The George Washington University
ECE Department
Data Communications Laboratory Midterm Exam
Spring 2023

Be sure to save your files and results for every problem since you may need them later.

1. Create a point-to-point link model:
   Specifications:
   a. Does not support bus link type.
   b. Set "data rate" to 9600.
   c. Set the attributes "error correction", "error", "propdel" and "txdel model" to *dpt* format.

   Take screen shots of the workspace for this link model.

2. Create two fixed node models: a transmitter node and a receiver node.
   Specifications for the transmitter node:
   a. Create a source processor and a point-to-point transmitter and connect them.
   b. Use simple source process model for the source processor.
   c. Use standard model: "server-client" for the source processor.
   d. Packet distribution: Inter arrival time: exponential with mean 0.5.
   e. Packet size: Normal distribution with mean 3200 and variance 400.

   Specifications for the receiver node:
   a. Create a sink processor to connect the point-to-point receiver.
   b. Use sink process model for the sink processor.
   c. Use standard model: "server" for the sink processor.

   Data rate of both the transmitter and the receiver are set to unspecified.
   Choose the following statistics:
   Transmitter: queue size (bits) and throughput (bits/sec)
   Receiver: throughput (bits/sec)
   Take screen shots of the two node models you created and all the specification settings above.

3. Create a project and scenario using two node models in problem 2 and the link model in problem 1. Connect them and then put them in a subnet at Washington DC.
   Choose statistics of the link: point-to-point/utilization.
   Take screenshots of the simulation figures on average link utilization and the statistics chosen in problem 2.

4. Generate a web report of the project in problem 3. Choose “utilization” as statistics reports.

   Take screen shots of the webpage and tables for each statistic.