Meeting of the Technical Steering Committee of the Akraino Edge Stack Project

August 16, 2018
7:00 a.m. PT/10:00 a.m. ET
Antitrust Policy Statement

- Meetings of the Akraino Edge Stack Project involve participation by industry competitors, and it is the intention of the Project to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of and not participate in any activities that are prohibited under applicable U.S. state, federal or foreign antitrust and competition laws. Examples of types of actions that are prohibited at Akraino Edge Stak Project meetings and in connection with Akraino Edge Stack Project activities are described in the The Linux Foundation Antitrust Policy. If you have questions about these matters, please contact your company counsel or Andrew Updegrove, of the firm of Gesmer Updegrove LLP, which provides legal counsel to The Linux Foundation.

- Linux Foundation Antitrust Policy:
Agenda

- Roll Call, Current Membership Review
  - Welcome Dell EMC
- TSC Chair Election
  - Update
- Developer Summit – August 23 & 24
  - Registration Update
  - Agenda Review/Comments
  - LF Recommendations for Community Session
- Date for TSC: Open to Community
- Access to code
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<th>Member Company</th>
<th>Voting Member Name</th>
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<td>Tina Tsou</td>
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Current Membership

arm
AT&T
DELL EMC
ERICSSON
HUAWEI
Intel
inwinstack
Juniper Networks
Qualcomm
Nokia
NTT
Radisys
redhat
Wind
TSC Chair Election - UPDATE

› **TSC Chair**
  › serves as a voting member of the Governing Board
  › acts as a liaison between the Governing Board and technical leadership of the Project.
  › Please note: there is a considerable time commitment for the TSC Chair position.

› **Election Process**
  › Condorcet Ballots & the Slate of Nominees was sent out to all voting members on Wednesday, August 15th.
  › Voting period ends: Tuesday, August 21st, 5 p.m. PT
  › Election winner announced: Beginning of Business day, Wednesday, August 22nd PT
August Developer Summit

› August 23 (8a.m. – 5 p.m.) & August 24 (8a.m. – Noon)
› AT&T Campus, Middleton, NJ
› Registration & Website live on: Tuesday, August 7th
› Ericsson has signed on as a meal sponsor.
› Current Registration: 57 attendees (as of 6:30 a.m. PT)
› Etherpad for discussion:
  › https://etherpad.akraino.org/p/Akraino-Summit-NJ-Agenda-2018
Building the Community: Next steps for the TSC

- 12:30 - 2:00 p.m. TSC Structure and Operating principles, goals, committees
- Recommendations from outside of existing topics:
  - As per the charter: The TSC may
    (1) establish work flow procedures for the submission, approval, and closure/archiving of projects,
    (2) set requirements for the promotion of Contributors to Committer status, as applicable, and
    (3) amend, adjust, refine and/or eliminate the roles of Contributors, and Committers, and create new roles (PTL, Release Manager), and publicly document any TSC roles, as it sees fit.
Recommended next steps:

- Review existing TSC Technical Management Documents for reference and create and establish an Akraino-specific version. Examples include:
  - ONAP: https://wiki.onap.org/display/DW/ONAP+Technical+Community+Document

- This should be an Akraino specific document, responding the needs of the project, cutting and pasting is not recommended.

- Make sure you identify how Akraino is different when setting your rules. How is the project different? Who do we need to coordinate with? Should we be talking to other companies? Should we be in line with standards groups? Other LF projects?
Access to the Code & Wiki

- Members of the TSC have all been sent email indicating they have access as well as instructions to access.
- Please email afisher@linuxfoundation.org and provide the name and email address of the people from your company who would also like access.
- Target Date to open code to the community: August 23rd for Summit.
Next TSC Meeting

- On August 30th meeting, we will open the call to the TSC community as a whole.
- LF Recommended practice:
  - Suggest using IRC to take minutes, votes
  - Designate a scribe from the community: traditionally something the Release Manager takes on. Should be someone familiar with the technology.
  - Record meetings & post minutes and recording on wiki for ease of access
Aktraino TSC

Addendum
Akraino Executive Summary

Akraino is an Edge project targeted to

› Address Telco, Enterprise and Industrial IoT use cases

Akraino Scope:

› Develop Edge Middleware, SDKs, applications and create an app/VNF ecosystem

› Develop Edge API and framework for interoperability with 3rd party Edge providers & hybrid cloud models

› Collaborate with upstream community (CI/CD & upstream process support)

› Create Blueprints (integrated stack) to address Edge use cases:

1. (Telco/Hosted) Edge: eg include ONAP, OpenStack, Airship, etc (eg large/medium POD)

2. (Telco/Hosted) Remote edge: Stack scale from single node to Enterprise use cases (eg IOT)

3. (OTT/Enterprise/Telecom) Stack for remote edge locations (1000s) with disaggregated hardware
Blueprints & release

Reference Architecture
For Edge Use cases

Blueprints - Approved and tested declarative configuration based on use cases, set of Hardware & Software, Point of delivery (POD).

Reference Architecture – Defines Akraino building blocks

Declarative Configuration – Hides lower layer complexity to user

CI/CD, Integration & Testing Tools – Drive product quality

Akraino release – End Product

Blueprints - Approved and tested declarative configuration based on use cases, set of Hardware & Software, Point of delivery (POD).

Reference Architecture – Defines Akraino building blocks

Declarative Configuration – Hides lower layer complexity to user

CI/CD, Integration & Testing Tools – Drive product quality

Akraino release – End Product

Akraino Blueprints & release

Blueprints

Declarative Configuration

"A" Hardware & Software

CI/CD, Integration, & Testing

POD

Blueprints1

TSC will provide acceptance criteria for release

Akraino Release

……………

Reference Architecture

For Edge Use cases

Blueprints n

Declarative Configuration

"N" Hardware & Software

CI/CD, Integration, & Testing

POD
### Edge Point of Delivery (POD)

**Hosted @ Telco or Provider (e.g., Network Cloud)**

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**Satellite**

- Satellite 1
- Satellite 2
- Satellite 3

**Customer’s Premises**

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**Use Cases (e.g.)**

- 5G Core
- 5G Access
- IP Services
- Over the top edge

**Characteristics**

- Hosted @ Telco or Provider (e.g., Network Cloud)
- Use Cases (e.g.)
- Data Plane Compute Nodes

**Control Nodes**

- Data Plane Compute Nodes
- Control Nodes

**Applications**

- Cruiser – Large POD
- Tricycle – Medium POD
- Unicycle POD

**Nodes**

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

**Hosted Application**

- Satellite
- Rover

**SD-WAN**

- Over the top edge

**Over the top edge applications**

- Remote @ customer or public buildings
- DANOS based
- Dis-aggregated hardware
What are our efforts?

- **CI Pipeline in AWS**
  - Gerrit
  - Master Jenkins
  - SonarQube
  - Nexus
  - JIRA

- **Central Node**
  - RedFish Automation
  - Web Server
  - DHCP Server
  - Central Node Artifacts

- **Regional Node**
  - RedFish Automation
  - Node Build Automation
  - Portal Dashboard
  - Camunda Workflow Automation

- **API (Proposal)**
  - Edge API
  - Middleware
  - SDKs

- **Edge Node**
  - Bootstrap Automation
  - Airship Integration
  - ONAP Install
  - Test Automation
  - VNF Onboarding

- **Hardware Lab Setup**
  - Jenkins Slave (Central Node)
  - Dell 740 (.44)
  - Dell 740 (.45)
  - HP Gen10 (3-Node Edge Cluster)

**Key Points**

- Allows to mimic CI Pipeline in LF
- Jenkins Slave to mimic Central Node
- Support Regional Node Build automation
- OS Bootstrap to App Install
- Portal driven orchestration
- Integration with Edge Applications
- Cross platform interoperability
- End-to-End Stack Integration
- Fully Automated
- End-to-End Emulation of Akrai9 Edge Automation
CICD Integration with AT&T Akraino Lab

1. Commit made to LF Gerrit by the relevant developer. Reviewers will be assigned in Gerrit to approve the changes.

2. Git pull is performed on the latest code commit by the Jenkins residing in the Linux Foundation.

3. LF Jenkins will also resolve dependencies and do Sanity testing and push code to LF Nexus.

4. LF Jenkins notifies peer Jenkins about new code in LF Nexus.

5. Peer Jenkins Job pulls approved code from repo based on trigger from LF Jenkins.

6. Peer Jenkins deploys code in the CD cluster. (Based on criteria such a frequency, type of bug, and scope of test)

7a. Verifier will approve for code merge in LF Gerrit, if check in step 6 is successful (OR)

7b. Peer Jenkins can upload logs and (Success/Fail) status to LF Jenkins.
For More Information, Please Visit www.akraino.org