Smart Radios

There is a huge buzz about 5G today. But, what is 5G? It is the next generation of mobile connectivity offering greater speeds and lower latency. The 5G radios will operate at a frequency of 6 GHz, up from the current 4G frequency of 700 MHz to 2100 MHz which will increase the number of radios we use for 5G.

In the current system, we use radios connected to Basebands. Multiple Basebands are connected to a single Hub using the Radio Access Networks. We usually collect the data on the Basebands and then send it to the Hub. This data is finally sent to the OSS which performs the analytics. The algorithms used on the OSS today are extremely resource intensive. This is because a lot of data is sent to the OSS at a time. In addition to this, there may be a rogue or a blank node while transferring data from the Baseband to the OSS which causes security issues. 5G radios have a lower range than 4G radios. Thus, we would require a lot more 5G radios than we had for 4G. With the increasing number of radios, the storage on the Cloud would need to increase as well. This causes issues while scaling at a certain location.

To solve these issues, we use Embedded Analytics on 5G Radios. These low power algorithms enable us to perform analytics on the Edge, which for our case is the Baseband. This provides us with real time solutions to the problems we have in the local area. Using 80 KPIs, we can predict 19 classes of problems using these algorithms. In addition to this, there is no security issue since we know that the node is working. Many new radios can be installed which will have their own analytics and thus, this will be way more scalable than the current system.