**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.

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.