**CIS 549 Project 4 Report**

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**Question #2**

Each subframe is downloading to 3 UEs per TTI, indicating the PRBs are shared evenly amongst the 3 UEs. There are 32 PRBs available, so this a 5.76MHz network (32x180K). The transmit blocks are consistently 2961 Bytes, so a 2 MB file downloading to 3 UEs would take (2048000/2961\*3=2075 TTI, i.e., roughly 2.1 seconds) and we do observe 2160 TTIs in the DLMacStat.dat file.

**Question #3**

Throughput chart

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RTT(ms) | RWND (Bytes) | MCS | 1 UE | | 3 UE | | | |
| Per UE | | Per UE | | System level | |
| LTE-TCP | | LTE-TCP | | LTE-TCP | |
| Peak (Mbps) | Avg (Mbps) | Peak (Mbps) | Avg (Mbps) | Peak (Mbps) | Avg (Mbps) |
| 30 ms | 64000 | Default | 14.11 | 10.00 | 11.20 | 10.00 | 33.60 | 30.00 |
| 200 ms | 64000 | Default | 4.93 | 1.95 | 4.93 | 1.92 | 14.78 | 5.75 |
| 30 ms | 1024000 | Default | 72.58 | 47.05 | 22.85 | 20.00 | 68.54 | 59.99 |
| 200 ms | 1024000 | Default | 72.46 | 22.85 | 22.85 | 16.00 | 68.54 | 47.99 |

**Question #4**

|  |  |  |  |
| --- | --- | --- | --- |
| RTT | MCS | 1 UE | |
| System Level | |
| LTE-UDP | |
| Peak (Mbps) | Avg (Mbps) |
| 30 ms | Default | 73.70 | 73.70 |
| 200 ms | Default | 73.70 | 73.70 |