SLA Provided Collaboration Cloud using OLAP

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Abstract— Cloud usage is increasing rapidly for Storage. Still there is a problem of replication of the Resources when multi clouds are in consideration. This Replication causes the lots of memory spaces to get wasted. Thus to get an efficient usage of the memory space we are in need of collaboration of the clouds that have similarities to share them with no Duplication. Cloud collaboration is a tedious process where the both cloud owners have to co-operate with each other to maintain the Collaboration. To increase the Security during the collaboration and to reduce the overhead for the cloud owners, we are providing an SLA (Service Level Agreement).This SLA can be of either Contract Based or Demand Based. OLAP is used to find the similarities of the clouds that are needed to be collaborated.

Keywords— Cloud storage, Collaboration, OLAP, SLA.

I. INTRODUCTION

Cloud Computing suits well for massive and dynamic storage capacity. This leads to the switching of the storage from grid to Cloud. Unlike Grid, the storage capacity is maintained virtually in cloud computing. It also removes the overall environment maintenance of the data. Only the maintenance of the data is needed. The major things to be known regarding cloud is that Cloud Provider, Cloud Consumer, Cloud Broker ,Cloud Auditor. Owner of the cloud or the data owner is the cloud Provider. In some cases the Cloud Owner will deploy the cloud to someone and the data is alone owned by some other party, in such case the data owner s only the owner of the data available in the cloud whereas the Cloud Owner is the one who only owns the cloud. Regarding the term Cloud Consumer the one who get the cloud for usage in any one of the deployment model from the cloud Provider. Cloud Broker negotiates the cloud storage and cost of the cloud as a broker in between the cloud consumer and the cloud provider. In the case where the cloud consumer as well the cloud provider knows the entire thing about cloud usage cloud consumer can act as a cloud broker too. Today the increased cloud usage causes the increased data and Resources. This Storage or the Resources are of very high cost. So they are needed to be utilized well.

Utilization of the cloud storage should be efficient for both the cloud consumer as well the cloud provider. Since the cloud provider can use his own cloud for an efficient work to obtain profit. Similarly the cloud consumer will also feel that the cloud obtained should be used efficiently to reduce the cost of usage. To achieve this we are moving to the cloud resource provisioning methods. The Demand driven provisioning method provides the provisioning of the resources by using the demand as the threshold value.

Similarly the popularity driven provisioning method and the event driven provisioning method uses the popularity and the events as the threshold for the provisioning. Moreover the cloud provider should be aware of the provisioning like under provisioning, over –provisioning. So provisioning should be efficient for a efficient usage of clouds.

But still the cloud storage can be used efficiently using the collaboration of the clouds. Why moving to Collaboration? Clouds will be owned by many cloud providers so there may be a plenty of chances for the replication of the data and the resources available in the clouds. Avoid this replication is more essential since the data with replication will consume the cloud storage and reduce the cloud usage efficiency. So to prevent such resource loss we can have the collaboration of the clouds. This may be Permanent or temporary tie up of the clouds. To specify that we are in need of SLA(Service Level Agreement).This SLA will have the Reputation, Price and the Performance as the Qos that are needed to be maintained by the clouds that are collaborated. To check for the similarity of the cloud data and as well as the Qos we are going to use the Data Cube(OLAP) as the tool to select the relevance of the clouds Qos and the data similarity.

II. RELATED WORK

In the Collaboration of the cloud the simulation is made to have collaboration of the clouds[2].But the Collaboration is made as a simulation but when going for real time application of cloud collaboration we need to have more security and prior agreement between the clouds that are collaborated. First of all to share the data that are replicated we need to go for the ishare which is used is in P2P[5].

III. PROPOSED SYSTEM

The collaboration of cloud in real time is a tricky process since one or more clouds are needed to be collaborated. This may invoke some problems like the individual cloud Qos and the secrecy of the cloud's data.

To deal this issue we are implementing the SLA in between the two cloud providers. These SLA should be maintained until the collaboration is to be maintained for the cloud or data sharing is done. Prior to collaboration we need to find the cloud that is to be collaborated. To find this the cloud should match the following:

1)Reputation of the cloud
2)Qos
3)Data Or Resource Replication.
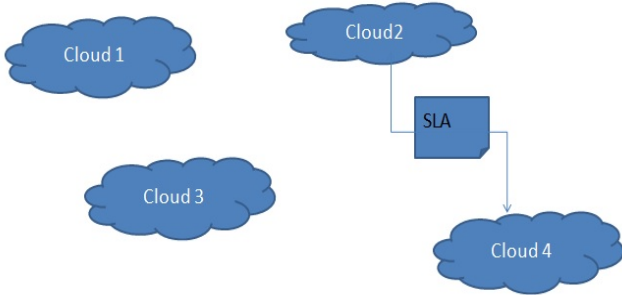
If the above is get matched then the collaboration can be made between the two clouds to share the resource. To find the matching the Three necessities can be taken as a sides of a Data Cube and the perfect matching of the clouds that can be collaborated are found and get collaborated.

IV. ARCHITECTURE DESIGN
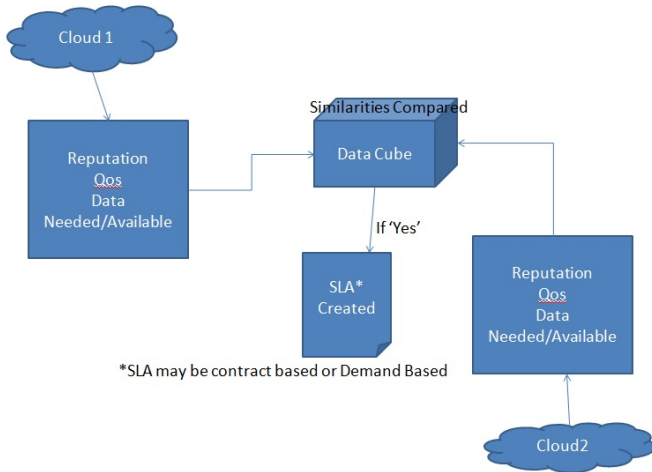
The Reputation Qos and Data Available/Needed is get compared using the Data Cube from the Cloud1 and Cloud2 and if the similarities are upto the required extend then the collaboration is made done. SLA is also

maintained between the two clouds before they are get collaborated. The SLA can be either contract based or Demand Based. If the Contract Based is used then the SLA should be maintained until the Contact is live.If the SLA is demand based then the Contract is permanent and the SLA is based on the demands of the clouds.

V. CONCLUSION

In this paper a new approach is adopted to share the resources available in a cloud with the other cloud. To find the similarities we used the Data Cube[6] and the SLA is used to provide the security for the data of the cloud while the collaboration of the cloud. This will remove the replication of the data and resources. Thus the cloud can be used efficiently for the data storage and for the resource utilization.

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