

The basic and fundamental concept of Cloud balancing architecture

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Abstract

The cloud computing has displayed promising trends in recent world especially in IT field. In cloud computing, one of the important aspects includes the cloud balancing architecture. Hence, based on these facts and consideration, the present study reports the elements, applications and types of cloud balancing with respect to its future processing.

1. Introduction

If you are building a service or product that requires the storage of large amount of data on your servers, then you should consider going for cloud balancing architecture. This is because it would enable you to reduce costs and improve efficiency. This can be achieved by using a model where only a part of the data is stored in dedicated resources. This would enable you to put this data onto the servers that would have no access to your backup software. The key point here is that you need to ensure that you do not lose any data that is located in your primary resources. You can use various models of cloud balancing architecture to store and retrieve data from the servers. In some cases, you can allow other processes that are related to the data to access these resources. There are various models that include letting the processors and the storage devices access the primary resources. In some instances, you can also allow the administrator to choose the device that would be used for backing up data to the server.

While you should always keep the main focus on the security of your data, you should also ensure that you do not allow unauthorized access to the backup devices. The data would have to be backed up regularly to keep it safe. There are many risks that can be taken in the process of backing up data. For instance, there are some people who can modify the backup software and install their own code on the devices. Some of them can also tamper with the firmware that is present in the backup devices. It is therefore, important that you should be careful while selecting a company to use for the purpose of the backup device.

2. Benefits

The cloud balancing architecture will enable the system of various network efficiently. The cloud balancing will help the system to achieve the scalability and the reliability (1). This helps the large applications like DSI to deliver the required data with accuracy and efficiency. It is used to avoid the traffic and the congestion in the DSI system. The cloud balancing architecture enables the best way of balancing technology which can easily match the increased user traffic and then distributes the resources to the various servers in the network. It is important for the DSI system to meet the scalability and the agility even in the case of work load demands (2). It also checks the cloud which should be capable of providing the required criteria to the users as required. This architecture helps the DSI system to optimize the use of available

resources in the system. It also improves the throughput of DSI system application. And reduces the time of DSI which is spent for delivering the packet. To avoid the data traffic the single component cannot be used, the resources can be distributed across the multiple systems by the DSI system using the cloud balancing architecture.

3.Types of Cloud Balancing Architecture

In the recent years, people have come to understand that there are different types of cloud balancing architecture solutions. This will help us to understand the different types of Cloud Services Architecture in order to decide which is suitable for our needs.

- The first one is the simplest and the most basic kind of type of architecture. It is called the Hybrid Architecture. What it consists of is the servers that will have the features of on-premise and virtual infrastructure, depending on what is needed for the specific kind of application or service.
- The second type is a hybrid architecture and it is also called "Perpetual Application Platform". It is easy to deploy on premise and also on demand. The advantage of this architecture is that it does not need a centralized database and the applications are constantly available.
- The third type is the "Data Center Flexible Architecture". It is a cloud-based solution, which allows you to run applications in a private cloud that can be controlled by the customer's IT environment. This type of architecture is used by large companies and is easy to scale the workloads by making your applications available at any time.
- The next type is the "Cloud Platform" architecture. It is a more advanced type and is mostly used by small companies and technology companies, which need to focus on the development and design aspects. It consists of a Cloud Service and a Data Center.
- The next type is the "Software as a Service" architecture. This type of architecture has gained popularity and it also consists of the central database as well as a Web Server, which provide access to the Web. With this type of architecture, the database is stored in a remote location.
- The last type is called the "Accelerated Service Delivery" architecture. It can be used in combination with the Hybrid Cloud platform. With this architecture, the Cloud Services is being delivered directly to the customers.

We can now understand why different types of Cloud Balancing Architecture are needed. If you want to choose the right one for your specific business needs, then it is important to know what are the capabilities and limitations of the architecture before it will be made use of in the business. And if you do not know what types of Cloud Balancing Architecture are available, you can always take a look at the different types of architecture on the market.

4.Critical points

Though the cloud balancing technology has more advantages it also faces some of the critical issues like resource discovery. It is sometimes the major problem for the cloud balance approach to identify the correct resource to deliver to the appropriate system.This may not adapt to some of the new environment like non critical failure (3). The security is the main goal of the cloud architecture if any of the issues that occurs in the security purpose it will become a major concern to concentrate.

5.Issues

The cloud balancing architecture has to depend on the geographical distribution of the resources to various computers in the cloud environment. It includes various advantages regarding the multi cloud technology (4). But the main issues are its lack in evaluation of the various load balancing parameters. The issues are raised due to the lack of comprehensive review about the scheduling of tasks and the load balancing techniques. The review should be made in case of load balancing and the scheduling tasks in any system application. It is required to discuss the various issues that can be avoided in the technology of multi cloud. This may also lead to the drop of business intention of DSI system which uses the multi cloud strategy. The online spatial delivery system should be reviewed in case of delivering the data packets to avoid the traffic congestion control (5).The issues may occur in the case of categorization techniques. The main issues arise from the scheduling of resources to various computers in the network.

In the cloud infrastructure it offers some data may be loaded and some other may be unloaded. This situation of under loaded and over loaded may cause some system to be failure in the processing of resources. The under loaded and the over loaded operation may consumes more power and the execution time and the machine failure (6). The cloud balancing architecture has to face some of the consequences in balancing of data operations. The balancing of operations in the DSI system will be dependent on other system resources. The dependent system is like to those system which needs the spatial data for their business. The business goals of the DSI system can be raised by the efficient delivery of the spatial data with accuracy and the reliability. Security will be ensured during the delivery of data. The performance of the DSI is based on the efficiency of storage of data.The cloud actually refers to more storage.The multi cloud strategy will be more enhance able storage in the DSI system (7). The foremost reason for the DSI system to move for the online application is to transfer the spatial data with more reliability and availability. The data that is delivered to other systems should be stored for the future use. Hence, the DSI system is the large application which contains more data so, it requires large space to store all the data (8). Due to this reason the DSI adopt cloud architecture for storage. The cloud balancing architecture is the advance technology in the cloud environment, it not stores the data blindly but, it also balances the work load of the system by distributing the resources across the network fundamentals.

6.Key Points

These days there are several issues related to cloud balancing architecture. The two main issues are redundancy and availability. In the last few years' companies have made use of cloud computing for various purposes. The main advantage of cloud computing is that it eliminates the hassles of infrastructure management. It also helps companies to leverage on the knowledge of large databases in order to get better results in the process of analysis. Cloud computing also reduces the overhead costs of the entire operation. Other issues related to cloud balancing architecture include security. Most of the times it is not a secret that there is a need to protect confidential information. It is for this reason that companies have started outsourcing their data security tasks to third party security experts. Such professionals come with experience and expertise in terms of implementing certain software and enhancing their security in the sense of checking the information and then responding in time. Apart from this it is always important to conduct periodic checks on security of your servers and storage devices.

7.Challenges

One of the main challenges is that with cloud-based computing, the user is on the same cloud as the service provider and this makes it difficult to segregate. A more recent challenge in balancing is that most companies use servers that are not in their own country, which makes the cost of setting up the infrastructure more expensive. Another challenge that has been experienced by organizations is that the benefits of cloud

computing are not fully realized until after a few years, and this is the reason why some companies find it difficult to change from the existing service providers. But with cloud computing, it is possible to try out different applications without moving your company. Also, integration into artificial intelligence can envision new applications in different sector, as artificial intelligences is expected to reach myriad domains in near future (9).

These challenges are inherent in cloud computing, but also, some organizations cannot change to this kind of computing because of certain legal implications, which are in fact valid. But with the help of the legal professionals, there are special programs that can be adopted to change the laws of your company in a manner that makes it possible for the organization to make the necessary changes. These programs do not require a large amount of money and can be adopted easily by any organization. Once you adopt the changes, it is easier to get used to the new rules, and it will be easier for the organization to stay with the chosen provider. All these challenges in balancing architecture can be avoided if the right measures are taken at the beginning. You should ask for a proposal from the cloud-service provider at the earliest. The best approach is to get the contract in writing as soon as possible. This will prevent disputes at the later stages. Lastly, there is no such thing as wrong time; make sure that you make the changes, and update your requirements (10-12).

Conclusion

Nowadays many companies are using cloud as a platform for a variety of business communications issues. They can run their operations even when they are not physically present in their premises. One such example is the use of computer servers. These servers are fully capable of handling all the technical aspects of the company's operation. The responsibility of these servers falls on the application server. So the responsibility of the same rests on the backup servers. Due to the flexibility offered by cloud computing, the website hosting is made easier and cheaper.

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