**EE3204 / EE3204E Computer Communication Networks I**

**Socket Programming Assignment**

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Test Results:

1. Transfer time VS Size of data-units (No error)

|  |  |  |  |
| --- | --- | --- | --- |
| Index | Data Size(byte) | Transfer Time(s) | Data rate (Kbytes/s) |
| 1 | 100 | 26.492 | 2257.020996 |
|  | 100 | 18.822 | 3176.761230 |
|  | 100 | 22.956 | 2604.678467 |
| Avg: |  | 22.757 | 2257.020996 |
| 2 | 300 | 7.877 | 7590.833984 |
|  | 300 | 9.295 | 6432.813477 |
|  | 300 | 8.439 | 7085.317871 |
| Avg: |  | 8.537 | 7036.321 |
| 3 | 500 | 4.569 | 13086.671875 |
|  | 500 | 4.571 | 13080.944336 |
|  | 500 | 4.980 | 12006.625977 |
| Avg: |  | 4.707 | 12724.747 |
| 4 | 1000 | 2.265 | 26398.673828 |
|  | 1000 | 2.868 | 20848.326172 |
|  | 1000 | 2.401 | 24903.373047 |
| Avg: |  | 2.511 | 24050.124 |

Conclusion:

From here, we can clearly see that in error-free condition, transfer time will decrease if data package sixe increases. This is because the time of trying to transform data decreases.

Graph:

1. Transfer time VS Error percentage (Data size 500)

|  |  |  |  |
| --- | --- | --- | --- |
| Test Index | Error percentage(%) | Transfer Time(s) | Data rate (Kbytes/s) |
| 1 | 10 | 6.940 | 8615.706055 |
|  | 10 | 6.701 | 8922.996094 |
|  | 10 | 6.715 | 8904.392578 |
| Avg: |  | 6.785 | 8814.365 |
| 2 | 30 | 8.705 | 6868.811035 |
|  | 30 | 8.305 | 7199.638672 |
|  | 30 | 8.355 | 7156.553223 |
| Avg: |  | 8.455 | 7075.001 |
| 3 | 50 | 9.769 | 6120.687988 |
|  | 50 | 10.939 | 5466.039062 |
|  | 50 | 11.599 | 5155.013184 |
| Avg: |  | 10.769 | 5580.580 |
| 4 | 60 | 14.183 | 4215.821777 |
|  | 60 | 14.046 | 4256.941406 |
|  | 60 | 12.250 | 4881.061035 |
| Avg: |  | 13.493 | 4451.275 |
| 5 | 70 | 18.365 | 3255.812744 |
|  | 70 | 19.199 | 3114.381104 |
|  | 70 | 19.401 | 3081.954590 |
| Avg |  | 18.989 | 3150.716 |
| 6 | 80 | 22.420 | 2666.949219 |
|  | 80 | 29.645 | 2016.967407 |
|  | 80 | 24.798 | 2411.202393 |
| Avg: |  | 25.621 | 2365.040 |

Conclusion:

From the measured data we can clearly see that with the same package size, our transform time increases if error percentage increases. Here’s a graph plotted with the tested data:

From the graph, we can see that data rate (y-axis) is approximately proportional to (1-error percentage). This agrees with the principle in our lecture.