Integrated Application Gateway through Cloud Computing

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Abstract— **Applications hosted on the cloud platform can be segmented for clients, by using the software as a service (SaaS) model. This model enhances those applications that are hosted on the cloud environment to be virtualized to the client. Applications in SaaS model serves the client by fetching data from other clouds present in a specific cloud structure. Clients can access the application in a generic way using an IP based platform whereas it can be routed appropriately to the mapped database. Information from cloud database is got concurrently by the application to the user. A Gateway between the application and database can make the cloud SaaS service model to be more secure. Also the database aspects are also to be modularized by using hybrid cloud storage schema. Hybrid cloud involves with those storage that are barely to be multi secured with the Gateway Cloud Application (GCA). GCA mainly specifies the security performance of applications that are hosted on the cloud environment. Storage for the application can also be a hybrid schema by storing data in several clouds and also got to the user by this gateway scenario.**

Keywords-SaaS; Security; GCA; Gateway.

I. INTRODUCTION

Cloud computing regulates the virtualization of data storage and application channels. Main sequence of virtualization tends the storage structure to be highly utilized by user present in the storage schema. This type of storage initiates the process of infrastructure regulations present in the cloud computing technology. Here cloud storages are made popularized through infrastructure whereas to initiate the public to undergo their data storage. Cloud storage can be specified as a type rule as prescribed in the type of cloud mentioned for the storage. They are maintained in different types of clouds

a) Public Cloud :

Cloud storage initiated by the user can be organized by themselves by sharing the data with others present in the public environment of cloud network. Public clouds are enhanced with some security conditions whereas the stored data by user in the cloud can be maintained by specifying special right to read and write the data [2]. Data present in the cloud ensures the users to make some appending actions with other users. Here the shared data within the cloud is regulated with full access to the surfing user. Storage in these types of clouds becomes simple.

b) Private Cloud:

Private cloud ensures the safety given to the data that are accurately stored in this type of clouds. Storage shows the integrity of the data. Here the private cloud architecture differs highly with more security features [5]. Security given to the data makes the data get locked in to a vault structure. Here data can be restricted with access of sharing with other users. Data stored in this type of cloud can be retrieved using a special format whereas to release the vault lock. Data can be restricted by the user from sharing or spreading the data that are to be kept confidential. Security keys are organized by the owner of the data [9]. Separate cloud architecture is formed for user's creating this type of cloud storage platform to secure their data in a virtual network.

c) Hybrid Cloud:

Clouds that act as both public and private with a set of procedures empowered in them, thus these clouds can be defined as hybrid. Hybrid is the word that specifies a combined nature of a thing or a class or an object[4]. Here this type of cloud makes the cloud computing environment to be more specific with its multi-tasking functions. The main fact of cloud defines the positioning of the data that are stored by the users present in the cloud atmosphere. Here each and every instance of data is to be exhaust by the users who are mainly identifiable by the users made as private. Hybrid cloud makes the cloud computing environment effective by acting as the main instance of the theme [1]. Several cloud providers in the cloud store make the presence of hybrid clouds such as to make their business more effective as it provides more flexibility for the users to deploy more applications in a cloud and make it as public. Also making another cloud as an application manager to act in and around the cloud users and another cloud as a database part whereas several clouds can be merged here as private and public to be equally made into a process and showing it as an hybrid cloud.

II. RELATED WORKS

Cloud computing is one of the most popular technology that is used widely by the online users to enhance the user specific need. Most common part of cloud computing nowadays is mainly promoting those datas that are to be shared with public. Thus for this, cloud methodology is structured with different types of storage clouds such as public and private clouds. These clouds are used in common whereas it satisfies each users in their specific environment. Here some of the structure are organized equally by the specific structure. Constant maintenance is needed for each data sharing measures. Scope of cloud storage is purely satisfied in several online websites such as google, ibm, etc. Here data are stored on the basis of public and private sections whereas it can be optioned by the users who stores data on the cloud. Each aspects of cloud can be optimized according to the endured means of the application that is based on the storage part [3].

Different sequence of data is to be stored in specific structure. Applications which are hosted on private clouds can only be accessed by the restricted number of persons. Whereas by using the other type of cloud which is the public cloud can be used in a wide sequence, by handling different structural methodologies designed and issued by the user present in the part. Applications that are hosted in cloud can be structure on the basis of type of cloud used for storing the data. Here while using several applications at a time which will envelope the storage can be accessed by the user in different rules specified by person hosting the application. Applications are stored in a type of cloud whereas it is easily accessible by the user to capture the process of the application [8]. To maintain the specific nature of the application that is hosted on the cloud should be given with higher specification to enable the fact of the cloud technology [3,5]. Cloud computing can be enabled by those user applications. In order to make a difference in cloud platform, hybrid clouds are used to activate the main part of the state. Equal rights are being maintained by the personnel using the hybrid type of cloud. Main structure of cloud can be organized onto the entering sequence of data which are about to be accommodated in different cloud that can be operated by a single specific cloud. Thus by achieving their concept the cloud computing methodology is satisfied with a technology of hybrid cloud [11]. Hybrid cloud can be enabled with the sequence of internal remembrance that could be sequenced by the user. Each user can be regulated with the equal partitioning of storage for differed clouds used by the specific hybrid cloud for monitoring other clouds which are organized for storage needs. A gateway application is like the proxy which will be developed according to the specific need.

III. PROPOSED METHODOLOGY

Here comes a proposal of gateway cloud application by empowering the environment using a proxy which is cloud based. Cloud provides a consistent platform of storage and delivery of the stored data to the concerned users who are using private or public clouds. Here we enhance a hybrid cloud maintaining several public or private clouds using the help of proxy cloud. A proxy cloud is to be constructed on behalf of the security structure and it is being placed at the place of the gateway application. Several applications are deployed in this single hybrid cloud. Public clouds can also be used for application deployment whereas it can be accessed by every kind of users present in the cloud environment.

A gateway application is proposed by making several cloud platforms to be organizable using a single cloud whereas the application that is being deployed in the cloud. Here this cloud is applied to control and monitor. Other clouds are purely organizable by this independent cloud. Proxy cloud present in this environment makes the user to give an entry whereas after making successful validations on behalf of this gateway application, it makes a route for the user to communicate or use the applications that are allowed to be accessed for the concerned user. These restrictions are controlled based on the compound registration made in the proxy [2,6]. This proxy cloud makes several validations with the user present in the state of communication. Here clouds that are deployed with several applications are structured onto the gateway, so as to initiate the needed application on the route constructed by the cloud.

Cloud computing environment is semi structured here with several in built clouds that are estimated by a single gateway cloud [5]. Those routes that are initiated for users present in the cloud structure will be purely monitored as a pipe way of communication. Here each user action will be validated in the same route as prescribed by the gateway application and are organized in the hybrid cloud. Cloud applications that are deployed in the state can be formed as a group and thus it can be linked to the gateway cloud as another hybrid cloud pertaining several set of applications. Applications which are organized through cloud can be easily accessible and also it can be more secure by proposing the schema structure here.
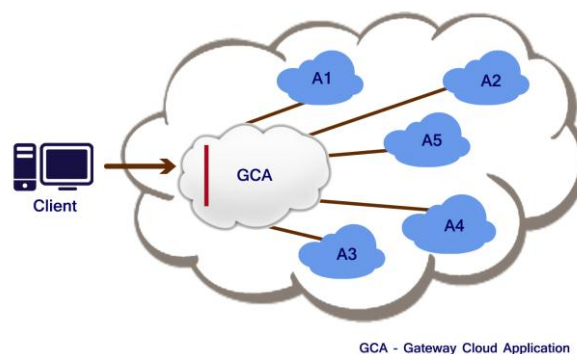

Fig. 1 Gateway Cloud Application

IV. CLOUD GATEWAY APPLICATION

Applications are generally hosted in a web based environment whereas users present in the web can access those applications through http requests. Existing applications are organized through a third party application manager. Here the application is deployed by a prescribed format. Packages developed for an application will be organized by the deplorer by making those packages in an orderly manner in the server specific layer. Gateway technology can be mentioned with structural analysis of the servlet maintained in the packages made in an order attained from the development section. Web request can be stated with a mentioned rule by proceduring the format in the server side. Here the requests are to be analyzed with the format that is developer specific. Web based programming structure can be structured on the basis of the user module whereas to state the mode of operations held through the stated applications. Cluster of applications can be organized on a specific lane whereas to maintain the standard of the application working with the flow made by the user limits that are formulated within the deployment structure of the application. Here there are certain analysis made by the system whereas to equate a range between the client and server. Gateway application can be developed with equal formulas used for every single application present in the web environment.

Cloud computing states the usage of data that are stored in the cloud can be consumed by the users present in the web structure by different means [13]. Cloud organizing can be made by a single cloud to specify the different needs of other clouds present in the environment. Most of the users specify their data's stored in the web to be organized a cloud structuring mechanism. Here those clouds that are users specific and can be reached by a proxy cloud which is placed for the integrity purpose. Cloud can be monitored and can be

organized through another cloud which can be stated as a gateway for the cloud. Here the user can access the cloud by making an entry within the proxy cloud and routing the client request through the modularized cloud for gateway. Each and every request are monitored and organized and then routed for the requirement of the client. Here the client can only treat the cloud to be structured in a specific state whereas it can be occupied by general areas of different clouds. Here public clouds are organized with public access and private clouds are organized with the private access which can be in an encrypted formula. These access types can be maintained with the general structure of gateway which is regulated for the user as a type of procedural policy. Here policies are spread out with different categories that are user specific for the type of cloud mentioned for the application.

Several applications can be hosted around the cloud environment whereas it can be maintained in a manner of the policy defined for applications routed through the gateway. Here a cloud can be defined as a gateway of the applications whereas it can analyze the type of request made by the user to regulate a vendor specific structure. Applications can be organized by a cloud that can be easily accessible by those users present in cloud. Gateway cloud application is a regulated version of each application that are hosted around the user applications according to the requirement of the access type mentioned. Here this cloud gateway makes the process of routing those users who are in need to access applications by detecting the cloud nature whether it shows the private or public structure. Then it can be routed to the specific cloud whereas the application is hosted. The hosted application will be configured with this gateway application whereas it can be regulated in the fact that is being mentioned onto the structure specified by the users in the cloud. Cloud computing mechanism can be achieved by the usage of clouds by the user that is specified in the policy maintained. Users who need to access these applications are periodically monitored by the proxy cloud which present in the masking schedule made for the gateway cloud application. This application can maintain the data integrity and availability for those users to satisfy the needs of the application owners.

V. IMPLEMENTATION DETAILS

Application gateway can be empowered in cloud architecture by regulating the proxy principle whereas it can be activated through a proxy application present above this gateway layer. Design of gateway architecture combines the features of controllability, integrity and elasticity. Here the architecture is to be compromised with a proxy variant that can be in regulation at the processing state whereas it should analyze the client requirement of application and act accordingly [12]. Here several characters are much suitable for equivalent operations whereas it shows several architectural aspects considering the connection of various applications that are to be enhanced within the cloud. Hence we make this structure as a hybrid state of computing by monitoring several clouds by implementing single cloud architecture. A prominent view of the gateway will contain a cluster of application into a single cloud and a monitoring cloud and also which should compromise a proxy cloud. Each cloud can be activated only by the help of the central cloud which controls all other application clusters present in different clouds. Applications that are enhanced inside the cloud can be accomplished besides the various criteria's of the

proxy present in the base of the client. Client who needs to work on a cloud application should pass two level of satisfaction provided by those applications incorporated between the gateway applications. Hence this satisfies the cloud owners by providing a higher level of integrity and availability to the users who ask for a partial growth of the structure. Primary requirement for implementing this proposal is to enhance a hybrid cloud. This hybrid cloud must contain several types of clouds based on the need of the application.

Applications should be hosted based on the cloud type and it is to be defined in the gateway application by maintaining the name of the proxy in terms of its uniqueness. Here ach application that are hosted in different cloud environments must endure that they are ordinarily present in the gateway application by regulating the need provided in the different types of clouds that are to be monitored. A gateway tends to make the user being satisfied about the work environment attained by in the cloud platform. Proxy clouds stores the secondary path whereas the request of the user is to be routed via the gateway cloud [1]. Then the gateway cloud makes the next transport of the request to the respective application. Applications that are present in the hybrid cloud will be present in different clouds that are non predictable by the hackers. Only the gateway applications can ensure the specific path of the cloud as the application packets makes a reference in the gateway cloud.

VI. CONCLUSION

By making a difference in the cloud application structure, the integrity availability constraints can be clearly fulfilled into an another extent. Thus the difference in the cloud methodology is to use specific structure of cloud which is used to monitor other needs of the system. Cloud computing can be optimized to an extent by verifying the sequence. Hybrid cloud methodology helps the cloud organizer to apply the actual purpose of the creation of cloud. Here different clouds can be maintained according to the usage. Proxy conditions are satisfied and thus it fulfills the integrity constraint. Another sequence of cloud that gives a gateway structure to those applications are mainly integrated within the user created cloud. This application gateway makes the monitoring and organizing fuction to enhance the availability constraint. Here users are pointed or redirected to the specific cloud storage or application by first entering the cloud gateway. Gateway application makes several ways to the user to travel in specific formats which are firmly organized by the needs that are regulated in the gateway. Usual statistics can be maintained within the structure of the cloud that could be organized to the user to accumulate the part of the sequence created by the proxy cloud which behaves as the firewall. Thus applications are allowed to be worked in a private type of cloud environment by creating this application gateway cloud.

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