

Sample Lab Report

Riverbed Modeler Lab Exercise 2: Small Internetworks

Summary of Lab Grading Policy

Lab Reports are graded on a 10 point scale, as follows:

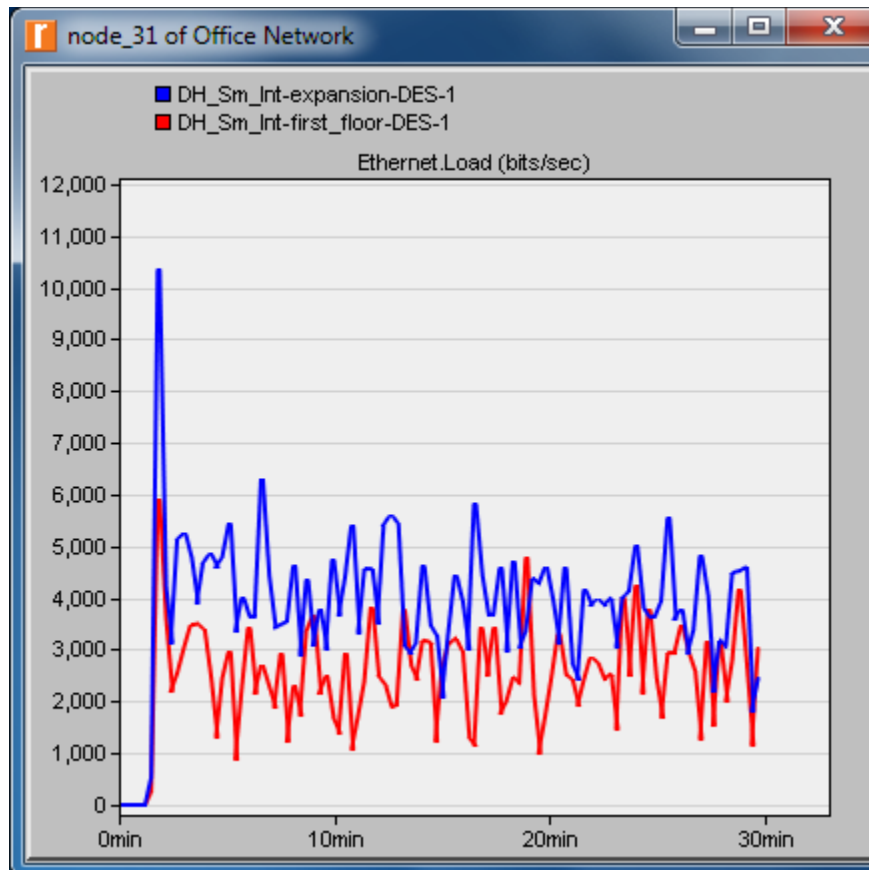
Lab report meets all requirements	10 points
Minor errors and/or omissions	8 – 9
Significant errors and/or omissions	4 – 7
Majority of lab report is incorrect or missing	0 – 3
Lab not submitted, or virtually the same as another student's submission	0

(The answers need not necessarily agree with the suggested answers, as long as they demonstrate a reasonable understanding of what is being done in the lab and the corresponding classroom material.)

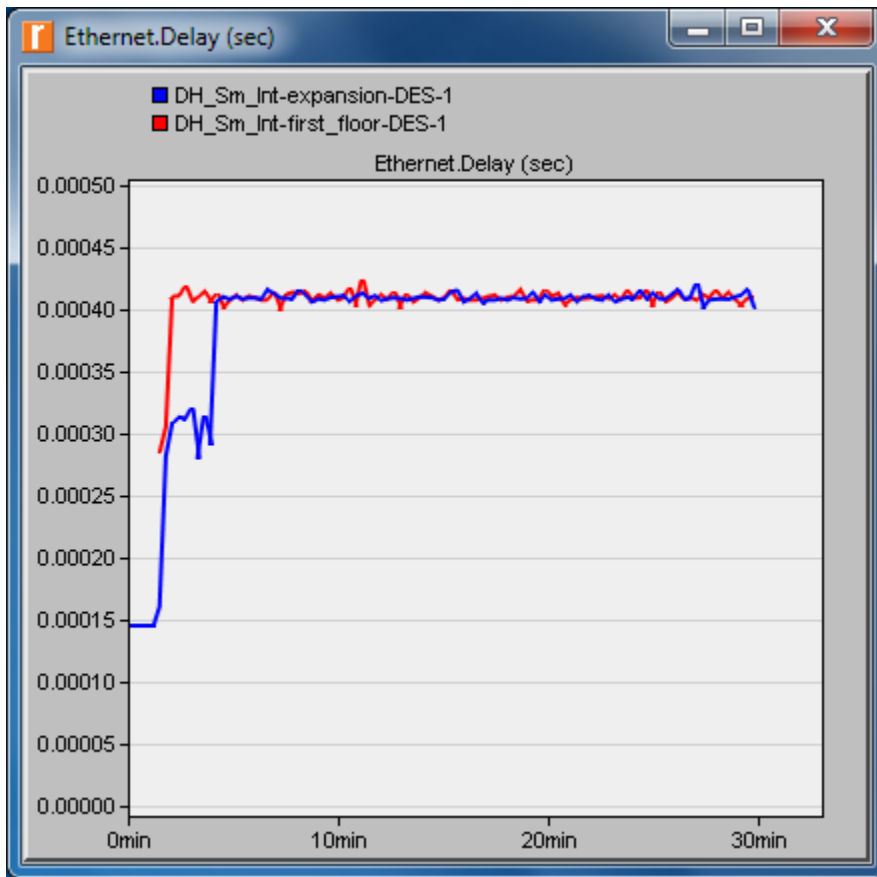
Graphs

The following two graphs generated in Procedure 17. should be attached:

Ethernet Loads Compared



Ethernet Delay Compared



Answers to questions

1. When you added the second star network in the expansion scenario, the Ethernet load on the shared server peaked at around 10Kbps, and then stabilized at around 4Kbps (see Procedure 17). Explain why that load is or is not a problem.

The server is the only network resource that the workstations are sharing, and Procedure 6 states that “server load is a key statistic that reflects the performance of the entire network.” Therefore, an average 4Kbps load that peaks at 10Kbps should present no problem on a 10Mbps Ethernet.

2. Refer to Figure 16. In this graph, Ethernet delay measurement is a global statistic that represents the *average propagation delay incurred crossing each individual link*, for all packets received by all nodes. (It isn’t an end to end measurement that includes router, switch and server queuing delay.)

- a. What effect did adding the second network have on Ethernet delay?

The addition of the second network did not significantly alter Ethernet delay.

- b. List the elements that influence this statistic. (You might want to refer to the lecture 6 slide titled “Latency = Delay \approx Propagation Time”.)

Propagation delay is primarily affected by distance, and to a lesser extent by type of media.

- c. Speculate on why this behavior was observed.

Although more links were added, the average distance of each link remains about the same, and the media obviously did not change. The fact that traffic flowing to and from the second floor network crosses an additional switch and router is not significant, since we are measuring propagation on individual links. To include those components, we would want to measure end-to-end delay.