

Output:

Name	Date modified	Type	Size
cloudsim-3.0.3	02-05-2013 19:56	Executable Jar File	241 KB
cloud_analyst	11-03-2024 14:57	File folder	

Simulation Results

Overall Response Time Summary

	Average (ms)	Minimum (ms)	Maximum (ms)
Overall Response Time:	300.23	229.61	366.11
Data Center Processing Time:	0.34	0.02	0.62

Export Results

Response Time By Region

Userbase	Avg (ms)	Min (ms)	Max (ms)
UB1	300.373	229.613	366.115
UB2	300.087	235.609	361.611

User Base Hourly Average Response Times

Response Time (ms)

UB1

Response Time (ms)

UB2

Data Center Request Servicing Times

Data Center	Avg (ms)	Min (ms)	Max (ms)
DC1	0.342	0.018	0.62

Data Center Hourly Average Processing Times

Main ConfigurationData Center ConfigurationAdvanced

Simulation Duration:

60.0

min

User bases:

Name	Region	Requests per User per Hr	Data Size per Request (bytes)	Peak Hours Start (GMT)	Peak Hours End (GMT)	Avg Peak Users	Avg Off-Peak Users
UB1	2	60	100	3	9	1000	100
UB2	2	60	100	3	9	1000	100

Add New

Remove

Application Deployment Configuration:

Service Broker Policy:

Optimise Response Time

Data Center	# VMs	Image Size	Memory	BW
DC1	5	10000	512	1000
	5	10000	512	1000

Add New

Remove

Configure Simulation

Main Configuration Data Center Configuration **Advanced**

User grouping factor in User Bases:
(Equivalent to number of simultaneous
users from a single user base)

Request grouping factor in Data Centers:
(Equivalent to number of simultaneous
requests a single applicaiton server
instance can support.)

Executable instruction length per request:
(bytes)

Load balancing policy
across VM's in a single Data Center:

Save Configuration As

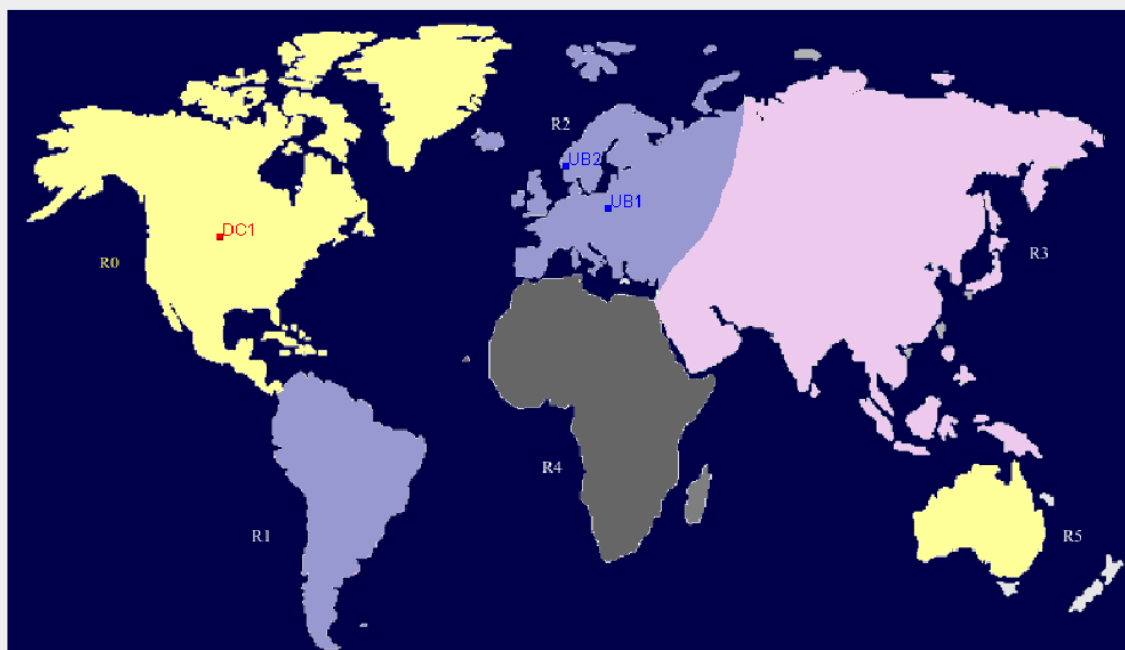
Save In: Documents

new.sim

File Name: config078

Files of Type: .sim

Save Cancel

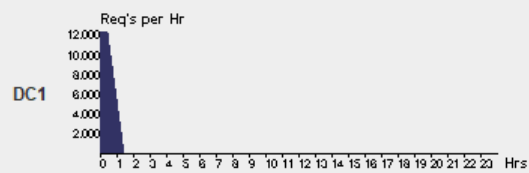


Data Center	Avg (ms)	Min (ms)	Max (ms)
DC1	0.342	0.018	0.62

Data Center Hourly Average Processing Times



Data Center Loading



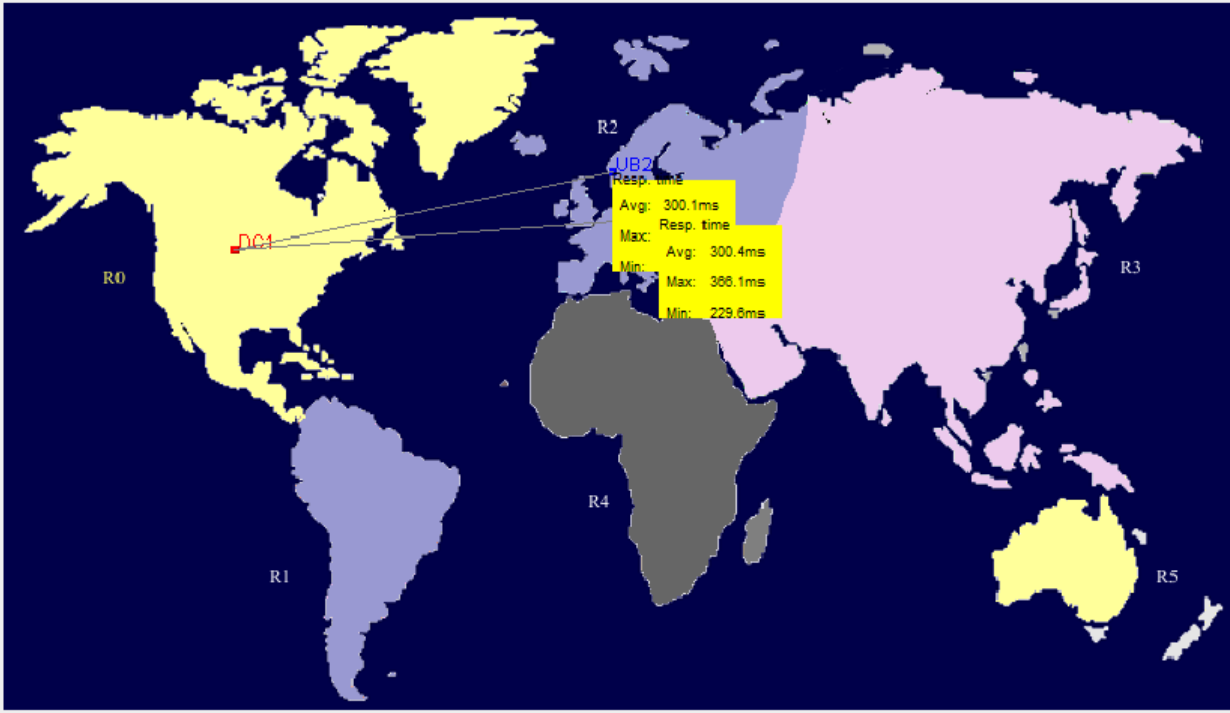
Cost

Total Virtual Machine Cost : \$0.51

Total Data Transfer Cost : \$0.13

Grand Total : \$0.64

Data Center	VM Cost	Data Transfer Cost	Total
DC1	0.507	0.129	0.636



```

Starting internet 11
Starting user base 9 UB2
5.0: DCI-Broker: Cloud Resource List received with 1 resource(s)
5.0: DCI-Broker: Trying to Create VM #0
5.0: DCI-Broker: Trying to Create VM #1
5.0: DCI-Broker: Trying to Create VM #2
5.0: DCI-Broker: Trying to Create VM #3
5.0: DCI-Broker: Trying to Create VM #4
Gathering simulation data.
UB1 finalizing. Messages sent:631, Received:631
UB2 finalizing. Messages sent:649, Received:649
UB2 requests sent=6187 , received=6187
UB1 requests sent=6058 , received=6058
Got response for 700631 but it seems to be completed.
DCI-Broker finalizing, submitted cloudlets=1280 processing cloudlets=0 ,allRequestsProcessed=12245
Simulation completed.
***** Vm allocations in DC1
0->514
1->513
2->513
3->513
4->513
****Datacenter: DC1****
User id      Debt
6            5128
*****
Simulation finished at 3647500.0
BUILD SUCCESSFUL (total time: 15 minutes 19 seconds)

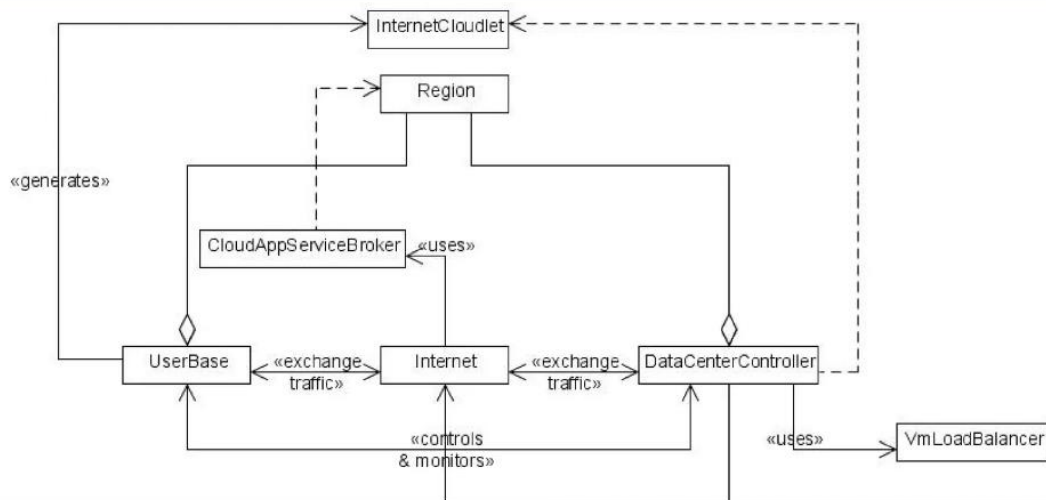
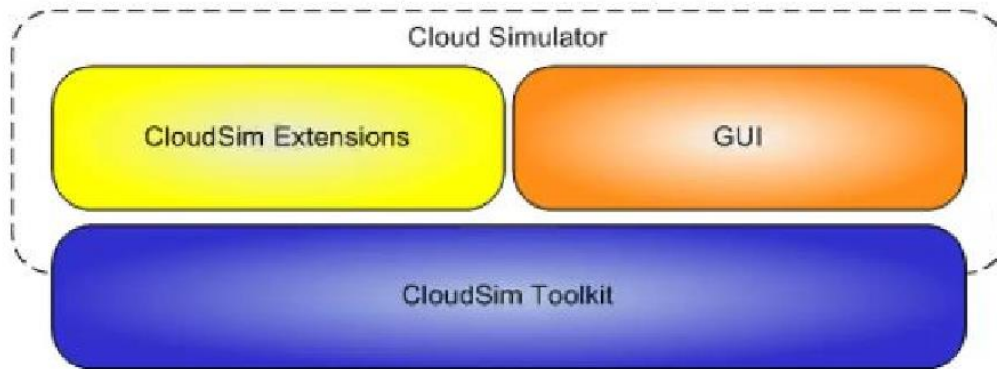
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Post Lab Questions:

1) Explain Cloud Analyst Design with neat diagram

Cloud Analyst is a simulation tool used for modeling and analysis of cloud computing infrastructures and services. It's primarily employed in research and academic environments to study the behavior and performance of cloud systems under different conditions. Here's a brief overview of its design:

1. **Simulation Environment:** Cloud Analyst provides a virtual environment where users can simulate various aspects of cloud computing, including the deployment of virtual machines (VMs), networking configurations, and workload management.
2. **Modeling Infrastructure:** Users can model different components of cloud infrastructure such as data centers, physical servers, networking equipment, and storage resources. This allows for the creation of realistic simulations that mimic real-world cloud environments.
3. **Workload Generation:** Cloud Analyst allows users to define and generate workloads to simulate the demand on the cloud infrastructure. Workloads can vary in terms of intensity, types of applications, and resource requirements.
4. **Performance Metrics:** The tool provides a range of performance metrics and analytics to evaluate the behavior of the cloud system. These metrics may include response time, throughput, resource utilization, and scalability.
5. **Visualization:** Cloud Analyst offers visualization capabilities to represent the simulation results graphically. This helps users to interpret the data more easily and gain insights into the performance of the cloud infrastructure under study.
6. **Experimentation and Analysis:** Users can conduct various experiments within the simulation environment to analyze the impact of different parameters and configurations on the performance and efficiency of the cloud system.



Outcomes:

CO3 Analyze different cloud architectures

Conclusion: (Conclusion to be based on the objectives and outcomes achieved)

In this experiment, we learnt how to perform Cloud simulation using CloudSim.