Data Gathering Update

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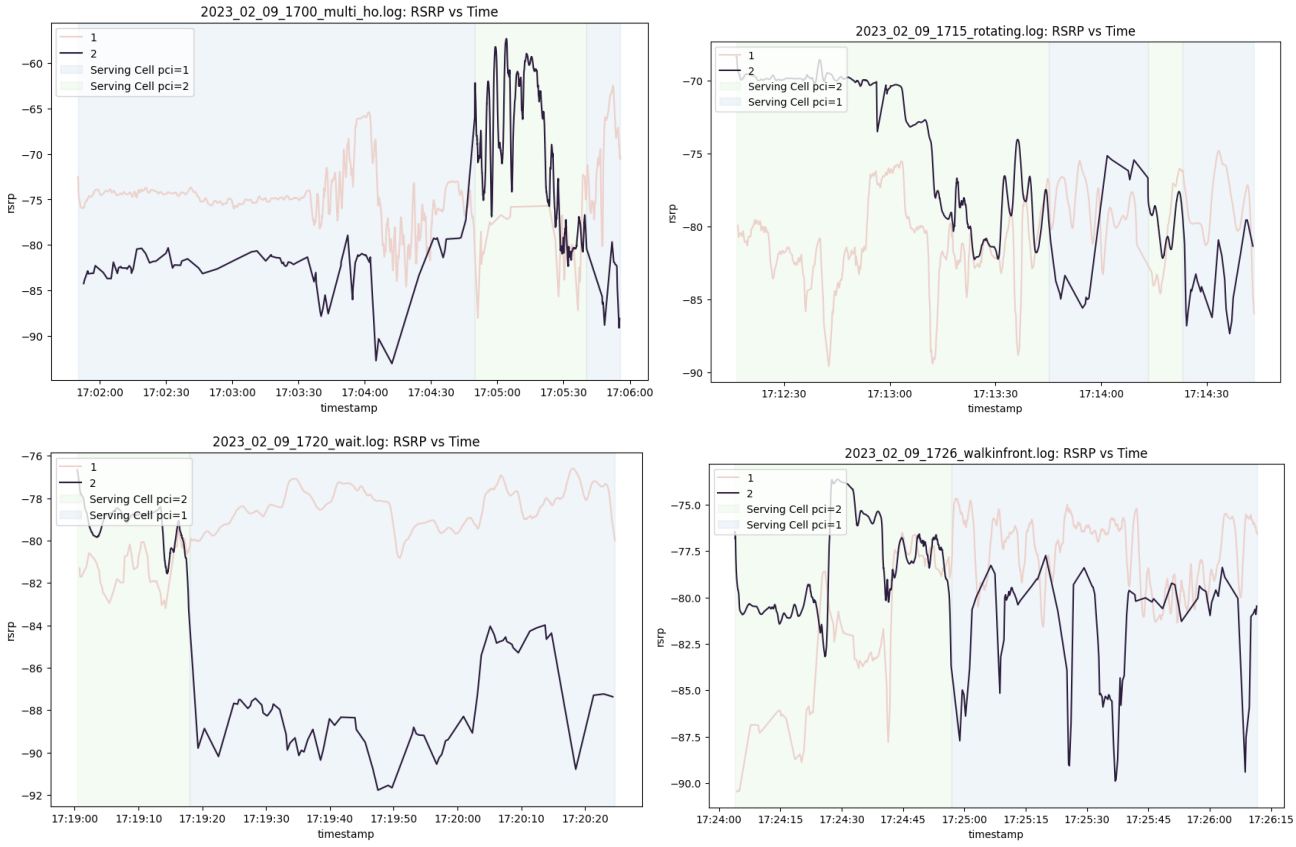
To:alejandro.blancopizarro@telefonica.com <alejandro.blancopizarro@telefonica.com>

Dear Alejandro,

I'm just emailing in to update you on my data gathering. I managed to get the setup fully working on Friday, and recorded multiple handover events. I've been extracting the information from the logs I captured over the weekend



These were generated with just two basestations running – cell 1 and cell 2.

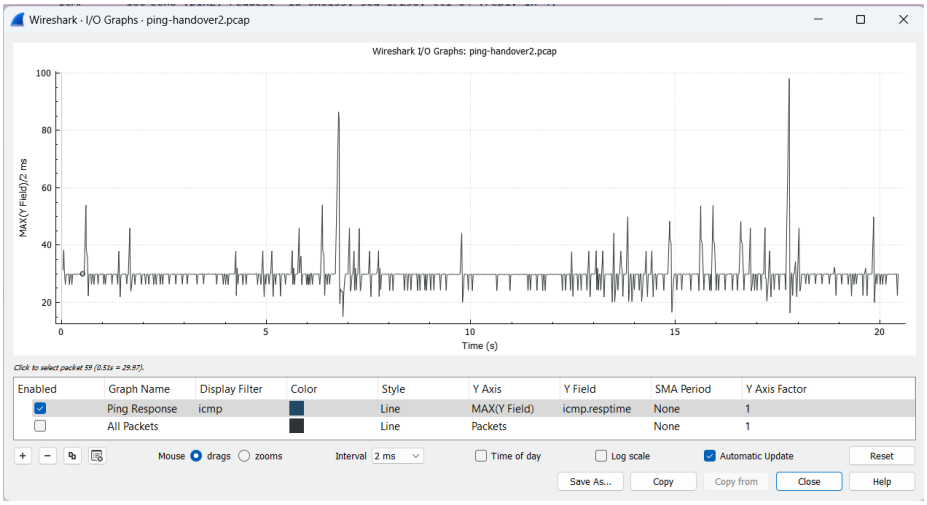
My next steps are to gather data using all four stations running and try to get as many events as I can to start analysing them. Ideally there are 3 main hypotheses I'd like to test:

1. Walking around the room :: Handovers will occur unnecessarily even at high RSRP values.
2. Rotating the UE around a body :: There will be a high HO rate due to LOS blockage between the UE and the serving cells
3. Leaving a UE in the centre of a room, where RSRPs are equal :: Due to signal fluctuations there will be a high HO rate

Further, there are some experiments I'd like to set up that would require a bit more work:

1. Looking at leaving a room/ walking through a door
2. Setting up obstacles in a room – people, plants

And lastly I'd like to try and measure quantitatively the effects of handover. I did a test a week ago looking at packet response times during handover and produced this plot, with the two spikes showing when a handover had occured:



As an alternative view, I produced a plot of when packets were sent (in green), and when they were received (in blue):

This produced this plot showing how the network core buffered the incoming packets during the HO process, which all were released at once.

I'd be very grateful to hear your thoughts on the current results and next steps, especially if you have any advice on where to focus my efforts!

Kind regards,
William