WIRELESS NETWORKS ASSIGNMENT 2

ANJALI
MT20082

DOCUMENTATION

1. Simulate a home network consisting of two personal computers (PC) connected to a wired Ethernet network, and 5 other devices connected over WiFi (any standard is fine).
2. Assume that the devices at home are connected through a router, which in turn is connected over a wired network to an ISP server. Then, utilize the tcp-example.cc file given with the assignment and run an application on each of the node to generate saturated traffic.
3. Simulate the following situations:
(a) Only one PC is running and no other device is running,
(b) Both PC's are running, and no other devices are running,
(c) Both PC's are running, and 3 other devices are running,
(d) All devices are running.
4. Parse their PCAP files and obtain the throughput seen by the devices.
5. Document the parameters you have created in a separate PDF file, and comment each function to explain their arguments and their functionality.

Points 1, 2 and 3 are covered by the code file.
The code file and the pcap files have been attached with the zipped folder..

We were asked to simulate the given network for 4 cases.

Parameters used :

The parameters thus used are the input options given to the user to select the cases the user wants to run.

The below screenshot shows how the four cases have been simulated in the code.
The user is first asked explicitly which simulation case is to be run and then the code is run for that specific case and the pcap files are generated.

Also, mostly the parameters have been kept the same as originally initialised.
The bandwidth is changed for simulating four cases :
- For the first case it is kept 100 Mbps.
- For the second case it is changed to 200 Mbps.
- For the third case it is changed to 500 Mbps.
- For the fourth case it is changed to 700 Mbps.

The parsing of the pcap files includes tcp throughput graphs and input output graphs, as shown in the screenshot below.
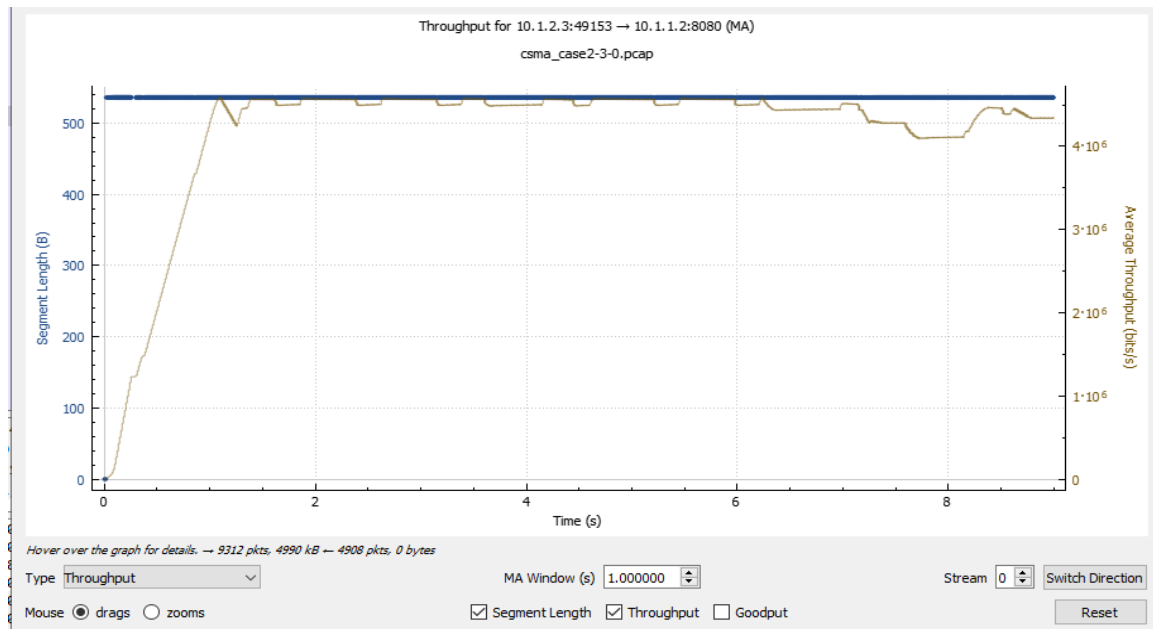
Also, all functions have been commented in the code file.