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 100 operations run 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 **100** 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 100 operations. And File Size is **100MB.**

1. Register:

single node: The time taken to Register 100 Files on a single node at is 39**millisecs**.
Two ***nodes :*** The time taken to Register 100 Files on each of 2 nodes is :
node 1 - 47millisecs
node 2 - 54 millisecs
Average time taken by a node to Register 100 Files is :
= **50.5millisecs**

Four nodes : The time taken to Register 100 Files on each of four nodes is :
node 1 - 57 millisecs
node 2 -65 millisecs
node 3- 72 millisecs
node 4- 78millisecs
Average time taken by a node to Register 100 Files is:/4= **68millisecs**
Eight nodes : The time taken to Register 100 Files on each of Eight nodes is :
node 1 - 87 millisecs
node 2 - 74 millisecs
node 3- 96 millisecs
node 4 - 88millisecs
node 5 - 79 millisecs
node 6- 1004 millisecs
node 7 - 114millisecs
node 8 - 129millisecs
Average time taken by a node to Register 100 Files is: /8= **96millisecs**

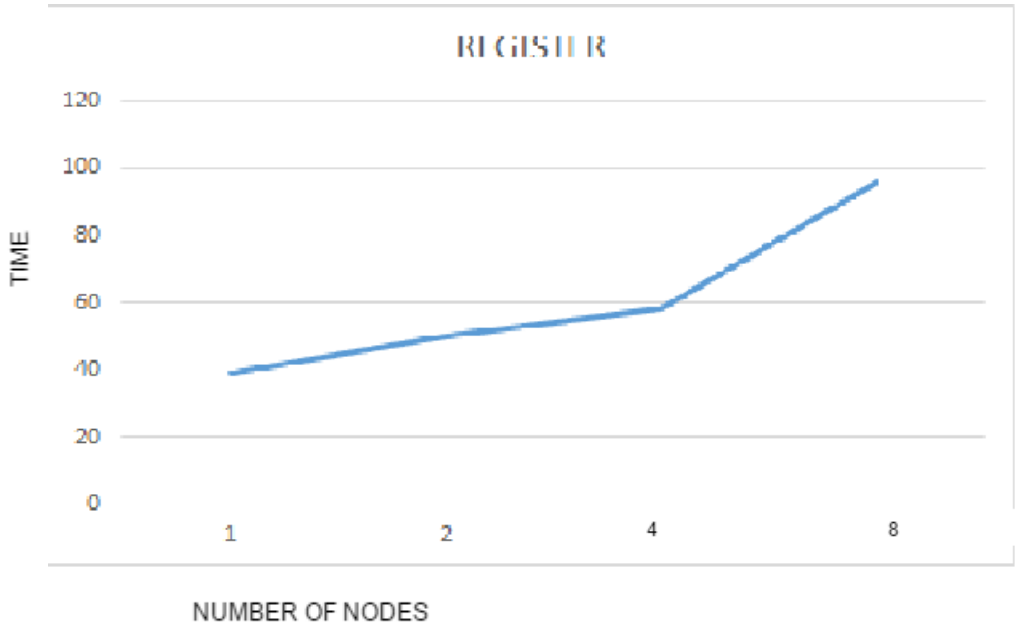
Average time taken for a single node per Register 100 Files : 39 millisecs

Average time taken for two concurrent nodes per Register 100 Files : 50 millisecs

Average time taken for four concurrent nodes per Register 100 Files : 38 millisecs
Average time taken for a eight concurrent nodes per Register 100 Files : 96 millisecs

PLOT FOR REGISTER :

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



2. SEARCH :

single node: The time taken to Search 100 Files on a single node at is 49 **millisecs**.
Two ***nodes :*** time taken to Search 100 Files on each of 2 nodes is :
node 1 - 58 millisecs
node 2 - 62millisecs

Average time taken by a node to Search 100 Files is : /2

= **60millisecs**

Four nodes : Time taken to Search 100 Files on each of four nodes is :

node 1 - 67 millisecs
node 2 -69 millisecs
node 3- 74 millisecs
node 4- 81millisecs

Average time taken by a node to make Search 100 Files is /4= **72.75millisecs**

Eight nodes : Time taken to Search 100 Files on each of Eight nodes is :

node 1 - 53 millisecs
node 2 - 61millisecs
node 3- 77millisecs
node 4 - 87millisecs
node 5 - 81 millisecs
node 6- 94millisecs
node 7 - 98millisecs
node 8 - 117 millisecs

Average time taken by a node to Search 100 Files is 83.5 **millisecs**

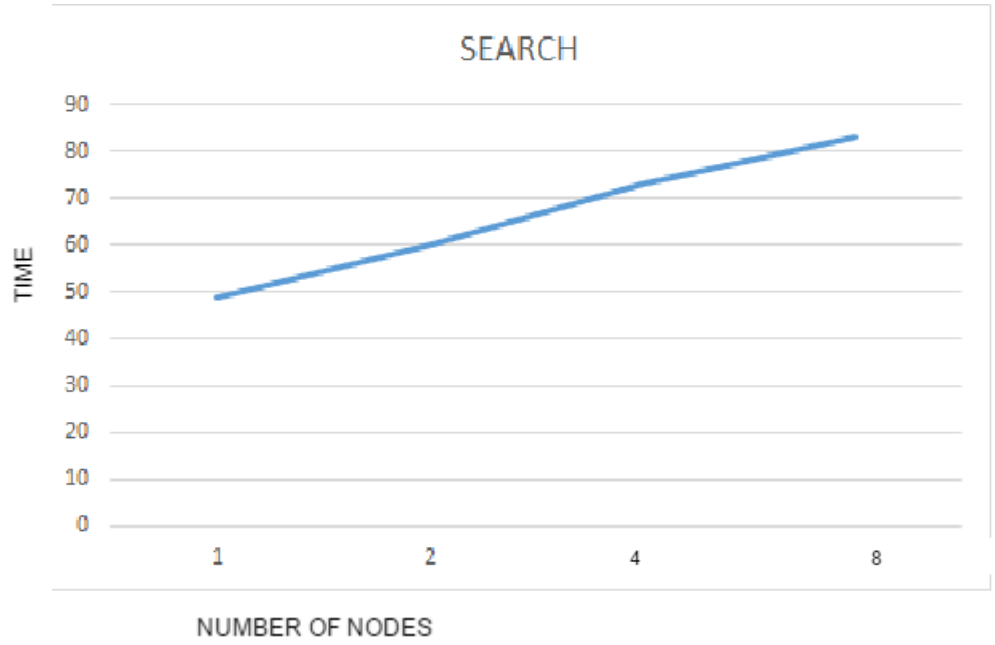
Average time taken for a single nodes per 100 Search Files : 49millisecs

Average time taken for two concurrent nodes per 100 Search Files : 60 millisecs

Average time taken for four concurrent nodes per 100 Search Files :72 millisecs

Average time taken for a eight concurrent nodes per 100 Search Files :83.5 millisecs

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



3. Obtain:

single node: The time taken to obtain 100 Files at a single node at is **334 secs**.
two nodes : Time taken to obtain 100 Files at 2 nodes concurrently i.e., 200k files on both nodes is :
node 1 - 284secs
node 2 - 349secs
Average time taken by a node to obtain 100 Files is :
= **316millisecs**

Four nodes : Time taken to obtain 100 Files on each of four nodes is :
node 1 - 384secs
node 2 - 329secs
node 3- 341secs
node 4- 364 secs
Average time taken by a node to obtain 100 Files is :/4= **354.5secs**
Eight nodes : Time taken to obtain 100 Files on each of Eight nodes is :
node 1 - 412secs
node 2 - 384secs
node 3- 364secs

node 4 - 373secs
node 5 - 347secs
node 6- 398secs
node 7 - 424secs
node 8 -402secs

Average time taken by a node to obtain 100 Files is /8= **388secs**

Average time taken for a single node to obtain 100 Files : 334secs

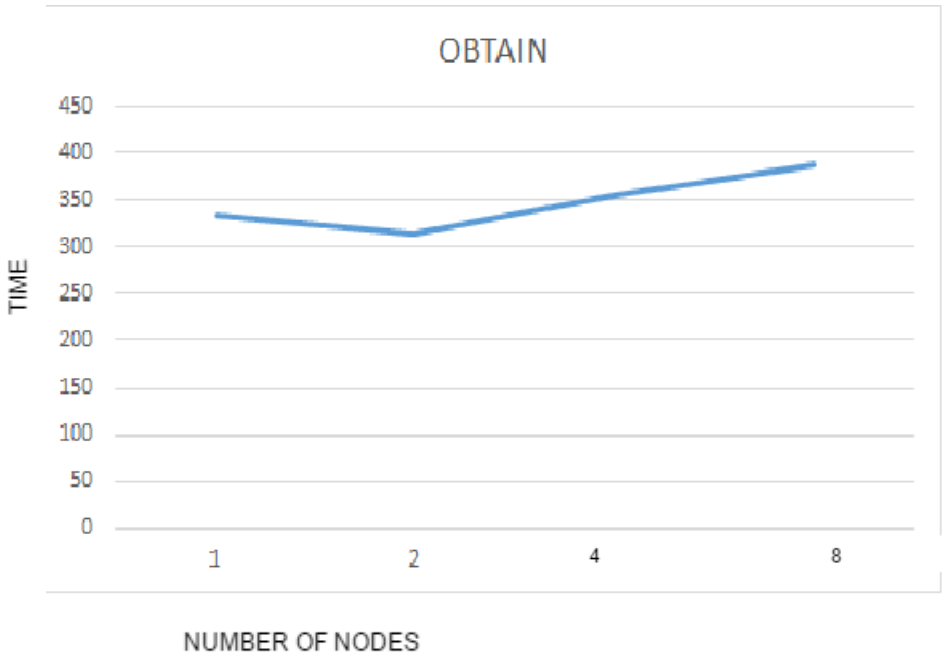
Average time taken for two concurrent nodes to obtain 100 Files : 316secs

Average time taken for four concurrent nodes to obtain 100 Files : 354secs

Average time taken for a eight concurrent nodes to obtain 100 Files: 388secs

PLOT FOR OBTAIN:

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



Conclusion:

Here,we have evaluated register,search and obtain the files of size 10Mb.and it runs on Amazon aws cloud over 100 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.