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Cloud Usage Recommender

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ABSTRACT

The use of Cloud Computing Services offers significant cost advantage for both the enterprises and end-users. Particularly start-up companies benefit from these advantages; meanwhile often they do not operate an internal IT infrastructure. But are cost associated with cloud computing services are very high as most of them not used in an optimal way.

So there is the need for the system/tool that can give the solution for the most favourable usage of cloud resources to reduce the infrastructure cost on the private cloud like Amazon or Google as big companies are investing billions of money in buying cloud infrastructure.

This paper gives abstract view of the proposed system that we are going to implement to reduce the infrastructure cost of cloud usage and evaluate the performance of workload on EC2 instances.

Keywords: Cloud Computing, Cloud Resource Optimizer, Cost Advantages, Private Clouds, Performance Evaluation, Price Reduction

I. INTRODUCTION –

Recent advances in Cloud computing [1][2] [4] are pushing vitality even further since it can provide economical, scalable, and elastic access to computing resources over the Internet and users can access third-party software components, hardware physical resources or full application stacks that support execution and automatic management of Cloud-based applications, and pay only for the resources they use.

By offering more services to their clients ranging from infrastructure as a service (IaaS) , platform as a service (PaaS), software as a service (SaaS), workflow-as-a-service (WaaS). These services minimize client-side management overheads and benefit from a service provider's global expertise consolidation and bulk pricing, and helps users avoid the capital expense in acquiring computing resources. Cloud computing can reduce costs while enabling greater business agility and flexibility [2]. The cloud computing provides the ability to scale resources practically infinitely, the capability and reliability to pay only when a resource is used [2], and the elimination of large upfront costs for users. Every cloud provider has a different pricing approach; yet, for computing resources, they offer two categories of products: on-demand instances and reserved instances. On-demand instances are virtual machines created and paid for only when utilized.

The main purpose of the system is to create a private cloud (testbed) by using (Amazon Account) along with monitoring critical resources like RAM, CPU, memory, bandwidth, partition information, running process information and utilization and swap usages, etc. We build up a system that monitors VMs (EC2 Instances) on private clouds like Amazon or Google and provides solutions to decrease infrastructure costs from the customer's point of view.

II. SYSTEM ARCHITECTURE

Due to the increase in functionality of the mobile devices, it results in high computational Cloud computing is a promising commercial infrastructure paradigm that assures to remove the expensive computing services by companies when not required. The figure shows the architecture of the proposed system.

The objectives of the proposed system are as follows:

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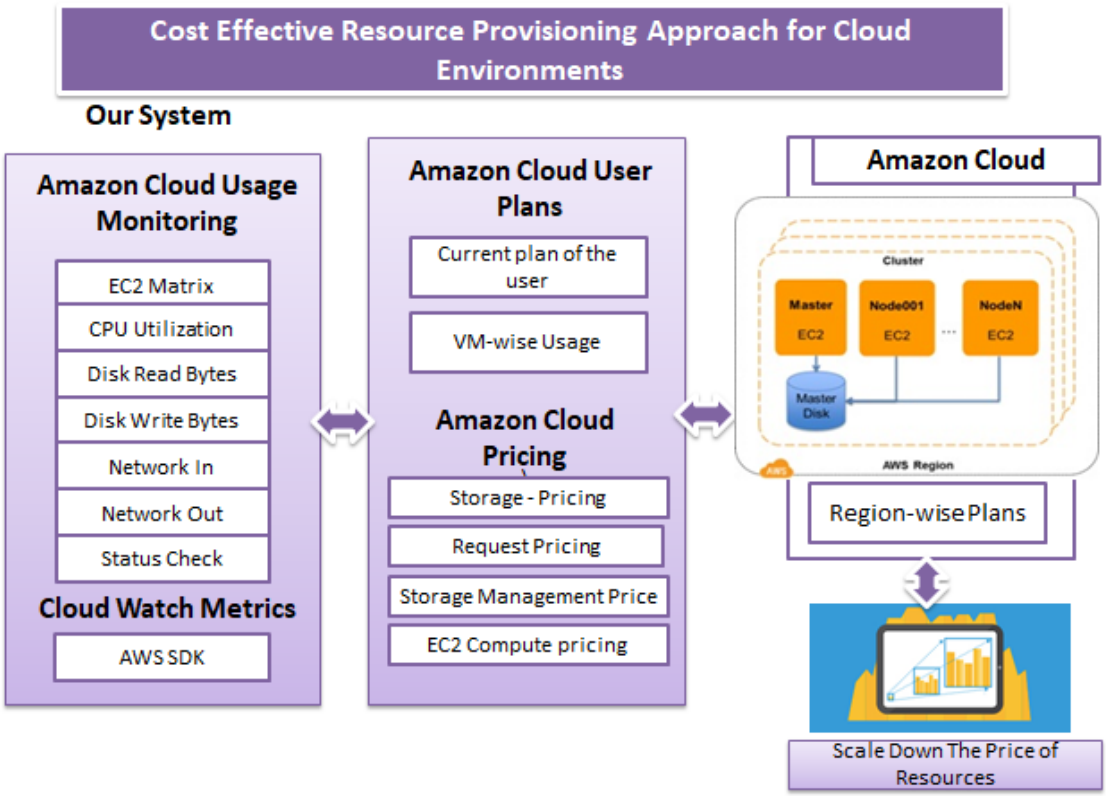
- Developing a tool to monitor and analyse cost patterns on cloud accounts.
- Developing a tool capable of giving suggestions about cost optimization and delivering cost containment.
- Analyse the usage of the user and give suggestions for plans according to the user's usage.

To evaluate the performance of workloads on EC2 and reduce infrastructure costs from the customer's point of view. It also gives the optimum utilization of cloud resources. Following is the architecture of the proposed system;



III. IMPLEMENTATION –

The proposed system which cans monitor VMs (EC2 Instances) on private clouds such as Amazon or Google and offers solutions to decrease infrastructure cost. Resource Monitoring of Cloud Nodes:

1. Cloud Setup - Creating private cloud (test bed) by using (Amazon Account).

2. Resource Monitoring - monitoring critical resources like RAM, CPU, memory, bandwidth, partition information, running process information and utilization and swap usages etc.

3. Authentication and authorization – we need to connect to existing user's amazon account using user id and password and fetch all the performance matrix like CPU, RAM, storage etc.

4. Testing - In order to evaluate the performance of complete setup, need to deploy resource monitoring and load balancing tools on test bed and evaluate need of available resources.

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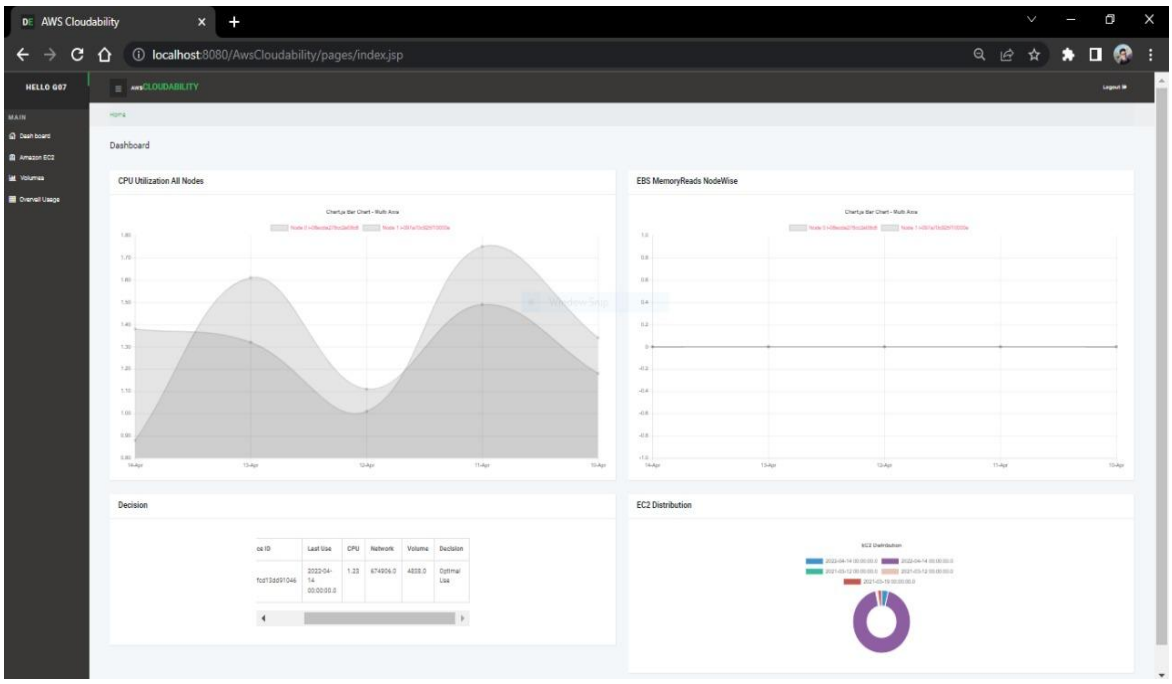

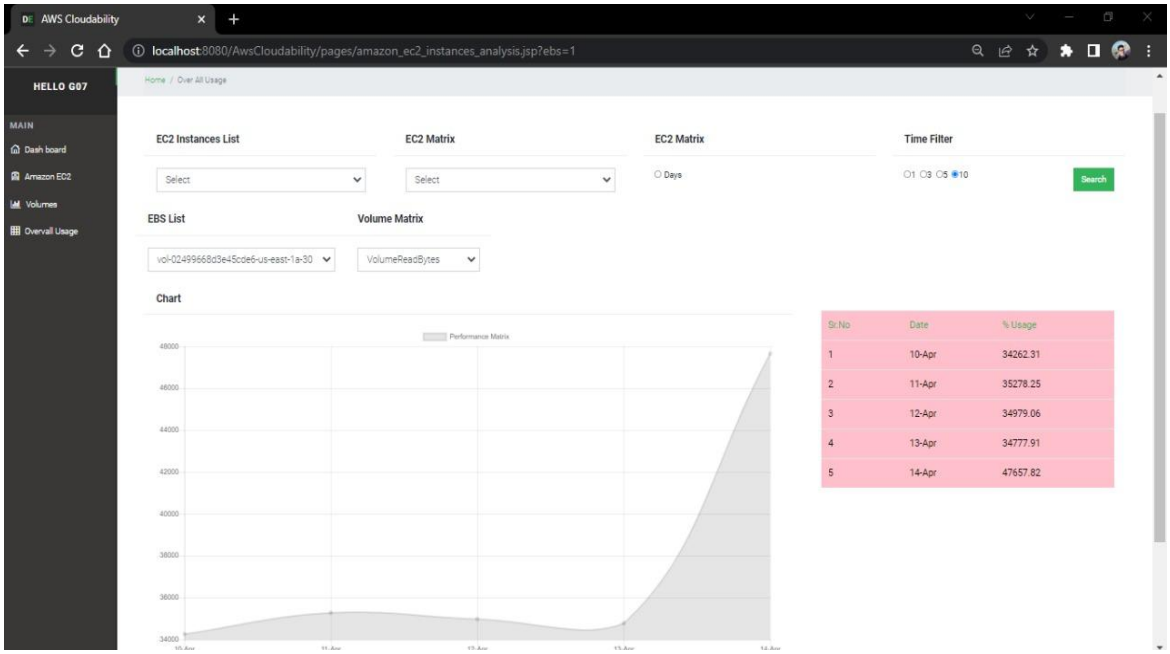

IV. CONCLUSION:

The success of any application is depending on factors like ease of use, reliability and product image. Cloud computing refers to a standard for accessing computing resources which is progressively more popular. Although having a cloud infrastructure is frequently cheaper than maintaining a physical data center, owners of large and complex IT infrastructure might incur large costs. Therefore, the problem of cost optimization in cloud computing is becoming increasingly important. This paper gives a survey of different techniques used by the researcher for cost optimization in cloud computing. The proposed system provides a solution for cost optimization in cloud computing by evaluating resource monitoring and load balancing tools.

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