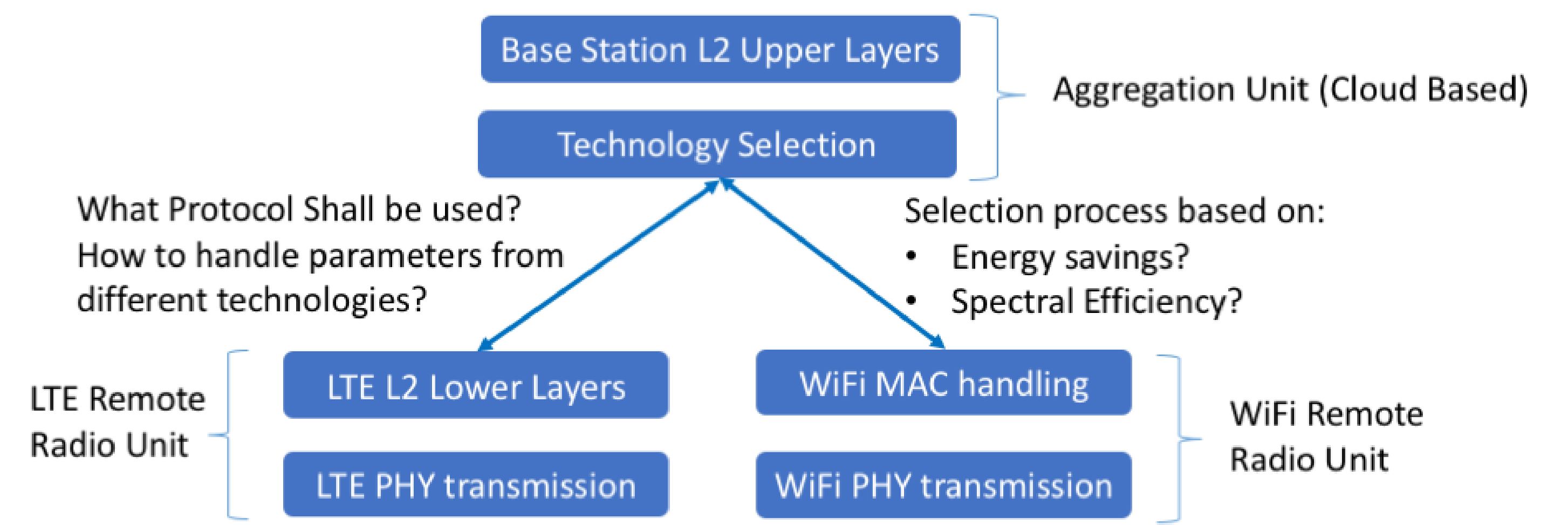


GOALS

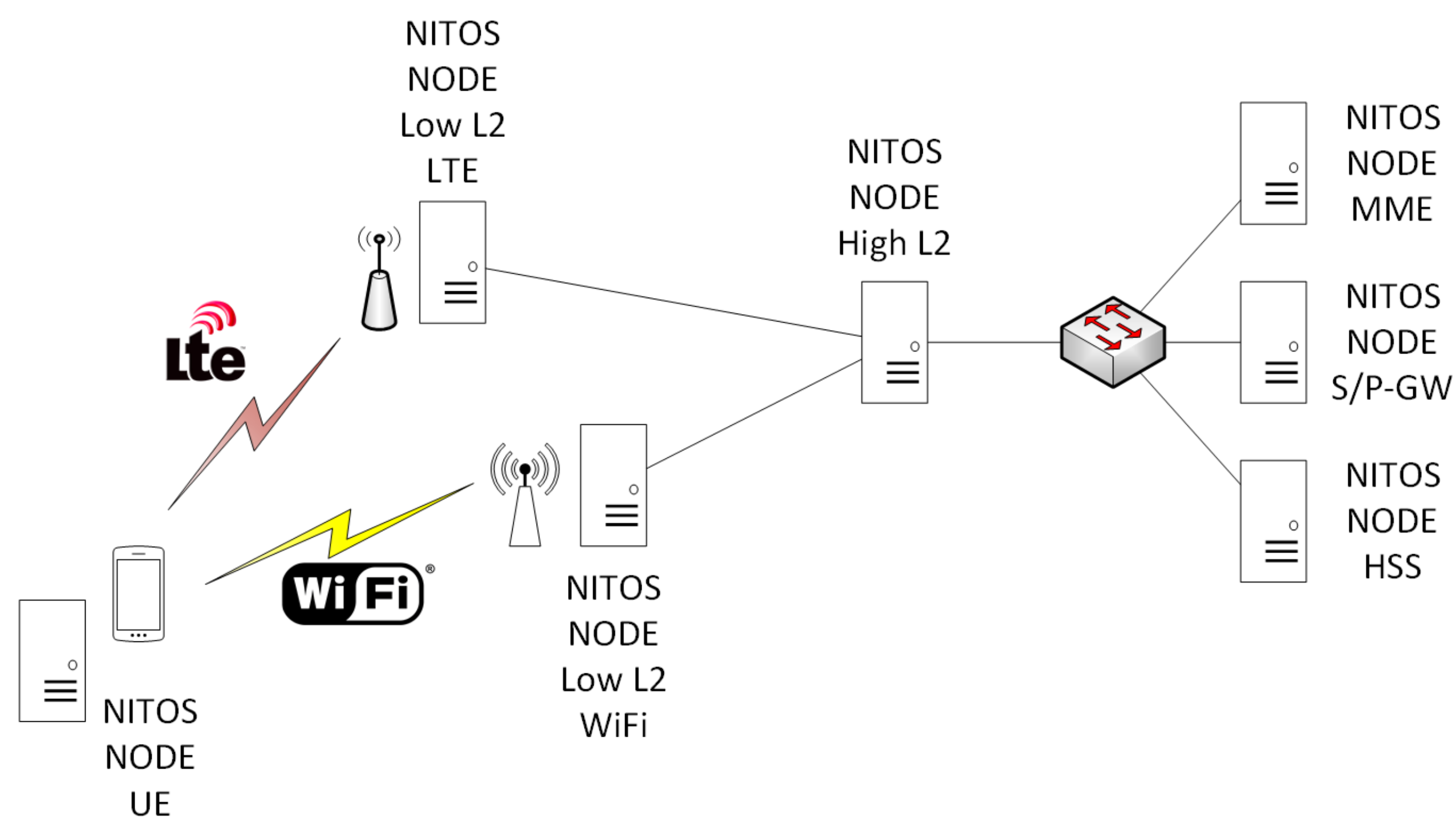
- 1) To develop the functionality for the aggregation of HetNets in the Cloud
- 2) Experimentally evaluate the functionality
- 3) Develop policies for the dynamic network selection from the base station point of view
- 4) Organize the HetNets based on the spectral efficiency of the network, through a Cloud based controller

CHALLENGES

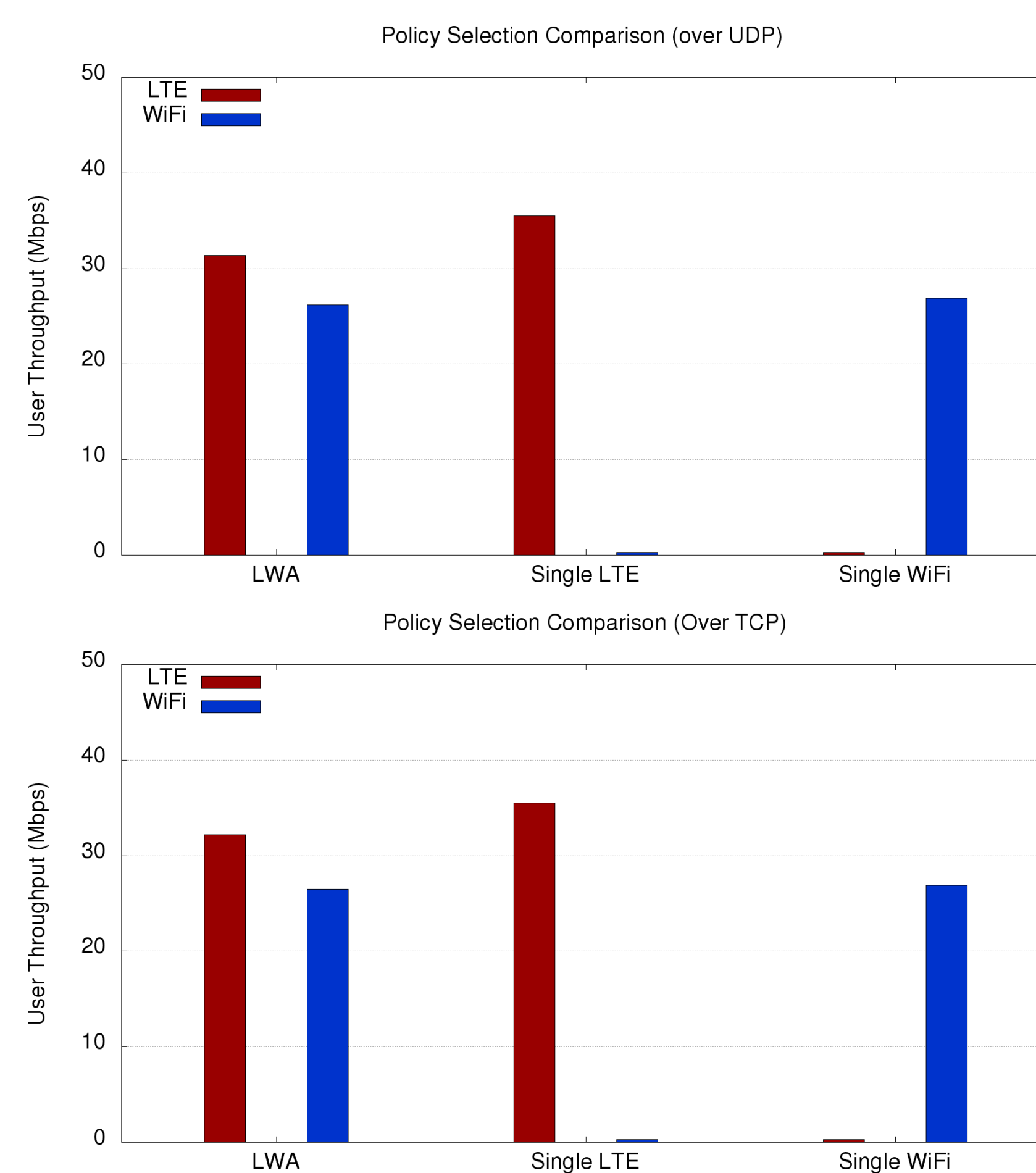


DEMO SETUP

Using the NITOS testbed, and Open Source LTE and WiFi equipment:



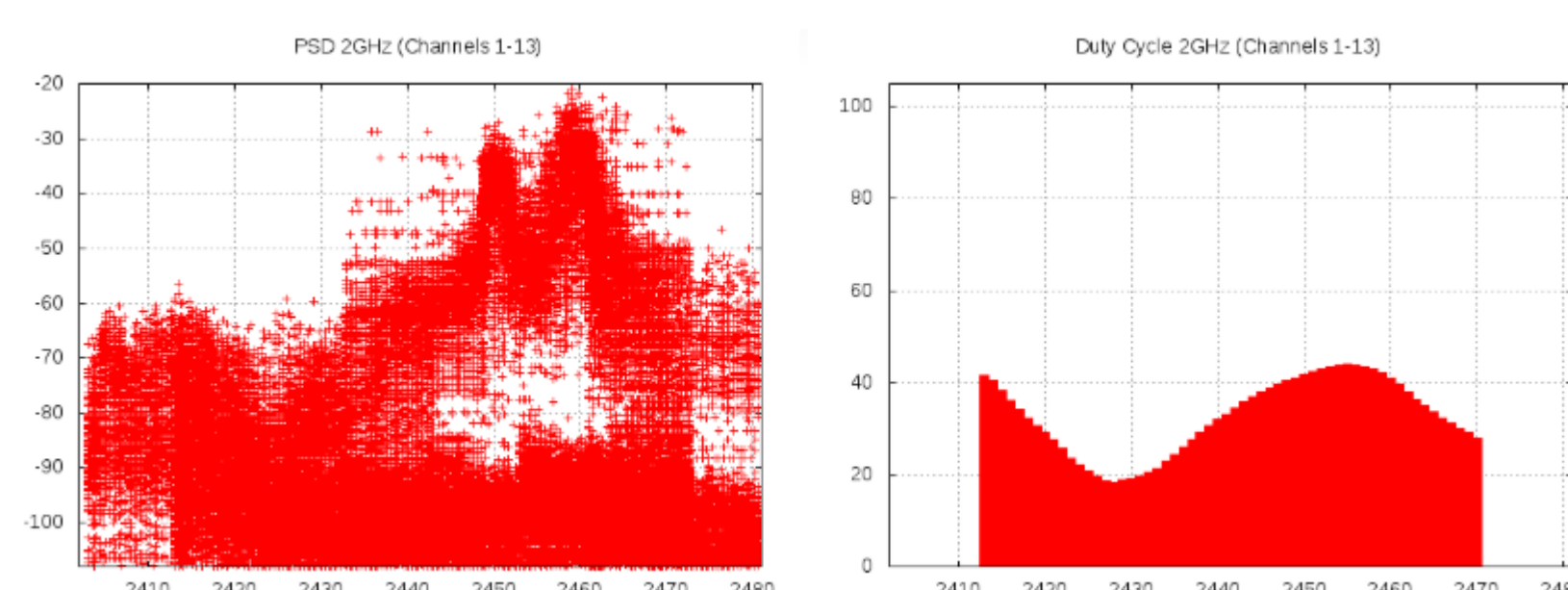
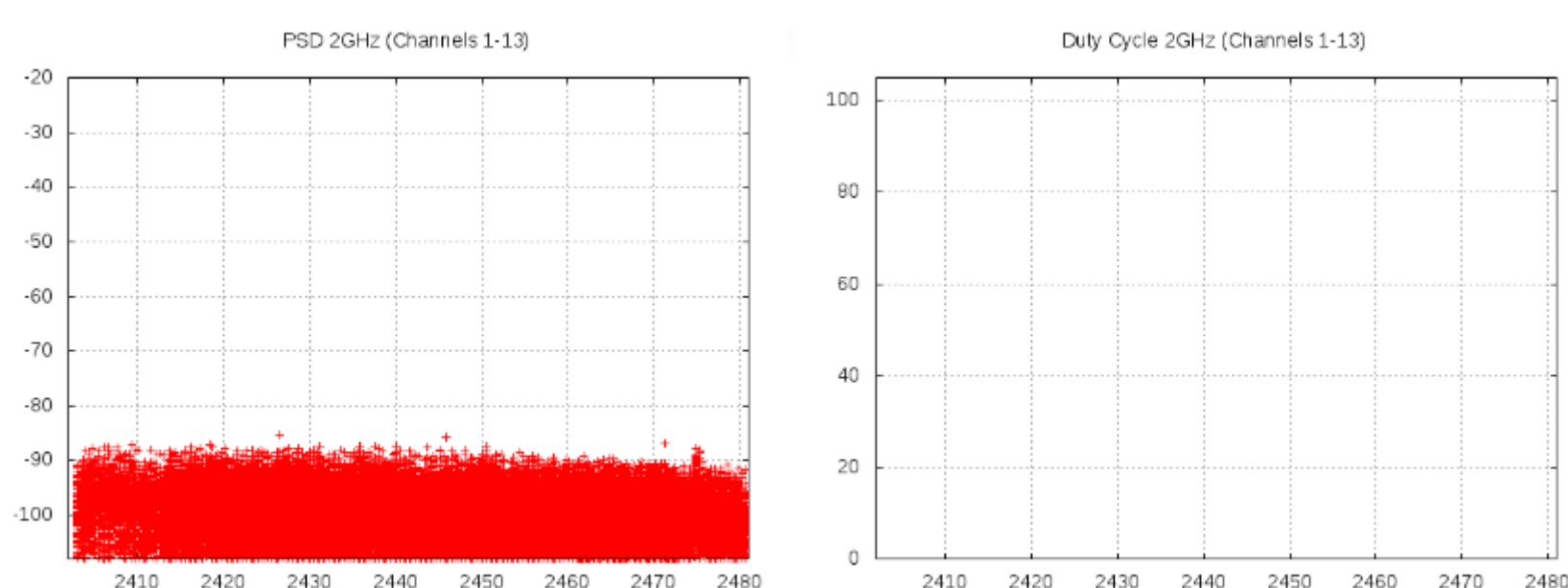
RESULTS



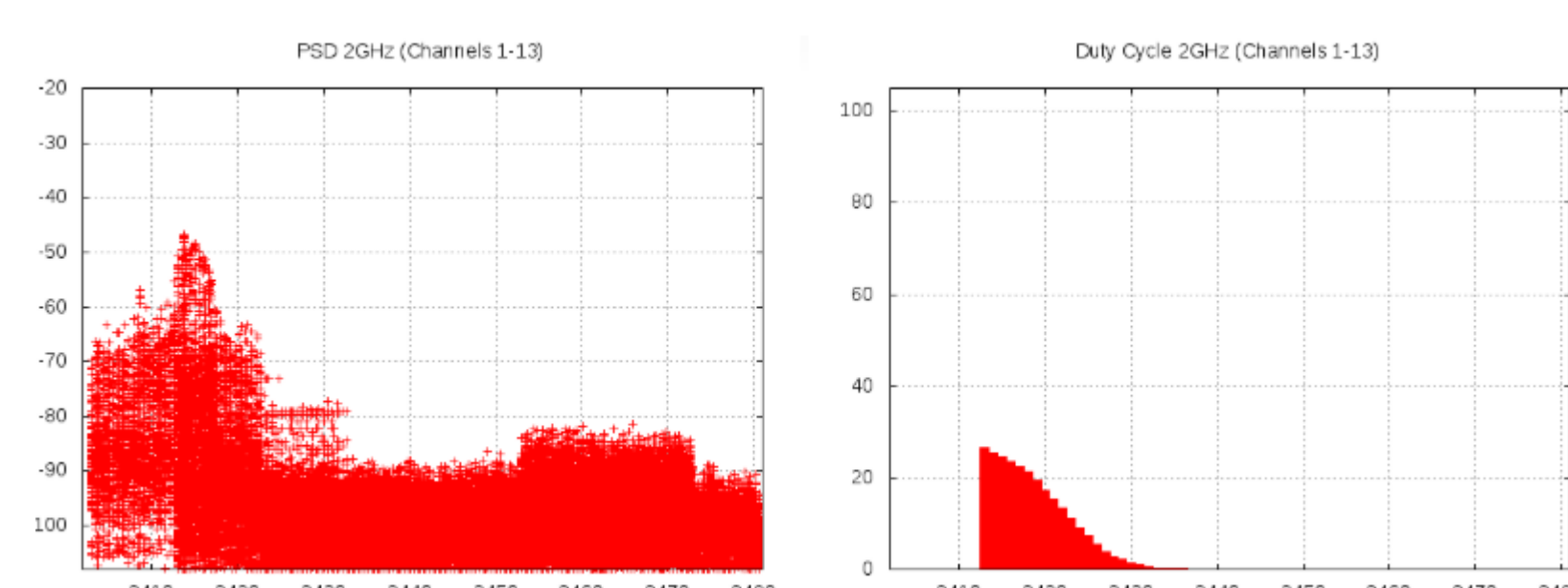
- WiFi in 802.11g mode, LTE in FDD Band 7
- UDP and TCP show similar performance
- Small communication overhead with our protocol
- When aggregating the links, the wireless channel capacity increases by over 50%

USE CASES

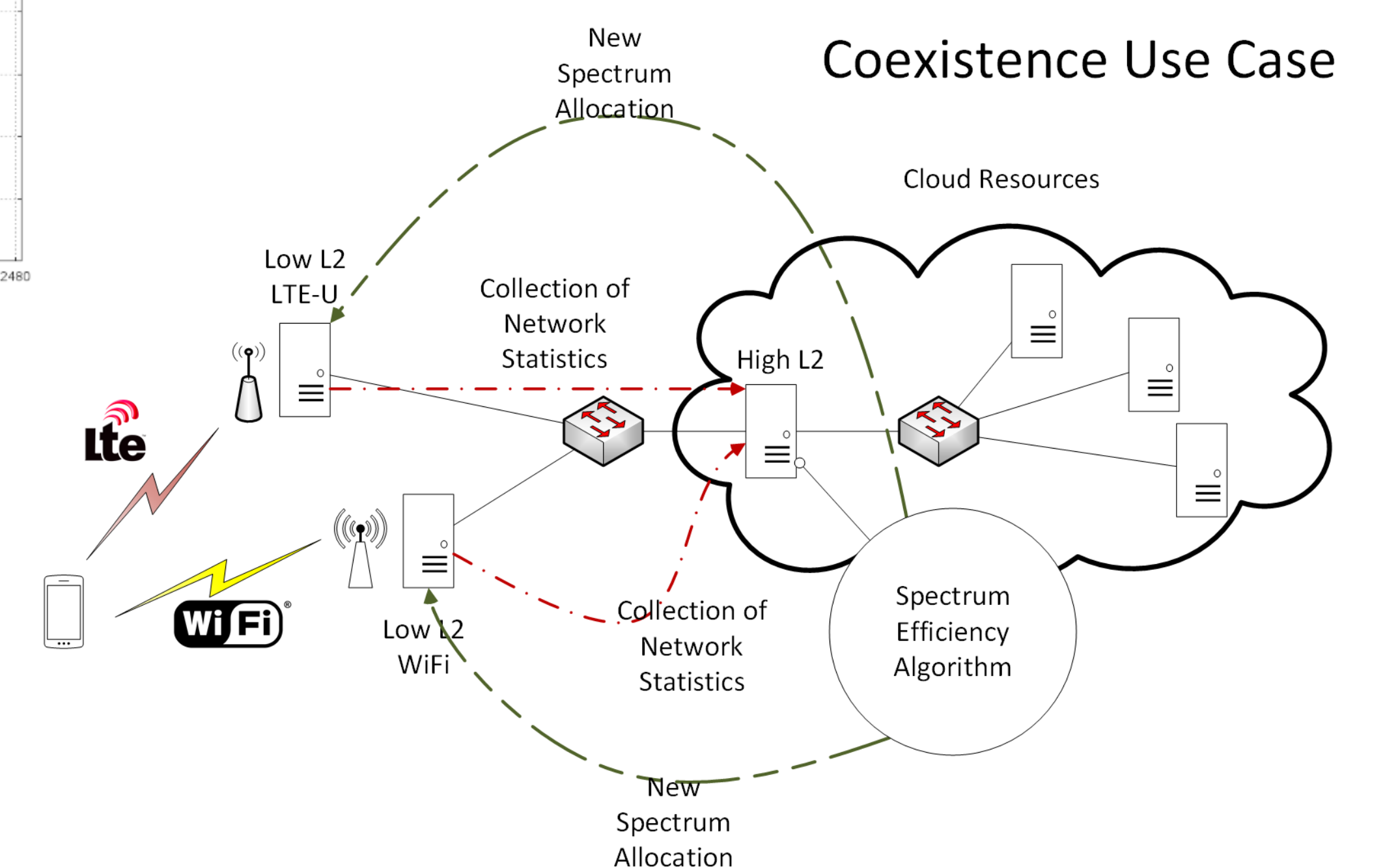
No transmissions



LTE-U and WiFi use channel 1



Coordination algorithm instructs WiFi DU to change its channel configuration (through Channel Switch Announcement)



CONCLUSIONS

- Developed the functionality for the LTE - WiFi Aggregation in the context of 5G
- Validated its applicability on the Fed4FIRE+ testbeds, for different transport protocols
- We can dynamically select the technology that is going to be used for each end user of the network, from the Mobile Network Operator's point of view

POST MORTEM

- Evaluation of the coexistence and energy efficiency use cases
- Further looking into evaluating media services over multi-homed UEs
- Evaluation of the media scenario at a large scale setup, using NITOS or other Fed4FIREplus testbeds