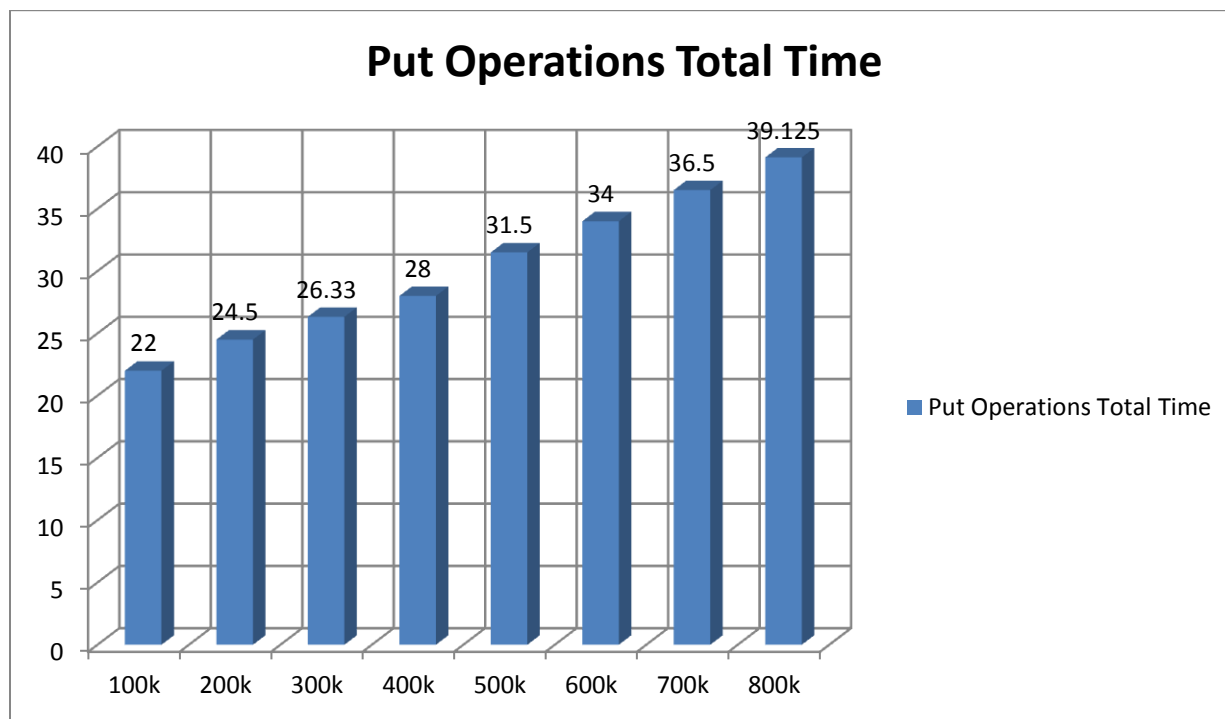


Performance Evaluation

Operation:Put

Parameters Used:key,Value Return Parameters:Success/Failure,Total Server:8

Sr no	Total Operations	Total Clients	Avg Time Taken(Total in seconds)	Timer per operation per Node in msecs
1	100k	1	22 sec	0.22 ms
2	200k	2	24.5 sec	0.245 ms
3	300k	3	26.33 sec	0.2633 ms
4	400k	4	28 sec	0.28 ms
5	500k	5	31.5 sec	0.315 ms
6	600k	6	34 sec	0.34 ms
7	700k	7	36.5 sec	0.365 ms
8	800k	8	39.125 sec	0.391 ms

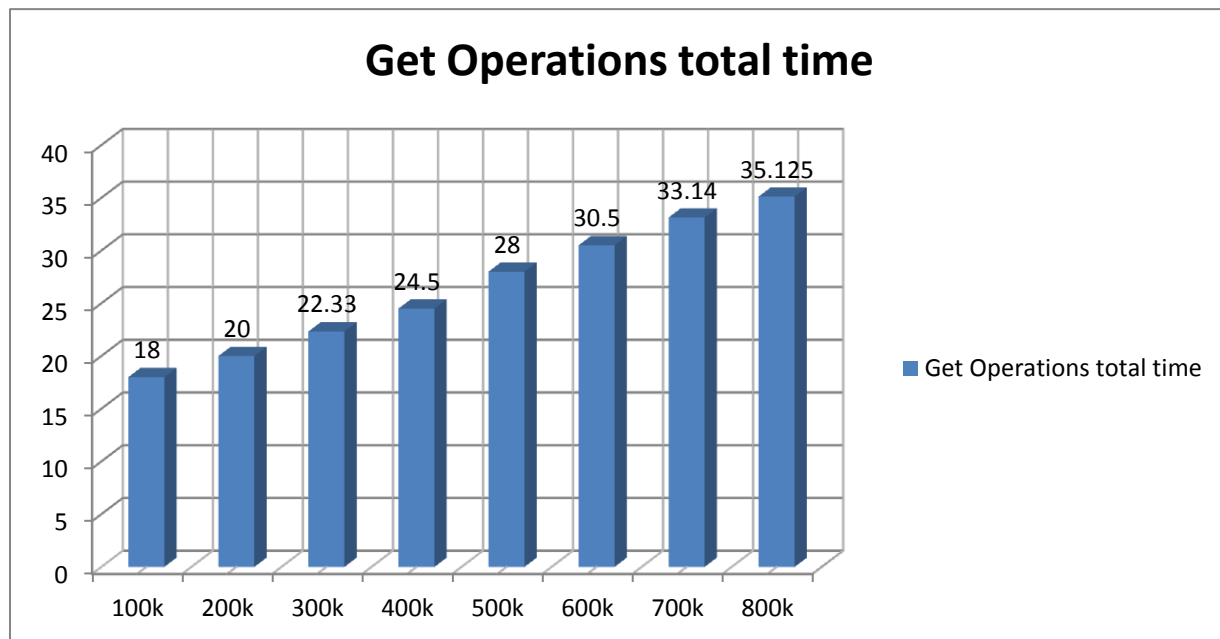


Scale: Horizontal Axis ->No of Put Operations Vertical Axis->Time in Seconds

Operation: Get

Parameters Used: key Return Parameters: Value/Null, Total Server:8

Sr no	Total Operations	Total Clients	Time Taken(Total in seconds)	Timer per operation per Node in msec
1	100k	1	18 sec	0.18 ms
2	200k	2	20 sec	0.2 ms
3	300k	3	22.33 sec	0.223 ms
4	400k	4	24.5 sec	0.245 ms
5	500k	5	28 sec	0.28 ms
6	600k	6	30.5 sec	0.305 ms
7	700k	7	33.14 sec	0.3314 ms
8	800k	8	35.125 sec	0.3512 ms

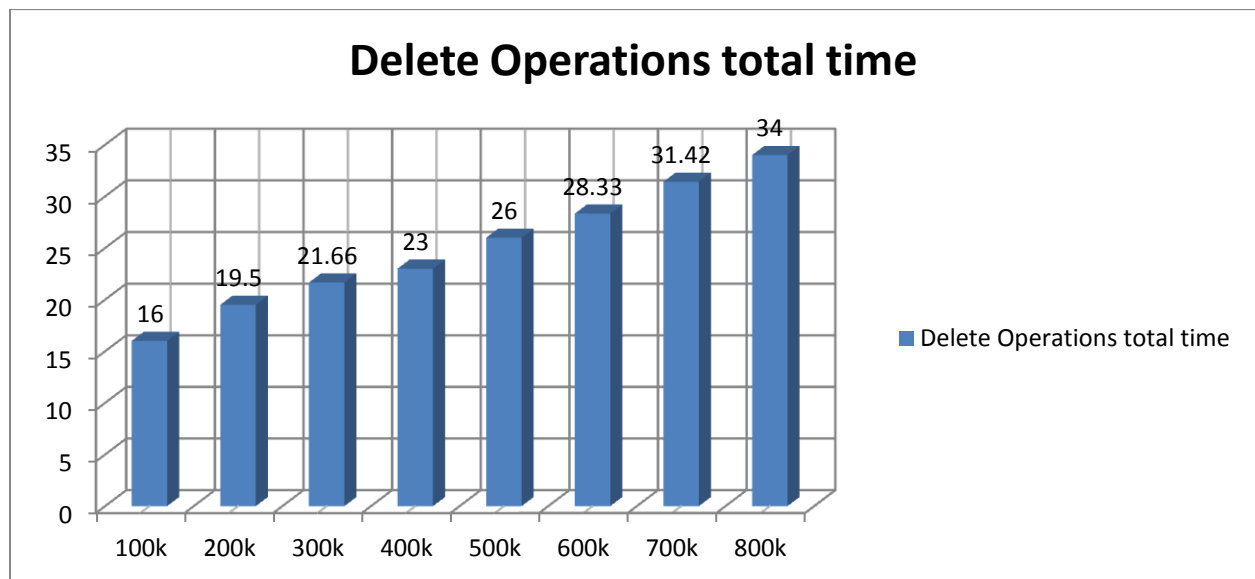


Scale: Horizontal Axis ->No of Get Operations Vertical Axis->Total Time in Seconds

Operation: Delete

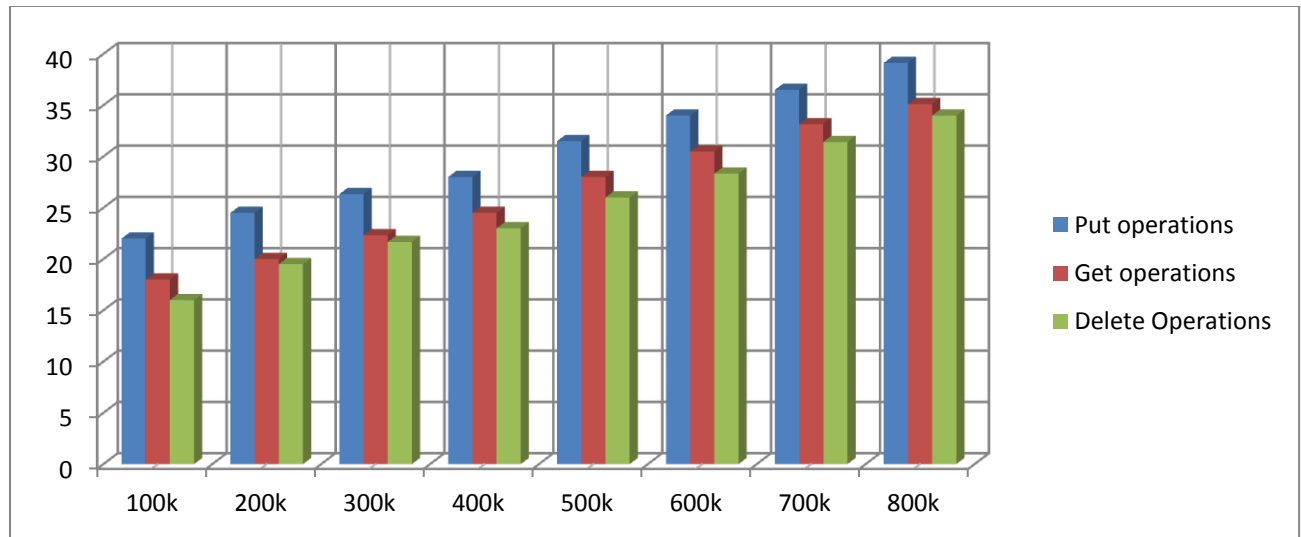
Parameters Used: key Return Parameters: success/failure, Total Server:8

Sr no	Total Operations	Total Clients	Time Taken(Total in seconds)	Timer per operation per Node in msecs
1	100k	1	16 sec	0.16 ms
2	200k	2	19.5 sec	0.195 ms
3	300k	3	21.66 sec	0.216 ms
4	400k	4	23 sec	0.23 ms
5	500k	5	26 sec	0.26 ms
6	600k	6	28.33 sec	0.283 ms
7	700k	7	31.42 sec	0.314 ms
8	800k	8	34 sec	0.34 ms



Scale: Horizontal Axis ->No of delete Operations Vertical Axis->Total Time in Seconds

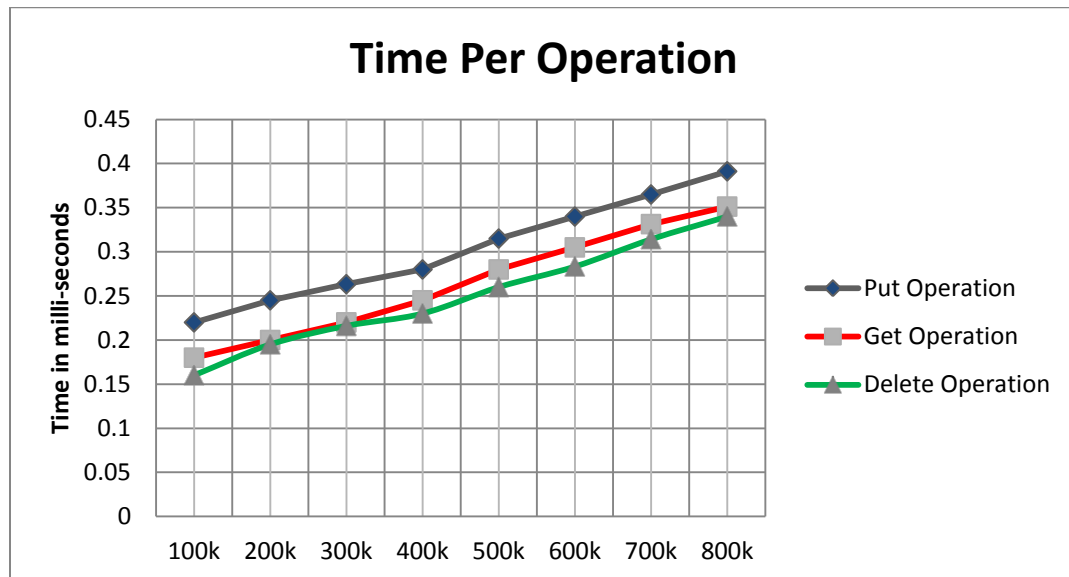
Comparing Get,Put,Delete (Total Time)



Scale: Horizontal Axis ->No of Get,Put,Delete Operations

Vertical Axis->Total Time in Seconds

Computing the average time per Node and per operations for 8 servers,800k total operations



Scale: Horizontal Axis ->No of Get,Put,Delete Operations

Vertical Axis->Avg Time in MilliSeconds(Per Node per operation)

Observations

It is observed that Put takes the highest time for operation. The timing is affected by the JVM garbage collection and the machine capabilities for processing the Data. The time difference in 100K puts and 800k operations of put ,get,delete is minimal of nearly 20 seconds for the total operations. So as the number of clients and no of operations increase a time increase is observed.