Programming Assignment 1:

Performance Evaluation

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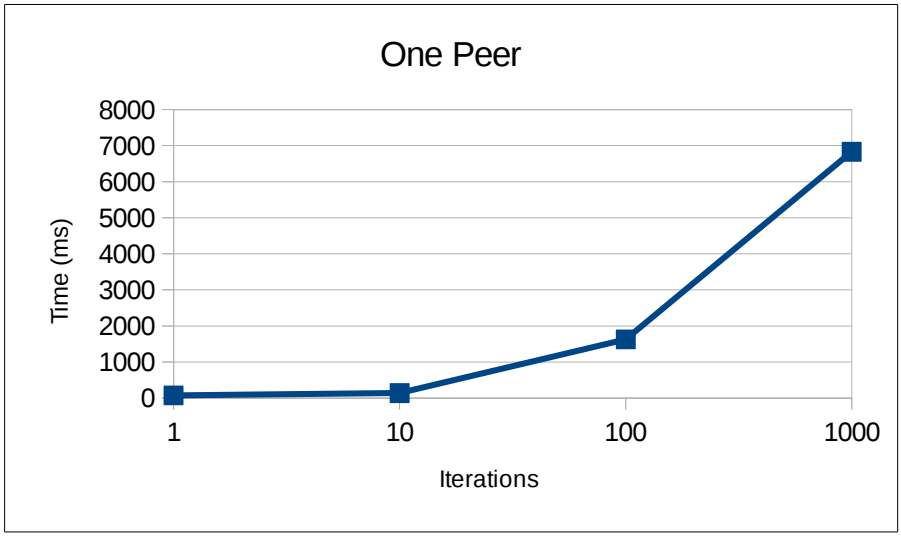
The following tables and graphs display the information generated during the testing of peer-requested searches of the indexing server's file index. For situations with more than one peer, the searches were started immediately after the previous peer entered their search test command.

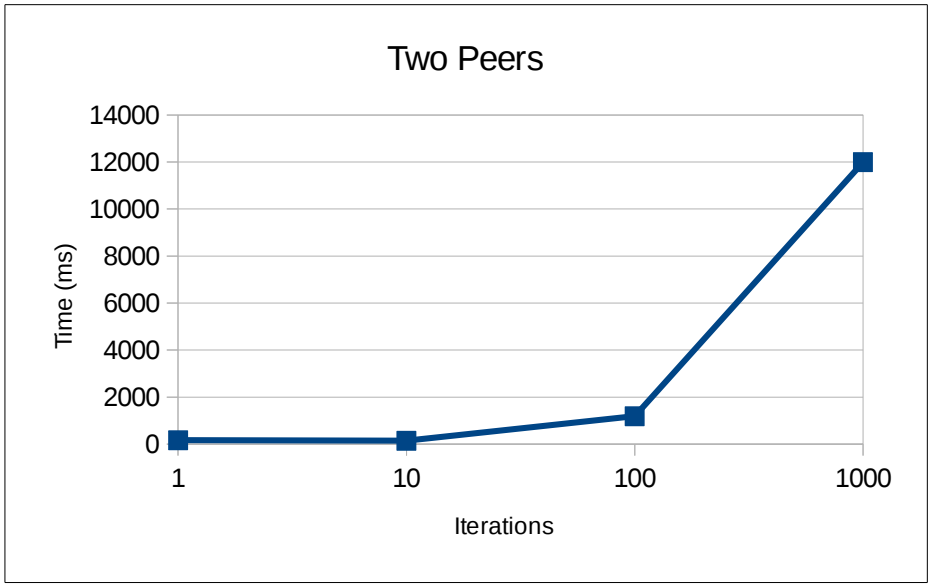
One Peer	
Number of Iterations	**Time (ms)**
1	77
10	142
100	1629
1000	6831

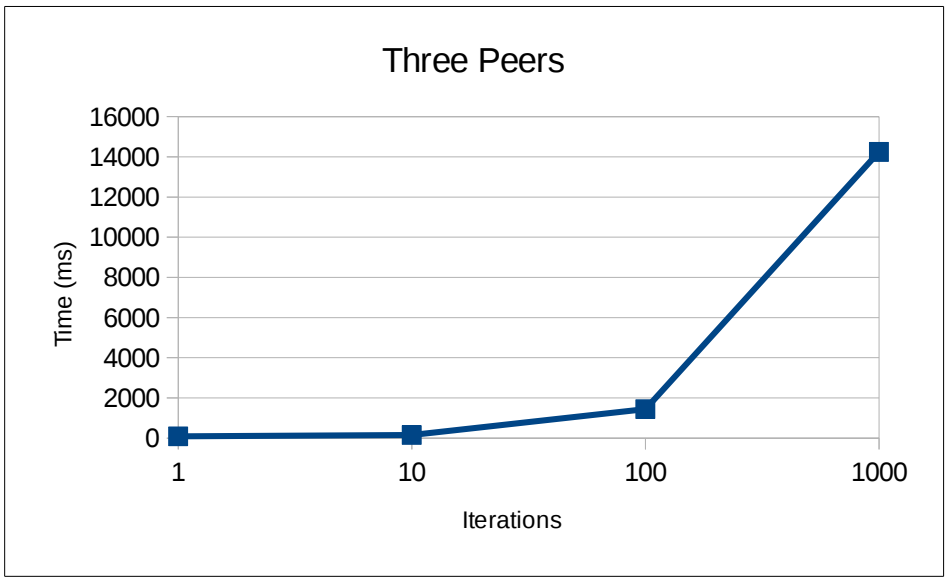
Two Peers			
No. Iterations	**Time 1 (ms)**	**Time 2 (ms)**	**Average**
1	260	71	166
10	210	70	145
100	839	1437	1188
1000	15752	7230	11991

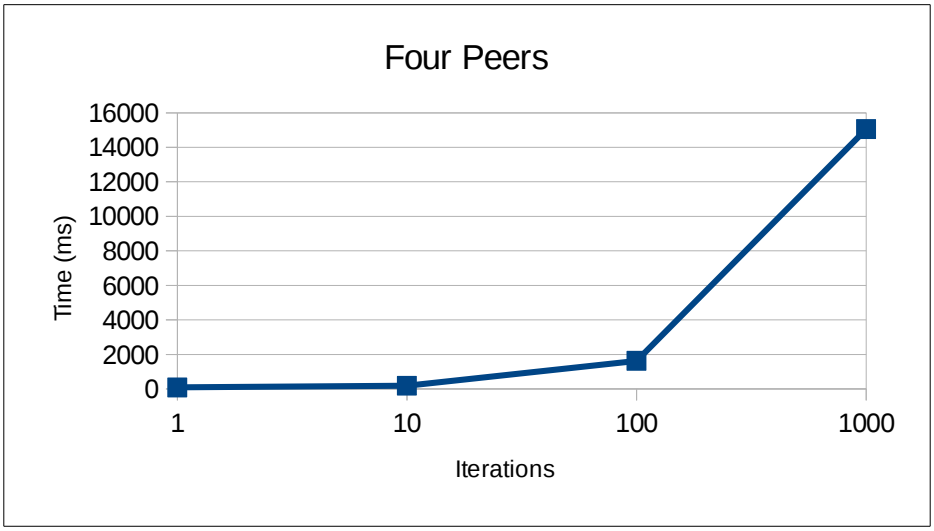
Three Peers				
No. Iter.	**Time 1 (ms)**	**Time 2 (ms)**	**Time 3 (ms)**	**Average**
1	98	79	82	86.67
10	206	145	108	156.33
100	1169	1525	1528	1440.67
1000	15266	14647	11830	14247.67

Four Peers					
No. Iter.	**Time 1**	**Time 2**	**Time 3**	**Time 4**	**Average**
1	101	74	71	86	83.25
10	322	139	152	130	188.25
100	1560	1443	1607	1802	1628
1000	16005	14573	15020	13618	15054


One Peer
8000
7000
6000
5000
4000
3000
2000
1000
0
Time (ms)
1
10
100
1000
Iterations


Two Peers
14000
12000
10000
8000
6000
4000
2000
0
Time (ms)
1
10
100
1000
Iterations





Based on the gathered information, it is apparent that increasing the number of search iterations dramatically increases the amount of time required for the server to search the file index. It can also be noted that having more peers searching at once has some effect on the average time it takes the peers to be notified of their search results.