

03-20-24 - 5G SBP Bi-Weekly Status Meeting

Add Recording & Transcript

Attendance

Please enter your name and company. Tag yourself using LF ID User Name. Don't have an LF ID yet? Go here: <https://myprofile.lfx.linuxfoundation.org/>.

| Name | Company |
|----------------------------|------------------|
| LJ Illuzzi | Linux Foundation |
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Agenda:

- [Antitrust](#)
- Reminder to sign is on this page
- Add meeting logistics/Zoom, etc to top of page
- Welcome 1st Time Attendees
- Events - ONE Summit Update
- Project Updates
- Upcoming Meetings and April 3 PTO
- Any Other Business

#####

LF Anti-trust

- We will start by mentioning the project's Antitrust Policy, which you can find linked from the LF and project websites. The policy is important where multiple companies, including potential industry competitors, are participating in meetings. Please review and if you have any questions, please contact your company legal counsel. Members of the LF may contact Andrew Updegrove at the firm Gesmer Updegrove LLP, which provides legal counsel to the LF.
 - [Antitrust Policy](#)

Start Recording

Welcome 1st Time Attendees

Welcome all. new attendees. If you have any questions about participating in this community, please contact Louis Illuzzi (lilluzzi@linuxfoundation.org).

5G Super Blueprint Overview and Getting Started

Events

- **Upcoming Events:**
 - **ONE Summit 2024**, April 29 - May 1. San Jose CA
 - Schedule: <https://events.linuxfoundation.org/one-summit-north-america/program/schedule/>
 - Intent Driven Orchestration for Autonomous Networks Leveraging GenAI, Nephio & ONAP - Keguang He, China Mobile & Ganesh Narayan, Infosys. <https://sched.co/1YUrH>
 - SEDIMENT for IoT Device Security and Authentication - Zahir Patni, Peraton Labs. <https://sched.co/1YUsm>
 - **Proposal to add 5G SBP Office hours during ONE Summit, will kiosks be available?** LJ Illuzzi - LJ will not be on-site at ONE Summit. Any volunteers to staff on-site office hours?
 - LFN D&TF May 2-3, San Jose CA. Request for Programming Committee help

Project Updates:

5G SBP Use Case - MultiCloud HybridCloud NaaS (Network as a Service)

- *No updates since 02/16*
- A meeting between IBM, Aarna Networks, and LFN took place on 02/16. to discuss high-level overview and scope.
 - [Recording](#)
- IBM introduced the concept of [application-centric connectivity](#) <---YouTube link
 - [IBM Hybrid Cloud Mesh](#) (IBM product). Potential to open source a subset of this product. Open-source Mesh components currently include [Open Horizon](#) and [skupper.io](#)
- Potential to integrate connectivity APIs to CSP 4G and 5G cores - AT&T, as an example
- Next Steps:
 - IBM to present an overview and deep dive of IBM Hybrid Cloud Mesh.

SEDIMENT- Environmental Sensor Use Case

- *New version on demo with multiple devices, and includes failure is available*
- *Updates to slides is complete.*
- *DARPA Release Approval Form is filled out and being reviewed internally at Peraton before being submitted to DARPA*
- SEDIMENT presentation accepted for ONE Summit: <https://onesummit2024.sched.com/event/1YUsm?iframe=no>
- Demo on environmental sensors Use Case was presented on 12/06.
 - Recording: <https://zoom.us/rec/share/WBx-IEaAOA-Lziq0QFL2fgHeTueprtEMWuJ8OmjFVhyaFY03A2slZdN6FbA-sZ5U.i5IRCAXgvYEuxX45>
 - Jump forward 13 minutes for start of demo
- Notes from 02/06 and 02/20- Zahir/LJ
 - Updated demo that includes RA failure. Target end of Feb
 - Submit for DARPA approvals by mid-March

Established Baselines:

- Environmental Sensor Use Case will be a separate entry into the Library as opposed to adding to the existing SEDIMENT entry
- DARPA approval is required. Both Environmental Sensor Use Case for Library submission, as well as ONE Summit presentation, and updated demo will be sent for approval at the same time.
 - April 25 deadline for ONE Summit material submission.
 - DARPA needs 15 business days (3 weeks) for approval process.
 - DARPA approval items should be submitted by mid-March
- Repo: github.com/sediment-lfproject/remote-attestation

SEDIMENT+KubeArmor

- **New Use Case/Collaboration Proposals:**
 - Project L3AF uses eBPF for LSM (Linux Security Modules). There may be a potential for alignment around security; zero-trust capabilities-.
 - L3AF community member Santhosh meet briefly with Rahul Jadhav/Accuknox at [eBPF Day India](#) on 03/16. Santhosh interested in working with KubeArmor
 - Are there Industry vertical support templates for KubeArmor? @ron victor to followup
 - Next Steps:
 - ☐ Ron to take it up with KubeArmor technical team. LJ Illuzzi send L3AF info to Ron.
 - ☐ Ron to follow up on Industry vertical support templates @ron victor
 - Can SEDIMENT be ported to Linux to expand it capabilities to say, self-attestation.

- Zahir shared that SEDIMENT can be used on Linux and uses the notion of user-defined functions so that for Linux devices, with much larger storage spaces than IoT devices, specific files can be specified to be attested to insure they have not been tampered with.
- Drilling deeper it is proposed that SEDIMENT might be used to attest a Linux host before deployment. For example, when a CSP deploys Kubernetes infrastructure on Linux based platforms there is a capability where SEDIMENT can attest the host before deployment. A base-level Use Case can show the concept of using Linux to deploy different security-level SLAs
- Expand to confidential computing?
 - Next Steps:
 - Zahir flushing out the idea internally at Peraton Labs

Intent Driven Orchestration for an Autonomous 5G Network - Keguang He (China Mobile)/Praveen Kumar Kalapatapu (Infosys)

- Current Status as of 03/19:
 - Nephio API specifications are available: [Nephio API](#)
 - CMCC update- Building an ONAP knowledge Q&A system based on China Mobile's Jiutian large model, which is undergoing further optimization.
- Next Steps/Goals:
 - CMCC to provide ONAP API specifications
 - Resolve Nephio installation issues
 - Present relevant large model demo using ONAP at ONE Summit in April
 - Add Nephio integration
- A bi-weekly call on Mondays has been established. Next meeting is 03/26, 9:30am EST
 - How do we advertise this initiative to outside world; DT, AT&T?

Upcoming Meetings

- 20 Mar 2024 Bi-weekly status meeting
- 27 Mar 2024 Off-week Working Group and Deep Dive Meeting
 - Potential Topics for deep dive:
 - Overview and Deep Dive of [IBM Hybrid Cloud Mesh](#)
 - SEDIMENT/Linux Use Case
 - KubeArmor/L3AF collaboration
- 03 Apr 2024 LJ on PTO. Meeting to be canceled

Any Other Business

----- Back Burner Projects -----

Orchestration of OAI Core and Amarisoft gNB with EMCO - Yogen/Vikas (Aarna Networks)

Next Steps:

- *Add to the 5G SBP Library.*
 - *Whats needed:*
 - *code- Put it in an Aarna repo*
 - *Additional documentation pending*
- Marketing:
 - Need ETA from Yogen
 - Align with LFN marketing for blog (LJ)
- ONAP SMO?

ONAP SMO

- Scope-
 - use ONAP SMO to exercise gNodeB. Showcase RAN connectivity (O1 interface)
 - Showcase orchestration
 - Connect gNodeB
 - *Mitigation- UNH can host core but has no resources to implement; Yogen can implement*
 - Potential reference point/tie-in with ORAN-SC
- Requirements/Goals
 - Demonstate connectivity and orchestration
 - exercise Amarisoft gNodeB (UNH)
 - Stretch goal- tie-in with ORAN-SC
 - Stretch goal - Showcase RAN connectivity (O1 interface). OAI not ready with O1 interface
- Resources-
 - Aarna Networks
 - UNH - gNodeB. Note: gNodeB is T&M gear and will need to be shared among projects.
- Next Steps-
 - Bring up OAI core and orchestrator with Amarisoft gNodeB - UNH lab
 - Create Ansible template / tasks that would deal with the gNodeB - Lincoln/Yogen
 - Bring up OAI core at UNH using the orchestrator. No update, been using SD-Core in the meantime
 - LaaS booking, extend the booking to last longer than 21 days - ping Lincoln by email.

Simplified E2E Network Slicing -Yogen (Aarna)

- Simplified Slicing repo; use Aarna repo for now
- Bring in OAI stack
- Next Steps:
 - 5G SBP: Orchestration of OAI Core and Amarisoft gNB with EMCO
 - Slice selection within Edge Site Selection and Placement use case
 - Any other roadmapped items?

SABRES: Slice Selection, Path Validation, Multiparty Management - Lincoln Thurlow. (USC/ICI)

- Agreement with the Linux Foundation has ended
- All code committed to LF repos will remain intact and continue to be updated through at least Sept2024
 - <https://github.com/openfheorg/openfhe-development>
 - <https://github.com/orgs/sabres-lfproject/repositories>
- Open source license is BSD3
- A demo on Constraint-based search is created; needs legal approval to make available
- Lumen technologies will act as distributor
- What existing capabilities can be included/added to the 5G Super Blueprint Library? Constraint-based search, demo
- Next Steps:
 - Improve algorithms for constraint based search
 - Path validation with a different proof algorithm to improve the performance
 - Inclusion into 5G SBP Library
 - Scope: Constraint-based search, Can be done where RAN and other resources are deployed on a 5G network. If there are any constraints, for example disk space or CPU latency, and have a placement problem, thats where SABRES shines. The demo shows constraint-based search
 - Legal approval is needed to release the demo

----- Reference material below -----

5G Super Blueprint Library -

- Page opened for viewing- send comments to lilluzzi@linuxfoundation.org
- Proposal to add a column for higher level network function associated with each entry, example; slicing, security, UPF integration, IoT (visual inspection), etc.
- Marketing Plan
 - The goal is that each completed project get the same marketing treatment (i.e. Marketing Plan execution) where the technology is highlighed and the participants and contributing companies are recognized.

5G Super Blueprint Whitepaper

Documentation - Deliverables to the 5G SBP

From Use Case Template:

| | |
|-------------------|---|
| Blueprint Outputs | check all that apply: |
| (Mandatory) | <div><input type="checkbox"/> Code repository</div> <div><input type="checkbox"/> Configuration files (e.g. Helm charts, etc.)</div> <div><input type="checkbox"/> Upstreaming to relevant projects</div> <div><input type="checkbox"/> Continuous Integration</div> <div><input type="checkbox"/> Test requirements and test results (if applicable)</div> <div><input type="checkbox"/> Documentation:<div><input type="checkbox"/> Overview and Theory of Operation (i.e., what does it do?)</div><div><input type="checkbox"/> Deployment and setup</div></div> <div><input type="checkbox"/> Videos<div><input type="checkbox"/> demo</div><div><input type="checkbox"/> lab setup/behind the scenes</div><div><input type="checkbox"/> other</div><div><input type="checkbox"/> YouTube</div></div> |

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- Create a template for documentation collateral
 - Playbook-like theme
 - YouTube - independent of any D&TF YouTube postings, but cross-linked