Meeting 090721 (Demo Deep Dive)

Attendees: PLEASE ADD YOUR NAME HERE USING YOU LF ID. IF YOU DON'T HAVE ONE, GET IT HERE: https://myprofile.lfx.linuxfoundation.org/.

Meeting Bridge: Join Zoom Meeting: https://zoom.us/j/99018479008, Meeting ID: 990 1847 9008, Find your local number: https://zoom.us/u/abRK2FZlf1

Name	Representing
LJ Illuzzi	LFN
Ganesh Venkatraman	Kaloom
Yogendra Pal	Aarna Networks
Brandon Wick	LFN

NOTE: This is the weekly technical deep dive call to prep the latest version of the 5G Cloud Native Network Demo for ONE Summit 2021, Oct 11-12. If you would like the meeting invite, please email bwick@linuxfoundation.org and lilluzzi@linuxfoundation.org.

Antitrust

Program Management

A daily standup call as been established on Slack.

Ask- keep all Slack communications on #lfn-demo so that there are no side communications that can be missed by other community members.

Logistics:

Time- 10am ET/7am PT Daily

Location- https://lfn-demo.slack.com/archives/C01J7F0GXFH

Demo- what can we do given current status?

Plan A- End-to-End. Core+RAN+Radio
Blockers/Risks-

- [ ] Radio reaching Montreal lab
- [x] FlexRAN installation in Montreal lab
- [x] Capgemini Engineering CU/DU installation in Montreal lab - QR code issue
- [ ] Re-confirm Capgemini Engineering + UPF is up & running in Montreal lab
- [ ]

- [ ] Re-confirm UE is available in Montreal lab
- [ ] Re-confirm faraday cage is ready-to-go in Montreal lab. May need faraday cage connectors.
- [ ] GenXComm integration

Plan B - Rebaca Video-Only. Core only.

Scope: Show "good" and "bad" slice using video client. Then potentially replace video client with phone.

Blockers/Risks-

- [x] VM availability for Rebaca Abot, media client, media server in Montreal lab - mitgated
- [ ] Rebaca software installation complete on VMs. Integration issues around routing.

9/7: Video client system IP needs to be in IP address of session. Yogendra looking for this. Raja had discussion with Rajat.

9/7: Which connectors/band is the radio supporting? Need to confirm with the UE.

Documentation & Collateral:

Call to Action:

1. We'd like to evolve the Daily Standup on Slack to cover each of the items above, in addition to the technical communication currently underway. This will help us stay on track and assure we can deliver the best demo possible. If you are responsible for any of the items above, or if you can lend a hand or ideas, your updates and input are welcome and needed on the Daily Standup.
2. Brainstorming- Please offer any ideas you have on what can be delivered as a compelling demo as it pertains to Plan A & B above or any other scenarios you feel are possible. For example, what can we show (besides a phone call) for an End-to-End demo? Or, What can we show (besides video) with and without slicing?
3. Brainstorming- What additional risks and blockers do we have that are not listed above?

8/31: Samir Idea: 2 different videos, 1 hi-res, 1 low-res. Shaka Player as a client, show that with slice A, playing well. Pull up dashboard jitter /latency/performance differences (simulating the GNB and UE).

- *Show ONAP slicing GUI? Language issues?*

Slack Communications:

Great traction on the Slack Channel. Let's keep it up! https://join.slack.com/t/lfn-demo/shared_invite/zt-pcf5086a-l0i926BOhc9pzf5_mVDhtA.

ONE Summit Keynote Planning Call:

Group met last week and had a productive conversation.

Meeting Time: Weekly on Fridays, 9:30 - 10: 30 AM PT

Let Brandon+Louis know if you'd like to join this call.

Status Check / Open Questions

Slicing:

09/07 both routers 172.26.11.49 and 172.26.11.81 need to have the routing through the Firewall interfaces.

09/03 (Raja Mittra): Initial Registration is Done between ABot gNodeB and Altran AMF. PDU Session establishment is also Done. Will continue on UPF integration and Video Test on Monday.

Next Steps/Workflow:

- [x] Video Server configuration
- [x] Video Client configuration
- [x] ABot installation and config
- [x] Integration with Altran AMF
- [ ] Integration with Kaloom UPF - continue Monday 09/06
- [ ] UPF Integration -

(08/31 Raja Mittra) ABot Installation is done we were trying to integrate with AMF and UPF. I got the details of UPF from Jaime. But waiting for the AMF details. As per the Jamie's diagram I tried integrating with AMF (10.198.7.25:38412) but on the transport layer it is sending Abort in SCTP. So Please share the relevant details for integration.

(08/25 Raja Mittra)- VMs are installed but some issue with internet access on the VMs. But Jamie has provided the solution. Will be working on it to fix the issue. Hope to have ABot installed by 08/26.

Yogendra: "#1. A10 FW is up and running now. Kaloom team need to share the IP details for N6 interface and other IPs belonging towards trusted and non-trusted n/w. #2. SMF and UPF connectivity debugging is ON (Jamie, Rajat, Yogen, RP) are looking into it.

Rebaca pieces being installed: Abot, Video Client, Video Server.

1 Ingress (UPF to FW) to A10, 1 Egress (FW to Video Server) to A10. Open Item: Need to know interface IP (to be provisioned for testing). Jamie: Would like to deploy A10 on Server 11. Sveto: On Egress, connect with Rebaca video server. Raja: Talked through the connections. At minimum 2 interfaces to meet on ABot. (Raja/Samit). Jamie to share network information. SMF and UPF connectivity been made, not tested a session.

Step 1 Testing: Video Session. N1, N2, N3 on different VLANs. Proposal: Separate call to cover details. Will also require ONAP Slice integration. Rajendra to schedule (once basics in place). Ganesh: Add to original diagram – meld into 1 picture.

8/31: Raja: But waiting for the AMF details. As per the Jamie's diagram I tried integrating with AMF (10.198.7.25:38412) but on the transport layer it is sending Abort in SCTP. So Please share the relevant details for integration.

8/31: Samir: Beyond Altran, there are several more steps to be done in just a couple weeks. We need attention on these.

9/7: Jacobus. Running ping on trusted, not seeing traffic on untrusted side. Jacobus, Raja, etc will have a separate working session.

RAN:

09/02 Sveto: We have installed the master clock. It is connected with fiber to a NIC (Intel XXV710) in the same server you're using. The management port of the clock should be reachable on 10.198.7.197. We kept the default admin user and password.

Sam: "I've tested the new ACC100 card installed on the platform and everything is working properly. I'm running stability test with FlexRAN+ORAN-FH and will debug any issues, but we are now ready to integrate with L2. Thanks."

Running Stability: L1 working as expected, integrating with L2. Once radio arrives, additional testing once integrated with full stack and radio.

Amit/Sveto: "We are now through with the ADMIN rights and can get the OpenVPN access to our official laptops.
But, unfortunately the QR code is showing as INVALID.

Sveto: Looking to connect master clock this week with instructions from Hanen:

Amit: CU/DU binaries. Need to fix QR code issue. (Martin helping on this piece). Need the clock for E2E connection.

8/31: Clock installation is being finalized today (completed)

9/7: Sveto: Clock set up and connected. Sam: Will take a look this week to sync with GNB. Per FedEx, Radio should arrive to Kaloom tomorrow. Unknown amount of time to configure. Sam can start on the PTP tomorrow. Louis: Need a workplan for this. Sveto: Radio will be in the data center with the clock (cabling to the same server as NIC). Will likely need to put in a Faraday cage (will depend on the connectors). Hanen will supply the UE (Samsung), as soon as the RU is connected. Once connected, Sam and Hardik will need to do some integration. Once the RU is integrated, everything "Downstream" from there should work and we can start trying the use case (whatever we'll do with it for the demo). Amit: New UEs will require additional integration. We need details for the UE, we have examples about working with other UEs (might save time to use one of these).

Radio:

- Radio Arrival update - delivery ETA is 09/08
- Next Steps:
    - radio install. Need cable types and possible other components for conectivity. Potential lead time for connectors for faraday cage.

☐ Hardik to share documentation about the radio setup with Sveto

Emulator/ Rebaca:

From Slack (Yesterday) Amar:

We had a call with Rebaca about our slicing demo ideas. They are generally quite positive on the video related possibilities.
We decided that it makes sense to take this step by step:

- Get Rebaca spun up in the Montreal lab — we can discuss this tomorrow
- Show a demo with their video client and server; initially the "bad" slice and "good" slice demos will be sequential

- Then we can show the "bad" slice and "good" slice in parallel
    - The visual comparison between "bad" and "good" slice needs to be obivous and compelling.
- We can replace their video client with a drone or something like that over an IP connection (that can be wifi)
    - Need remote site for Drone
    - What will the Drone exhibit with "Bad" verse "Good"?

Documentation/Collateral

"Document as you Build" approach provides for accurate collateral and lower LOE

Collateral Ideas-

- Video - Due 01 Oct 2021
    - Shoot various video (approx 5 minute in total)
        - Slicing - Yogendra
        - RAN - CU/DU config - Amit, L1 integration with CU/DU
        - Radio - photos or video of the lab/cage
        - Rabaca dashboard -
    - Voice over - Heather/Amar
    - Edit video - Louis/Brandon have lead
- Slideware 01 Oct 2021
    - Animation
    - 5G Cloud Native Topology diagram. Other diagrams available? Jamie has a Network diagram
- Build Guide

Slicing: Core network functions using ONAP + Network functions. Deploy, configure, send traffic (Yogendra lead and work with others).

RAN: CU + DU Configurations (Amit to lead). Same setting up a call (L1 integration + CU/DU), once more details, connectivity + radio support.

9/7: Hi-Res & Low-Res videos + Rebaca Dashboards on performance + Slideware + Diagrams. Do we have a network diagram available? Yes! Jamie has shared it. Will be added to the diagrams page.

Timeline:

Final Testing and Configuration: 27 Jul 2021 - 10 Sep 2021 (Sept 10 ambitious, keep for now to keep things moving)

Collateral Development: 13 Sep 2021 - 01 Oct 2021

- Slideware/script/video(s)/animation

ONE Summit (all virtual): 11 Oct 2021 - 12 Oct 2021

01 Oct 2021 One Summit Materials Due

Other:

- REMINDER: "Document as you Build" approach would help expand our options.
- Video Capture platform options (Louis)- (Loom, Ezvid, FreeCam)