

# Meeting 051821

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| Name                                   | Representing     |
|----------------------------------------|------------------|
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| <a href="#">Brandon Wick</a>           | LFN              |
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| <a href="#">Sriram Rupanagunta</a>     |                  |
| <a href="#">Heather Kirksey</a>        | LFN              |
| <a href="#">Kenny Paul</a>             | LFN              |
| <a href="#">Sandeep Shah</a>           | IBM              |
| <a href="#">Ranny Haiby</a>            | LFN TAC, Samsung |
| <a href="#">Sebastian Scheele</a>      | Kubermatic       |
| <a href="#">Heather Kirksey</a>        | LFN              |
| <a href="#">Catherine Lefevre</a>      | ONAP TSC         |
| <a href="#">Phillip Ritter</a>         | Facebook         |
| <a href="#">Hanan Garcia</a>           | Red Hat          |
| <a href="#">Ganesh Venkatraman</a>     | Kaloom           |
| <a href="#">Parthiban Nalliamudali</a> | Wavelabs         |
| <a href="#">Satish Verma</a>           | Spirent          |
| <a href="#">Jianzhu Zhang</a>          | Red Hat          |
| <a href="#">Herman Parsehyan</a>       | Kaloom           |
| <a href="#">Sveto Ignjatovic</a>       | Kaloom           |
| <a href="#">Sam Diep</a>               | Intel            |
| <a href="#">Veronica Quintuna</a>      | Orange           |
| <a href="#">Sandeep Panesar</a>        | Turnium          |
| <a href="#">Josh Hicks</a>             | Turnium          |
| <a href="#">Casey Cain</a>             | LFN              |
| <a href="#">Rajesh Jha</a>             | Wavelabs         |
| <a href="#">Dibas Das</a>              | N/A              |
| <a href="#">Benjamin Posthuma</a>      | GXC              |

## Proposed Agenda:

- Start Recorder- helps facilitate minutes and Action Items
- Antitrust
- Welcome 1st time attendees
- LFN 5G Cloud Native Network Demo/POC 2021:
- 5G Super Blueprint
- Next Steps / AOB

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## 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](#)

## Welcome 1st Time Attendees

Welcome all. Please See the [5G SuperBlueprint FAQ](#). If you have any questions about participating in this effort, please send an email to Brandon Wick (bwick@linuxfoundation.org), Louis Illuzzi (lilluzzi@contractor.linuxfoundation.org) and Heather Kirksey (hkirksey@linuxfoundation.org).

## LFN 5G Cloud Native Network Demo/POC 2021:

Status on current work demo

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

2 Things:

1 Getting the FlexRAN code/binaries: Have components ready for testing. Goal: Run on baremetal first. Adding 2 members to the call (Nidhi, Jianzhu) working to get the Openshift environment running in the lab in San Diego. Will provide the binaries after this happens. Future: Hanan/Sveto to then run the baremetal call in Montreal lab. Using a CentOS 7 container on Openshift. Kaloom can dedicate baremetal server specifically for this.

2. Getting the Altran, CU/DU containers.

Sriram reached out to RAN team at Altran in India. Haven't heard back yet (COVID impacts).

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

Kaloom has been in touch with Sriram V. First step: Testing the radio in Austin lab first. Once determined to be fully working. After testing complete, will ship to Montreal lab and place in Faraday cage. Amar asked Sam if it's possible to FlexRAN up and running next week? That way we have sometime to test the radio against. Sam to provide Jianzhu with the image of the container.

Question raised: Is there a diagram (planning) what this version of the demo will entail? Yes, this is a customary deliverable. Brandon/Amar to start a draft.

[E2E 5G Slicing Update \(Sriram R\)](#)

Samir at Rebaca looking for a resource to assist. Samir/Sriram in contact. Can wait another couple weeks.

5G Core is the initial phase, then E2E testing with emulator. The slices are there, needs testing (reliant upon Altran folks in India). Will then work on integrating with the UPF.

Sriram has been working with Swami/Lin and weekly ONAP 5G slicing calls. Testing on the Core. Will flag Catherine if any further help is needed from the ONAP community.

## 5G Super Blueprint

[Jira / GitHub Update \(Louis\)](#)

The [5G Super Blueprint Jira](#) now created. We need to consider now how to categorize the Jira. ONAP integration with a federated Jira has been approved but need to understand how this works. Louis to coordinate with ONAP, develop a recommendation for hierarchy, federation, workflows, etc. GitHub has not yet been set up; need to hammer out the same issues. Super Blueprint will upstream the code back to the project codebases wherever possible. Louis developing a ReadMe for Jira/GitHub. How do we make this effective? What are the categories and where do we filter? Project TSCs need to look at federation and upstreaming to project communities. LFN Staff needs to coordinate touching base with project TSCs.

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

Amar gave a brief overview of the work being done to integrate ONAP with Magma happening on the ONAP Enterprise Working Group call. [The presentation can be seen here](#).

Magma core has access gateway and Magma orchestrator. 1st step is orchestration. The magma controller is already containerized (CNF). Also a PNF /VNF (Hybrid approach).

An ONAP Magma integration plan was shown.

This is open initiative, anyone can get involved.

Please see the ONAP Enterprise Task Force Wiki:

<https://wiki.onap.org/display/DW/TSC+Task+Force%3A+ONAP+for+Enterprise+Business>

Bi-weekly call on Wednesday 7am PST - next one scheduled on 5/26

[Need 5G Super Blueprint Use Case \(Brandon/Heather\)](#)

Looking to identify a specific use case that we can develop to better show what the 5G Super Blueprint can do. What's the business case for the taking an open source approach? In the past, we've shown an E2E call on a keynote stage, what could we show (and how) in the future to make this real for folks? Initial ideas have been factory floor, warehouse, etc. A suggestion was made to look at the Magma development conference: 5G, Narrowband IOT. Aligning with their roadmap for IoT maybe be synergistic. Might be helpful to have the current roadmap presented to help foster conversation. It was noted that the Magma roadmap does currently function on 5G (narrowband IOT might not be the focus). Phil has volunteered to help be the conduit with this group.

LFN Member participation encouraged. Call for the group: Send in your use case ideas? [Child page created](#) for use case brainstorming. Please add to this page. LFN Communities feedback + EUAG feedback needed.

## Next Steps / AOB

Topics for future calls:

- Arpit High Level Overview
- Jira/GitHub Read Me planning
- Project Plan Outline: Phase 1, Phase 2, Phase 3
- Playbooks Overview
- Anatomy of a Blueprint
- Additional Project Integration (ODIM, etc.)
- 5G SBP Whitepaper Development (Ranny)
- Potential 5G SBP Webinar in Q2

##### Notes from 05/04 and Parking Lot #####

## 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). Hanan/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.

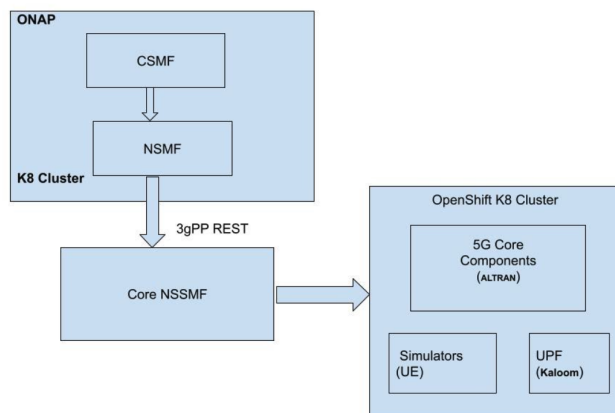
E2E 5G Slicing Update (Sriram R)

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 Guilin+ 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 CENG 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 based 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

ally 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](https://join.slack.com/t/lfn-demo/shared_invite/zt-nkmmn4gh-Z5wUZNgo_tOJ958s31PGTQ)
- Email group: [lfn-demo+subscribe@lists.lfnetworking.org](mailto: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, code/Yaml/Yang files). Do it in stages.
  - Establish forcing function
  - Consider leveraging Akraino best practices
- Establish upstreaming process
- 5G Super Blue Print Playbook
- Establish joint/cross project repos
  - Separate demo and 5G Super BP Jiras
  - Jira cross tagging- need IT discussion