Akraino Edge Stack Overview

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Why Edge Computing?

Emerging technologies are demanding lower latency and accelerated processing at the edge

NFV Edge Infrastructure

Autonomous Devices

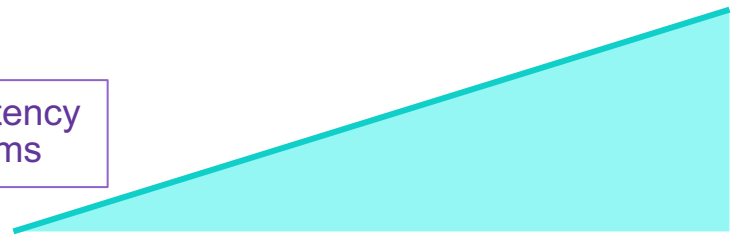
Immersive Experiences

Industrial IOT

Edge Cloud

Performs data processing at the edge of the network, near data sources

Low-Latency
< 20 ms



High-Latency
~25-200 ms

Central Cloud

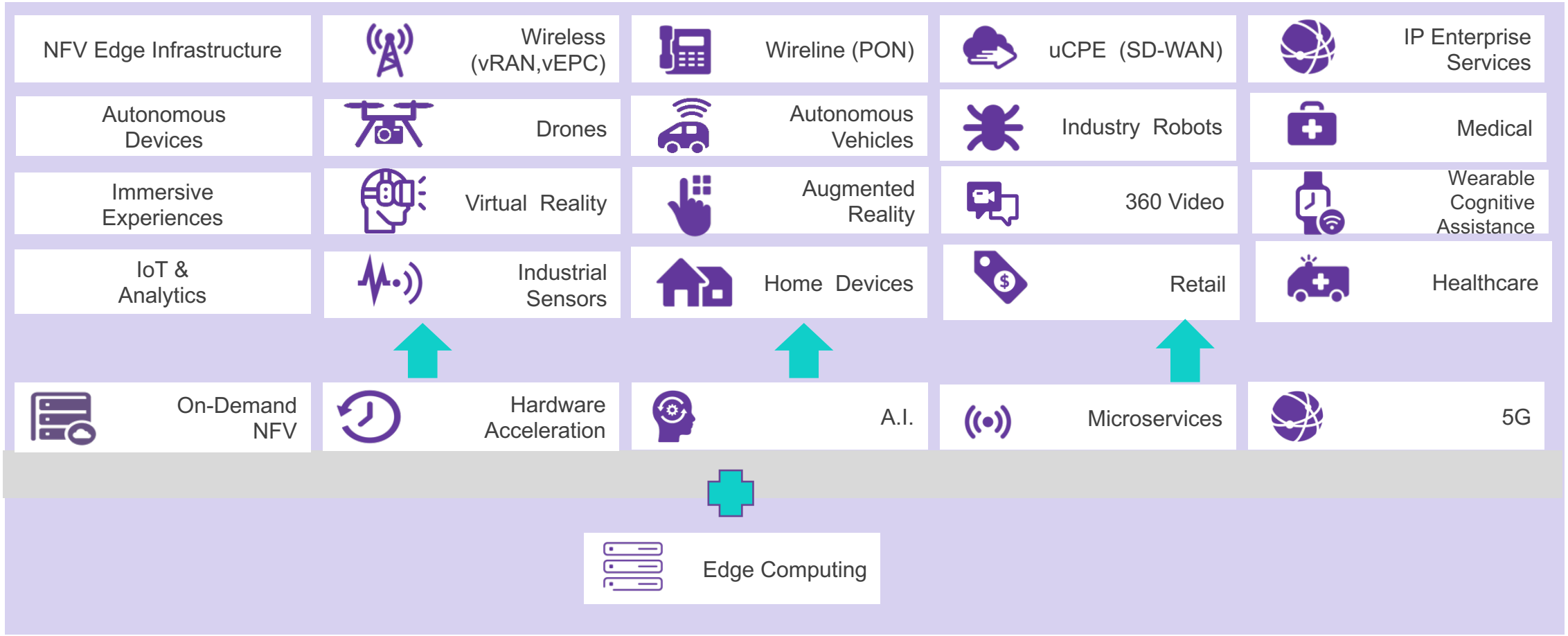
Highly centralized computing resources of cloud service providers

Optimal

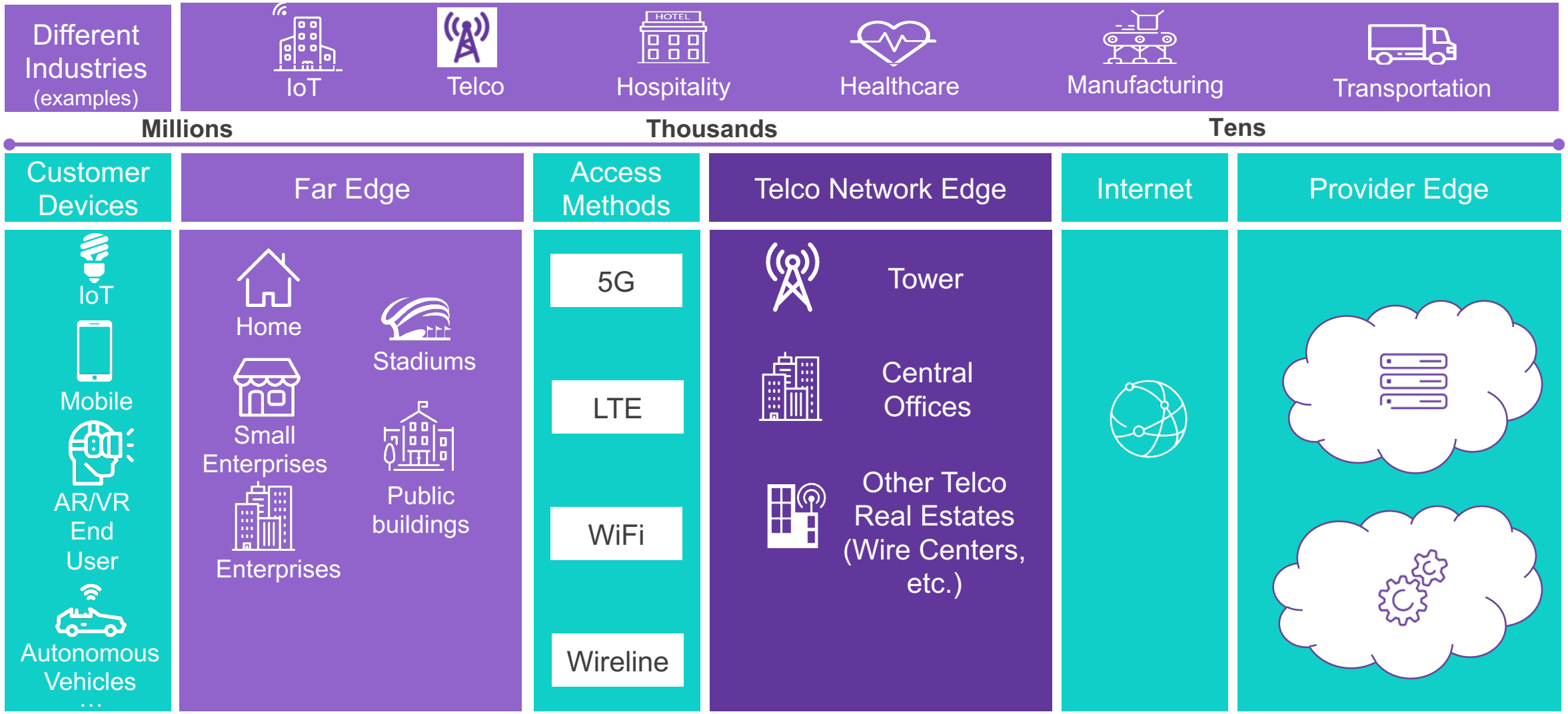
Not Optimal

Emerging Technologies in IOT and Networks

are demanding lower latency and accelerated processing at the edge



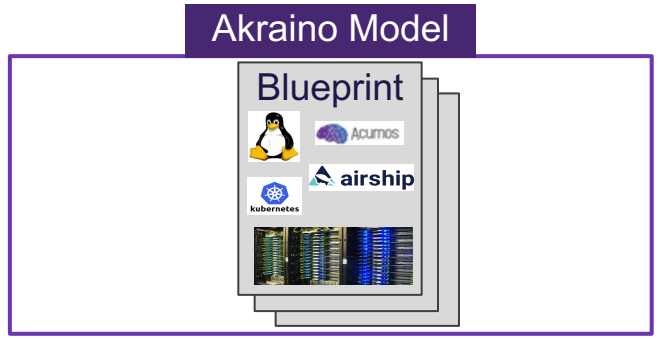
Akraino Supports Telco, Enterprise, IOT,… use cases & variety of edge deployment types



Source: AT&T

Why Akraino Edge Stack?

- User integrates multiple opensource
- Multiple gaps
- No integrated solution for Edge use cases
- Complex CI
- No guaranteed working of the solution

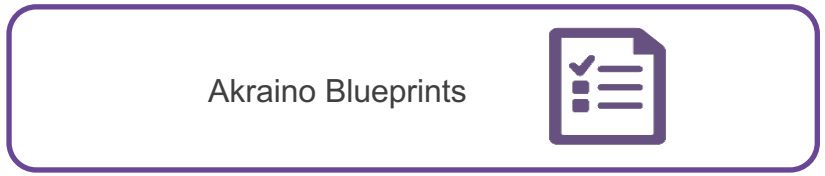


- Akraino Community Integrates multiple opensource for edge use cases.
- Bridge gaps (development of code in upstream and at Akraino)
- Fully integrated solution
- Simple CI
- Validated with multiple testing

Akraino Blueprints

The Akraino Edge Stack community delivers fully integrated, “ready and proven” Edge Stacks

Real use case driven & Architecture Agnostic



Edge Use Case Driven

Development of features to support fully functional Edge Solution.

Integration of Multiple Opensource Software

Fully Integrated Edge Stack

Production Readiness

Multiple Validations with declarative stack

Bridge gaps & Standardize Edge Features and APIs

Compliant and Secure

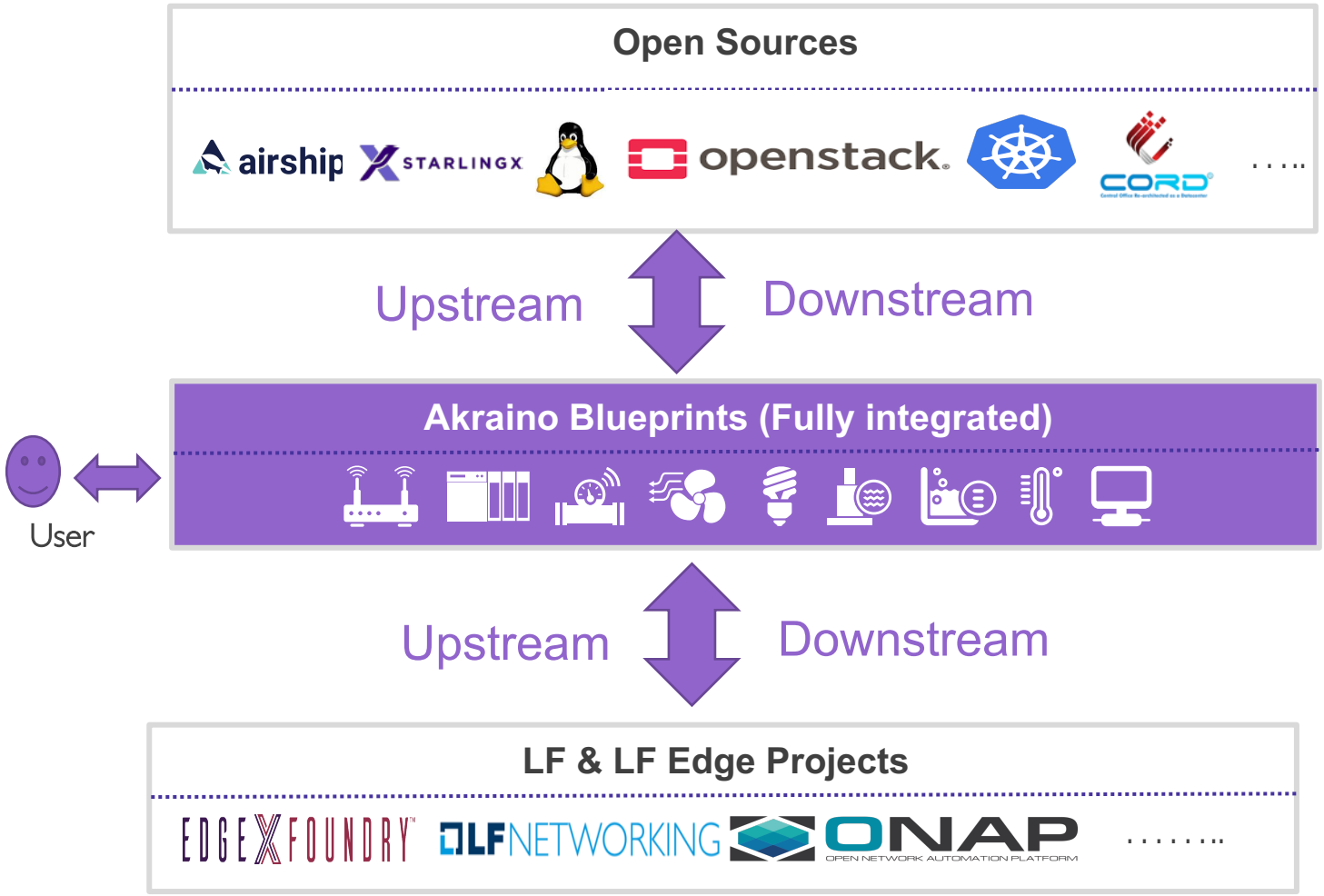
Vendor Support Eco-system

Suppliers and Users upfront collaboration

How Akraino fits in the opensource eco-system?

Facts

- Akraino is complimentary to many opensource projects
- Akraino uses many of the upstream opensources within its blueprints
- Many opensources could use Akraino blueprints
- Users gets fully integrated, “ready and proven” Edge Stacks



LF Edge - Founding projects
Bringing several Edge verticals and domains under one umbrella

AKRAINO EDGE STACK

EDGE X FOUNDRY™

EDGE VIRTUALIZATION ENGINE

HOME EDGE

OPEN GLOSSARY OF EDGE COMPUTING

Platinum Members:

arm AT&T DELL EMC ERICSSON Hewlett Packard Enterprise HUAWEI IBM

intel inwinSTACK JUNIPER NETWORKS MobiledgeX NETSIA NOKIA

NTT Qualcomm Radisys redhat SAMSUNG SEAGATE

Tencent 腾讯 WIND wipro ZEDEDA

60 + Members already

Akraino Blueprints - Incubation Projects

Note: Companies listed and blueprint listed are not an exhaustive list.

IOT & Far Edge Use Cases

Micro MEC
Can be installed on light poles, vehicles, etc…
Target Industry: Smart City, Far Edge Cloud

Edge Light & IoT
uCPE use cases, IoT appliances
Target Industry: Manufacturing & Customer Premise

Time Critical Edge Compute
IoT use cases, appliances
Target Industry: Manufacturing, IoT & Safety

Integrated Edge Cloud
IoT use cases, appliances
Target Industry: Remote Edge Locations

Telco Use Cases

Radio Edge Cloud
Cloud appliance to address ORAN RIC requirements
Target Industry: Telco – Radio Edge

SDN Enabled Broadband Access
Virtual broadband access – higher bandwidth, symmetric version of GPON
Target Industry: Telco – Access

Network Cloud
Telco 5G use cases and beyond
Target Industry: Telco – 5G and generic use cases. Airship Based

Tungsten Fabric Integration
Enhancement to NC blueprint to support Contrail Tungsten Fabric

Other Use Cases

OVS-DPDK Integration
Enhancement to NC blueprint to support OVS-DPDK

ARM Servers/Appliance
Enhancement to NC blueprint to support ARM Servers & Appliances

Kubernetes Native Infrastructure
Focused on Native Container workloads
Target Industry: Industrial Automation

StarlingX Edge Cloud
Addresses Industrial Edge Usecases
Target Industry: Far Edge Automation

Connected Car
Connected Car use case

Akraino Community Progress

Akraino Release 1 Highlights

- **8+ Blueprint Families with 19+ Blueprints under development to support variety of Edge use cases.**

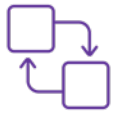
- **Community Development started in Jan'19 and 1st release targeted in 2Q2019**

Akraino Community Lab

Lab Collaboration

- **Akraino blueprints are validated in the dedicated validation labs**

- **Akraino hosts community lab for additional validation of blueprints**



- **Automated testing of blueprints**

Akraino Edge Stack Technical Community

Technical Community Collaboration

- Akraino Technical Community Calls take place once a week as a platform to discuss:
  - New Project Proposals
  - Collaborate with other communities
  - Discussion on several Edge Technical topics

- Community Calls Occur weekly on Thursdays' at 11:00am-12:00pm ET

How to get involved..

- Join Akraino Community Events and calls
- Join the projects' mailing lists and participate in the discussions

Key Links:

Website:

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

Wiki:

https://wiki.akraino.org

Gerrit:

https://wiki.akraino.org/display/AK/documentation

Mail Lists:

https://lists.akraino.org/g/main

Blueprints:

https://wiki.akraino.org/display/AK/Approved+blueprints

Calendar:

https://wiki.akraino.org/display/AK/Akraino+TSC+Group+Calendar

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