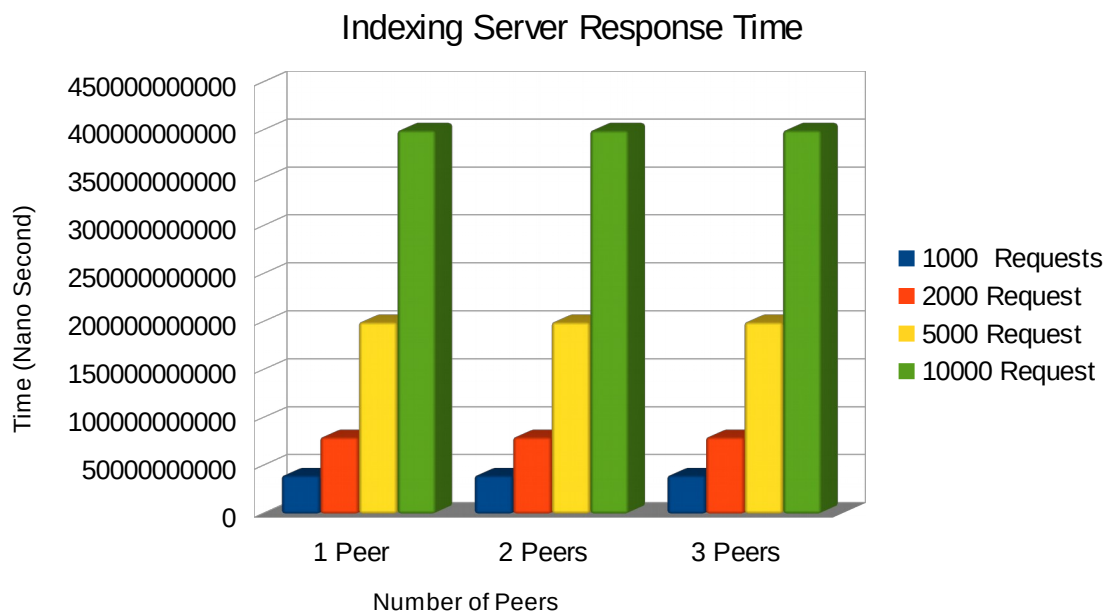# Evaluation Report:

Behavior of the system is evaluated by measuring response time by making 1000, 2000, 5000 and 10000 sequential requests. The response times is calculated when multiple clients are concurrently making requests to the indexing server, for instance, number of concurrent clients vary from 2 to 3. Based on all calculated measurement following graph is ploted.

Number of Peers	Search Request			
	1000 Requests	2000 Request	5000 Request	10000 Request
1 Peer	39964518187.33	79969255874	199988273430	400003199538
2 Peers	39989397809	79983410721	200000086174	399965743239
3 Peers	39962113947.5	79973737456	199995934805	400010119260

Following are details about all calculated measurements :

Total Peers connected to Indexing server : 3
      I.   192.168.0.106 : 5432
      II.   192.168.0.106 : 4222
      III.   192.168.0.106 : 7771
Indexing Server IP : 192.168.0.106 : 8888

Based on different criteria, evaluation performed as :
1. Search file by 1 Peer :
Search Requested by   : 1 Peer
Total Search Request : 1000
Searched Attempt :   1.   39961117220
                       2.   39960964678
                       3.   39971472664
Average time required : 39964518187.33 Nano Second

```
 ⊗ ⊖ ⊙   sachin@sachin-HP-Pavilion-15-Notebook-PC: ~/Documents/cs550/workspace/Client_1
                  Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
1

IP and PORT : 192.168.0.106:5432
1 text1.txt      Size : 2599
2 text2.txt      Size : 7795
3 text3.txt      Size : 0

IP and PORT : 192.168.0.106:4222
1 text1.txt      Size : 2599
2 text1.txt~     Size : 2599
3 text2.txt      Size : 7795
4 text2.txt~     Size : 33
5 text3.txt      Size : 0


                  Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 42201215249973
Ended at 42241176227907
Time required : 39961117220


                  Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
```

2. Search file by 2 Peer Concurrently:

Search Requested by   : 2 Peers
Total Search Request : 1000
Average time required (Nano Second):

Peer1 (192.168.0.106:5432)	Peer2 (192.168.0.106:4222)
40015847973	39963706602
39962947645	39962788318
Avg : 39989397809	Avg: 39963247460

```
sachin@sachin-HP-Pavilion-15-Notebook-PC: ~/Docume

(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :

text1.txt
Started time : 44133940564820
Ended at 44173956251066
Time required : 40015847973


            Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 45297017422734
Ended at 45336980249702
Time required : 39962947645


            Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

```
sachin@sachin-HP-Pavilion-15-Notebook-PC: ~/Docum
            Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 44132368629447
Ended at 44172332204695
Time required : 39963706602


            Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 45299217541827
Ended at 45339180194885
Time required : 39962788318


            Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

3. Search file by 3 Peer Concurrently :

Search Requested by   : 3 Peers
Total Search Request : 1000
Average time required (Nano Second):

Peer1 (192.168.0.106:5432)	Peer2 (192.168.0.106:4222)	Peer3 (192.168.0.106:7771)
39963994436	39958987997	39959633060
39960233459	39968920704	39958631394
Avg : 39962113947.50	Avg: 39963954350.50	Avg: 39959132227

sachin@sachin-HP-Pavilion-15-Notebook-PC: ~/   sachin@sachin-HP-Pavilion-15-Notebook-PC: sachin@sachin-HP-Pavilion-15-Notebo

```
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 46583036355796
Ended at 46623000243965
Time required : 39963994436


        Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 46776840083289
Ended at 46816800231295
Time required : 39960233459


        Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

```
        Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 46583977379792
Ended at 46623936235826
Time required : 39958987997


        Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 46779603345440
Ended at 46819572140770
Time required : 39968920704


        Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

```
        Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 46581088691606

Ended at 46621048202994
Time required : 39959633060


        Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 46778377804095
Ended at 46818336221926
Time required : 39958601394


        Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

4. Search file by 1 Peer :

Search Requested by   : 1 Peer
Total Search Request : 2000
Searched Attempt :   1. 79978318495
                       2. 79960193254

Average time required :   79969255874.5 Nano Second

Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 48192954023410
Ended at 48272932195786
Time required : 79978318495

Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 48656448625484
Ended at 48736408577375
Time required : 79960193254

Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download

5. Search file by 2 Peer Concurrently:

Search Requested by   : 2 Peers
Total Search Request : 2000
Average time required (Nano Second):
Peer1 (192.168.0.106: 5432)   Peer2 (192.168.0.106: 4222)
          80009913925   80010528630
          79956907518   79967016501
Avg : 79983410721.5   Avg: 79988772565.5

6. Search file by 3 Peer Concurrently :

Search Requested by   : 3 Peers
Total Search Request : 2000
Average time required (Nano Second):

Peer1 (192.168.0.106:5432)	Peer2 (192.168.0.106:4222)	Peer3 (192.168.0.106:7771)
79977065900	79969417863	79977895862
79970409013	79970554794	79968371196
Avg : 79973737456.5	Avg: 79969986328.5	Avg: 79973133529

```
        Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 48900115290645
Ended at 48980092230469
Time required : 79977065900


        Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 49167333876274
Ended at 49247304153057
Time required : 79970409013


        Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
```

```
        Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
apple.txt
Started time : 48889174804740
Ended at 48979144132157
Time required : 79969417863


        Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
apple.txt
Started time : 49166033676297
Ended at 49246004132839
Time required : 79970554794


        Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
```

```
Time required : 79960193254

        Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 48900890471925
Ended at 48980868197639
Time required : 79977895862


        Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 49168123996168
Ended at 49248092236698
Time required : 79968371196


        Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
```

7. Search file by 1 Peer :
Search Requested by   : 1 Peer
Total Search Request : 5000
Searched Attempt :   1. 200011387505
                      2. 199965159355

Average time required : 199988273430 Nano Second

8. Search file by 2 Peer Concurrently:

Search Requested by : 2 Peers
Total Search Request : 5000
Average time required (Nano Second):

Peer1 (192.168.0.106: 7771)	Peer2 (192.168.0.106: 5432)
199967374472	200019841528
199969519989	199980330820
Avg: 199968447230.5	Avg : 200000086174

```
5 text3.txt       Size : 0


            Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 50450912931227
Ended at 50650880159911
Time required : 199967374472


            Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 50686122910333
Ended at 50886092194354
Time required : 199969519989


            Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
```

```
            Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 50451364465644
Ended at 50651384180996
Time required : 200019841528


            Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 50686575985069
Ended at 50886556182133
Time required : 199980330820


            Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

9. Search file by 3 Peer Concurrently :

Search Requested by   : 3 Peers
Total Search Request : 5000
Average time required (Nano Second):

Peer1 (192.168.0.106:5432)	Peer2 (192.168.0.106:4222)	Peer3 (192.168.0.106:7771)
199976279781	200014597786	199977949916
199983129648	199977271824	199970766452
Avg: 199979704714.5	Avg: 199995934805	Avg: 199974358184

```
sachin@sachin-HP-Pavilion-15-Noteboo
                Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 51242576142635
Ended at 51442552187921
Time required : 199976279781

                Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 51478041295928
Ended at 51678024202016
Time required : 199983129648

                Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

```
sachin@sachin-HP-Pavilion-15-Noteboo
                Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 51243465708148
Ended at 51443480186792
Time required : 200014597786

                Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 51479275102451
Ended at 51679252226220
Time required : 199977271824

                Menu
(Local Server IP: /192.168.0.106:4222)
1. Show available files
```

```
sachin@sachin-HP-Pavilion-15-Notebook-
ime required : 199969519989

                Menu
Local Server IP: /192.168.0.106:7771)
. Show available files
. Enter file name to download
. Exit
nter your choice :

nter Filename :
ext1.txt
tarted time : 51241982324751
nded at 51441960138582
ime required : 199977949916

                Menu
Local Server IP: /192.168.0.106:7771)
. Show available files
. Enter file name to download
. Exit
nter your choice :

nter Filename :
ext1.txt
tarted time : 51477501487078
nded at 51677472121911
ime required : 199970766452

                Menu
Local Server IP: /192.168.0.106:7771)
. Show available files
```

10. Search file by 1 Peer :
Search Requested by   : 1 Peer
Total Search Request :   10000
Searched Attempt :   1. 400014820011
                       2. 399991579065

Average time required :   400003199538   Nano Second

11. Search file by 2 Peer Concurrently:

Search Requested by   : 2 Peers
Total Search Request : 10000
Average time required (Nano Second):
Peer1 (192.168.0.106: 7771)   Peer2 (192.168.0.106: 5432)
     399965743239   400025015744

```
            Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
text1.txt
Started time : 53326726494751
Ended at 53726692109816
Time required : 399965743239


            Menu
(Local Server IP: /192.168.0.106:7771)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

```
            Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
2
Enter Filename :
mp1.txt
Started time : 53327139310688
Ended at 53727164178650
Time required : 400025015744


            Menu
(Local Server IP: /192.168.0.106:5432)
1. Show available files
2. Enter file name to download
3. Exit
Enter your choice :
```

12. Search file by 3 Peer Concurrently :

Search Requested by   : 3 Peers
Total Search Request : 5000
Average time required (Nano Second):

Peer1 (192.168.0.106:5432)	Peer2 (192.168.0.106:4222)	Peer3 (192.168.0.106:7771)
400010119260	400062733161	399995073987