Welcome Notes

Akraino Technical Meetings - Fall 2021

Tina Tsou, , TSC Chair, Akraino

Oleg Brezin, TSC co-chair, Akraino

LF EDGE

THE LINUX FOUNDATION

AKRAINO

LF Edge Projects

Applications

Infrastructure

EDGE X FOUNDRY™

FLEDGE

HOME EDGE

SECURE DEVICE ONBOARD

BAETYL

EVE

OPEN HORIZON

Stage 1: At Large Projects
Baetyl, Open Horizon, Secure Device Onboard

Stage 2: Growth Projects
EVE, Fledge, Home Edge, State of the Edge

Stage 3: Impact Projects
Akraino, EdgeX Foundry

STATE OF THE EDGE

Research and Reports

AKRAINO

Distributed Devices and Systems

Buildings / Factories / Smart Homes

MCU-based devices

Embedded compute

Smartphones, PCs, ruggedized IoT gateways and servers in accessible to semi-secure areas

Servers in secure on-prem data centers, MDCs

Constrained Device Edge

Smart Device Edge

On-Prem Data Center Edge

Last Mile Networks

Access Networks

Aggregation Hubs/COs

Regional Data Centers

Centralized Data Centers

LOCATIONS

Server-based compute at Telco Network and Edge Exchange Sites

Server-based compute at Regional Telco and Direct Peering Sites

Servers in traditional cloud data centers

Access Edge

Regional Edge

User Edge

Dedicated, Operated

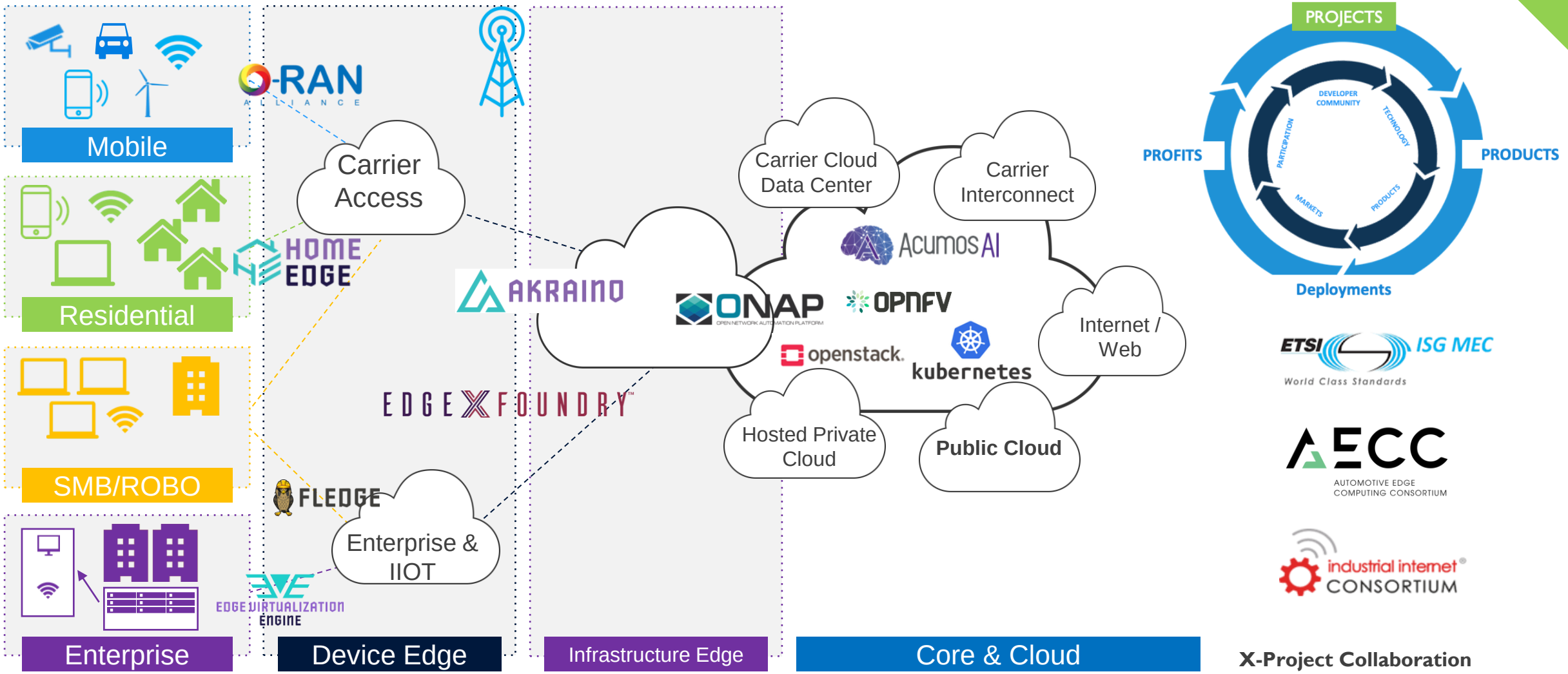
Service Provider Edge

Shared, XaaS

LF Edge - the end to end context

Deployment ready Open Source - use cases

OSS+SDO



ETSI ISG MEC
World Class Standards

AECC
AUTOMOTIVE EDGE COMPUTING CONSORTIUM

industrial internet CONSORTIUM

X-Project Collaboration

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

AKRAINO

EDGE X FOUNDRY™

GROWTH - STAGE 2

FLEDGE

HOME EDGE

STATE OF THE EDGE

AT LARGE - STAGE I

BAETYL

OPEN HORIZON

SECURE DEVICE ONBOARD

Premier Members

ALTRAN

arm

AT&T

Baidu 百度

Charter COMMUNICATIONS

DELL Technologies

DIANOMIC

EQUINIX

ERICSSON

FUJITSU

FUTUREWEI Technologies

Hewlett Packard Enterprise

HUAWEI

IBM

intel

inwinSTACK

Mobiledge X

NETSIA

NOKIA

NTT

OSIsoft.

Qualcomm

Qualcomm Technologies, Inc.

Radisys

redhat.

SAMSUNG

SEAGATE

Tencent 腾讯

wipro

ZEDEDA

THE LINUX FOUNDATION

LF Edge Accelerating Community Collaboration

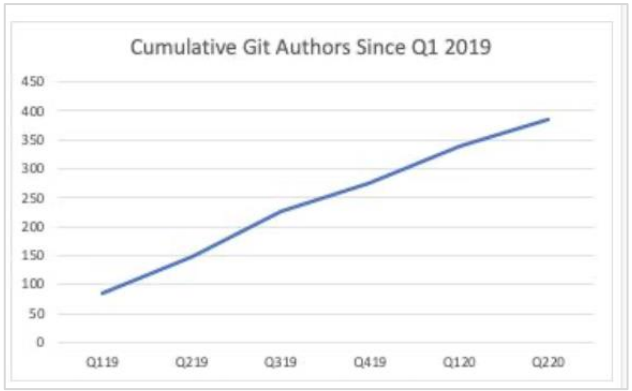
25+%

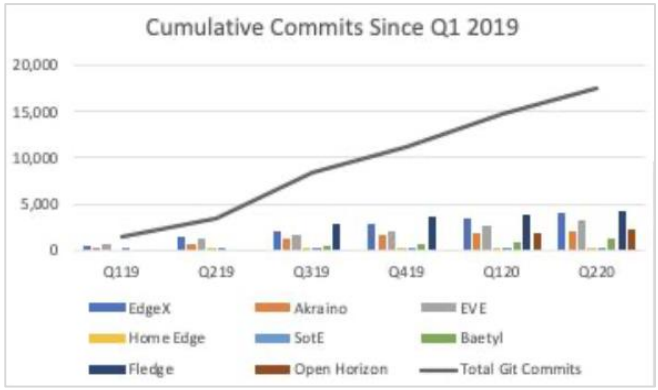
New Member Y/Y increase

80%

New Projects increase SOTE, Open Horizon, SDO…

160% Growth in Developers Y/Y, 4X Commits Y/Y





25+

Global Deployments & Commercial Products

6M+ /30+

EdgeX Downloads and Akraino Blueprints in development

15800 global mentions since launch

Participation from Service Providers (Telco, Cloud, Cable), IOT, Enterprise ecosystem with a goal of Unifying Edge Frameworks & Life cycle management

THE LINUX FOUNDATION

LF EDGE

Akraino Release 5: Now available

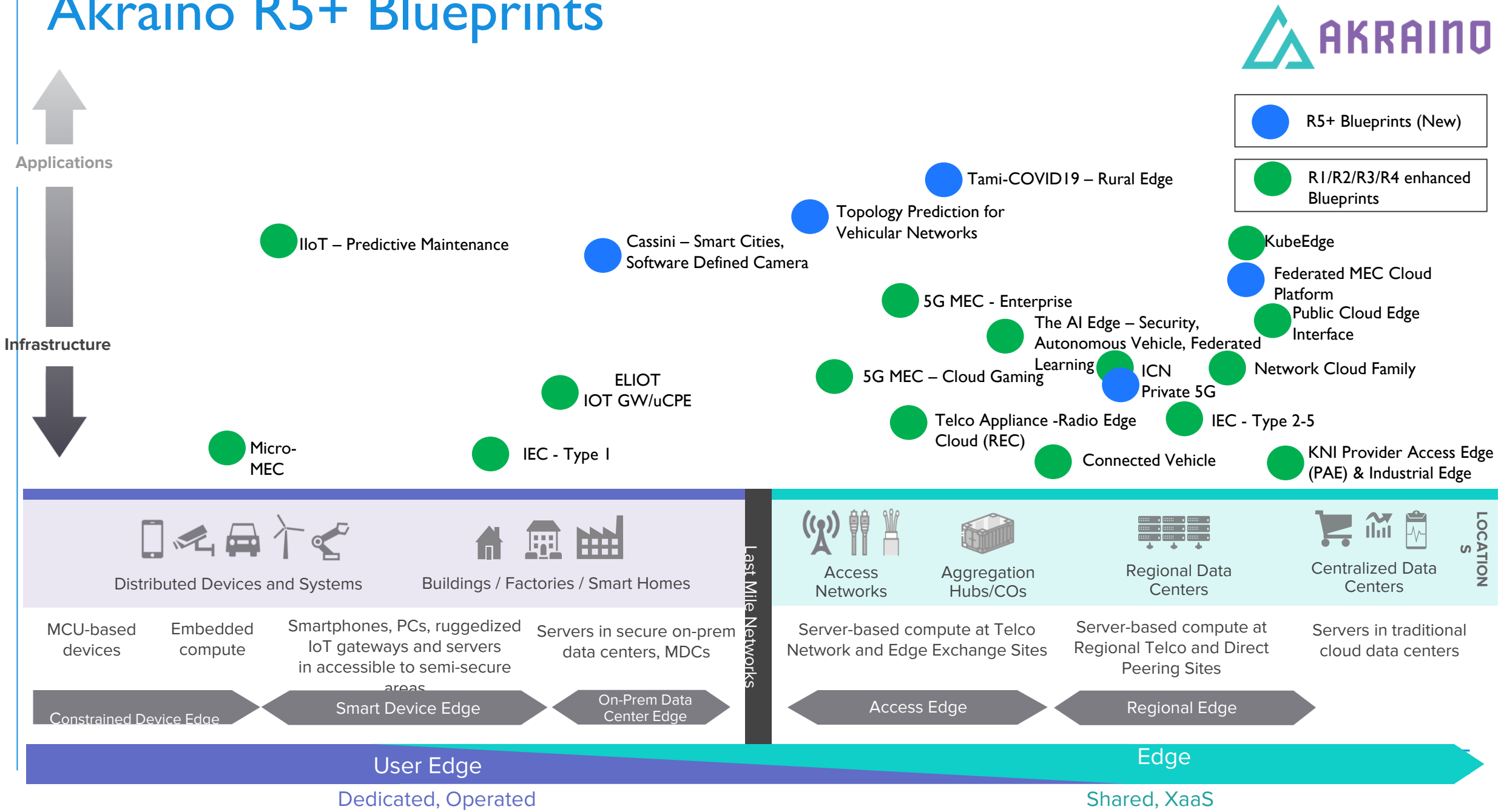
NEWS

Akraino Release 5 Enables Smart Cities, Cloud Native Automotive and Multi-tenant, and More

- *3 New Akraino R5 Blueprints (total of 30+)*
- *Akraino is cloud native with K8s- enabled blueprints across 4 different edge segments (Industrial IOT, ML, Telco, and Public Cloud)*
- *New and updated blueprints also target Smart Cities, ML, Connected Car, Telco Edge, Enterprise, AI, and more*

LF Edge, an umbrella organization within the Linux Foundation that creates an open, interoperable framework for edge computing independent of hardware, silicon, cloud, or operating system, today announced the availability of Akraino Release 5 (“Akraino R5”). Akraino’s fifth release enables additional blueprints that support various deployments of Kubernetes across the edge, from Industrial IoT, to Public Cloud, Telco, Smart Cities, and Machine Learning (ML).

Akraino R5+ Blueprints



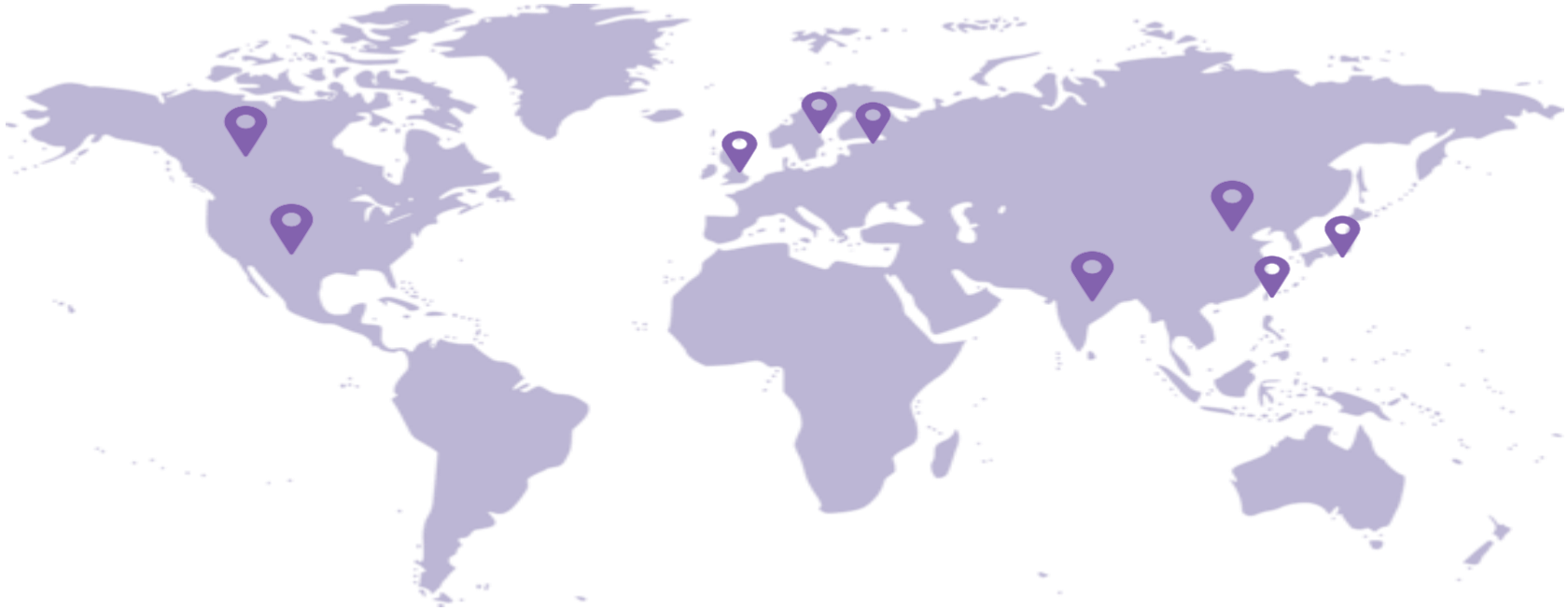
Akraino: Delivering a Fully Functional Edge Solutions

Unifying multiple industry sectors of edge across disciplines, including IoT, Enterprise, Telecom, and Cloud

- Ever since its launch in 2018, Akraino continues to **gain community support** for innovative creation of deployable Edge solutions with work going in more than **30+ Blueprints**.
- Akraino blueprints are now globally adopted in **commercial solutions** to address several edge use cases.
- Akraino hosts sophisticated community and multiple **user labs** to speed the edge innovation.
- Akraino delivered fully functional **new** Blueprints for deployment in R5 to address edge use cases such as Smart Cities, Cloud Native Multi-Tenant, Topology Prediction for Vehicular Network at the edge.
- Created framework for defining and **standardizing APIs** across stacks, via upstream/downstream collaboration and published a API map.
- Akraino enhanced **tools for automated Blueprint Validations**, security tools for Blueprint Hardening and Edge API's in collaboration with LF Edge projects
- Akraino community has participated in several **industry outreach** events that featured participation to foster collaboration and engagement on edge projects across the entire ecosystem.

Robust Community Contribution

Deployable and fully functional edge stack for use cases across IIoT, Telco 5G Core & vRAN, uCPE, Provider Access Edge, SDWAN, Edge Media Processing, and Carrier Edge Media Processing



- ✔ **45+ companies are engaged across the globe**
- ✔ **85% of LF Edge Premier Members are active in Akraino**

Robust Cross-Industry Contribution- 2020.8 -2021.8

Deployable and fully functional edge stack for use cases across Public Cloud Edge Interface, IIoT, Telco 5G Core & vRAN, uCPE, SDWAN, Connected Vehicle, AR/VR, and Carrier Edge Media Processing

Summary

439
Commits

38
Submitters

23
Repositories

76
Document Commits

Commits Percentage By ...

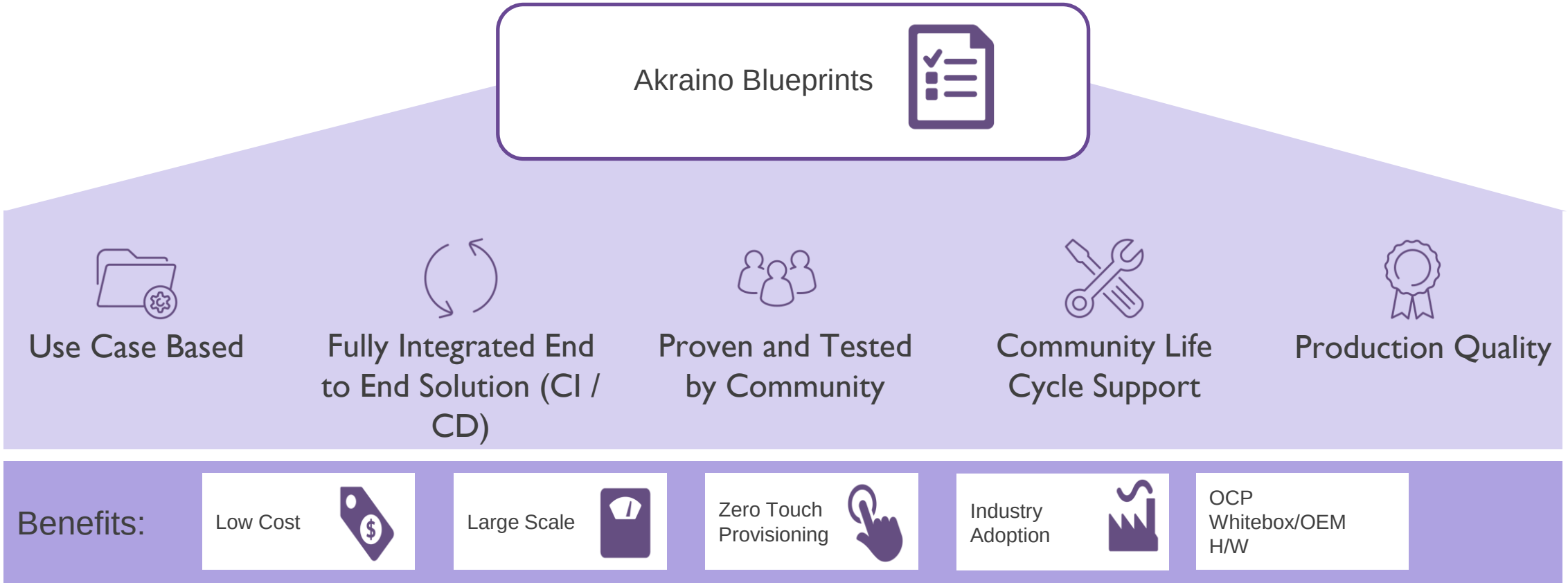
- Intel Corporation
- Huawei Technologie...
- Red Hat, Inc.
- AT&T Services, Inc.
- Salesforce.com, inc.
- Unknown
- The Linux Foundation
- Arm Limited
- Equinix, Inc.
- Verizon Corporate S...
- Other

Lines Changed Percenta...

- Huawei Technologie...
- Intel Corporation
- Salesforce.com, inc.
- Red Hat, Inc.
- Arm Limited
- Unknown
- Equinix, Inc.
- The Linux Foundation
- AT&T Services, Inc.
- Nokia Corporation
- Other

What is an Akraino Blueprint?

Community Integrated, tested, deployable, end to end Edge Stack



Since launch in 2018, Akraino continues to gain community support for collaboration and validation with 30+ blueprints

What's Next in Akraino - 2H 2021

- New blueprints and enhancements to existing blueprints
  - Rural Edge for Tami-COVID19
  - IoT Area
    - Project Cassini - IoT and Infrastructure Edge
      - Software Defined Camera (SDC)
  - Align Public Cloud Edge Interface with SDOs e.g. MEF LSO, ETSI MEC
    - Federated MEC Cloud Platform
- Continue API standardization and mapping
- Define Platform Security Architecture and apply to blueprints
- Enhance functionality and automation of edge workloads (e.g., Cloud Native)
- Improvement of Release Process, CI/CD, Security Certification
- Further collaborations with cross-LF Edge projects, downstream and upstream communities.