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ENERGY-EFFICIENT SCHEDULING ALGORITHM FOR DATACENTER IN CLOUD

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ABSTRACT:

Cloud computing is highly scalable and cost effective infrastructure for running web application. In cloud environment, due to the increasing rate of energy the operational cost gets increased and which in term reduces the profit margin of cloud service providers. Cloud data center contributes to the global warming by emitting CO2 while storing and retrieving data. The Cloud data center management is a key problem due to the numerous and heterogeneous strategies that can be applied, ranging from the Virtual Machine placement to the federation with other clouds. To reduce the energy consumption, this paper going to use task scheduling algorithm which effectively manage the energy consumption in cloud data center.

Keywords: Task Scheduling, Cloud Data Center, Energy Consumption

INTRODUCTION:

Cloud computing is the most recent announced technology that has been launched on the network world. Cloud is a pool of virtualized computer resources that host a variety of different workloads. Cloud computing is highly scalable and cost effective infrastructure for running web application. In cloud environment due to the increase in energy rate then the operational cost could also be increase this leads to decreases their profit to the cloud service provider. In cloud environment the energy cloud be released in more way because all over the world the user cloud access the cloud services ,this leads to emitting the co2 in global. Cloud user can store their data's in cloud server, they are virtualized sources, so we retrieve our data mean it can released more energy in cloud. This is due to increase their energy rate. In datacenter is nothing but, storage medium it used because of store, processing and retrieving purpose. Data center are hold the data's in certain environment, they could be ordered as in rack. So it due to reduce the energy consumption in global. The global warming is one of the best examples in the lack of energy. In this paper could solve this problem and we use this energy as a efficient way and then could consume the energy as to 0.05% and it could decrease the emitting of co2 in earth. This paper uses ESF-ES algorithm, and this algorithm gives remedy to overcome the previous problem and then this paper could schedule their process and then use the energy as efficient way.

RELATED WORKS:

1. A SURVEY ON SCHEDULING ALGORITHM FOR WIRELESS SENSOR NETWORK is released on April 2011 by SMITH KUMAR and SIDDHARTHA. This paper is focused on Wireless medium. In Wireless Sensor Network have a wide range of application in network domain. Using MAC layer in Wireless Sensor Network arise two problems in network. One is

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Limited bandwidth another is Limited battery power. Time Division Multiple Access protocol solves both problems at the level of MAC layers. In TDMA various scheduling methods have been proposed for wireless sensor networks we describe several TDMA protocols.

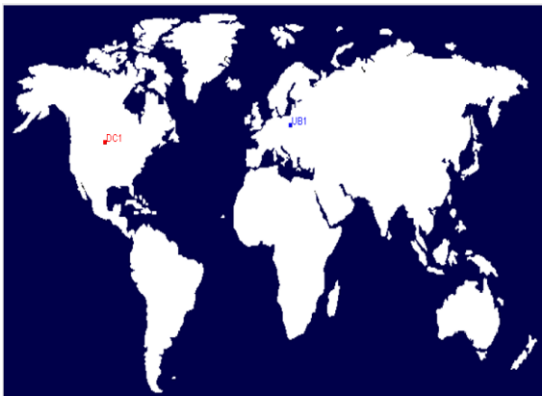
2. RESEARCH OF CLOUD COMPUTING TASK SCHEDULING ALGORITHM BASED ON IMPROVED GENETIC ALGORITHM has released in year 2013 it has been approved by ICCSEE. The task scheduling algorithm focus on their process to partition into their task or module. This task scheduling approach is useful to computing the data in cloud. In this paper the task scheduling algorithm can be produces a genetic algorithm. This paper is going to consider their task efficiency as mainly focus on their Task completion time, Average task completion, Time, Cost constrain This algorithm is most efficient in cloud computing environment.
3. ENERGY EFFICIENT DATACENTERS has released in the year October 2012. The datacenters have major concerns, electrical energy cost, peak power, dissipation, cooling and carbon emission. This paper to provide a resource provisioning and power in datacenters. Datacenters mean that is a collection of data and its virtually appeared. Collections of datacenters is known that cloud.
4. SCHEDULING IN CENTRALIZED COGNITIVE RADIO NETWORK FOR ENERGY EFFICIENCY has released in the year October 2012. This paper is focus on scheduling in cognitive radio network in cognitive base station that makes frequency allocations to the CR (Cognitive Radio) at the beginning of each frame.

METHODOLOGIES:

In existing system uses Green scheduling algorithm which use a neural network predicator to predict the future load demand and focus is on energy shortage and global climate change problems. In energy shortage is one of the main concern to use a server as efficient way. The study of efficient task scheduling in order to minimize the data center server energy consumption is focus which can be achieved by reducing the number of servers. The problem is distributed computing environment have very complex problem with load balancing receiving. The performance of cloud is depends on task scheduling. In Task scheduling algorithm could uses cloud server which implement to cloud server in one or more data center. The task scheduling algorithm is based on scheduling the task which comes in server side to reduce their energy in computation process. In task scheduling algorithm is so far to schedule the incoming task then it could be scheduled based on the algorithm. This algorithm could achieve load balance in server to store their user data then it could be differ from one data center to another data center to partition the region.

RESULT:

Initially by default it has one datacenter and one user base is available.



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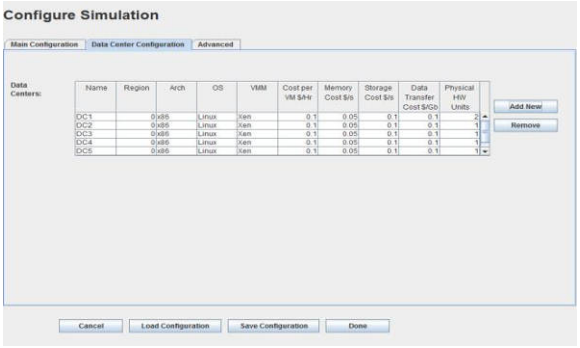
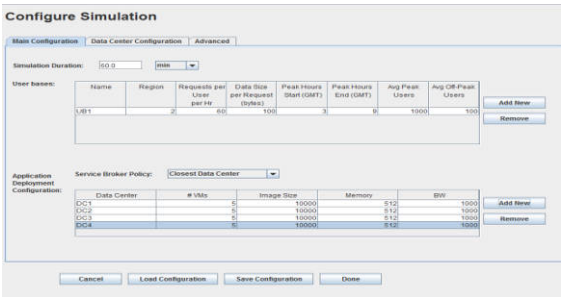
Adding Data center



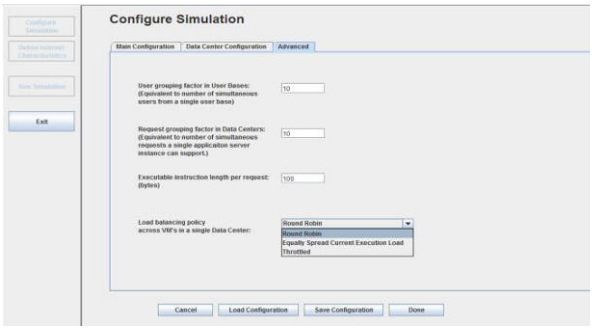
In this contain a user described data center configuration. The new one could be added is possible.

Comparison of Data center



In this comparison of Data center in main configuration as the same as that data center configuration.

Scheduling algorithm

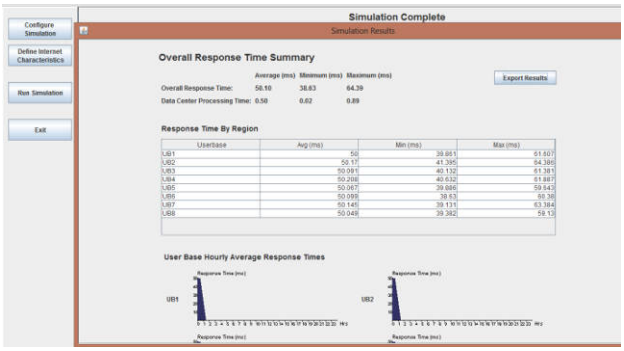


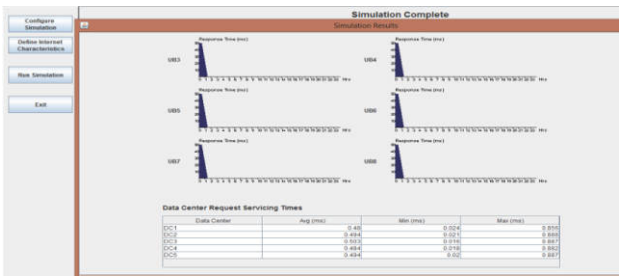
This could schedule our task in efficient way to calculate the result.

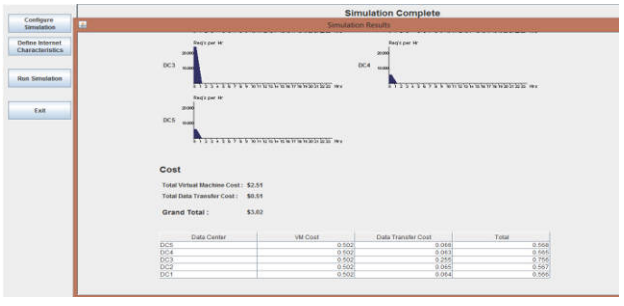
Region classification:

The region could be classified as the user configuration input.

Output:







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CONCLUSION:

The various energy-efficient task scheduling algorithms are studied. It has presented a stochastic model to evaluate the performance of an IAAS cloud system. Several performance metrics have been defined, such as availability, utilization, and responsiveness, allowing us to investigate the impact of different strategies on both provider and user point of views. In a market-oriented area, such as the cloud computing, an accurate evaluation of these parameters is required to quantify the offered scheduling and opportunely manage SLAs. The task scheduling algorithm consumes more energy than the most-efficient-server first scheme. By comparing all the three algorithms, the result obtained is that the most-efficient-server first scheme algorithm is best in conserving energy in servers of cloud data centers. In this way, task scheduling can be done in an efficient way and the tasks are allocated to servers in such a way that the energy consumption is greatly reduced.