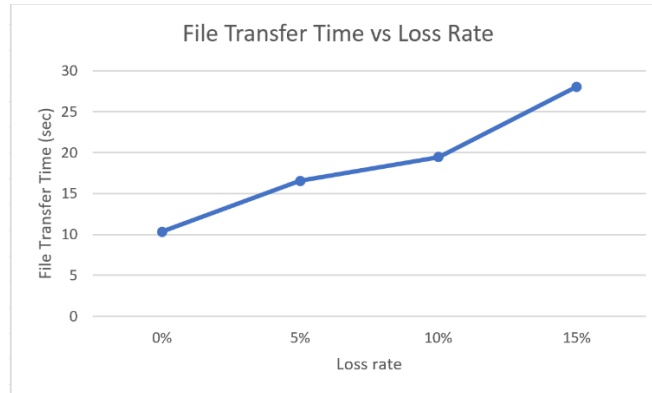






## Statistics and Graph

Fixed average delay to 100ms											
Loss Rate	File transfer time (sec)										AverageFile transfer time (sec)
0%	11.274	10.676	10.127	9.577	10.409	9.982	9.705	9.919	10.684	10.702	10.3055
5%	15.882	15.965	13.733	16.792	21.338	17.837	17.82	13.636	17.497	14.958	16.5458
10%	15.135	16.87	19.212	25.483	23.483	14.972	18.676	16.11	23.242	21.272	19.4455
15%	17.038	26.7	30.882	25.889	40.184	35.922	28.145	29.201	17.23	29.377	28.0568



When the average delay is fixed, the higher loss rate it has, the longer file transfer time it takes. The file transfer time is almost proportional to the loss rate.



#### 4) Average Delay = 400 msec

```
D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 42.150 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 48.823 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 49.663 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 46.070 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 54.515 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 52.191 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 50.539 secs
Input and output file are same? True

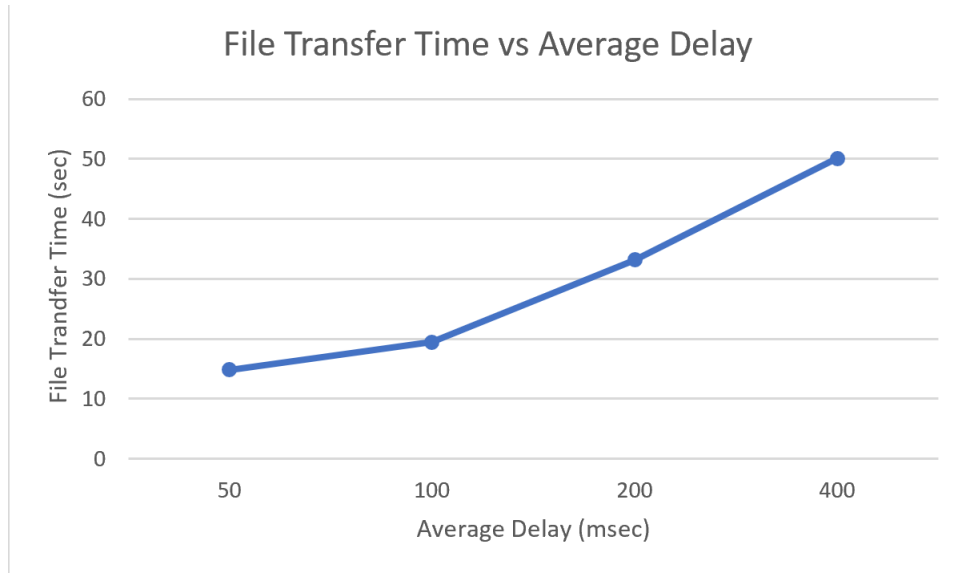
D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 50.877 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 52.787 secs
Input and output file are same? True

D:\Dropbox\Dropbox\Computer communication network>py SftpClient.py 127.0.0.1
Uploading the file inputfile.txt by using sFTP to the target server 127.0.0.1, 9093
sFTP: file sent successfully to 127.0.0.1 in 52.974 secs
Input and output file are same? True
```

## Statistics and Graph

Fixed loss rate to 10%												
Average delay	File transfer ti	Chart Title										
50		13.841	14.817	11.141	14.091	13.991	9.805	10.194	19.101	16.938	24.048	14.7967
100		15.135	16.87	19.212	25.483	23.483	14.972	18.676	16.11	23.242	21.272	19.4455
200		39.16	29.902	35.723	26.594	36.578	33.717	36.637	29.477	35.065	28.522	33.1375
400		42.15	48.823	49.663	46.07	54.515	52.191	50.539	50.877	52.787	52.974	50.0589



From the graph above, we can conclude that average delay also affects the file transfer time. The file transfer time will increase dramatically if the transfer system has a higher delay.