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CS-441

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CS-441 HOMEWORK # 1

Fourth Part

Here is the output of my two Datacenters both using different configuration and VMallocationpolicy.

```
INFO Total Cost of 0 cloudlets: 38.822000000000004
INFO Total Cost of 1 cloudlets: 38.822000000000004
INFO Total Cost of 2 cloudlets: 38.842
INFO Total Cost of 3 cloudlets: 38.842
INFO Total Cost of 4 cloudlets: 56.811
INFO Total Cost of 5 cloudlets: 56.811
INFO Total Cost of 6 cloudlets: 56.811
INFO Total Cost of 7 cloudlets: 56.811
INFO Total Cost of 8 cloudlets: 38.844000000000004
INFO Total Cost of 9 cloudlets: 38.844000000000004
INFO Total Cost of 10 cloudlets: 38.844000000000004
INFO Total Cost of 11 cloudlets: 38.844000000000004
INFO Total Cost of 12 cloudlets: 38.843999999999996
INFO Total Cost of 13 cloudlets: 38.843999999999996
INFO Total Cost of 14 cloudlets: 38.844000000000004
INFO Total Cost of 15 cloudlets: 38.844000000000004

SIMULATION RESULTS

Cloudlet[Status] [DC][Host][Host PEs] [VMs][VM PEs] [Cloudlet PEs][Start Time][Finish Time][Execution Time]
ID] [ID] [ID] [CPU cores] [ID] [CPU cores] [ID] [CPU cores] [Seconds] [Seconds] [Seconds]
-----
1|SUCCESS| 1| 0| 2| 1| 1| 40000| 1| 22| 181| 159
8|SUCCESS| 1| 1| 2| 0| 1| 40000| 1| 22| 181| 159
3|SUCCESS| 1| 0| 2| 1| 1| 40000| 1| 182| 342| 168
2|SUCCESS| 1| 1| 2| 0| 1| 40000| 1| 182| 342| 168
4|SUCCESS| 2| 0| 2| 2| 1| 40000| 1| 23| 343| 328
10|SUCCESS| 2| 0| 2| 2| 1| 40000| 1| 23| 343| 328
5|SUCCESS| 2| 1| 2| 3| 1| 40000| 1| 23| 343| 328
11|SUCCESS| 2| 1| 2| 3| 1| 40000| 1| 23| 343| 328
7|SUCCESS| 1| 0| 2| 1| 1| 40000| 1| 342| 982| 168
6|SUCCESS| 1| 1| 2| 0| 1| 40000| 1| 342| 982| 168
9|SUCCESS| 1| 0| 2| 1| 1| 40000| 1| 582| 662| 168
8|SUCCESS| 1| 1| 2| 0| 1| 40000| 1| 582| 662| 168
13|SUCCESS| 1| 0| 2| 1| 1| 40000| 1| 663| 822| 168
12|SUCCESS| 1| 1| 2| 0| 1| 40000| 1| 663| 822| 168
15|SUCCESS| 1| 0| 2| 1| 1| 40000| 1| 823| 982| 159
14|SUCCESS| 1| 1| 2| 0| 1| 40000| 1| 823| 982| 159
```

Basically we are using BestFit and Simple Vmallocation Policy to assign our VMs to host and to assign cloudlets to VMs I'm using cloudletSpaceShared policy for datacenter 1 and CloudletTimeShared for dataCenter 2. Here we have 4 hosts and 1 broker. We are using mapper and reducer approach to split the work, we are implementing it using 1:1 ration so 1 reducer for each mapper. If we notice cloudlet 4-7 have high cost one of the main reasons here is that we are using different CloudScheduler policies. So, we calculate cost of a cloudlet based on the

length and their completion of time. There are other few factor as well. However, in our situation CloudschedulerSpaceShared turn out to be more efficient as it gives us more cost effective cloudlets. Also, we can always test it by executing more tasks.