Cisco/UDel Meeting Minutes
November 20, 2015

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

Slides #6 – Definition of delay from some literature: the time interval from the time the packet is at the head-of-line of the queue ready to be transmitted, until an acknowledgement for this packet is received.

- Jim/Len: It is kind of measuring the delay over the air. Even though the results look more reasonable. It's not a good definition from the users' perspective. Maybe we can choose both of them.
- Len: Instead of only calculate the average, we may also want to obtain the distribution to have a better understanding.
- Jim: We may also need to consider the case when a single user is randomly distributed in a region, or there are multiple users.
- Li: If so, why do these papers use such a definition?
- Chien-Chung: Maybe they are not considering this from the users' perspective at that time.

Slides #7 – Performance of Delay: Case II, load rate of 0.8.

- Len: This is only one case. It helps us to understand the problem, but we need to simulate all cases and see the statistics.
- Jim: Yes, we need to simulate in a random way so that we know the probability of each case.

Slides #11 – Different location for users: simulation setting

- Jim: LTE has a lower SNR threshold, and it makes sense. Maybe it's related to the retransmissions in LTE. There are also a lot of modulation/coding levels between the two cases.
- Li: In the real world, how does WiFi AP know that an unsuccessful transmission is caused by a deep fading or a collision?
- Jim: I can check this. But I think AP does not distinguish these two cases.

Slides #13/14/15 – Simulation results when the user is randomly and uniformly distributed in a circle.

- Jim: Do you try to simulate a longer time in each trial? For example, 300 seconds, and see whether the results are consistent.
- Li: Yes, for 4 pairs, the results are almost consistent after 50 seconds. If we increase the number of pairs, we need a longer time, for example, 200 seconds for 8 pairs.
- Jim: How do you explain that LAA #2 will increase a bit at -70 dBm?
- Li: This is the average result over 20 trials. In slide #14, I show the result with average result over 100 trials. LAA #2 keeps decreasing, and it makes more sense.

- Jim: It is a small network. WiFi #1 and LAA #4 have some advantages. Maybe the results will become more consistent when we increase the number of nodes.
- Jim: The results may be more accurate if we include multiple users.

Actions Items:
- **Simulate the latency performance in the single user case.**
- **Simulate the performance when there are multiple users.**

Next meeting: Friday December 17 4:00 - 5:00pm (EDT)