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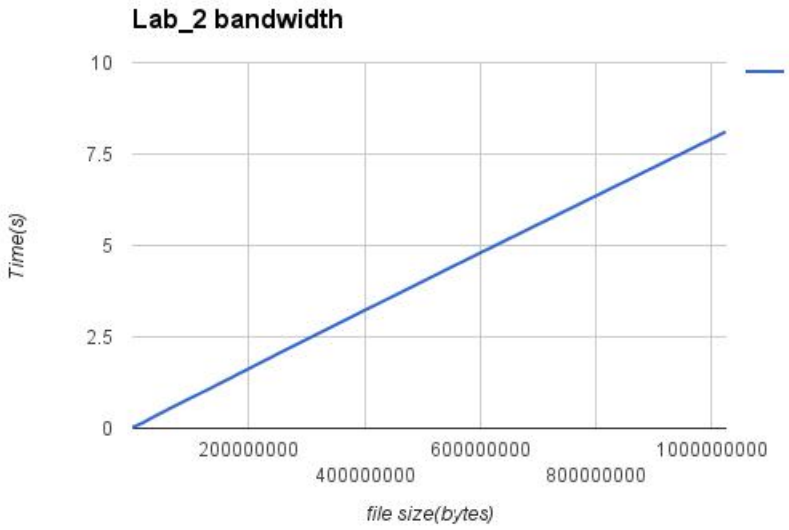
COEN 146
Lab 2 Measuring Bandwidth

1. First I created a 1GB file using the command : dd if=/dev/urandom of=~/temp_local bs=1024 count=1000000.
2. Then I used $time head (filesize) ~/temp_local | ssh -q <user>@linux.dc.engr.scu.edu “cat -> ~/temp_remote” to test the transfer time.
3. There were three kinds of time showed up on the screen : Real,user, and sys. We need user + sys as our transfer time because this will tell us how much actual CPU time the process used. In other word, User + sys refers to CPU time used only by this process.
4. I collected data manually by typing the time head (filezise) command as I described in step 2, entering the password, and then wrote the data into the table.
5. The bandwidth I got is approximately 126MB/s and it is the slope of size/time.

Size/Run	1	2	3	4	5	6	7	8	9	10	Avg
1024	0.029	0.028	0.028	0.029	0.027	0.025	0.028	0.029	0.028	0.029	0.028
2048	0.027	0.027	0.028	0.027	0.025	0.029	0.027	0.03	0.03	0.027	0.0277
4096	0.024	0.029	0.029	0.022	0.03	0.028	0.028	0.029	0.029	0.026	0.0274
8192	0.024	0.028	0.028	0.029	0.028	0.028	0.028	0.031	0.026	0.028	0.0278
16384	0.026	0.029	0.029	0.024	0.028	0.028	0.029	0.029	0.028	0.029	0.0279
32768	0.029	0.025	0.029	0.028	0.029	0.03	0.03	0.025	0.023	0.027	0.0275
65536	0.029	0.03	0.027	0.028	0.024	0.03	0.029	0.026	0.031	0.026	0.028
131072	0.031	0.031	0.031	0.028	0.033	0.03	0.031	0.031	0.03	0.031	0.0307
262144	0.034	0.029	0.034	0.035	0.033	0.032	0.034	0.032	0.031	0.03	0.0324
524288	0.035	0.035	0.034	0.034	0.035	0.034	0.031	0.036	0.037	0.035	0.0346
1048576	0.045	0.045	0.046	0.042	0.041	0.045	0.046	0.045	0.042	0.045	0.0442
2097152	0.047	0.044	0.052	0.047	0.044	0.046	0.045	0.047	0.05	0.046	0.0468
4194304	0.053	0.062	0.064	0.058	0.06	0.061	0.058	0.064	0.057	0.059	0.0596
8388608	0.098	0.087	0.086	0.087	0.086	0.09	0.091	0.096	0.092	0.089	0.0902
16777216	0.156	0.156	0.157	0.141	0.144	0.154	0.142	0.146	0.149	0.147	0.1492
33554432	0.295	0.254	0.302	0.301	0.323	0.289	0.304	0.288	0.289	0.301	0.2946
67108864	0.568	0.573	0.601	0.561	0.56	0.563	0.565	0.569	0.566	0.568	0.5694
134217728	1.118	1.083	1.091	1.139	1.098	1.105	1.109	1.044	1.095	1.101	1.0983
268435456	2.163	2.063	2.179	2.155	2.206	2.238	2.208	2.215	2.208	2.189	2.1824
536870912	4.303	4.187	4.654	4.331	4.243	4.456	4.155	4.315	4.223	4.169	4.3036
1024000000	8.212	8.09	8.171	8.251	7.963	8.09	8.158	8.033	8.059	8.039	8.1066


Lab_2 bandwidth
10
7.5
5
2.5
0
Time(s)
200000000
400000000
600000000
800000000
1000000000
file size(bytes)