CS550 Advanced Operating Systems
Programming Assignment 3

Evaluation
Experiment-2

Amazon Aws

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The assignment carries out Evaluation of the Decentralized Indexing server and Peer server on 10 operations runs on amazon aws.

I've evaluated the time taken to **Register ,Search** operations on a Indexing server a single node ,two nodes ,four nodes and eight running concurrently over **10** operations.
And Evaluated the time taken to **Obtain** Files on a Peer server a single node ,two nodes ,four nodes and eight running concurrently over 10 operations. And File Size is **100MB.**

1. Register:

single node: The time taken to Register 10 Files on a single node at is 54**millisecs**.
Two ***nodes :*** The time taken to Register 10 Files on each of 2 nodes is :
node 1 - 61 millisecs
node 2 - 74millisecs
Average time taken by a node to Register 10 Files is : /2
= **68 millisecs**

Four nodes : The time taken to Register 10 Files on each of four nodes is :
node 1 - 72 millisecs
node 2 - 85 millisecs
node 3- 82 millisecs
node 4- 88 millisecs
Average time taken by a node to Register 10 Files is:/4= 65 **millisecs**
Eight nodes : The time taken to Register 10 Files on each of Eight nodes is :
node 1 - 66millisecs
node 2 - 71 millisecs
node 3- 82 millisecs
node 4 - 64millisecs
node 5 - 78 millisecs
node 6- 89 millisecs
node 7 - 96 millisecs
node 8 - 104millisecs
Average time taken by a node to Register 10 Files is: 81 **millisecs**

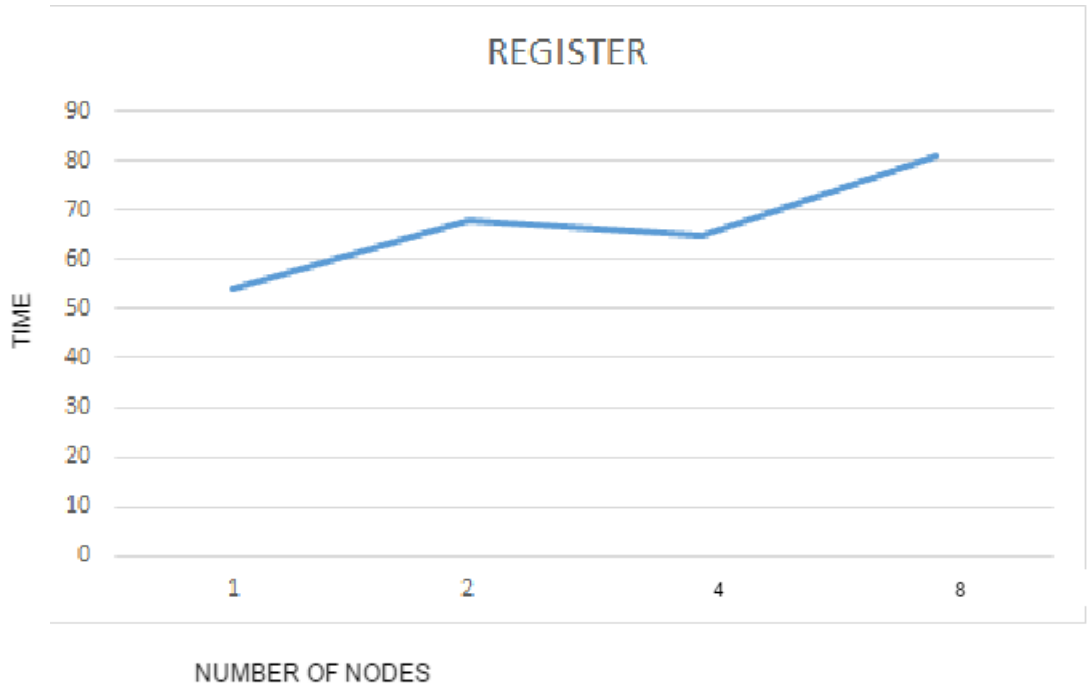
Average time taken for a single node per Register 10 Files 54: millisecs

Average time taken for two concurrent nodes per Register 10 Files : 68 millisecs

Average time taken for four concurrent nodes per Register 10 Files : 65millisecs
Average time taken for a eight concurrent nodes per Register 10 Files : 81millisecs

PLOT FOR REGISTER :

X-axis : nodes
Y-Axis : time (millisecs)



2. SEARCH :

single node: The time taken to Search 10 Files on a single node at is 63**millisecs**.
Two ***nodes :*** time taken to Search 10 Files on each of 2 nodes is :
node 1 -71 millisecs

node 2 - 77 millisecs

Average time taken by a node to Search 10 Files is : /2

= **74millisecs**

Four nodes : Time taken to Search 10 Files on each of four nodes is :

node 1 - 54 millisecs
node 2 -69 millisecs
node 3- 82millisecs
node 4- 86 millisecs

Average time taken by a node to make Search 10 Files is 75.5 **millisecs**

Eight nodes : Time taken to Search 10 Files on each of Eight nodes is :

node 1 - 74 millisecs
node 2 -79 millisecs
node 3- 68 millisecs
node 4 - 84 millisecs
node 5 - 96millisecs
node 6- 92 millisecs
node 7 -104 millisecs
node 8 - 87 millisecs

Average time taken by a node to Search 10 Files is 86 **millisecs**

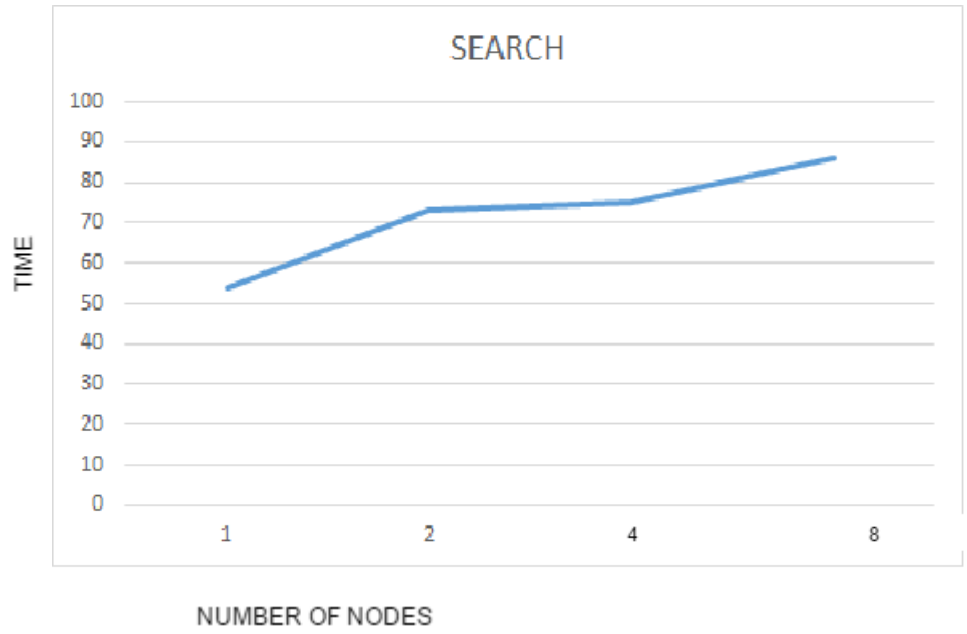
Average time taken for a single nodes per 10 Search Files : 54millisecs

Average time taken for two concurrent nodes per 10 Search Files : 73 millisecs

Average time taken for four concurrent nodes per 10 Search Files : 75millisecs

Average time taken for a eight concurrent nodes per 10 Search Files : 86millisecs

PLOT FOR SEARCH:
X-axis : nodes
Y-axis : time (millisecs)



3. Obtain:

single node: The time taken to obtain 10 Files at a single node at is **296 secs**.
two nodes : Time taken to obtain 10 Files at 2 nodes concurrently i.e., 200k files on both nodes is :
node 1 -264secs
node 2 - 258secs
Average time taken by a node to obtain 10 Files is : /2
= **261secs**

Four nodes : Time taken to obtain 10 Files on each of four nodes is :
node 1 - 274secs
node 2 - 297secs
node 3- 315secs
node 4- 324secs
Average time taken by a node to obtain 10 Files is :/4= 302 **Secs**
Eight nodes : Time taken to obtain 10 Files on each of Eight nodes is :
node 1 - 288secs

node 2 - 354secs
node 3- 324secs
node 4 - 307secs
node 5 - 344secs
node 6- 321secs
node 7 - 364secs
node 8 -337secs

Average time taken by a node to obtain 10 Files is /8= **329secs**

Average time taken for a single node to obtain 10 Files : 296secs

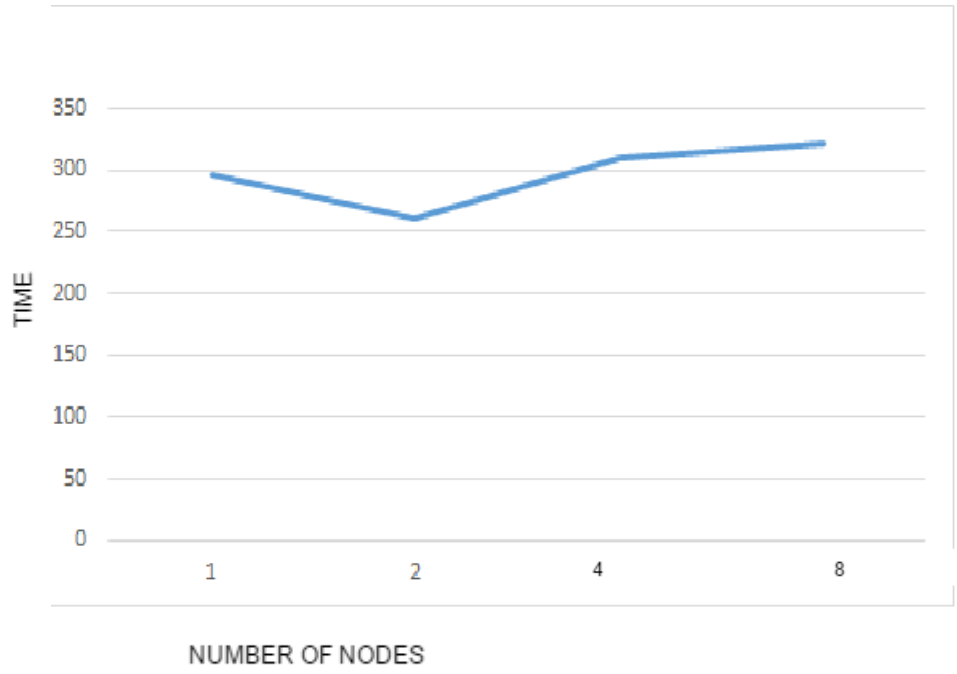
Average time taken for two concurrent nodes to obtain 10 Files : 261secs

Average time taken for four concurrent nodes to obtain 10 Files : 302secs

Average time taken for a eight concurrent nodes to obtain 10 Files: 329Secs

PLOT FOR OBTAIN:

X-axis : nodes
Y-axis : time(secs)



Conclusion:

Here,we have evaluated register,search and obtain the files of size 100Mb.and it runs on Amazon aws cloud over 10 fileS on each server.As the number of nodes increases,time to register will increases in DIS, and search is increases initially because IN DHT, it runs on core uses maximum speed. And obtaining file is also uses maximum core speed.