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Equally Spread Current Execution Load Algorithm - A Novel Approach for Improving Data Centre's Performance in Cloud Computing

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Abstract — Cloud Computing has recently emerged as an innovative approach for hosting & providing services on the Internet. Cloud computing is a concept of distributed computing to provide the customers on-demand, utility based computing services over the internet in the whole world as user pay an hourly basis. Cloud users can provide more trusted, available and up-to-date services to their customers in turn. The cloud is made up of physical machines in cloud provider data centers. The architecture of cloud computing faces the difficulties of large-scale data processing.In this research paper a Equally Spread Current Execution Load Balancing Algorithm has been compared with the Round Robin and this paper has just proposed a method through which the performance can be made better for data centre's in case of cloud environment.

Keywords— *Equally Spread Current Execution Load Balancing Algorithm, FCFS, FIFO, SJF.*

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I. INTRODUCTION

CC word is widely used for platform and application type. The term CC is also used on a network of remote servers that are implemented on the Internet to store data and manage and manipulate data instead of the local server. This will help ordinary people who use computers at home for commercial purposes to save largevolume of data to the cloud server rather than spending large amounts of money in purchasing infrastructure. There is a wide range of CC that appears in the following figure:
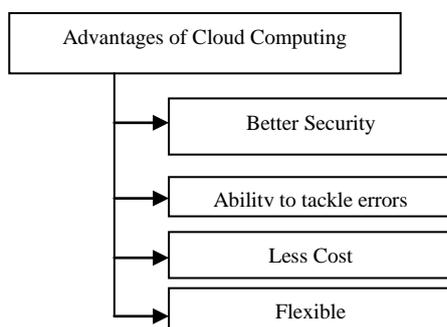

Figure 1: Advantages of Cloud Computing

➢ Better Security

CC enhances security, that is, the security level is high in the bride's environment. High level security means that data and information are highly protected. In addition, it is possible to impose security controls on physical machines so that there is no compromise with the security functionality. Apart from that, it also focuses on the security of the connections and permissions to perform.

➢ Ability to Tackle Errors

Error tolerance is one of the important features of CC because its main function is to maintain the operation of the system when a part is not in operation mode due to a problem or failure. . It also means that if a part breaks down, the system will continue to operate slowly.

➢ Less Costly

As the trend is moving to the CC, people are thinking about saving money instead of spending more on buying the entire infrastructure. CC offers you online infrastructures for storing, managing and processing information at a much lower price. You are only charged for an individual use that involves payment policies for use.

➢ Flexible

With scaling features, any type of organization can expand its business capacity to expand the growing demand. Whenever the commercial demand grows or decreases, the owner can adjust the climbing level accordingly.

II. LITERATURE REVIEW

Yanfeng Ajay Gulati et al [1] Much of the load balancing in cloud computing is done under homogeneous sources. But today's demand has changed with the growing heterogeneity of resources in cloud resources. Our effort in this article is to study the effect of Round Robin's technique with dynamic approaches by changing the bandwidth parameters of the vital host, the long duration, the size of the VM image and the bandwidth VM. The load is optimized by establishing round rotations alternating proportionately all these parameters. The

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CloudSim simulator is used for this implementation and a new approach is also elaborated.

Pooja Samal et al [2] Cloud computing is the emerging Internet technology that emphasizes commercial computing. Cloud is a platform that provides dynamic resources for groups and virtualization. Based on a pay-as-you-go model, it allows maintaining popular applications of the consumer, science and business domains. To properly manage the resources of the service provider, a balance must be made for jobs delivered to the service provider. Load Balancing also helps improve the performance of the centralized server. In the work to date, different policies are analyzed regarding algorithms developed through an analytical tool, namely, the cloud analyzer. The variants of the Round Robin (RR) algorithms were also compared.

Harsha Amipara et al [3] In this paper, a proposal is given for the source code, for example, simple cloud simulation. We have shown different results in which information about cloud ID, cloud status, data center ID, VM ID, start time, end time is provided.

Mohsin Nazir et al [4] Cloud Computing, which was predicted as a future-generation IT architecture, is an urban conversation these days. The way the cloud has dominated the IT market, we can expect a great cloud change in the coming years. Cloud computing provides real benefits for companies that are looking for a competitive advantage in today's economy. Many more providers move in this area, and competition is driving even lower prices. Attractive prices, the ability of free staff for other tasks and the ability to pay for the necessary services "will continue to drive more companies to consider cloud computing. It is anticipated that the concept of mobile cloud will appear as one of the computer providers in cloud and cloud computing larger.

III. PROBLEM FORMULATION

According to the work of our literature, there is a huge difference in research in the cloud computing environment, especially in the case of a data center where large volumes of data are stored. The survey shows that most of the work done in the region of the data center that contains the simple allocation algorithm and for which it really does the following effect because it will take the policy First to the first or the last policy. Therefore a novel technique is needed for improving the data processing time and reducing the cost simultaneosly.

IV. PROPOSED WORK

Following methodology will be used in order to mitigate the above mentioned problem:

Step 1: Design Data Center.
Step 2: Create No. of users on Different Regions
Step 3: Using optimization policy
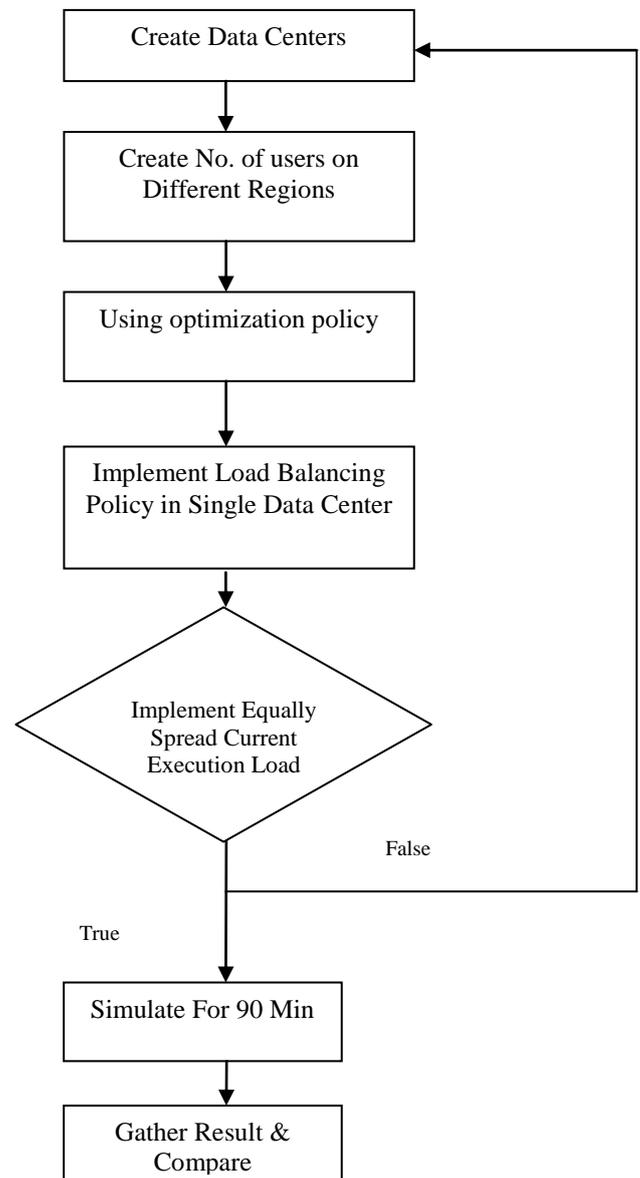Step 4: Implement Load Balancing Policy in Single Data Center

Fig 1: Flow chart of Methodology.

V. CONCLUSION

In our proposed work Equally Spread and load balancing techniques are proposed in data centers to get the better result. It will definitely improve the performance of processing time and response time of data center when implemented. When different work is assigned to Data Center using Broker Policy closest to Data Center and Equally Spread technique is implemented on it, then there will be great improvement if comparison is made with the Round Robin Scheduling Technique in the data center's performance.

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REFERENCES

[1]. Ajay Gulati. "*Dynamic Round Robin for Load Balancing in a Cloud Computing",* International Journal of Computer Science and Mobile Computing, Vol.2 Issue. 6, June- 2013, pg. 274-278

[2]. Pooja Samal. "*Security Analysis of variants in Round Robin Algorithms for load balancing in Cloud Computing",* International Journal of Computer Science and Information Technologies, Vol. 4 (3) , 2013, 416-419

[3]. Harsha Amipara. "*A Survey on CloudSim Toolkit for Implementing Cloud Infrastructure",* International Journal of Science Technology & Engineering | Volume 1 | Issue 12 | June 2015 ISSN : 2349-784X.

[4]. Mohsin Nazir. " *Cloud Computing: Overview & Current Research Challenges",* IOSR Journal of Computer Engineering, Volume 8, Issue 1 PP 14-22, (Nov. - Dec. 2012).

[5]. Habibeh Nazif "*A Genetic Algorithm for Solving Scheduling Problem".*

[6]. Albert Haque "*An Analysis and Comparison of Processor Scheduling Techniques*" December 7, 2012

[7]. M.V. Panduranga Rao. *"proposed New Multi Level Feedback Queue [NMLFQ] Scheduler".*

[8]. Ranjan Kumar. "*Cloud Computing Simulation Using CloudSim",* International Journal of Engineering Trends and Technology (IJETT) – Volume 8 Number 2- Feb 2014

[9]. Vaishali Chahar,, "*A Review of Multilevel Queue and Multilevel Feedback Queue Scheduling Techniques"* International Journal of Advanced Research in Computer Science and Software Engineering 3(1), January - 2013, pp. 110-113

[10]. Gonzalez, N., Miers, C., Redigolo, F., Simplicio, M., Carvalho, T., Naslund, M. and Pourzandi, M "*A quantitative analysis of current security concerns and solutions for cloud computing.Journal of Cloud Computing"*, 1(11), pp. 1-18, 2012.

[11]. Hamlen, K., Kantarcioglu, M., Khan, L. and Thuraisingham, V. *"Security Issues for Cloud Computing. International Journal of Information Security and Privacy",* 4(2), pp. 39-51, 2010.

[12]. Han, J., Susilo, W. and Mu, Y. *"Identity-based data storage in cloud computing. Future Generation Computer Systems",* 29, pp. 673–681,2013.

[13]. Ismail, N. *"Cursing the Cloud (or) Controlling the Cloud? Computer Law & Security Review",*27, pp. 250 – 257,2011.

[14]. Joint, A. and Baker, E. *"Knowing the past to understand the present 1 e issues in the contracting for cloud based services. Computer Law & Security Review",* 27, 407,2011.

[15]. Diwakar Shukla, "Effect of Data Model Approach In State Probability Analysis Of Multi-Level Queue Scheduling", Groningen, The Netherland, pp. 66–71,Jun.–Jul. 2009.

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