

Your Path to Edge Computing – Akraino Edge Stack

April 4th, 2019 – 5:00 PM – 5:30 PM

Kandan Kathirvel – Director, AT&T. TSC-Chair, Akraino

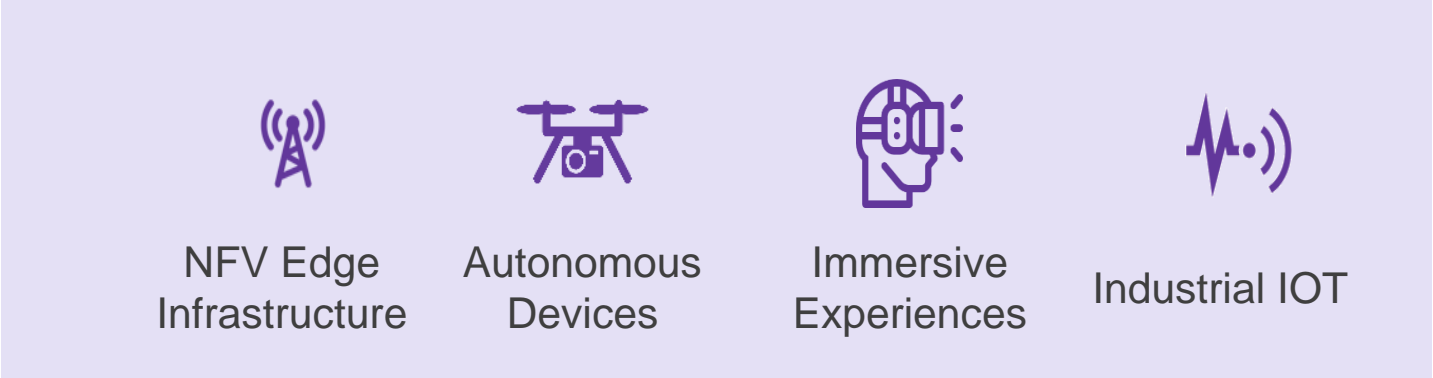
Tina Tsou – Enterprise Architect, Arm. TSC Co-Chair, Akraino

Tapio Tallgren – Technical leader, Nokia. Community sub-committee Chair, Akraino



Why Edge Computing?

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



Edge Cloud

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

Low-Latency
< 20 ms

Optimal

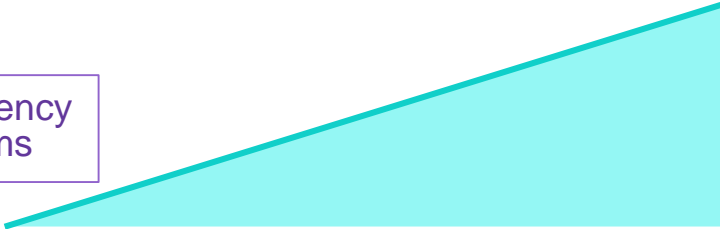


Central Cloud

Highly centralized computing resources of cloud service providers

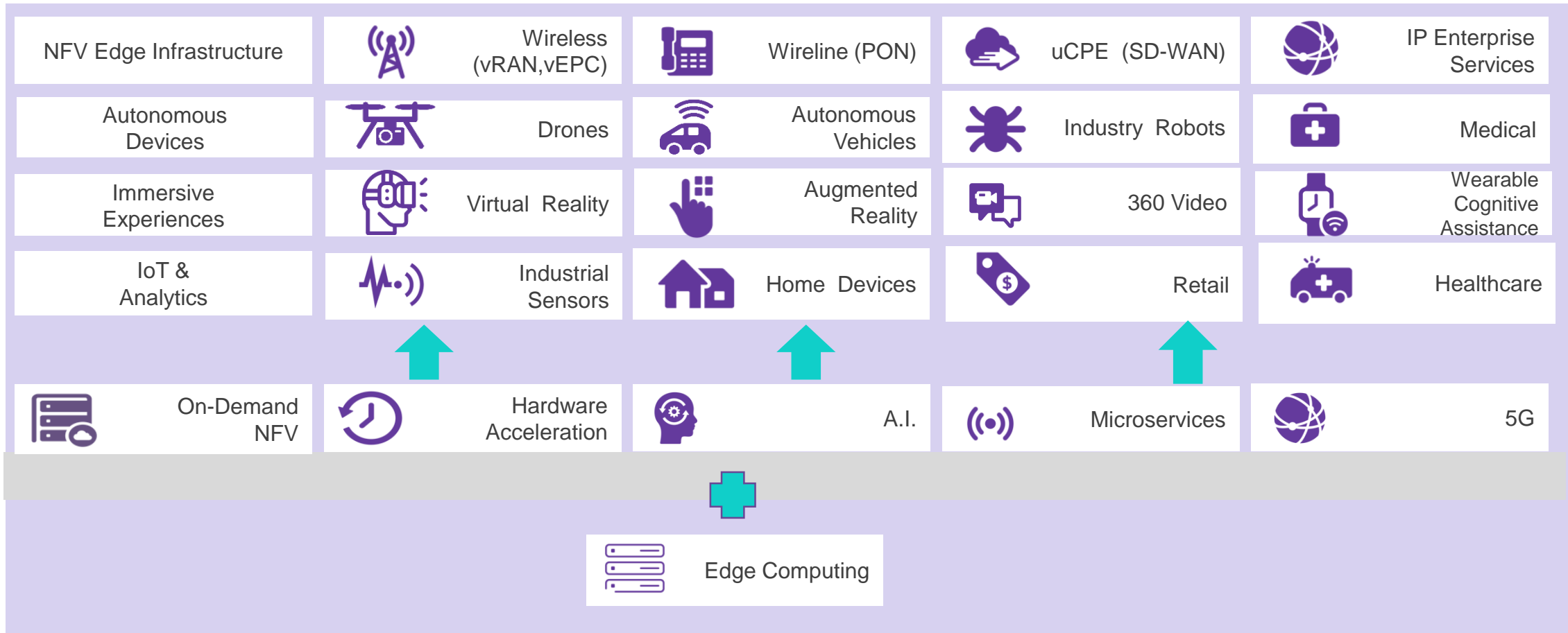
High-Latency
~25-200 ms

Not Optimal

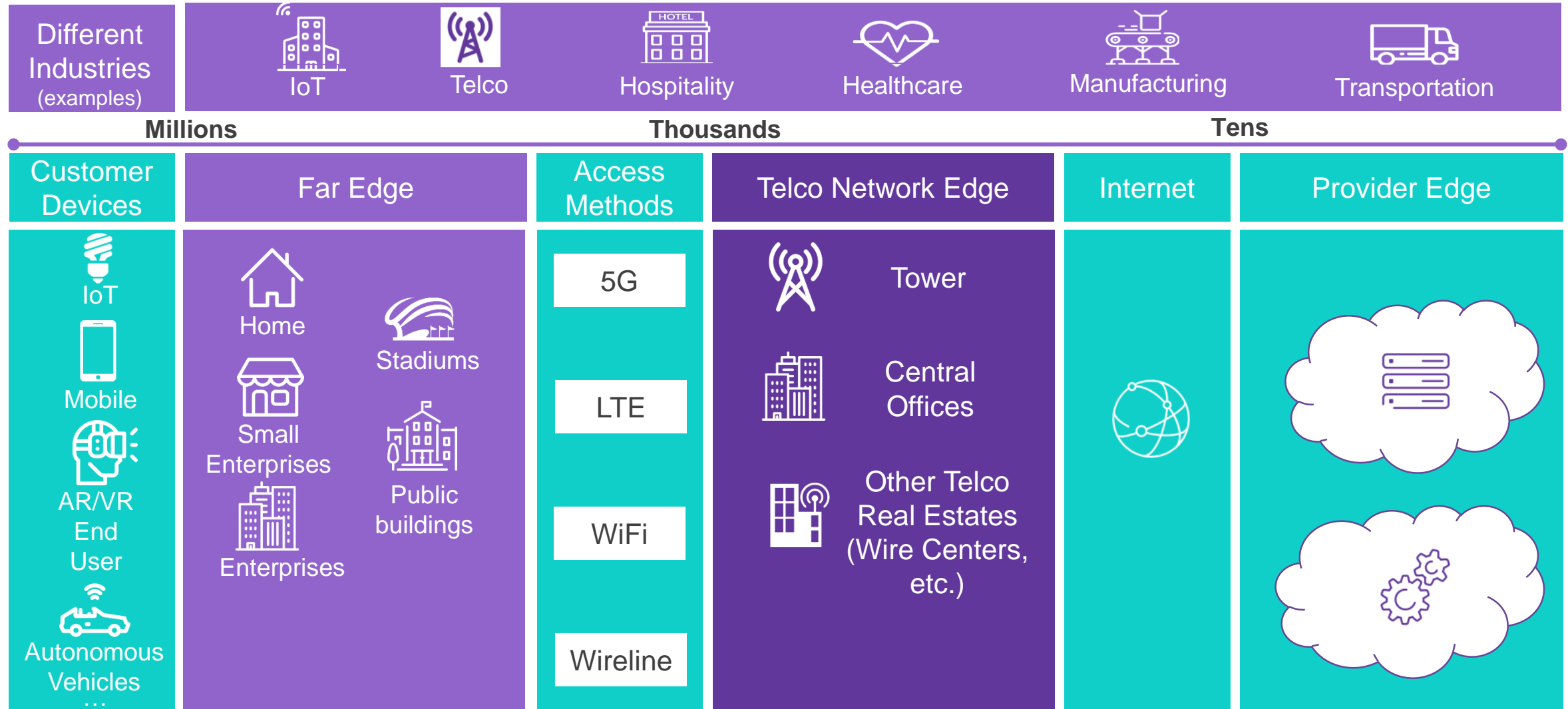


Emerging Technologies in IOT and Networks

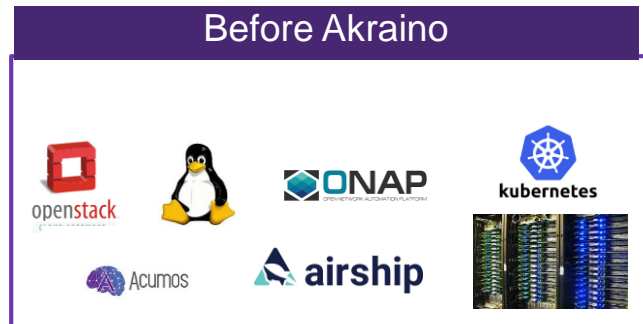
are demanding lower latency and accelerated processing at the edge



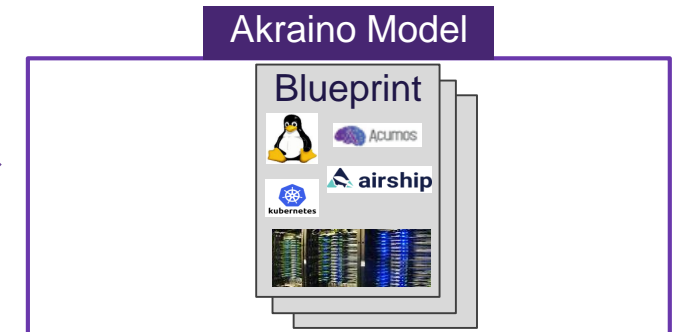
Akraino Supports Telco, Enterprise, IOT,... use cases & variety of edge deployment types



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

Akraino Blueprints



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

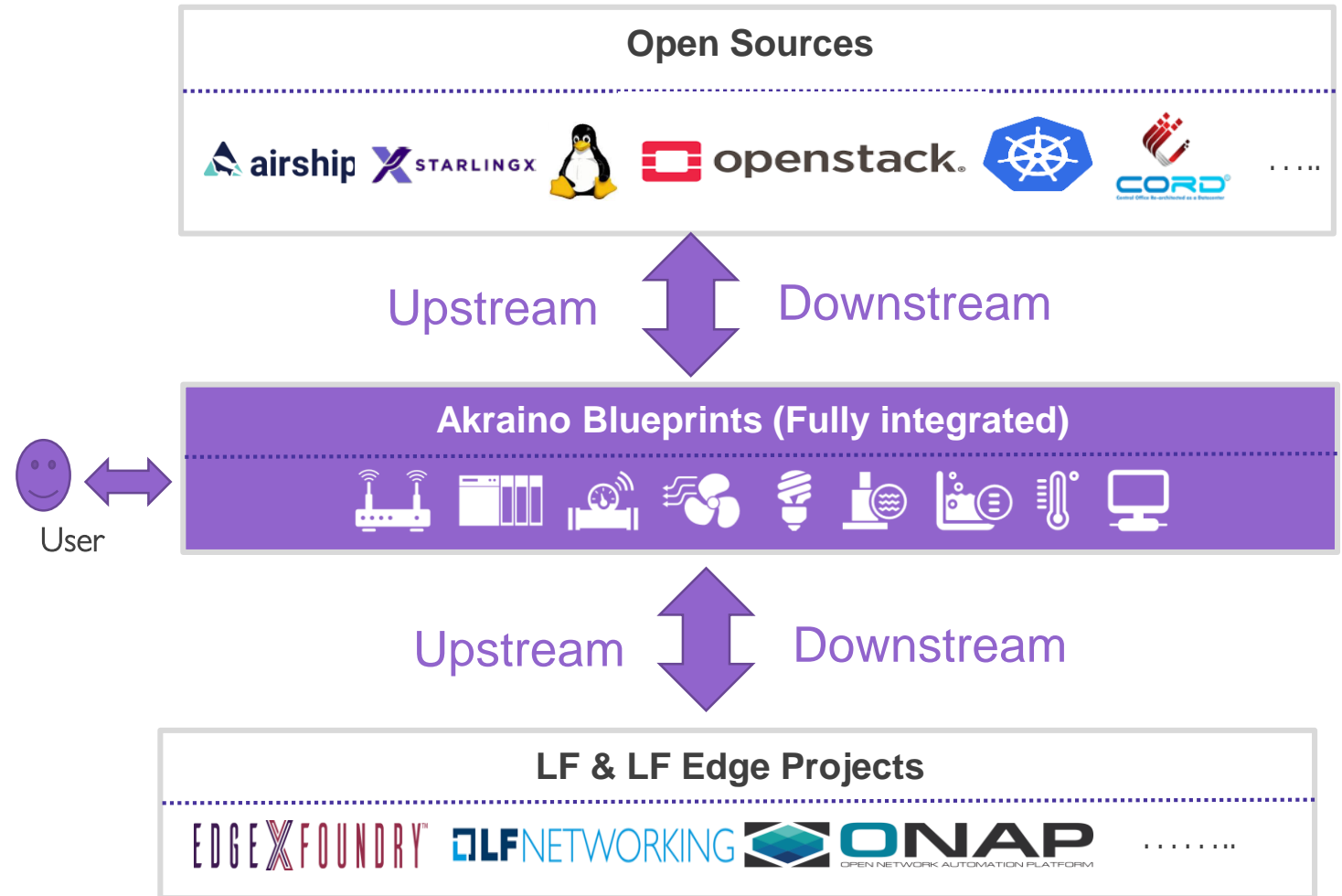
Suppliers and Users upfront collaboration

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



EDGE X FOUNDRY™



OPEN GLOSSARY
OF EDGE COMPUTING

Platinum Members:



60 + Members already

Akraino Blueprints - Incubation Projects

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

IOT & Far Edge Use Cases

NOKIA

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

arm

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

JUNIPER
NETWORKS

Tungsten Fabric Integration

Enhancement to NC blueprint to support Contrail Tungsten Fabric

Other Use Cases



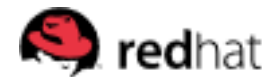
OVS-DPDK Integration

Enhancement to NC blueprint to support OVS-DPDK

arm

ARM Servers/Appliance

Enhancement to NC blueprint to support ARM Servers & Appliances



Kubernetes Native Infrastructure

Focused on Native Container workloads
Target Industry: Industrial Automation

WIND RIVER **STARLINGX**

StarlingX Edge Cloud

Addresses Industrial Edge Usecases
Target Industry: Far Edge Automation

Connected Car
Connected Car use case

Tencent 腾讯

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**



- **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/pages/viewpage.action?pageid=1147243>

Calendar:

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

