# Bandwidth Allocation Dynamically to the Suspicious User in Cloud Computing

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Abstract- Data sharing is an important functionality in cloud storage over the internet. The computing resource that is delivered as a service over a network are used in cloud computing. Data sharing in the cloud depend on performance of the network of the data center .Bandwidth allocation plays a major role in sharing the resources towards the data center networks. The major problem in cloud computing is server performance. One or more user requesting for a download of the server at the same time, comparatively decreasing the performance of the server. So we present the solution for balance and improve the performance of the bandwidth, reallocating the bandwidth using the fair sharing and bandwidth mutual sharing techniques. Finally we analyze the increase in performance to allocate the bandwidth dynamically.

Keywords- Cloud computing, Data sharing, Bandwidth allocation, Performance analysis.

#### 1. INTRODUCTION

Cloud computing environment all services being delivered in internet cloud. Cloud computing is term used to refers to almost any services .Information technology services totally depends on the Internet cloud, the maintenance of the cloud network bandwidth in the cloud is the key to handle the growing range of workloads that pressure network resources in data center. The interface between cloud service provider or server and multiuser has contributed over cloud data centers and use of computing resources that is delivered as data center over a network.

The multiusers are sending a request for the usage of storage resources which user require as per service by service provider charged on pay basis or free. Guaranteed network bandwidths do not give occupier by the cloud providers. The service offered by the cloud providers are cloud storage and dynamic servers.

#### 1.1. Data center

Data center is the foremost ingredient of cloud computing. It is the collection of the software and hardware resources in data center. The cloud user and cloud

service provider suffer the problem of managing the occupant and non-occupant resources .Cloud vendors provide same or different resources share by some cloud server. Data center placed in different area but data shared by cloud user from different cloud vendor, such types of task managing by the IT organization. Utility computing play a very important role in cloud computing. Utility computing is useful for managing effectively when the resources are outsourced.

#### 1.2. Data sharing

In cloud computing ,data sharing is a very important aspect ,it play a pivot role in cloud computing by providing it with an abundant benefits to the user .According to a survey by IT organization it is been seen that most of the organization share the data with customers yielding high productivity ,redundancy, mutual sharing of resources and low cost.

Cloud is suspect able to much privacy and security attacks thus hindering the progress and adoption of cloud hence, sharing resources mix the cloud is more vulnerable to attack and the data stored is highly preserved and used.

#### 2.SERVICE ORIENTED ARCHITECTURE

Service oriented architecture is essentially a collection of services. These services communicate with each other. The communication can involve either simple data passing or it cloud involve two or more services coordinating some activity. Some means of connecting services to each other is needed. We have been applying SOA to help IT organization consistently deliver sustainable service value with increase agility and cost effective.



Fig 1: SOA Model

#### 2.1. SOA meets cloud computing

SOA- A different approach to organize enterprise IT resources. It governs its services in the cloud environment and useful in managing this services for strategic framework and planning. People and process meets their need in the service oriented scenario.

IT-as a service is a model used for leverage computing resources. Its services is to design the resources required in cloud computing. It has higher level of abstraction and consists of tactical and incremental implementation. It is usually data and technology centered scenario.

In cloud computing SOA is broadly divided into three categories: SaaS, PaaS and IaaS.

1. Infrastructure as a Service (IaaS): Infrastructure cloud services will be part of infrastructure service portfolio. Infrastructure. Cloud services can be searchable through the federated if necessary. IaaS providers can be multiple vendors.

#### 2. Software as a service (SaaS):

SaaS application are designed for end users, deliver over the web.in this model install and operate the application software by the cloud providers in the cloud, user can access the application from cloud clients.

#### 3. Platform as a Service (PaaS):

It is the set of tools and services designed to make coding and deploying those application quick and efficient.

Cloud computing is a term that doesn't describe single thing rather it is a general term that sits over a variety of services from Infrastructure as a service at the base, through platform as a service as a development tool and through a software as service replacing on premise application.

#### 3. BANDWIDTH MANAGEMENT IN CLOUD NETWORK

In cloud computing environment particular user is given access to a virtual machine that delivers a host operating system, processor and memory which are physical resources to help the user requirement regarding application. In cloud multiple virtual machine are assigned as demand for system resources. Increase application can become constrained by limits on networking bandwidth. The system automatically and dynamically reassign from one system node to another based on bandwidthnetwork having requirements and availability ensuring that machine run efficiently. The multiple hosts use theservices from the multiple cloud vendors. Specialized cloud vendors allocate the resources and rebalance the overload. Normally user uses bandwidth mutual sharing and fair sharing techniques.

Bandwidth mutual sharing techniques –In this technique that check speed that are connected to bandwidth over different routers to the network and accordingly their bandwidth is prioritized, this helps in bandwidth sharing among the servers on the network and control the bandwidth.

Fair sharing techniques- In this technique maximum flow of the data between the two point in a short period of time. The fair share value is calculated as difference between throughput and network of local entity and becomes updated. When the data are transferred the fair share values reaches the random values otherwise the data becomes dropped. This is essential to ensure fair share bandwidth allocation.

## 4. EXISTING SYSTEM

In existing system, a narrative approach for solving the problems of server is determined by designing an analytical model for performance evolution of cloud computing server. The model describes the relationship between number of servers which are present in cloud and performance evaluators like mean number, probability that task will resolve immediate problem on each side.

It is essential to segregate the performance evaluation between client and resources of physical machines as it ensure an equitable usage among them. Hence, these existing techniques are not up to the mark as they are difficult to embrace on large scale and require non-trivial modification to network stack.

## 4.1. Performance analysis

1. Unused bandwidth and performance degradation- The number of server here are less than 10 i.e. very less, which becomes difficult for analyzing performance on cloud. User may submit hundreds of task simultaneously which overload the server and degrade the performance.

# 4.2. Highly exorbitant (high priced)

The cost of static bandwidth allocation is not prioritizing hence passive user lost their cost.

## 4.3. Performance degradation

Due to lack of server and its unresponsiveness, system fails to reach the extent the high performance.

# **5. PROPOSED SYSTEM**

To elevate performance of the server reallocating the bandwidth to a suspicious user during the process of execution the scenario is describe as follows.

## 5.1. Allocation of bandwidth

When the user is requesting for resources to a cloud server, the server first identifies whether the user is suspicious user or not and accordingly reallocate the bandwidth to the user. Here bandwidth allocation depends on the usage by the CPU of the cloud server which is verified by the main server .It helps to control data flow of the server and enhance the performance of the cloud server.

## 5.2. Performance Evaluation

In this we set up the preferred bandwidth in cloud server, performance exactitude and accuracy of the result seen to be complicated and repetitive .So that increase exact tude will lead to higher decrease in repetitive result.

## 5.3.Bandwidth mutual sharing

They are many ways to check speed per bandwidth of the computer to the network or different routers which have prioritized their own machine, within themselves or restricted the amount of bandwidth used by the other users. Fixed size window controls enhance the bandwidth sharing accordingly to these criteria.

# 6. CONCLUSION

Here, we propose unconventional approaches for increasing the performance of server in cloud computing environments. Reallocating bandwidth to Suspicious user for mutual and equitable sharing of resources among them.

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