

Cisco/UDel Meeting Minutes  
February 25, 2016

Attendees: Jim Seymour, Len Cimini, Chien-Chung Shen, Li Li  
Minutes Taken By: Li Li

Slides #3 – Updating the traffic model

- Li: By following the NS-3 simulations, we made two changes in the traffic models: 1) eNB/AP generates data according to Poisson distribution, and then a UE/client is picked at random for data transmission; 2) Since we only consider downlink transmissions, there should be no competition among clients connected with one AP.
- Jim: In 3GPP, I think the FTP requests are made by UEs, other than a single FTP request at BS. If you choose a small arrival rate, the FTP requests will not be too frequent. If there is only a single FTP request, different UEs will not have data to transmit at the same time.
- Chien-chung: Since each transmission takes time to be finished, so there are still multiple UEs having data to transmit (there are overlaps).
- Li: One more difference is that we are using a fixed SNR threshold, which means that we are using a fixed MCS.
- Jim & Len & Li: Yes, in LTE, MCS will be updated based on the SNR. For LAA in the unlicensed band, how to update SNR is a problem. We do not know when will the interference come and disappear.

Slides #7-8 – Results with multiple users.

- Jim: In a mixed WiFi/LAA system, the variance is larger than a pure WiFi system. It would be really interesting to set different thresholds for different LAA to get a similar performance as that in a pure WiFi system.

Slides #9-10 – Results with multiple users

- Len: When you say that, one choice is better than other ones, it is based on this specific layout, and it is not a general conclusion. We can try some other extremes, for example, if LAA is randomly located other than in a line, what will the performance look like?
- Li: I am thinking that, in terms of delay, -75 dBm will be better than -65 dBm, since there are chances to collide with each other.
- Jim: It depends on your definition of delay. If you can come up with an algorithm based only on measurements, which can achieve good performance in the 3GPP layout, also can achieve good performance in other layouts, it would be good. Then, your conclusions will be less dependent on geometry.
- Jim & Len: This layout defined in 3GPP is kind of the worst case. If an algorithm can work well in the worst case, the best case, and the random case. That would be good.

**Actions Items:**

- **Think about adaptive algorithms.**
- **Consider different layouts.**

Next meeting: Thursday February 11 3:15 - 4:15 pm (EST)