

07-26-22 - 5G SBP Regular Bi-weekly Status Meeting

Meeting Recording

Chat File

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	Company
LJ Illuzzi	Linux Foundation
Kenny Paul	Linux Foundation
Satish Verma	Spirent Communications
Pano Xinos	Linux Foundation
Ganesh Venkatraman	Kaloom
Yogendra Pal	Aarna Networks
Anindita Raychoudhuri	Rebaca Technologies
Mike Loushine	AT&T
Brandon Wick	Aarna Networks
Bob Monkman	Intel
Parthiban Nalliamudali	Wavelabs
Paul Choiseul	American Tower
Kader Khan	Wavelabs
Ranny Haiby	Linux Foundation
Sandeep Panesar	Turnium Technology Group
Hardik Jain	GXC
Satish Sadagopan	IBM

Agenda:

- Start Recording- helps facilitate minutes and Action Items
- [Antitrust](#)
- Welcome 1st Time Attendees
- Invitation to Collaborate on the Agenda and Discussion Topics
- Marketing Update
- RAN Overview - GXC
- Requirements and Use Case Advisory Group
- Off-Week Deep Dive Meeting
- Work Stream Updates
- Architecture & Adjacent Communities
- Action Items
- Any Other Business

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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 Updegrave at the firm Gesmer Updegrave 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](#)

Invitation to Collaborate on the Agenda and Discussion Topics

- In an effort to get even more community input on the agenda and the discussion topics we are using the [groups.io mailing list](#) to send an invitation to contribute to the meeting agenda. The invitations are set to go on the Monday prior to each bi-weekly meeting.

Marketing Update

- Upcoming Events:
 - [ONE Summit](#) Nov 15-16 Seattle Washington
 - CFP Closes July 29. [Link to Submit CFP](#)
 - **Add link to Suggested Topics page**
 - [2022 LFN Developer & Testing Forum November 17-18th](#), Seattle Washington

RAN Overview - GXC

- Hardik Jain from GXC provided an overview of ORAN. Slides [here](#).
 - Facts & Highlights-
 - Tested up to 1 gigabit per second. Speed is dependent on the UE being used and can go higher
 - Not yet optimized for latency. Current set achieves sub 10 millisecond latency.
 - Current setup can support 3 O-RU per 1 DU. This is increasing with each release.
 - Currently integrated with Magma 5G core
 - Open questions-
 - Processing delay at DU and CU
 - What Use Cases can be shown?
 - What components are needed and what components may be missing to build a demonstrable PoC.
 - What configuration interface does GXC support? ORAN interfaces or proprietary?
- **Proposed Use Case (Yogen)**- Performance Measurement from an ORAN perspective as well as end-to-end to optimize the RAN network. Considered from the SMO side. End to End slicing can be supported.
- **Proposed Use Case (Paul/American Tower)**- would be interested in a combination of public and private cloud (hybrid network) with the private side used for IoT, robotics, etc. and the public side connectivity that can handle private sliced network use cases like Ultra-Reliable Low Latency Communications (URLLC), but at the same time allowing us to enable wireless service providers to also partake of the network. In a perfect world, we should be able to publish Public Land Mobile Network (PLMN) IDs for the private network, each one with its own set of capacity and latency requirements, but also set aside capacity for wireless service providers traditional use cases.
- Next steps-
 - Building Blocks/Proof Points:
 - Deployment through Anuket and Kubernetes to instantiate CU/DU functions (Muddasar)
 - Day 1 configuration/alignment of CU/DU
 - What configuration interface does GXC support?
 - Orchestration from ONAP through CU/DU (Yogen)
 - Proof Point 1- Deployment of K8 workloads without any function (Muddasar)
 - Proof Point 2 -Deployment of workload specific to the core and specific to RAN (Muddasar)
 - Proof Point 3 -Can workloads be configured? (Muddasar)
 - Proof Point desired outcomes: (Muddasar)
 - 5G Core is deployed and configured
 - RAN is deployed and configured
 - UE simulator can join the network and access the services (SMS, voice, data)

Requirements and Use Case Advisory Group

- [5G Super Blueprint Use Cases & Submission Template](#)
 - Use Case submissions should be demonstrable PoCs.

- with; Problem Statement and how is the problem solved, user stories, interaction with other open source projects and components.
 - Use the template
 - ORAN SMO Package demo followup
- Muddasar Ahmed (Mitre)- Asked about non-functional requirements; "security orchestration". Ranny suggests we will need to have the capability to demonstrate security capabilities. Ranny suggests a security "champion" needs to step forward. Potential for a security SIG under the Advisory Council

Off-Week Deep Dive Meeting-

Next Meeting Aug 02 - call for topics

Potential Topics:

- Lab Resources Utilization- Kaloom/UNH/Wavelabs (India)
- Radio- GenXcomm/UNH/Wavelabs- radio HW requirements, Wavelabs India lab setup.
- ORAN -Service Management Orchestration (SMO) Framework- demo to show capabilities, and plan out next steps for 5G SBP
- ORAN-SC implementation in the lab- what is available today? What is on the horizon?
- Integrations:
 - GenXcomm with ONAP (ONAP working as a SMO)
 - GenXcomm with Magma
 - GenXcomm with Anuket

Work Stream Updates

Architecture & Adjacent Communities

Action Items (open)

- ☐ Kader Khan, Parthiban Nalliamudali, Benjamin Posthuma begin work setting up radio components in Wavelabs lab. Can radio be shipped to Wavelabs in Hyderabad? GXC-radios working with Magma. Testing of all Magma 5G capabilities underway. Other radio vendor DMW
- ☐ Tracy Van Brakle extend invitation to other operator members of ORAN (i.e. Verizon)
- ☐ Heather Kirksey Reach out to outreach committee on Magma Slack #magma-outreach-committee to discuss joint marketing opportunities.
- ☐ Tracy Van Brakle Any link to Multi-Operator RAN from Dec 2021? Referenced on a previous call.
- ☐ Alex Stancu Can help with ORAN implementation. Martin- what is the success criteria? Agenda item for Deep Dive meeting?
- ☐ Martin Skorupski can add detail and next steps for SMO Framework. <https://wiki.o-ran-sc.org/x/-YvYAg>
- ☒ LJ Illuzzi Visibility on the Demo document

Any Other Business

***** Parking Lot *****

Lab Architecture:

- 1st Draft: https://docs.google.com/presentation/d/12Bs-RoH-yKvKTrHocDK57LiHIGvTT3tQKFR10xetSpg/edit#slide=id.g1295cdd58af_0_0
- Updates from 10 May 2022 5G SBP Deep Dive meeting
- How do we add Wavelabs lab into the architecture?
- Request that the RNA and core details be specified on the google doc.

Roadmap - updated 5G SBP Phases

- 29 Mar 2022 Off-Week deep dive meeting focus was on Road discussion: <https://wiki.lfnetworking.org/x/iZ8ZB>
- 22 Mar 2022 Roadmap refresh presented by Amar
 - 5G Super Blueprint Roadmap
 - Magma 1.7 release pending. Testing underway
 - Targeting early Q2 for Phase 1.
 - Phase 1- in addition Anuket will need to be refreshed.
 - Phase 2- key addition is to implement GenXcomm integrations:
 - GenXcomm with ONAP (ONAP working as a SMO)
 - GenXcomm with Magma
 - GenXcomm with Anuket

- Phase 2 stretch goal- ONAP configuration management of 5G core and/or ORAN

Architecture and Adjacent Communities

- Request for a 5G Super Blueprint Requirements & Use Case Advisory Group
 - The need for such a group was confirmed and formally requested during the March DTF
 - Wiki page created: [Requirements & Use Case Advisory Group](#)
 - Role: identify use cases, requirements, architecture, platform component roles and ensure alignment among the participating communities.
 - Discussion Points-
 - Community thoughts on creating this group?
 - Any additional thoughts on the role of the group? Especially from the folks who attended the March DTF.
 - How would we staff this group? one per community (ONAP, Magma, EMCO, Anuket, O-RAN, End Users, etc.)?
 - Call for Action- signup to work on this important Advisory group.
- Proposal to use the off Tuesday for working meetings
 - Perhaps we can rotate between Requirements & Use Case Advisory Group, [ONAP and EMCO Alignment](#), [ORAN Alignment](#) teams, RAN workstream.
 - Call for Action- Anyone from these teams interested in taking the March 29 slot? Maybe [ORAN Alignment](#) per below Next Steps?
- [ONAP/EMCO Alignment](#) updates
 - Material from Last weeks DTF:
 - [Latest Deck](#) - Architecture, Role, Use Cases
 - [2022 LFN Workshop - EMCO and ONAP On-boarding and use case alignment](#)
 - Review Role Alignment, Use Cases, Action Items from above as needed
 - Next Steps:
- [ORAN Alignment](#)
 - Proposed starting points-
 - Look at O-RAN reference architecture
 - Sort/prioritize use cases
 - Potential workstreams- (picking up the discussion from 02/22)
 - Plugfest (June 2022) focusing on 5G SBP and Multi-Operator RAN (reference Dec 2021- Multi-Operator RAN- Tracy) Link: <https://futurenetworks.ieee.org/conferences/2021-first-responder-and-tactical-networks-workshop>
 - Is there an ORAN (preferably ORAN-SC) implementation available that can be installed? Wavelabs offered to open their lab for this.
- 5G RAN (RU + CU/DU)
 - Work that can be started now:
 - Coordination between GenXcomm, Wavelabs, UNH.
 - Kader offered to setup lab in India. Would need help setting up radio in India. off week meeting?
 - GenXcomm RAN server requirements.
 - Hardik/GenXcomm to name a dedicated resource to work 5G SBP
 - Ben will check on resource
 - GenXcomm has an ORAN implementation that we can perhaps leverage.
 - ORAN-SC implementation - Alex Stancu can help
 - Yogen asked about recommended model. Tracy recommends a hybrid model over higherarcial model
- Monthly Magma call- "Magma 5G- Everything you need to know".
 - Last meeting recording: <https://www.youtube.com/playlist?list=PLQ88zlc9KWGfhOZsRdtqs6UbP9vEeUEXz>
 - Logistics- 2nd Friday of every month
 - 8am PT/11am ET/ 1500 UTC
 - Zoom: <https://zoom.us/join/jwpfumgrDksG93YBPRW6vmrNVHWR-IVMEsG>
 - April 8 meeting has been canceled
 - Joint marketing opportunities - Heather
 - ONAP Requirements
 - Magma feature submission: <https://github.com/magma/grants/issues> => Issues 36, 37 and 38 have been submitted to cover [ONAP Requirements](#)
 - Here is the list of requirements to support ONAP/Magma Integration, supported by [Neil Hoff](#) (OPS 5G Customer):
 - We want to move forward with our Network slicing use case therefore we would like to know if there is any feedback on the presentation (ONAP/Magma Service Assurance Integration – KPIs) made by Jorge Hernandez-Herrero last year
 - What would be the Magma KPIs to support Network Slicing?
 - During our Integration with Magma, an issue has been identified: Magma K8s resources need to be installed in different namespaces, and therefore be split into separate Helm packages. Is there a delivery date from Magma to deliver it? thanks

Workstreams

- ONAP/Magma Integration #1
 - 22 Mar 2022 - Update from Aarna: The action item is to try workaround in Helm charts on ONAP Istanbul release. We have been facing challenges with ONAP (I release) deployment. On one ONAP deployment on the UNH server where we managed to deploy, the ONAP portal is extremely slow, and takes few minutes to respond. We are trying to install on another server but were unable to allocate new servers due to issues with UNH LaaS setup. These are finally resolved, and we are able to allocate a new server on which we will restart ONAP deployment, and then the workaround to deploy Magma with modified Helm charts.
 - 08 Mar 2022 - CBA and Helm repos. Louis/Yogen need to unstick check-in issue.
 - 22 Feb 2022 - Ran out of time for update
 - 08 Feb 2022 Yogendra: Working on a Helm chart issue by splitting them up. Access gateway. Small infra changes. We'll then be taking up the Magma orchestrator. Is there any specific help from Magma needed (Suresh)? Yes, that would be a great help (orchestrator charts). Suresh and Yogendra to synch offline. Helm chart fixes will require namespace changes (the ideal path). There is also a workaround to force all namespaces to be the same. The community agrees this is not the ideal long-term solution. It was requested that the Magma community, led by Suresh (Wavelabs) work with Yogen to package the Helm charts with namespace corrections as the long-term solution. Suresh to consult with Magma community if this will lead to any conflicts with Magma namespace as it exists today.
- ONAP/Magma Topic: #2
 - 22 Mar 2022 Kader - have servers and simulators. Waiting on 5G radio.

- 08 Mar 2022
- 22 Feb 2022 - Ran out of time for update
- 08 Feb 2022 Wavelabs + Rebaca making good progress (in Wavelabs lab) on integration. Before Magma 1.7 come out, we'd like to replicate this in the community labs (by cloning). If using Wavelabs for community use, need to address some issues (e.g. jumphost set up as a trusted host). Can a jumphost be set up at Kaloom and/or UNH? Hanen/Suresh/Amar looking into it. Option may be to connect the labs. Reference- UNH lab is used for 5G resources (Amar).
- Magma namespace changes- Namespace changes needed in Magma to resolve Helm chart issue (permanent fix)- Wavelabs/Suresh
- ONAP/ORAN -SMO Framework workstream (Service Management Orchestration)
 - Martin- weekly meeting in place on SMO Framework packages. What ONAP group is involved? <https://wiki.onap.org/x/DgmsBw>
 - Tracy- proposal to show SMO Framework demo to show capabilities - Off-week call?
 - [Automated deployment and testing - using SMO package and ONAP Python SDK - DRAFT](#) -demo recording at bottom of page
 - Tracy- SMOs for gNB, etc
- ORAN/Anuket workstream
- 5G RAN:
 - 22 Feb 2022 What workstreams can begin now that GenXcomm is onboard?
 - 08 Feb 2022 Need to check in with GenXcomm and determine RAN side of 5G SBP (CU/DU). Catherine suggestion: Bring this to the ORAN-SC community (Tracy + Martin). LF Staff to make connection.

Lab Resources

- UNH- Faraday cage in place.
- Kaloom (Montreal) - Hanen, GenXcomm radio is currently at Kaloom lab. Hanen will talk with Ganesh. (Kaloom previously ran the UPF and fabric). Faraday cage in place
 - Missing radio parts- SW for RAN. If GenXcomm has this, then much easier to deploy
- Wavelabs (India)-

Action Items (completed)

- ✓ LJ Illuzzi- SMO Framework packages. What ONAP group is involved? <https://wiki.onap.org/x/DgmsBw>
- ✓ LJ Illuzzi Create wiki to look at the various use cases among communities.
- ✓ Martin Skorupski start putting together use cases among open source communities. Starting point --> ORAN Alignment
- ✓ Amar Kapadia Will update wiki on roadmap
- ✓ LJ IlluzziRoadmap refresh
- ✓ Kader Khan Suresh Krishnan Create requirements document capturing ONAP requirements for Magma (as discussed on 03/08). Requirements doc created
- ✓ Hardik Jain dedicated resource from GenXcomm to work 5G SBP. Ben will help with resource. Rajesh Ramesh is named resource.

Any Other Business

- 22 Feb 2022 ONAP/Magma Integration - Service Assurance - KPI Network Slicing. This is being tracked by [ONAP for Enterprise Task Force](#). Will come into play in the 5G SBP down the line.