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

August 9, 2018
7:00 a.m. PT/10:00 a.m. ET
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Agenda

- Roll Call, Current Membership Review
- Future Meetings
  - Results of Survey
- TSC Chair Election
  - Nomination period ends today, 5 p.m.
- Developer Summit – August 23 & 24
  - Registration Update
  - Agenda Review/Comments
- Demo: Seed Code & Wiki Walkthrough
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<tr>
<th>Member Company</th>
<th>Voting Member Name</th>
<th>Contact info</th>
</tr>
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<tbody>
<tr>
<td>Arm</td>
<td>Tina Tsou</td>
<td><a href="mailto:tina.tsou@arm.com">tina.tsou@arm.com</a></td>
</tr>
<tr>
<td>AT&amp;T</td>
<td>Kandan Kathirvel</td>
<td><a href="mailto:kk0563@att.com">kk0563@att.com</a></td>
</tr>
<tr>
<td>Ericsson</td>
<td>Torbjörn Keisu</td>
<td><a href="mailto:torbjorn.keisu@ericsson.com">torbjorn.keisu@ericsson.com</a></td>
</tr>
<tr>
<td>Huawei</td>
<td>Wenjing Chu</td>
<td><a href="mailto:Wenjing.Chu@huawei.com">Wenjing.Chu@huawei.com</a></td>
</tr>
<tr>
<td>Intel</td>
<td>Jenny Koerv</td>
<td><a href="mailto:jenny.koerv@intel.com">jenny.koerv@intel.com</a></td>
</tr>
<tr>
<td>Inwinstack</td>
<td>Thor Chin</td>
<td><a href="mailto:thor.c@inwinstack.com">thor.c@inwinstack.com</a></td>
</tr>
<tr>
<td>Juniper</td>
<td>Sukhdev Kapur</td>
<td><a href="mailto:sukhdev@juniper.net">sukhdev@juniper.net</a></td>
</tr>
<tr>
<td>Nokia</td>
<td>Tapio Tallgren</td>
<td><a href="mailto:tapio.tallgren@nokia.com">tapio.tallgren@nokia.com</a></td>
</tr>
<tr>
<td>NTT</td>
<td>Takeshi Kawahara</td>
<td><a href="mailto:kuwahara.takeshi@lab.ntt.co.jp">kuwahara.takeshi@lab.ntt.co.jp</a></td>
</tr>
<tr>
<td>Radisys</td>
<td>Prakash Siva</td>
<td><a href="mailto:psiva@radisys.com">psiva@radisys.com</a></td>
</tr>
<tr>
<td>Red Hat</td>
<td>Frank Zdarsky</td>
<td><a href="mailto:fzdarsky@redhat.com">fzdarsky@redhat.com</a></td>
</tr>
<tr>
<td>WindRiver</td>
<td>Jim Einarsson</td>
<td><a href="mailto:jim.einarsson@windriver.com">jim.einarsson@windriver.com</a></td>
</tr>
<tr>
<td>Qualcomm</td>
<td>Jasmin Ajanovic</td>
<td><a href="mailto:jasmin@qti.qualcomm.com">jasmin@qti.qualcomm.com</a></td>
</tr>
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Current Membership

- ARM
- AT&T
- Ericsson
- Huawei
- Intel
- InwinStack
- Juniper Networks
- Qualcomm
- Nokia
- NTT
- Radisys
- Red Hat
- Wind
Plan for Future Meetings

› Poll for Day of the Week results:
  › 9 votes for **Thursday - majority**
  › 6 votes for Wednesday
  › 5 votes for Tuesday; 5 for Friday
  › 2 votes for Monday

https://doodle.com/poll/b2cwn5wvgan9shqm#table
TSC Chair Election

› 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.

› Proposed Election Process
  › REMINDER: Close the nomination period on Thursday, August 9th, 5 p.m. PT
  › On Friday, August 10th, we will distribute collected bios and statement of interest and open the voting period. Voting instructions will be included in this distribution.
  › We will close the voting period on Thursday, August 16th, 5 p.m. PT and announce the results.
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
› Looking for meal sponsor: afisher@linuxfoundation.org
› Current Registration: 22 attendees (as of 6:30 a.m. PT)
› Etherpad for discussion:
   › https://etherpad.akraino.org/p/Akraino-Summit-NJ-Agenda-2018
Day 1 : Thursday , August 23rd

- 8 am - 8:45 - Registration (Start) & Breakfast (Served, Sponsored by AT&T)
- 8:45- 9:05 AM - Welcome note, Community update & Introduction   - Linux Foundation
- 9:05 - 9:30 - AT&T Welcome Keynote + Any one sponsor/Key Contributor
- 9:30 - 10:30 Lightning Talks [ 10 Mins each - Member companies] - Scope of the talk - what is expected from Akriano, why akriano and what your company will be contributing/leading.

<<Community members to provide input/nominate>>>
- Break - Coffee Break ( 15 Minutes, Sponsored by AT&T)

<< Seed code overviews>>>
- 10:35 AM - 11:05 AM - AT&T Akriano seed code update & Demo - Kandan Kathirvel, Oliver Spatscheck, AT&T
- 11:05- 11:30 AM - Upstream panel - What is the project and how they will help Akriano ( Airship, OpenStack, ONAP, Etc.,)
- 11:30-11:45 - Edge X introduction, Noah Harlan
- Lunch Break - 11:45 to 12:30 PM
Day 1: Thursday, August 23rd

Break out sessions - All-in-one - To allow everyone to participate, Key items to close on to jump start the community

12:30-2:00 - TSC Structure and Operating principles, goals, committees,
- What are the committees needed to run the community? [Upstream collaboration, CI/CD infra/code reviewer/approvers, etc.]
- TSC Chair and Co-chair introduction
- TSC & Board coordinations
- Meeting schedules
- TSC Operating principles
- What are the documentation we needed
- Akriano release 1.0 goals

2 PM - 3:30 PM - Everything about Akriano Blueprints
- What are blueprints - Definition
- Blueprints scope
- How to submit a blueprints
- Acceptance criteria
- etc.,

3:30-3:45 - Coffee Break (15 Minutes, Sponsored by AT&T)
3:45 - 5 PM - Continuation of Akriano Blueprints session
Day 2 Friday, August 24th, 8 AM to 1 PM ET

Theme for the day: Break out sessions - Multiple sessions - 3 Proposed and additional depends upon number of people participating the summit

8 am - 8:45 - Registration (Start) & Breakfast (Served, Sponsor TBD)
8:50 - 9:20 - Recap of Breakout session from Day 1 by the session leads
9:30 - 11:30 - Multiple Break out sessions
1. Session 1 - Requirements, Use Cases for Akriano 1.0 and beyond [Focus mainly on the Akriano 1.0], upstream Community work
2. Session 2 - Edge API, Edge Application and VNF - Certification, development, etc.,
3. Session 3 - Testing frameworks, Operational requirements/tools, security tools
11:30 - 12:30 - Open discussions
12:30 - 1:00 - Box Lunch & Depart
Demo: Code & Wiki
Access to the Code

- Members of the TSC will be granted permissions initially.
- 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
Akraino 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

- **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

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**Blueprints**

- "A" Hardware & Software
- Declarative Configuration
- CI/CD, Integration, & Testing
- POD

- "N" Hardware & Software
- Declarative Configuration
- CI/CD, Integration, & Testing
- POD

**Reference Architecture**

For Edge Use cases

- Akraino Blueprints
- "N" Hardware & Software
- Declarative Configuration
- CI/CD, Integration, & Testing
- POD

**Acknowledgments**

- TSC will provide acceptance criteria for release
Edge Point of Delivery (POD)

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

**Cruiser – Large POD**
- R-Leaf Pod 1
- R-Leaf Pod 2
- Spine
- M-SW

**Tricycle – Medium POD**
- C-Leaf
- C-Leaf
- M-SW
- M-SW
- M-SW

**Unicycle POD**
- C-Leaf
- C-Leaf
- M-SW
- M-SW
- M-SW

**Satellite**
- 1
- 2
- 3
- 4
- 5
- 6
- 7

**Rover**
- 1
- 2
- 3
- 4
- 5
- 6
- 7

**Characteristics**
- 6 Racks POD
- Containerized Control plane
- K8 based resiliency

**Use Cases** (e.g.)
- 3 Racks POD
- Containerized Control plane
- K8 based resiliency

**Customer’s Premises**
- 1 Rack POD
- Containerized Control plane
- K8 based resiliency
- Data/Control Plane mixed
- Remote Edge – 1 or 2 servers
- Containerized Control plane
- No K8 based resiliency
- Data/Control Plane mixed
- Over the top edge applications
- Remote @ customer or public buildings
- DANOS based
- Dis-aggregated hardware
- Over the top edge applications
- SD-WAN
What are our efforts?

CI Pipeline in AWS
- Allows to mimic CI Pipeline in LF

Central Node
- RedFish Automation
- Web Server
- DHCP Server
- Central Node Artifacts
- 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 Akraiio Edge Automation

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) (Regional Node)
- Dell 740 (.45) (Edge Node)
- HP Gen10 (3-Node Edge Cluster)
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 as 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.

Sub Projects
- Akraino Regional Controller (Portal, Camunda workflow, DB, LDAP)
- Redfish based Baremetal server install
- ONAP (Amsterdam) installation scripts
- Sample VNF (vCDN)
- Testing framework
- Airship in the Bottle
For More Information, Please Visit www.akraino.org