

Efficient Backup Data for Migrating Cloud to Cloud

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Abstract - Today, most of the cloud vendors provides Database as a service to store our application data in their server. Now Cloud computing meets the problem in data backup. The data backup is necessity when there is network or cloud service vendor failure. The important problem in the cloud computing is migrating our data from one cloud vendor to another. To changing the cloud vendor user needs data backup. Most of the cloud vendors providing these backup services at high cost, but it is more expensive for the users and IT organizations. The need of data backup services is growing rapidly and it requires a powerful data backup technique. In this paper, we explore a technique for “Data Backup and Recovery”. This technique reduces the cost of the solution and not only data protection from service failure but also makes the process of migration, much simpler. This approach eliminate the cloud vendor dependency and also avoid data backup cost. Internal drives of a legacy machine do all these at very low cost.

Keywords: Efficient backup, Cloud migration, Field API.

I.INTRODUCTION

Cloud comes with privacy, efficiency, expense of resilience and environmental sustainability, provide by cloud vendors like Google, Amazon, Microsoft and Salesforce .Today there is a need of huge amount of electronic data. This leads to huge volume of data storage space to store this large amount of data. Cloud computing provides lot of services, in this storage plays the lead role because of cheaper and secure storage. Cloud vendors provides this services as economically unlimited electronic data storage space .This storage services can be done in remotely hosted facilities. Data stored with these vendors is accessible through the internet or WAN. The need of data backup services is growing rapidly day by day for following reasons data theft, network failure, disaster loss. The important need of data backup is for migrate our data from one cloud vendor to another vendor. Already we have some data back-up techniques but they have many reliable and security problems. These data backup techniques are not comfortable and affordable. Some cloud vendors are providing this service for high cost. To find efficient and cheaper data backup and recovery problem, it requires more safe and effective system. Here we introduce one solution for cheaper and efficient data back up from cloud vendors by using API integration .This technique can be implemented by our legacy machine hard drives which is very cheaper, secure and reliable. Although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

II.BACKGROUND

Today, in electronic format data has been generated in large amount that required the data recovery services. We know that the cloud computing introduces a new type of computing platform in today’s world. This type of computing will generates a large amount of private data on main cloud. Therefore, the necessity of data recovery services are growing day-by-day and it requires a development of an efficient and effective data recovery technique. The purpose of recovery technique is to help user to collect information from any backup server when server lost his data and unable to provide data to the user. To achieve this purpose, many different techniques have been proposed till date. In this review paper, we explore few recent techniques that are the powerful solutions in the form of “Online Data Backup and Disaster Recovery Techniques”.

Cloud computing provides on demand resources to the consumer/user. It requires the management of resources among each and every client/user. Such management includes various aspects of proper utilization of the resources. The resources can be any hardware or software. The software like any application programming interface, application development kit and any type of data file etc. Various choices are there among various implementations for back up of the data and that maintain its security among various users. Cloud computing must be able to provide reliability such that users can upload their sensitive and important data. The cost-effective approach is the main concern while implementing any cloud.

During the study of cloud computing, we found various advantages of cloud computing. In advantages, we found that the cloud is capable enough to store the huge amount of data of various different clients with complete security such that Internet Service Provider (ISP) provides a huge storage in a cloud to the user. And users are allow to upload there private and important data to the main cloud. And at the same time we found critical issue regarding this storage i.e. if any of the client’s data file is missing or disappeared for some reason or the cloud get destroyed either due to any natural calamity (like flood, earthquake etc.), then for back-up and recovery consumer/client has to depend on service provider which means the data has to be stored in the server.

To overcome problem of such scenario, it requires an efficient technique for data backup and recovery so that the client can able to contact the backup server where private data is stored with high reliability and whenever a main

cloud fails to provide the user's data. These techniques must possess the Maintaining the Integrity of the Specifications.

III.SYSTEM OVERVIEW

Backups proves that your application can continue without any interruption, even any data loss in cloud server .It is very important to have a backup routine ,as part in IT security policy. Cloud vendors also provide some data backup services with premium cost which is very expensive to the users. They provide these backup services by their zonal level data centers .If you store your data in cloud server it will duplicated and stored in many data centers which owned by cloud vendors. Any data loss or network failure happens in one data center the data can be recovered from other data centers. And also for migrate the cloud vendors they provide data backup services to the users.

Remote Data Backup server is a server which stores the main cloud's entire data as a whole and located at remote place (far away from cloud). And if the central repository lost its data, then it uses the information from the remote repository. The purpose is to help clients to collect information from remote repository either if network connectivity is not available or the main cloud is unable to provide the data to the clients. In our literature survey, we found many techniques that are having their unique ways to create backup and recovery. Broadly speaking, all those techniques focus on three different aspects, such as cost controlling, data duplication and security issues.

Today there is a need of huge amount of electronic data. This leads to huge volume of data storage space to store this large amount of data. Cloud computing provides lot of services, in this storage plays the lead role because of cheaper and secure storage. Cloud vendors provides this services as economically unlimited electronic data storage space .This storage services can be done in remotely hosted facilities. Data stored with these vendors is accessible through the internet or WAN. The need of data backup services is growing rapidly day by day for following reasons data theft, network failure, disaster loss. The important need of data backup is for migrating our data from one cloud vendor to another vendor. Already we have some data back-up techniques but they have many reliable and security problems. These data backup techniques are not comfortable and affordable. Some cloud vendors are providing this service for high cost. To find efficient and cheaper data backup and recovery problem, it requires more safe and effective system. Here we introduce one solution for cheaper and efficient data back up from cloud vendors by using API integration .This technique can be implemented by our legacy machine hard drives which is very cheaper, secure and reliable.

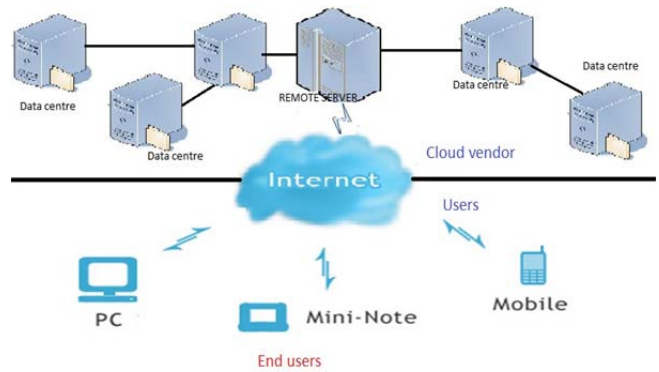


Fig 1.Existing cloud backup services

In our proposed system we introduce a powerful recovery technique with cheaper and reliable. Our techniques describes a solution comprising of a simple hardware box which will map the data from the cloud vendor to the user level is derived here. This technique is simple and cheaper to all users and IT organizations. This method is a user friendly scenario by implementing an application on legacy machine that will do backup of the cloud to internal hard drives.

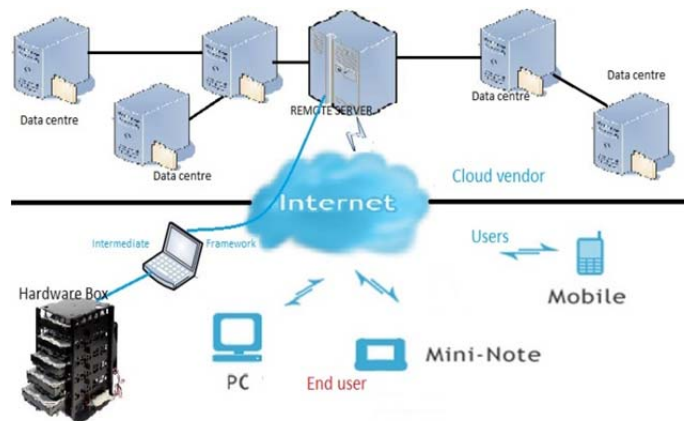


Fig.2. Proposal Cloud backup service

IV.FIELD API TECHNIQUE FOR INTEGRATION

The format of this coding is used by an application program to communicate with the systems using communication protocols. APIs are implemented by writing member functions in the program, which makes the connection for routine execution. API is a module is available in the system to perform the function or that application program must be linked into the new program to perform the operations. Understanding an API is a major part for linking the application there are more than a thousand API to integrate OS like windows, Mac etc.,

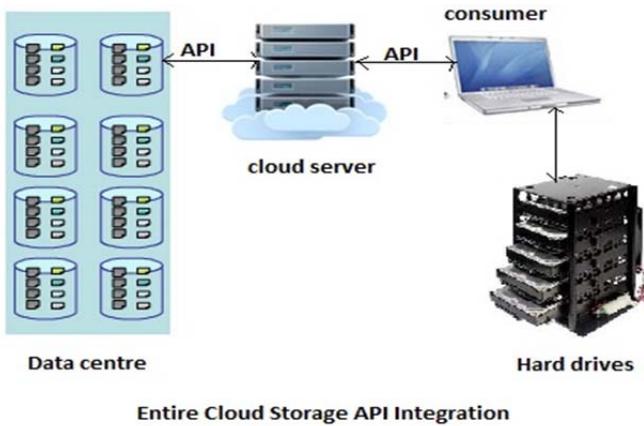


Fig.3. Cloud storage API Integration

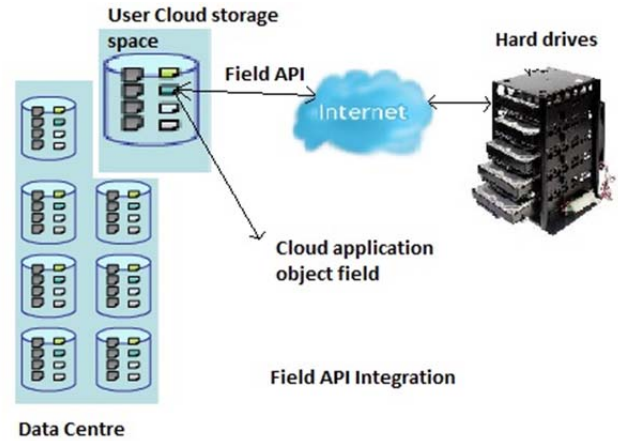


Fig.4. Structure of Field API Integration

Before implementing the backup technique we need to make a connection between cloud vendor and our legacy machine DB .API (Application programming interface) is provided by most of the cloud vendors to the users. By getting the API from the cloud vendor the connection can be made between legacy machines with cloud server. There are different types of API provided by different cloud vendors .The following are some of API provided by service providers **SOAP API,REST API, Bulk API, Metadata API,WEB API.**

Field API provides information about your model, data objects, and fields to your development environment, allowing for a tightly coupled integration between cloud server and legacy machine. Tightly coupled integration means each and every field used in the cloud application. This API provides direct connection between the cloud application object fields not to the cloud storage space. There are no limitations for this Field API, infinity no of field API can be formed and used for integration. Cloud vendors providing unique API name for every cloud application .By using same technique vendors can also provides unique Field API. While creating each field or a object in cloud application the unique API should be generated.

APIs are implemented by writing member functions in the program, which makes the connection for routine execution. API is a module is available in the system to perform the function or that application program must be linked into the new program to perform the operations. Understanding an API is a major part for linking the application.

Now the cloud vendors are providing the API for entire cloud space allocated to user. By using those types of API we can integrate and make the backup for total cloud storage space. To implement this we need huge internal drive which equals to cloud space .It is a main drawback of other API integration method. Now we introducing API technique called Field API. This API is for most enterprise users who are developing client applications in cloud vendors. The enterprise WSDL file is a strongly typed representation of your organization’s data. This API technique does not represent the entire cloud storage it represents only the field of which data is enrolled.

a) Intermediate Framework

Creating an intermediate language for framework to access the cloud server using dot net or Java etc., In this framework we have to make the connection between the remote server and local server. Getting the API from the remote server and develop the application to make the integration and archive the data from the cloud. We have to build a web service application which act as a intermediate tool between cloud legacy machine DB.

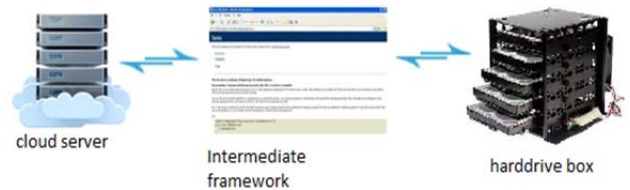


Fig.5. Intermediate Framework

b) Cloud to Framework

In this framework we use API to establish connection between cloud vendor and web service. We already discuss in the above session which type of API using here. Cloud vendor provides the Storage space. Find the unique API given for that cloud storage allocated to the user.

This API will provide by the cloud vendor as a URL to the user, Copy the unique API URL and paste it to our web service class. This class file executes the connection to the cloud vendor .After connection establishment cloud vendors executes the authentication process for specified cloud storage space. Cloud service provider will check the user name password from the data centers. After successful authentication the connection will happen between the cloud server and framework.

c) Framework to Local Database

Same connection establishment are executed in this session. The framework should connect with the Cloud server as well as local storage database. Connection will be established by getting the database tool name and enhanced

d) Mapping cloud to Local DB

This Mapping technique can be done by using field API Name (Field Name_API).Cloud Applications have number of objects and fields each one have unique name .In local database also have number of objects and fields with a

Unique name. In our web service class write the cloud application Field API and Local Database Field name .Invoking the class in web service each field and every field mapped with local Database.

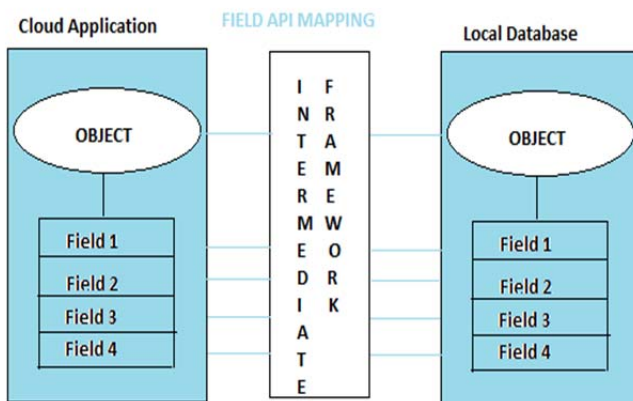


Fig.6. Mapping Cloud application to local DB

V.EFFICIENT DATA BACKUP

This server stores the main cloud's entire data in the remote data center which should be located at a different place not in the same place. If the main server's data lost its data then it can use the data backup from the remote data center. This technique is used to help the users to retrieve their data from the remote data centre either if user have any problem in main cloud server connectivity or server is failed to provide the information to the users. If the user found the info to users found that data is not available on central cloud server then user are allowed to access the data from remote data center for premium cost. And this technique does not have update backup services.

Our proposed solution that compromising of simple hardware box which map the database or a file from the cloud vendor to legacy machine. This technique is simple, powerful, and cheaper to the users. Our data backup technique will integrate with cloud server on a secure way and also check for updates and map them with the local legacy machine. This data backup will be secured by using encryption technique in legacy machine. After the authentication process in cloud application it uses a secure way like IP security and with encryption techniques the intermediate application will interact not only with the cloud application and interact with each and every object of the cloud application. This backup can be done by direct integration with each field in the cloud application.

In existing scenario there is only one time full backup, if any changes happens in the cloud application fields it will not reflects in the legacy machine database .here we introduces a data backup with updates.

This technique has an interlinked connection not only with cloud application it also integrates with each and every field. Direct connection can be established between the cloud field's legacy machine DB fields. This connection leads that if any changes happen in the cloud fields it will reflect in legacy machine DB. This process leads make our technique as powerful data backup service with updates.

VI.HIGHLIGHTS

- World-class service- In backup– Provision world-class backup service at every level.
- Trust and transparency – Provide transparent, real-time, accurate service performance and
- Availability
- Affordable price for data backup- In our technique we used only the legacy machine hard drives, Now TB level disk are more cheaper .This makes our technique affordable to the users
- Automatic update- If any version changes in cloud vendors it automatically updated in legacy DB also.
- Proven scale – Support for deep customization
- High performance – Delivers consistent, and provides high-speed performance globally.
- Complete disaster recovery – Protect customer data by running the service on multiple, geographically dispersed data centers with extensive backup, data archive, and failover capabilities.
- High availability – Equip world-class facilities with proven high-availability infrastructure and application software.

VII.CONCLUSION

In this system meets data recovery problems and it also quite attractive in cost too. We proposed an efficient data backup at affordable cost so that the user can access economically feasible data backup services. In IT disaster recovery is very much essential for any business. The problem of backup in cloud computing is overcome using this solution. Data backup and disaster recovery also eliminate the dependency on cloud service providers. These solutions provide the full freedom of changing the cloud vendor at affordable price.

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