

Survey on Reliable and optimized Service migration in cloud environment

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Abstract— Cloud technology is of the type where concepts of sharing, resource management, outsourcing and maintenance are generally worked on. As a metaphor the word “Cloud” is generally stated as a virtual storage area or Internet. Cloud computing is generally so compared with grid computing, a type of computing where unused processing cycles of the computers in a particular network are harnessed to solve a particular issue in much faster rate, too intensive for any stand-alone or a single machine. Thus cloud computing use the tradition performance of a system to work up faster in per sec, also use the servers which are already virtualized but are ready to accomplish together on Internet. Thus one can consider a cloud computing as a treasury of sharing new technologies, computing resources, and various applications on Internet and can be used in exchange of money. The idea of outsourcing is used for files and software to cloud service providers with a TPA only accessing them in the virtual world. This significantly increases the business and agile it, since the Entrepreneur can focus shifts from building big IT dept. For better service of their customer satisfaction to building a better business plans and more innovative products in order to get more market yard. But the single service providers cannot be considered as an optimal solution for the availability of service and effective services for data according to the user demand. Thus, to provide optimal solution to the client for better service provider on the cloud, accordingly to his need. Here a survey suggests to provides the efficient selection of the cloud data migration among the service providers according to user’s budget.

Index Terms— Cloud computing, CSP, Data storage, data dynamics , TPA, migration, Optimization.

I. INTRODUCTION

Cloud computing in itself is considered as a long dreamed vision of technology used for data sharing and outsourcing in a shared pool environment. It act as “as a service” environment for all the clients over the internet, on demand. The availability of services of application, Infrastructures, data or software has increased under this environment.

- Cloud computing:

Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be

rapidly provisioned and released with minimal management effort or service provider interaction.

This cloud model promotes availability and is composed of five essential characteristics, three service models, and four deployment models.

- Migration:

The process of transitioning all/part of a company’s data/applications/services from on-site premises to the cloud or moving them from one cloud environment to another, where the information can be accessed over the Internet is called cloud migration. The process of transition to a different cloud service provider is known as cloud service migration.

- Fault Tolerance:

Fault tolerance is the property that enables a system to continue operating properly in the event of the failure of (or one or more faults within) some of its components.

- Cloud Management:

Cloud management means the software and technologies designed for operating and monitoring applications, data and services residing in the cloud.

Cloud migration systems manage large collections of vendor entities, which apart the vendors with respect to factor (e.g. Response time, C.P.U time, Costing per demand) . In this paper, we study an interesting type of preference queries, which select the best migration and fault tolerance technique with respect to the quality of facilities and user demand.

II . LITERATURE SURVEY:

It gives the Entrepreneur the relaxation of data maintenances and storage on large scale up to exabyte. Thus, residing all the data and files on the remote data centres [1]. But along with the data storage, data integrity and data maintenances advanced technology in cloud computing the development of effective migration technology is yet to be satisfied [2].

Cloud computing as provide an on demand services, it also include charges to the demanded services accordingly, sometime the service quality and reliability of server changes according to the services charges of the service providers.

Cloud service providers (CSP) provide the management of all the operation over data, software in the cloud environment but, users in to make sure about the data privacy and integrity and the Qos along with reliability of the data stored by them over cloud.

Among top eleven major problem faced in the cloud computing technology is data lock in problem. Data lock in is undesirable because of timely change in the cost increment, it also may result in bankruptcy of the organization. To avoid this problem one of the suggested tools that work on RAID5 allow user to select the cloud providers for migration according to the storage space availability [3].

Also Chang et al [4] have proposed the same objective of problem and split the object into several small chunks and stored it on server, while chunks are fully replicated in their model. While Ford et al [5] surveyed the availability in main storage infrastructure of Google website, and analysed availability of different components.

Haas et al[6] hold the view that hard SLA may not be an identical approach to resolve the efficiency in violation of illegal data migration. Also Bonvin [7] proposed model based on the dynamically provision for data partition. They also assure cost efficiency in the migration. Apart from these Chard et al[9] summarized the available service environment is not a changeable decision in the SLA, so also considering it among the top 10 different hurdles in the growth of cloud computing. These issues are unavoidable for the large giant IT companies like Google, Amazon etc. Baradwaj et al [10] put a light on the data locking that comes as a obstacle in the use of better services among the cloud.

Amburst et al.[11] proposed that to avoid this problem client need to be allowed to migrate their service and data among the different service providers. Rogen et al.[12] concluded in survey as migration provide greater efficiency of service utilization, but developing the effective migration strategy is big demanding issue in today's market, as few company client are in search of data juggling in virtual resource. The research also includes development of toolkit for effectively selection of migration among the services according to the user specification.

Caton et al. [13] claim that user advertisement and existing supply and demand are boosting forces behind users participation. Sheng et al.[14]Issues for demanding provision of data/service discovery. These are the provision that is made using concerns from the cloud provider issue.

Although it provide the scientific demands of the grid computing resource, but issue of service acquisition and client are ignored. It is certainly concerned that the cloud providers and servers only entertain the request from a single party. So, it provide a easy management of cloud servers among the complex network. Thus considering these schemes the cloud servers can be classified as: Private and Public. Such as the data stored in cloud if have the privacy according is considered as a private data and needs to be secured. While, the data that has no priority can be considered as a public relevant data that can be seen by all the clients using or working on that data. [4-7]"Provable Data Possession" (PDP)

model for ensuring possession of data files on untrusted storages.

[11]Ateniese et al.give the strategic estimation of PDP to improve the signature of the files and get the metadata accordingly. Similar to this the BLS algorithm is used to Similar to the construction in [17], they use publicly verifiable homomorphic authenticators that are built from provably secure BLS signatures.

III. PROBLEM STATEMENT:

Recently, the system allows us to automatically rate the service providers according to their measure of performance. Also the provision of service migration and data transfer from one cloud to other can be done. The system to be developed will also help users in finding optimized solution for cloud migration as per the cost and time management to provide efficient service provider among the different providers. It also increases agility not only by standardizing the provisioning process, but also by addressing the computing resources life cycle. It leverages the value of existing infrastructure investments, IT processes, and ecosystem and support extensible for any new services.

A. Data Outsourcing:

Cloud Provides not only with large amount of data Outsource by reliving the burden of physical storage of data required in Exabyte's. But also reduce workload of continuous maintenance, thus data can be easily managed, stored and retrieved back as per clients need.

B. Resource virtualization:

The typical level of service that is on demand and include in the operation accordingly to the availability of service is handled by the CSP.

C. Economic solution:

According to the pay as a service, the service on demand payment can be parsed and summarized to reduce the bankruptcy of an organization. The service as per the cost and time can be judged and utilized.

D. Service Migration:

The process of transition to a different cloud service provider is known as cloud service migration. Cloud service as provide the efficient demand of the. client but also impose the charges to the demand which can differ from cloud service to service.

E. Cloud service optimization

The process of transition to a different cloud service provider is known as cloud service migration. As the service to the client migrate the data content of the client while using a particular cloud discards, this avoid the user to migrate from one service to another. To solve this problem cloud service optimization technique is used that allows the

migration of complete data to the cloud service provider where client has migrated.

F. Qos

Quality of service of a cloud is maintained according to the user specification. User is allowed to login to the cloud service provider according to the cost and time demand after its request.

G. Fault Tolerance

Fault tolerance is the property that enables a system to continue operating properly in the event of the failure of (or one or more faults within) some of its components.

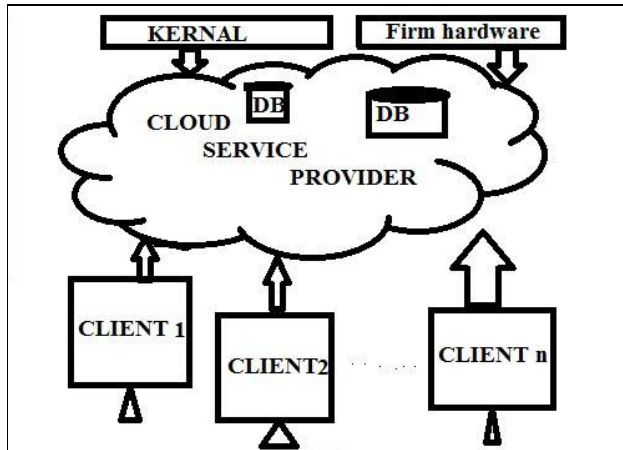


Figure 1: Client-server model architecture

When a user migrate from one cloud service to the other provider the data in use of the client can allocate the extra charge to mitigate from one cloud to another this charges can directly be discarder using service migration. The system give the result with two format, one on base of given budget and another on base of Expected availability of Servers services.

Both result in the establishment of a SLA between users. The SLA is repurchased through the appropriate storage service to create the storage instance. In traditional Cloud environments users are unable to transfer their stored data of the location of their provision without downloading the complete data back to their system, also the prototype RoCloud could provide the transparency by removing user information from previous service providers, posted price listings, auction requests, and storage access

A server Cloud is based on a generic Storage service which provides an interface for users to access virtualized storage on the available cloud providers (servers). This service exposes a set of file manipulation operations to users and maps their actions to operations on the local file system. Users request the service by passing an agreement to the TPA server, this creates a mapping between a user, agreement, and the storage instance. Instances are identified by user and agreement allowing individual users to have multiple storage

instances in the same service provider. Also Cloud service Auditor or centralized registry, similar to UDDI, will certify the service provided.

ALGORITHM 1: The algorithm in order to measure the minimum cost of replication while the expected availability in the form of number is satisfied.

Here the constraint are not considered and assume that all objects have the same priority from the user’s perspective.

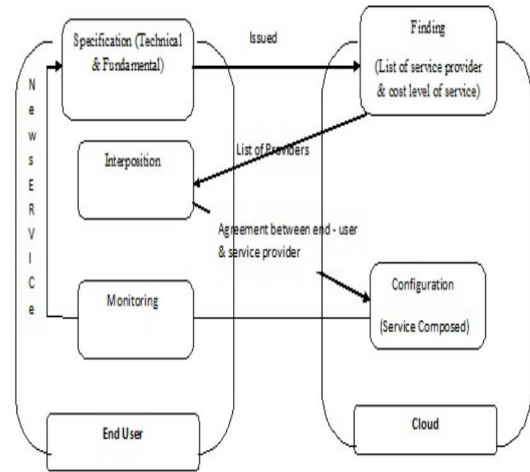


Figure 2: Proposed system architecture.

We propose a dynamic algorithm called Minimum Cost for required expectations to solve the storage placement problem. With no loss, and assuming all objects have equal priority (that is, QoS type for objects is ignored), recursive.

CONCLUSION

In this paper, Cloud providers can be made exile according on the demand. The cloud system, here can be made used for the purpose of servers of client choice. The users are allowed to use the provider and can select the cloud provide according to the interest. Thus, making fruitful use of money and time along with the assurances of migration of IT services and selection of better cloud providers. Along with the total data migration to the destination provider.

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