

Meeting 050421

Attendance

Please enter you 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	Representing
Kenny Paul	LFN
Brandon Wick	LFN
Herman Parsehyan	Kaloom
Kader Khan	Wavelabs
Ulrich Kleber	Huawei
Andy Mayer	AT&T
Sveto Ignjatovic	Kaloom
Satish Verma	Spirent
Ranny Haiby	Samsung, LFN TAC
Bob Monkman	Intel
Ganesh Venkatraman	Kaloom
Amar Kapadia	Aarna Networks
Parthiban Nalliamudali	Wavelabs
Casey Cain	LFN
Sam Diep	Intel
Catherine Lefevre	ONAP TSC
Amy Zwarico	AT&T, ONAP SECCOM
Abderaouf KHICHANE	
Rajesh Jha	Wavelabs
Dibas Das	
Daniel Nilsson	TietoEvry
Robert Edwards	MATRIX
Sandeep Panesar	Turnium

Proposed Agenda:

- Start Recorder- helps facilitate minutes and Action Items
- Antitrust
- Welcome 1st time attendees
- LFN 5G Cloud Native Network Demo/POC 2021:
 - Status on current work demo
 - Emulator Discussion (Rebaca proposal)
- 5G Super Blueprint
 - [5G Super Blueprint FAQ](#)
 - Update on Basic Governance
 - ONAP Enterprise Working Group Update / Magma Integration
- Next Steps / AOB

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Meeting Minutes in Magenta

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 Updegrave at the firm Gesmer Updegrave LLP, which provides legal counsel to the LF.

- [Antitrust Policy](#)

Welcome 1st Time Attendees

Several new names were on the call today. Welcome all. If you have any questions about participating in this effort, please send to Brandon Wick (bwick@linuxfoundation.org) and Louis Illuzzi (lilluzzi@contractor.linuxfoundation.org).

LFN 5G Cloud Native Network Demo/POC 2021

From Last time:

FlexRAN + Altran RAN + OpenShift Containers Update (Hanan/Rajat/Sam)

Faraday cage built and ready. Containerization work taking a long time. Option for a work around might be to do a PNF for now (if containerization /orchestration can't be fixed). Hanen/Rajat/Sam to provide an update. FlexRAN Baremetal/PNF option?

Encountered some bumps, node running but external IO issues, compatibility issues. Red Hat is adding another resource work this. Sam inviting them to the mailing list, meeting calendar. A question was raised if we should wait for current container or look for other options (eg. treat as a PNF). CU/DU integration timeline is currently unknown. Currently the CentOS solution, being upgraded. Sam suggests getting started with Amar's suggestion to have another option. Amar and Sam to get this option moving via the Slack channel.

5G Radio Update (Sriram V)

Radio from GenxComm will be packaged up and shipped to Montreal soon.

Heating issue in radio fixed, waiting for the new radio to be shipped (likely end of this month). Once received in US, needs to be shipped to Montreal. Customs with Canada is usually pretty quick. Brandon to follow up with Sriram V.

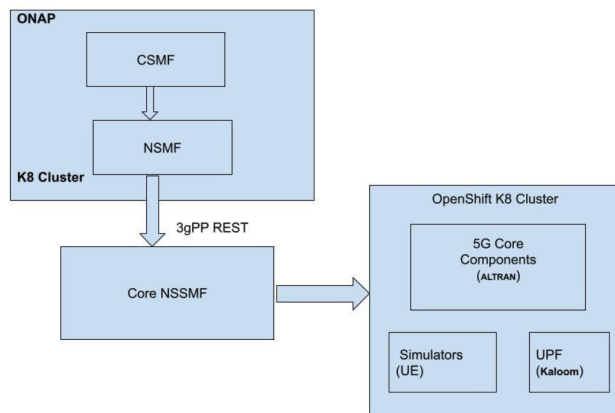
E2E 5G Slicing Update (Sriram R)

From Sriram R:

We have accomplished the first task of linking ONAP slicing flow to Altran 5GC (New Slice creation and activation). We still need to test the new slice configuration (using UE/gnb simulator), and we are in the process of doing this (using Altran's simulator tool).

ONAP with ALTRAN 5G Core & Kaloom UPF

- ONAP Guiliin+ release
- Altran 5G core components
- Kaloom UPF
- External NSSMF for core network
- Simulator for RAN NSSMF
- Simulator for Transport NSSMF
- Setup spans across two labs (UNH & Montreal Labs)
- Demonstrate ONAP capability to create slices using real 5G components



Current ONAP + Altran 5GC + Kaloom UPF Demo Setup

We were also told that the UNH lab is now connected to the lab in Montreal, so we can start moving to this.

The server reservation is extended through the end of July.

The subsequent tasks (probably can be done in parallel if there is bandwidth):

1. Test the new slices using UE/gnb simulator (in progress)
2. Test Altran 5GC slicing deployment in Montreal lab (make sure we can accomplish the same thing we did locally in UNH servers)
3. Integration with Kaloom UPF (later)
4. Depending on the community's decision, switch to Rebaca's ABoT simulator

There was a question raised about when to integrate with Magma. All work with Magma is being done in the 5G Super Blueprint track. The lab set up in Montreal with Kaloom was explained. Kader/Sandeep can help connect LFN with CENGN for additional lab support/consideration.

Emulator Discussion

2 Options proposed for Emulator:

Context: While we are doing an E2E demo, we need an emulator for showing features on the core. Starting with Altran, looking for additional capabilities from Rebaca.

Scenario 1:

Two gNB will be created from the Orchestrator. One gNB's UE will start registration followed by PDU session creation with a slice (NSSAI - application specific value) . The other UE's from another gNB can register with a different NSSAI and create another PDU session. The DNN may be different for different slice types (applications).

The 5GC core may select different NFs (say different SMF,UPF) for different slices. These NFs will be selected via NSSF and NRF in 5GC.

Then from two gNB' (UE simulator) , traffic will be sent for two different PDU session over N3 tunnel.

5GC UPF should act differently for different slice specific traffic

Scenario 2:

The same test can be gone with a single gNB. First one UE will register with a slice (NSSAI -sst) value and create a PDU session. Traffic will be sent for that slice over N3. We can check that slice related traffic is transmitted properly via relevant NFs. Then the UE deregister.

Again the same UE is registered with a different slice (NSSAI – sst) and create PDU session . Again send data over N3 for the new PDU session and check N3 traffic.

Both scenarios ready, Abot install in the environment. After Altran core, we should be able to report, what's working and what's not.

The Rebaca team will continue to work with Aarna on the integration and report back down the road.

5G Super Blueprint

- [5G Super Blueprint FAQ](#)
- [Update on Basic Governance](#)

Heather presented an update of our philosophy and approach to the work as an open source community-based initiative. There was a question around inclusion of proprietary components. Things like a compliance program have hard and fast rules, this demo represents more of a community building effort bases on who shows up to contribute (folks signing up to create something in the course of 6-12 months that demo something). We are building something to inspire others. Feedback received that the blueprint needs to be repeatable. The whitepaper until development will match, mirror the work. Challenge will be have something longer term that we can build on. Question of the charter was discussed, option 1, keep it a POC, Option 2, make it legally binding. Maybe, a middle way... mission, vision, mandate to get us started. Decision making traditionally has been around who shows up to make this work. A question was raised about architecture and what our deliverables are. In some cases, we've needed to include commercial pieces to round out our scenarios.

- [ONAP Enterprise Working Group Update / Magma Integration](#)

Next Steps / AOB

Project Plan Outline: Phase 1, Phase 2, Phase 3

Playbooks Overview

Anatomy of a Blueprint

Note: Potential 5G SBP Webinar in late May

Notes from 04/20 and Parking Lot

Demo/PoC 2021 & Super Blueprint [Jira](#)

When we start to use Jira, how will we track components? We are federating with other upstream projects, e.g. Anuket, ONAP. Cross-tagging possible. ONAP community happy to pilot the initiative with us. We need to better define how we are doing this and what is the process to provide feedback. A separate work stream is being set up in ONAP to help integrate with the 5G Super Blueprint. Looking for a concrete use case & process for participation. Kenny syncing with the ONAP TSC.

Proposal to split Demo/PoC 2021 and Super Blueprint meetings

Group discussed the best way to support both tracks of the work (ongoing demo and new super blueprint work). We will see over time about how this develops. We will start with an informal spit in the agenda to feel this out.

Demo/PoC 2021

[FlexRAN + Altran RAN + OpenShift Containers Update \(Hanan/Rajat/Sam\)](#)

Faraday cage built and ready. Containerization work taking a long time. Option for a work around might be to do a PNF for now (if containerization /orchestration can't be fixed). Hanan/Rajat/Sam to provide an update.

[5G Radio Update \(Sriram V\)](#)

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E2E 5G Slicing Update (Sriram R)

Sriram: ONAP Honolulu up and running, able to do the slicing, with 5G core (at UNH). Built a blueprint between ONAP & 5G Core. Will move this from UNH lab to Montreal lab and integrate with Kaloom UPF. Note: ONAP Honolulu is target for release at the end of the month.

5G Super Blueprint Discussion

LFN staff exploring optimal approach toward technical decision making, licensing, lightweight governance, etc. Developing an area where definitions, tools, etc can be found. Asking LF legal team for input on what might be required, without adding undue overhead. It's important that demo artifacts be make public, available, and accessible. This is needed for easy industry replication and to avoid forks. Best Practice: Upstream first, document all key steps, track outputs, make available. Associating code with a Jira instance. Most of what will go into shared repos is scripts, playbooks, etc. POCs are not production ready, we need to define them. When using commercial components, that needs to be called out and defined. Important to remain vendor neutral. Perhaps adding "multi-vendor, interoperable" to the definition. Include a description around participating labs. Heather to craft an Ethos/FAQ to better define the super blueprint. LFN community members are welcome to use LFN's LaaS to work out demo components. More lab resources from the community are welcome, e.g. TIP.

Next Meeting:

The next meeting will be on Tuesday, May 4, 8:00 AM PT/1500 UTC. Louis is on PTO 05/03 to 05/10, returning 05/11

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5G Super Blueprint Overview

The team concurs to reuse parts of the 5G Cloud Native demo/PoC into the 5G Super Blueprint where it makes sense. And to share technologies and methodologies. For example; common orchestration engine (based on ONAP), 5G-UE and gNB emulators, etc.

Working Group Logistics

Proposal: Use the foundation built by the LFN Demo: 5G Cloud Native Network working group as the "home" of the 5G Super Blueprint.

Track 1: Current Demo: 5G Cloud Native Network + RAN Integration + Network Slicing. Goal: Publish and promote working demo in Summer/Fall

Track 2: 5G Super Blueprint: In parallel, build a 5G Super Blueprint (specs, scripts, instructions, etc) covering the phases presented earlier.

The tracks will use the SAME: Wiki, Mailing List, Slack Channel, & Meeting Schedule (to start). As needed, we could potentially split out a separate 5G Super Blueprint call, sub-section of the wiki, Slack Group, etc.

Channels:

- Slack Channel: https://join.slack.com/t/lfn-demo/shared_invite/zt-nkmmn4gh-Z5wUZNgo_tOJ958s31PGTQ
- Email group: lfn-demo+subscribe@lists.lfnetworking.org
- [Jira](#)

LFN TAC Whitepaper

- [Ranny Haiby](#) Leading effort at 5G Super Blueprint Whitepaper. Learn more and sign up to contribute here: <https://wiki.lfnetworking.org/x/e4AZAw>.

Parking Lot:

- The LFN TAC is interested in helping promote and move the 5G Super Blueprint forward. It has been proposed to present 5G Super Blueprint to the TAC on Wednesday 04/07.
- Status on current work
- Leveraging 5G Cloud Native Network Demo (Proof of Concept) 2021
- 5G Super Blueprint Criteria
 - Open source components where available
 - Proprietary components where Open Source component does not exist or is not compatible
 - LFN TAC Consult
- Blueprint Outputs (scripts, docs, yaml/yang files). Do it in stages.
 - Establish forcing function
 - Consider leveraging Akraino best practices
- Establish upstreaming process
- 5G Super Blueprint Playbook
- Establish joint/cross project repos
 - Separate demo and 5G Super BP Jiras
 - Jira cross tagging- need IT discussion