

EE/CPE 424
Spring 2003
WEEKLY STATUS REPORT

Group: **12** Date: **April 20, 2003** Report No.: **14**

Project Title: **Redesign of the Stevens Campus Network**

Group Leader: **Grace Shabo** Advisor: **Prof. Sumit Ghosh**

Sponsor / Client: **none officially, but design is for the Stevens network**

Number of hours spent by group on project in the past week: **12 hours**

Project on Schedule: **YES**

Weekly status:

This week, we finished the webserver simulation. The results from that match what we had done in the past. We were able to support about 90 megabits of web traffic on these two mini test systems. The biggest factor is memory usage as the more clients you add the more memory the base system and the webserver needs. We ran into some problems with the test systems in that regard, but it's something we are still trying to iron out. More memory and proper allocation to the kernel is what we are shooting for.

We also did load testing of RealServer to demonstrate the ability of our edge delivery scheme. Got good results, better than expected. With the two test systems, we were able to serve 330 streams total at 150kbps each. The servers were only at 50% CPU usage each. Adjusting the stream bandwidth, say using 300 kbps streams instead of 150kbps, really only changes the bandwidth used, it doesn't really affect the server load unless you meet the bandwidth limit of the network card. We didn't use the load balancer in this case; we manually distributed the streams between systems. We were running into some quirks with our pseudo-load balancer, but this isn't a problem with a BigIP system like we recommended in a past report. We've configured them to balance between media servers before, it works flawlessly. The content we used matches something a student would be watching. I downloaded some old hacker conference videos in Real format. They vary in length from half an hour to two hours so that's a typical lecture length. Having streams of this length is easier on the servers as RealServer8, which we were using, has issues with large numbers of stream starts and stops (as in if 500 people were watching 4 minute long music videos). We've run into these issues in the past while testing RealServer at work and such. We will definitely do a more this week. We are planning on starting the writeups this week as well.