications July 19)
- › [Open Source Summit](#) / [Embedded Linux Conference](#): 27-30 September, 2021 - Seattle, WA (and Virtual)
 - › [CFP](#) closed (notifications July 19)
- › [IoT Solutions World Congress](#): 5-7 October, 2021 - Barcelona, Spain
 - › **Moved to 10-12 May, 2022**
- › [Open Networking & Edge Summit North America](#): 11-12 October, 2021 - Los Angeles, CA + Virtual
 - › [CFP](#) closed (notifications July 26)
 - › Interest in having some type of community gathering event? At a point to make a call yet?
- › [KubeCon + CloudNativeCon North America](#): 12-15 October, 2021 - Los Angeles, CA + Virtual
 - › [CFP](#) closed (notifications August 2)

- › Discussions around upcoming events occur in the LF Edge Outreach Committee
- › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>

Next Meeting

Next Meeting

- › Next Meeting: Wednesday, July 14 @ 7am PT
 - › Topics
 - › On deck: SDO (6/4/2021) > scheduled for July 14
 - › Annual Reviews Due
 - › SDO (6/4/2021) > scheduled for July 14
 - › Fledge (7/19/21) > scheduled for July 28
 - › EdgeX Foundry (8/26/21)
 - › Future Topics
 - › Open Retail Reference Architecture (July?)
 - › Akraino R5
 - › Other major Project Releases / Announcements on the horizon?
 - › Certification Programs
 - › LTS Releases

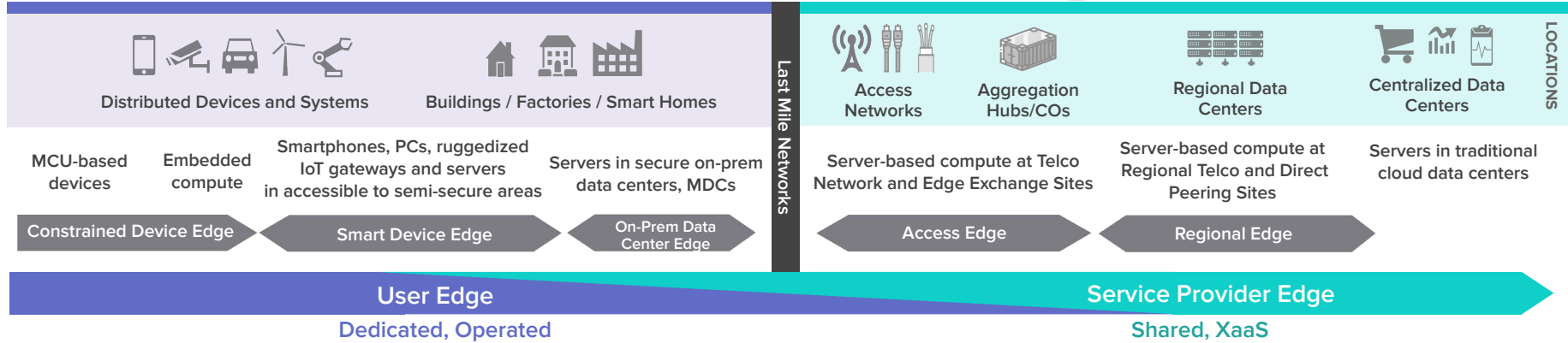
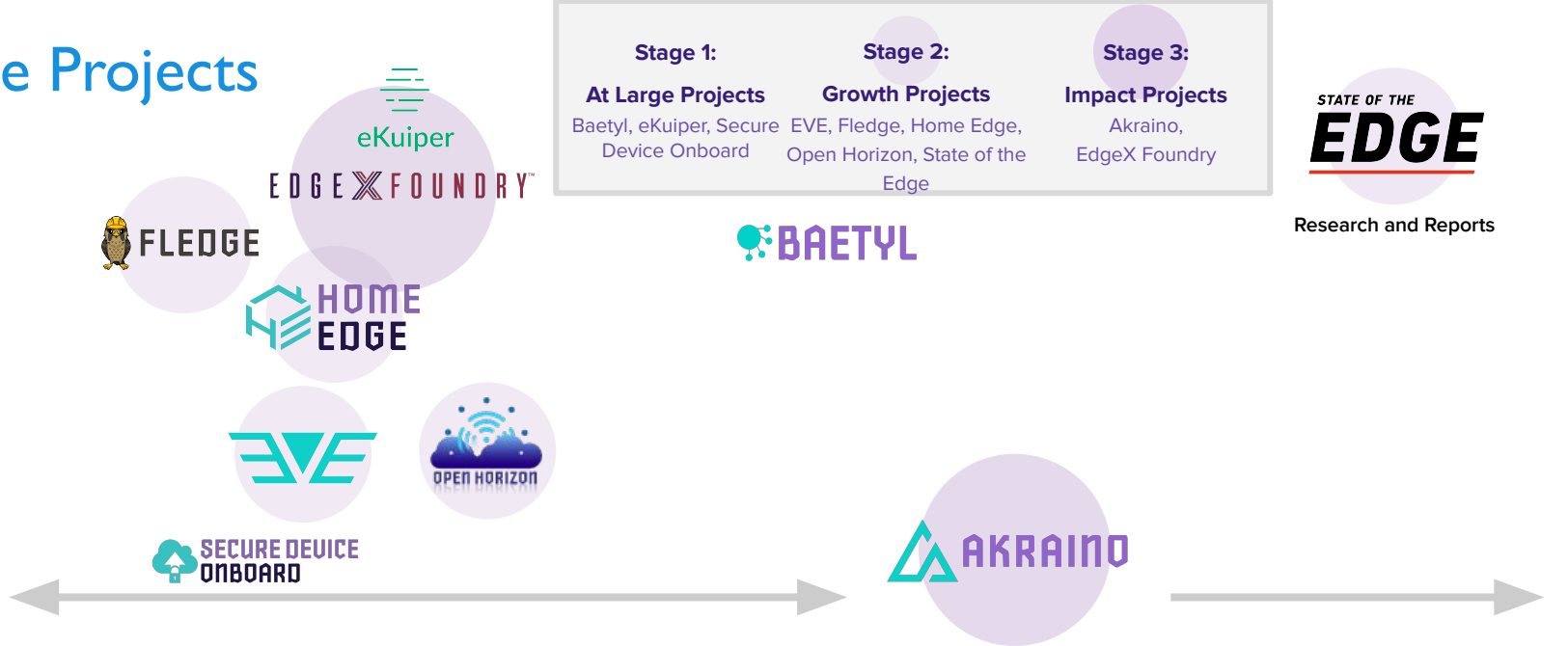
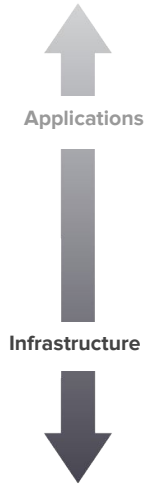
Thank You

Backup/Resources

Upcoming Project Events

- › TBA
- › Projects can add their events to this list by sending the Wiki page listing the information to info@lfnedge.org

LF Edge Projects



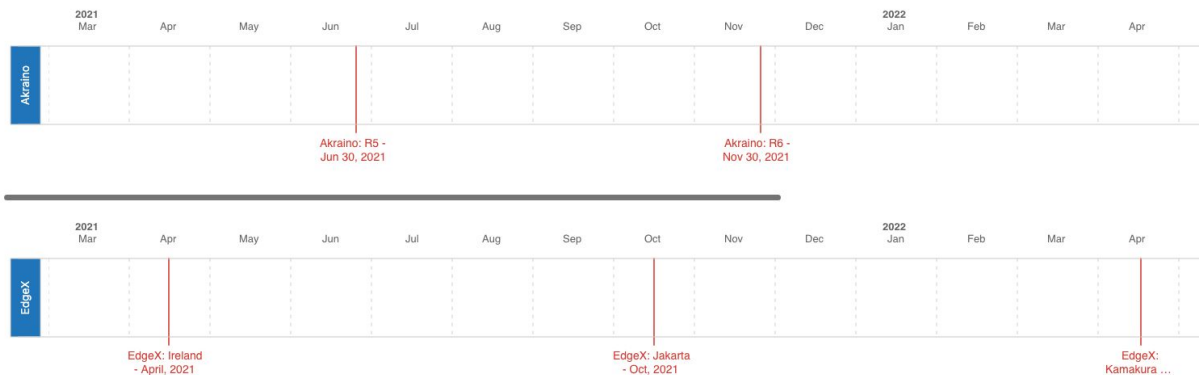
Upcoming Release Calendar

- › Reminder to Projects to please review and update as needed
- › <https://wiki.lfedge.org/display/LE/Upcoming+Release+Calendar>

Release dates are subject to change.

For the latest information on each Project's upcoming releases, or access to prior releases, please visit:

- Akraino - <https://wiki.akraino.org/display/AK/Releases>
- Baetyl - <https://github.com/baetyl/baetyl/releases>
- EdgeX Foundry - <https://wiki.edgexfoundry.org/display/FA/Releases> / <https://wiki.edgexfoundry.org/display/FA/Roadmap>
- EVE - <https://github.com/ff-edge/eve/releases> > waterfall release model
- Fledge - <https://github.com/ff-edge/ff-edge-iot/ffedge/releases>
- Home Edge - <https://wiki.lfedge.org/display/HOME/Roadmap+and+Release+Notes>
- Open Horizon - <https://github.com/open-horizon/anax/releases>
- Secure Device Onboard - <https://github.com/secure-device-onboard/release/releases>
- State of the Edge - <https://github.com/ff-edge/glossary/blob/master/edge-glossary.md>



CII Best Practices Badge

- › Identifies a set of best practices for OSS projects, focusing on security
- › Provides a mechanism for projects to self-certify that they meet these criteria
 - › Automation helps & prevents some false answers
- › Full presentation here:
 - › <https://github.com/coreinfrastructure/best-practices-badge/blob/master/doc/cii-bp-badge-intro.pptx>
- › Website where projects can receive a badge here:
 - › <https://bestpractices.coreinfrastructure.org>
- › EdgeX Foundry, Home Edge and Open Horizon badging already in progress!
 - › <https://bestpractices.coreinfrastructure.org/en/projects/1226>
 - › <https://bestpractices.coreinfrastructure.org/en/projects/4336>
 - › <https://bestpractices.coreinfrastructure.org/en/projects/4300>
- › LF Edge Wiki tracks badge progress here: <https://wiki.lfedge.org/>
- › Proposal: All LF Edge projects be encouraged to get a CII Best Practices badge

TAC - Focus Areas for 2020 (what to emphasize / de-emphasize in 2021?)

Target areas identified for the TAC to direct focus, beyond PLD/Project Review

- 1. Architecture (Tech > LF Edge) - Output: TBD (*White paper?*)**
2. APIs Document, Align and Publish
3. SDO/Consortiums expansion
- 4. Forcing function - Use Case or Deployment > Demo across all projects**
5. Technical overlap/unification
6. Cross Project Collaboration
7. IT Efficiencies

Out of Scope for the TAC (for now)

1. Vertical Solutions (End User / SIG Program)
 - a. At Board/SPC level

LF Edge TAC - Focus Areas for 2021: Continued Discussion

- › One idea raised was for deeper (technical) solution briefs around Use Cases and Deployments
 - › Would require commitment (volunteers) from the TAC, Projects, as well as the SPC
- › (from prior discussion) White Papers
 - › LF Edge level or Project level?
 - › General (2020 introduced taxonomy/Projects) or Specific? (e.g. Security, Telemetry)
 - › Who would be the audience?
 - › Post publishing, vehicle for feedback? Success metrics?
- › Other initiatives?
 - › Open Edge Services Catalog - creation and cross-project support
 - › Common way to document APIs for all the projects

Linux Foundation edX and Training Courses

- › Business Considerations for Edge Computing:
<https://www.edx.org/course/business-considerations-for-edge-computing>
- › Getting Started with EdgeX Foundry (LFD213):
<https://training.linuxfoundation.org/training/getting-started-with-edgex-foundry-lfd213/>
- › Full list of courses available at <https://training.linuxfoundation.org/>

Pushed to Next Meeting