Challenge Q&A

OPEN AIR INTERFACE

RAN challenge
Mobility Channel Models Timing Advance

The questions and answers are related to the OAI RAN challenge only

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In the "Operating Environment" section, there was a typo that provided a link to the CN5G debug environment.

Question 1

This has been since corrected. As described in the RAN LAB1 of the workshop, the OAI CN5G is just a tool for the RAN challenge and should be used as described in the RAN LAB1.

Is there any solution without recurring to docker, i.e., compiling with debug options and testing?

Question 2

On the RAN side, develop as we did during the workshop, so you can modify the RAN code, recompile it and debug it bare-metal.

We want to use the WebIDE complement of Chrome to navigate the code; Eclipse is also an option, but we didn't want to make things too complex. We would like to know which IDE you use in order to align with your best practices.

Question 3

We do not have IDE policy at OAI. You use the one you prefer.

On the channel model usage page (https://bit.ly/32JMfjD), there is no explanation of «offset» parameter. What does the parameter «offset» indicate in the channel model?

Question 4

1) The parameter "offset" becomes the "channel_offset" field of the channel description structure.

2) rxAddInput() uses this variable in a way you should modify to make proper signal propagation delay.

3) It would be nice to use "offset" as a human understandable value like meters, the today implementation assumes offset is in number of samples.

It is not clear to us how we must submit the code; in the challenge it says: «1. A git patch or a git branch from OAI RAN develop branch.».

Question 5

1) Create your own workspace by cloning the official OAI repository.

2) Optional, you may fork it to a private hosting service; so it remains private to your team.

3) Provide us with branch/commit/tag you started with.

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4) You will create your own branch with your own modifications and new files. Do not forget to add/commit your new file(s).

5) Do a "git diff HEAD..your-starting-point > my-team-submission.patch"

6) Give us that patch file.

7) The idea is that you don't make your submission public by pushing to a branch to the official OAI repository. That branch will NOT be private.

8) As mentioned in the RAN Challenge, the winning team will have to go through the OAI Merge Request Process. At that point, you will have to follow https://bit.ly/3EYlMLS

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Is there any relation between Offset and Speed of UE? If yes, what is the relation?

The signal from gNB to UE is distorted based on distance of UE from gNB and speed of UE. Is this understanding correct?

Question 6

1) See previous answer for offset parameter. The challenge is not about speed, but about distance only.

2) Of course, speed simulation (doppler) would also be important to add in the rfsimulator, but it is not the challenge scope.

Question 7

2) Yes, but the challenge is only on the distance (time offset), not on the doppler frequency shift.

1) Of course, the UE should move at a reasonable speed, even for distance time offset (speed of light) because the gNB sends correction in positive/negative variations. This maximum "speed" is larger than the doppler limit, so say we can move the UE at 500 km/h max.