LF Edge Overview

March 2020

LF Edge Summary

Vision: Our software & projects enable rapid productization of Edge platforms by leveraging end user input to drive and supply the necessary building blocks (and/or frameworks, reference solutions) to facilitate integration and interoperability for Edge Computing across Telecom Service Providers, Cloud Providers, IOT & Enterprises

Projects

IMPACT - STAGE 3 | **GROWTH - STAGE 2** | **AT LARGE - STAGE 1**
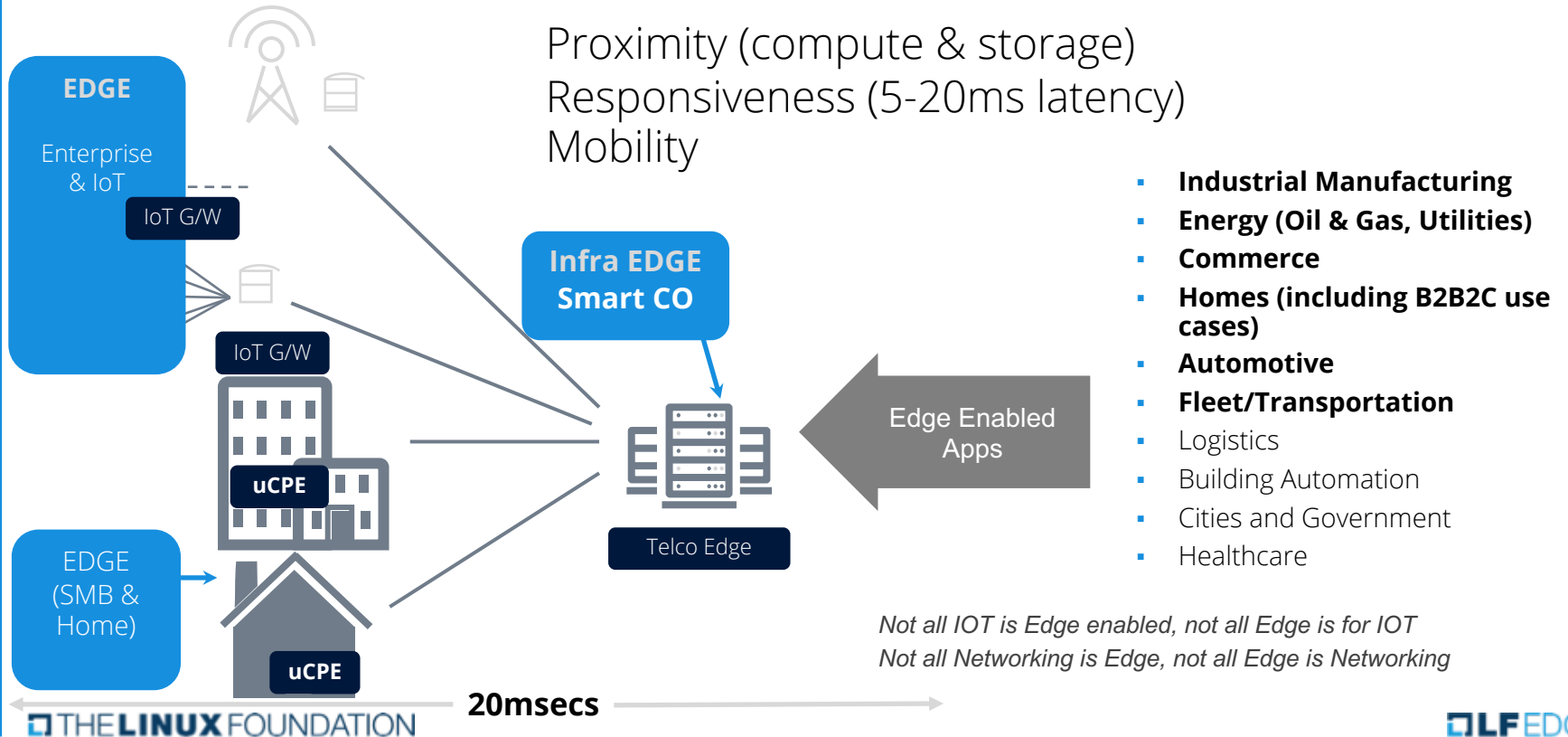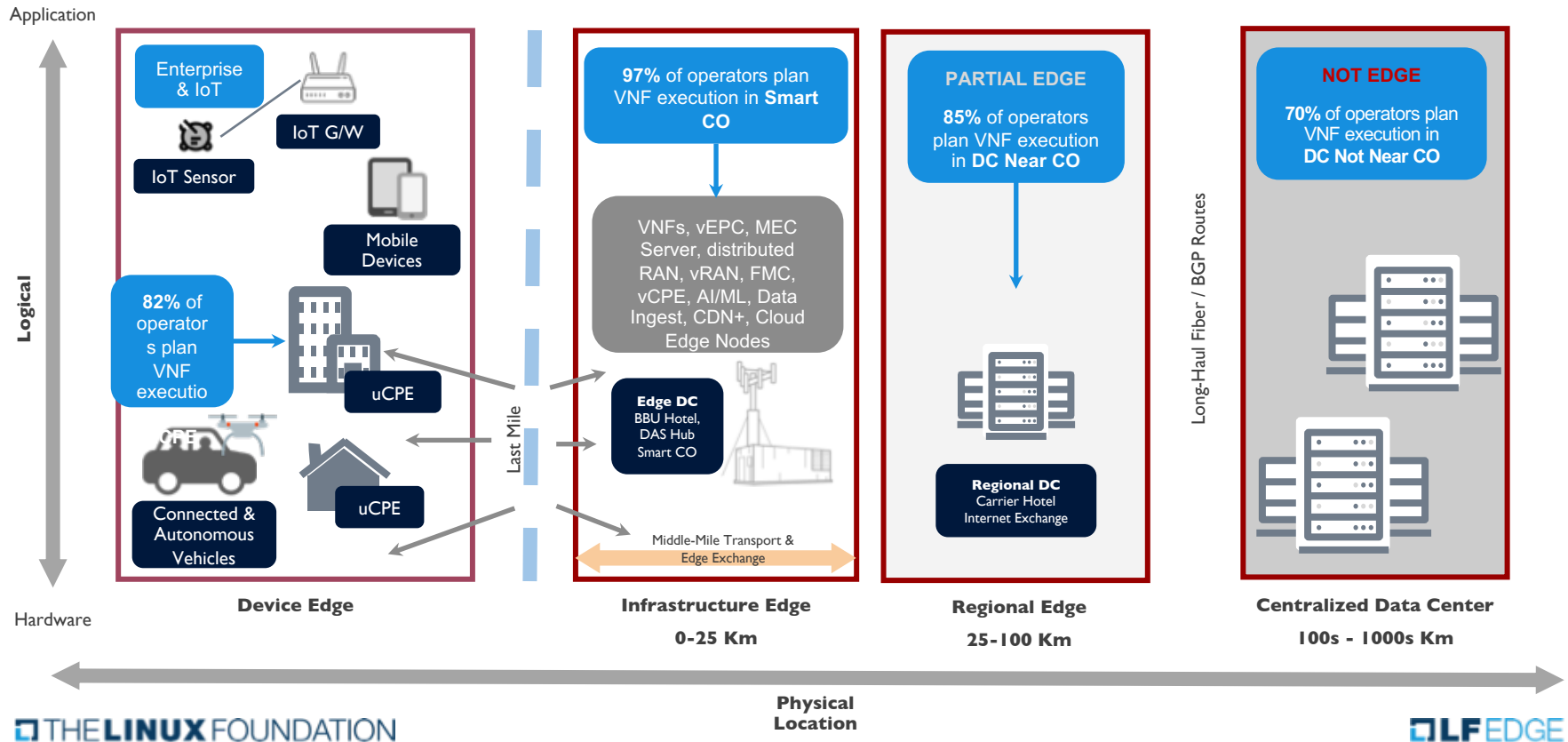

Premier Members

The definition of edge
Finally…. We have the glossary project!

https://www.lfedge.org/projects/openglossary/

Where Are The Edges? A Unified Edge Framework

EDGE

Enterprise & IoT

IoT G/W

IoT G/W

uCPE

EDGE (SMB & Home)

uCPE

Proximity (compute & storage)
Responsiveness (5-20ms latency)
Mobility

Infra EDGE Smart CO

Edge Enabled Apps

Telco Edge

- **Industrial Manufacturing**
- **Energy (Oil & Gas, Utilities)**
- **Commerce**
- **Homes (including B2B2C use cases)**
- **Automotive**
- **Fleet/Transportation**
- Logistics
- Building Automation
- Cities and Government
- Healthcare

Not all IOT is Edge enabled, not all Edge is for IOT
Not all Networking is Edge, not all Edge is Networking

20msecs

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LF EDGE

How do devices and applications map to the edge?

Application

Logical

Hardware

Enterprise & IoT

IoT G/W

IoT Sensor

Mobile Devices

82% of operators plan VNF executio

uCPE

CPE

Connected & Autonomous Vehicles

uCPE

Last Mile

Device Edge

97% of operators plan VNF execution in **Smart CO**

VNFs, vEPC, MEC Server, distributed RAN, vRAN, FMC, vCPE, AI/ML, Data Ingest, CDN+, Cloud Edge Nodes

Edge DC BBU Hotel, DAS Hub Smart CO

Middle-Mile Transport & Edge Exchange

Infrastructure Edge

0-25 Km

PARTIAL EDGE

85% of operators plan VNF execution in **DC Near CO**

Regional DC Carrier Hotel Internet Exchange

Regional Edge

25-100 Km

Long-Haul Fiber / BGP Routes

NOT EDGE

70% of operators plan VNF execution in **DC Not Near CO**

Centralized Data Center

100s - 1000s Km

Physical Location

LF Edge – Unified umbrella for Edge Projects

AKRAINO EDGE STACK

Aims to create an open source software stack that supports high-availability cloud services optimized for edge computing systems and applications.

BAETYL

Baetyl offers a general-purpose platform for edge computing that manipulates different types of hardware facilities and device capabilities into a standardized container runtime environment and API, enabling efficient management of application, service, and data flow through a remote console both on cloud and on prem.

EDGEXFOUNDRY

Highly flexible open source software framework that facilitates interoperability between heterogeneous devices and applications at the IoT Edge, along with a consistent foundation for security and manageability regardless of use case.

EDGE VIRTUALIZATION ENGINE

An open abstraction engine that simplifies the development, orchestration and security of cloud-native applications on distributed edge hardware. Supporting containers, VMs and unikernels, EVE provides a flexible foundation for Industrial and Enterprise IoT edge deployments with choice of hardware, applications and clouds.

FLEDGE

Fledge is an open source framework and community for the Industrial Edge. Architected for rapid integration of any IIoT device, sensor or machine all using a common set of application, management and security REST APIs with existing industrial "brown field" systems and clouds.

HOME EDGE

Interoperable, flexible, and scalable edge computing services platform with a set of APIs that can also run with libraries and runtimes.

OPEN GLOSSARY OF EDGE COMPUTING

Uses common dictionary-making techniques to maintain a database of canonical definitions for components and concepts important to edge computing. By advocating for industry-wide adoption of common terms, the project seeks to improve dialog and understanding. The project also maintains the Edge Computing Landscape.

LF Edge 2020: Summary

1. *Unifying* Open Source Edge *Communities & frameworks* across IOT, Enterprise, Cloud & Telecom Edge and grow community
   › Launch education and training courses beyond thought leadership/glossary

1. Keep LF Edge *Open & Interoperable* with
   › Hardware, Silicon, Cloud, OS, Protocol independence
   › Bringing the best of telecom, cloud, IOT & enterprise – location, latency & mobility

1. *Collaborate and Integrate* with upstream and downstream OSS communities and drive additional value by new projects across verticals with Blueprints to accelerate deployment of use cases
   › Focus on Cross Project collaboration (including demos, whitepapers..)
   › In collaboration with Consortiums/SDO (IIC, AECC, OEC, ETSI)
   › Align Major events around IOT SWC & ONES (expanded to include Edge)

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LF EDGE

Premier Members

General Members

Associate Members and Liaisons

LF Edge Marketing & Communications

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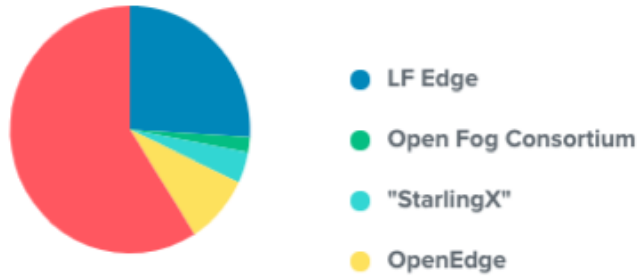
2019 LF Edge - by the numbers, since launch (Jan 2019)

- › 10 Press releases
- › 108 Original feature articles
- › 9,000+ Mentions in articles
- › 50+ Media interviews
- › 40+ Analyst briefings
- › 5 Tradeshows with on-site booth
- › 22+ industry events with LF Edge speaking engagements

- › 10 Meetups, hackathons, workshops or F2F project meetings
- › 20+ Blogs
- › 7 Project datasheets
- › 176,500 LF Edge web views
- › 49,200+ New users on the website
- › 1,050+ followers on @LF_Edge
- › 6.7 Million+ potential impressions on social media
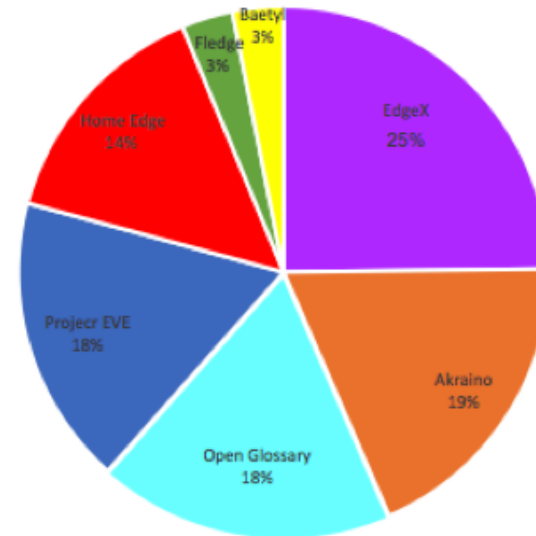
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LF EDGE

2019 Share of Voice

› Mentioned online in more than 9,000+ articles

› 26% SOV for the year, only behind Industrial Internet Consortium

- LF Edge
- Open Fog Consortium
- "StarlingX"
- OpenEdge

● LF Edge		**26%**
● Open Fog Consortium		**2%**
● "StarlingX"		**4%**
● OpenEdge		**9%**
● Industrial Internet Consortium		**59%**

Mentions By Project

EdgeX 25%
Akraino 19%
Open Glossary 18%
Projecr EVE 18%
Home Edge 14%
Fledge 3%
Baetyl 3%

▪ EdgeX Foundry   ▪ Akraino Edge Stack   ▪ Open Glossary of Edge Computing   ▪ Project EVE   ▪ Home Edge   ▪ Fledge   ▪ Baetyl

Top Original Feature Headlines

Bringing open-source rhyme and reason to edge computing: LF Edge

Why the Linux Foundation's New Project May Prove Transformative

A New Linux Foundation Effort for the Edge

LF Edge aims to be a one stop shop for open source edge computing

Project EVE Seed Code Drops, Creates Virtualization Standard for Edge Devices

Akraino Edge Stack makes its formal debut with telco-specific architecture blueprints for 5G and IoT

EdgeX Foundry Reaches Commercial Readiness as Linux Foundation Arms IoT Edge at Scale

Open Source Networking Industry Rapidly (In Some Cases) Moves To The Edge

Thought Leadership

- 22 Industry events across the globe that featured LF Edge thought leaders
- LF Marketing secured 16 speaking engagements, panel opportunities, dev wor

Media and Analyst Briefings

Almost 100 briefings with various project leaders:

> Arpit Joshipura, Keith Steele (IOTech), Jason Shepherd (Dell), Erik Nordmark (Zededa), Tina Tsou (Arm), Kandan Kathirvel (AT&T), Matt Trifiro (Vapor.io), Chris Timmins (Intel)
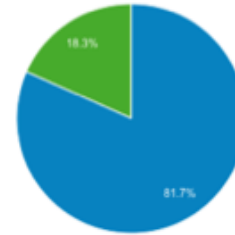
Online Presence - LF Edge Website

Launched on January 24- December 2019

- 176,500 pageviews, 49,200+ Visitors

- Most clicked on: Akraino, About LF Edge, EVE, Members, EdgeX Foundry

- Top Referrals: Linux Foundation, EdgeX Foundry, GitHub, Baidu, Akraino

  Zededa, Linux Foundation Japan, Bing China, NTT Japan, Samsung Open

- Top Sources: Direct, Google (organic), LF website, EdgeX website, Twitter

- Spikes from launch, announcements, tradeshows (Sept - ONS EU)

New Visitor   Returning Visitor

18.3%

81.7%

Users from:

1. 🇺🇸 United States
2. 🇨🇳 China
3. 🇮🇳 India
4. 🇯🇵 Japan
5. 🇩🇪 Germany
6. 🇬🇧 United Kingdom
7. 🇰🇷 South Korea
8. 🇨🇦 Canada
9. 🇫🇷 France
10. 🇹🇼 Taiwan

March 2019   May 2019   July 2019   September 2019   November 2019

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LF EDGE

2019 Online Presence - Twitter

Launched in January

- 1,052 followers

- Created 528 posts but earned 5,542 (mentions by members, media, followers)

- 6.7 million potential impressions

- Our tweets received 11,136 engagements (likes, RTs, replies, link clicks)

- Top three tweets this year

LF Edge @LF_Edge — Jun 26, 2019

.@LF_Edge's Open Glossary of #EdgeComputing is building momentum with four main projects this year. @VaporIO's @mtrifiro and Alex Marcham share the plans and roadmap in this new #blog post: bit.ly/2XArFxk #edge #LFEdge

👁 23.9k ↩ 0 🔁 8 ♥ 13

LF Edge @LF_Edge — Jul 11, 2019

Please join us in congratulating the @EdgeXFoundry community for the launch of the Production Ready Edinburgh release that provides an #open platform for #IoT #EdgeComputing to a growing global ecosystem! Learn more: bit.ly/2xF8QdO

EDGEXFOUNDRY

EdgeX Foundry's Production Ready Release Provides Open Platform for the IoT Edge Computing to a Global Ecosystem

👁 23.7k ↩ 1 🔁 12 ♥ 15

LF Edge @LF_Edge — Aug 6, 2019

If you're in San Diego or will be on-site for @linuxfoundation's #OSSummit #LFELC, join us to learn more about the @LF_edge umbrella, #Akraino #Edge Stack, @EdgeXFoundry, #HomeEdgeProject, Open Glossary of #EdgeComputing, Project EVE, use cases & more! bit.ly/lfedge-osselc-...

State of the (LF) Edge

👁 15k ↩ 0 🔁 8 ♥ 12

2020 Social Media Stats

Social Media (Twitter, LinkedIn, Youtube):
- 7,567 followers
- Launching LF Edge LinkedIn and Youtube in the next few weeks
- Wechat - 642

Web Site (Jan 1, 2019- Jan 29, 2020):
- 55,461 users
- 198,212 pageviews

Other stats
- Member email list – 269
- Slack users – 1,207

Swag tools:
- Sticker Mule
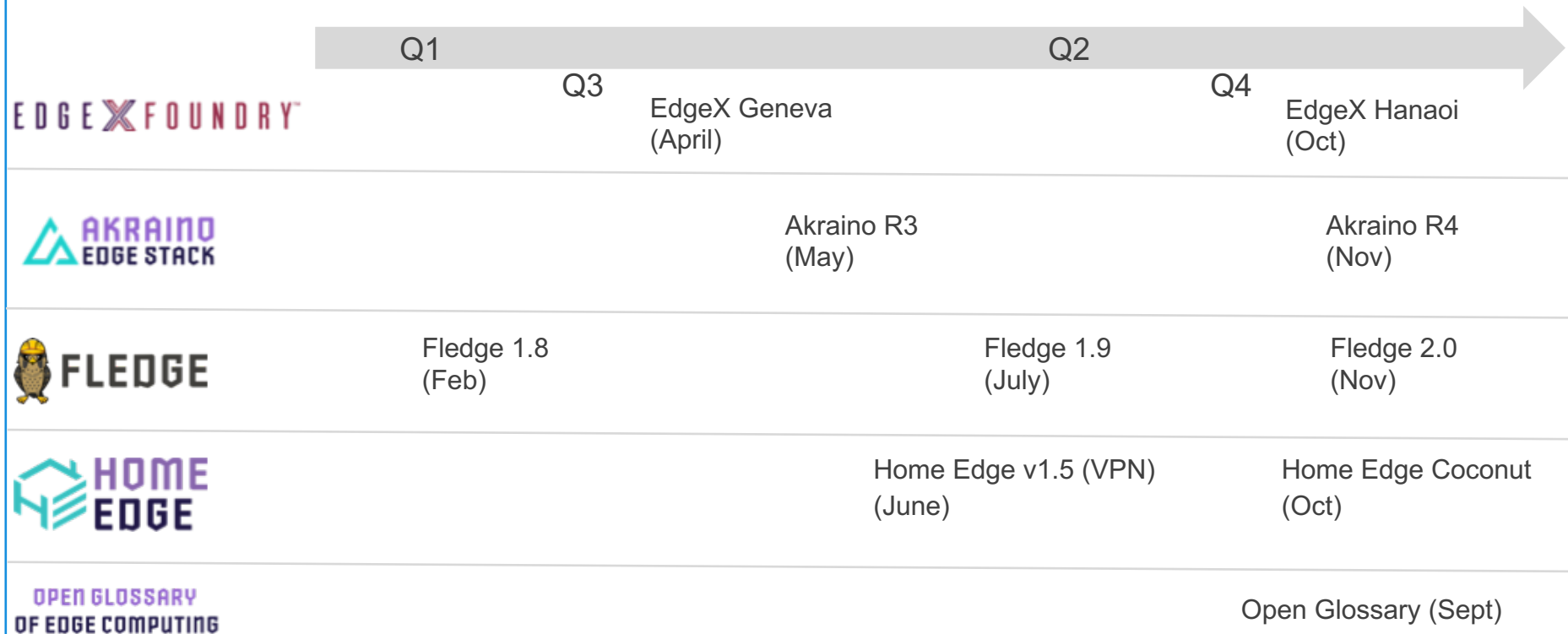- Pinnacle Branding
- Litorders

Comms/Content Tools:
- Social Studio – managing social media and developer engagement
- Union Metrics – finding analytics for social media and engagement
- IT Database – researching media and analyst contact info and articles
- Trendkite – measuring SOV, monitoring coverage and key messages
- PR Newswire – posting press releases and distributing nationally or globally
- Zoom – hosting meetings

2020 Marketing Goals

› Position LF Edge as thought leader in defining the open edge ecosystem, with LF Edge as the defacto standard across telco, cloud, enterprise, and IoT

› Lay the groundwork for a sustainable, thriving, and cohesive community that supports demand generation for new projects, members, and developers

› Build momentum on early project releases via integrated marketing approach, to include traditional PR and digital marketing elements (e.g., use cases, case studies, Blogs, and webinars) as relevant, in order to gain traction

LF EDGE

2020 LF Edge Project Releases

Q1 Q3 Q2 Q4

EDGE X FOUNDRY™
EdgeX Geneva (April)
EdgeX Hanaoi (Oct)

AKRAINO EDGE STACK
Akraino R3 (May)
Akraino R4 (Nov)

FLEDGE
Fledge 1.8 (Feb)
Fledge 1.9 (July)
Fledge 2.0 (Nov)

HOME EDGE
Home Edge v1.5 (VPN) (June)
Home Edge Coconut (Oct)

OPEN GLOSSARY OF EDGE COMPUTING
Open Glossary (Sept)

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**Baetyl and Project EVE still finalizing plans

LF EDGE

2020 Events

Q1

Speaking: Edge Computing in Oil & Gas, Embedded World, FOSDEM, LF Member Summit

Meetups/F2F Meetings: EdgeX Foundry Tokyo, Akraino TSC F2F, Fledge Hackathon

Webinars: LF Edge, Akraino

Exhibit: National Retail Federation (NRF)

Q2

Speaking: IoT Build, IoT World, Sensors Expo, OSS Norther America, OSS China, ONES

Meetups/F2F Meetings: EdgeX Foundry TSC F2F, EdgeX Hackathon

Webinars: Project EVE, Home Edge

Exhibit: Hannover Messe, Open Networking & Edge Summit

Q3

Speaking: Open Networking & Edge Summit Europe

Meetups/F2F Meetings: Akraino Hackathon, LF Edge Summit

Webinars: Open Glossary, Fledge, Baetyl

Exhibit: Open Networking & Edge Summit Europe

Q4

Speaking: Edge Computing World, IoT Solutions World Congress

Meetups/F2F Meetings: EdgeX Foundry TSC F2F

Webinars: LF Edge Use Cases

Exhibit: IoT Solutions World Congress, Edge Computing World,

ONES North America (April 20-21, Los Angeles)

- LF Edge is a co-host with LFN and Linux Foundation
- Marketing Outreach is currently discussing:
  - Booth: Combined Pavilion set-up with LF Networking (no impact on cost)
    - Booth demo submissions open:
      - Demos must include technology from at least one of the LF Networking or LF Edge projects (e.g. ONAP, OPNFV, Akraino, EdgeX Foundry, Project EVE, etc.)
        - Special consideration will be given to submissions that:
          - Showcase cross-project collaboration and integration
          - Map to a specific industry use case
          - Include participation and endorsement from a service provider organization
          - Show project diversity (e.g. projects not covered in other submissions)
    - TAC Arch WG is working to build a 2 cross-project demos
      - Fledge + EVE (FLIR camera demo). Aiming to be done in the next 2 weeks.
        - Will try to add Akraino (Blueprints) into it
      - EdgeX + EVE. Earlier in the planning stages.
    - Demo managers/presenters must be from member companies
    - Submissions from vendor companies need to be ONES sponsors (note, there is a demo sponsorship category)
    - Submissions due 2/26 to this Google Form
  - Discussing "Unconference" Track

www.lfedge.org