ARCHITECTURAL AND MANAGEMENT CONCEPTS IN CLOUD COMPUTING

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ABSTRACTS

The general trend of computing is such that it can be the fifth basic assumption elements such as the water, Power, Gas and telephone. In such a case, the users based on their needs and regardless of whether and where a service is or how it is delivered, tries to access it. IT experts have provided a variety of computing systems to meet the needs of these users. The main idea of the cloud computing is to providing software services to the users and organizations at all levels over the internet. In order to achieve the highest level of performance in the cloud, deploying the cloud computing must be monitored and managed. Cloud management software provides, capability of fault management, configuration, accounting, performance and security. In this paper, we will try to evaluate the types of managerial implications available in the cloud computing and their use, architecture for cloud management, challenges in cloud management-relevant security issues, and cloud management standards and clouds future.

Keywords: Cloud Computing, Security, Cloud Management

I. INTRODUCTION

In fact, the mean of the term cloud in computing, is the internet, that is uses universally. In fact, the word clouds, includes another aspect that we have no any valuable information about this massive cloud from the aspects of the software resources. Suppose that you want to edit one of the photos that you have taken in the park. You will enter your photos in your computer. Except from ability to work with software for editing photos, you must have the software on your computer. Suppose that for this purpose you have selected Photoshop software. As you know, this application is under exclusive adobe.

So obviously this is not freeware and it is not true that the copied version and crack one uses. After the first stage you need to pay the cost of the software to purchasing it that it is not unclear that when you may have to use it.One of the aspects of cloud computing is file sharing topic and having the private cyberspace. This gives you the option to have the space of about one million gigabytes to whatever you want stored in it by any devices such as mobile and … and in anywhere you have it in your possession. In addition to detailed discussion of cloud computing it includes a little discussion about the operation systems under the web platforms.

II. BENEFITS OF CLOUDS

1-Reduce Cost: This technology greatly reduces costs.

2-Increase performance: efficiency of the systems increases without any cost.

3-Easy maintenance: Because of that there was no need to install any applications per user the maintenance of it is easier and has lower cost.

4-Scalability: Users can access dynamically on demand to the resources and there is no need prior preparing to times of maximum resource consumption.

5-Fast execution: The computers systems of the cloud can be faster boot and set up.

6- Green technology: The computers of the cloud computing systems because of usingthe virtual data center environment less causing global environment warming. That's why it's called green technology.

7- Mobility and portability: Users are not restricted to a particular computer system on the network or cloud.

8- Increase in storage capacity: One of the remarkable effects of this approach to increase the capacity of the computersand theusers has not to raise their own.

III. LIMITATIONS OF CLOUDS

1- Loss of data:

Because of we have no aware about the places of the data or how to processing may be it is overwrite or may be deleted.

2- Stealing the credit:

May be hackers by using your user/passabuse your data or alter or delete the information contained therein.

3- Control of the processes:

Because of have no information about the place of storing the data and processing of them, thus he doesn’t able to have control over the process.

4- Internal attacks:

The cloud employees that have access to user coding's like hackers can use the information, manipulate information in the cloud or clear them.

5-Legal aspects:

Because of freshness there is no any legal aspect for the prosecution and there is no any possibility of complaints.

6- Jurisdiction:

May be not meet the user's expectations correctly and understanding of the possibilities provided by the customer or not.

7- Transfer from one provider to another:

Since recently it was not possiblethat the user can transfer his information from one provider to another provider.

8- Reliability:

While using the clouds, must ofthe needs of the users to be fixed. However, factors such as lack of control over unauthorized users or processes and that the other factors are of lower reliability.

9- Inspection capability:

As mentioned being new to the legal aspects of prosecuting of it still did not applied and there is no possibility of complaints.

10- Quality of Service:

Companies may offer different services and cloud services provide broad, but there is a probability that the provided services are expected by user's aimed service quality is not be done.

IV. TYPES OF CLOUDS IN CLOUD COMPUTING

1- Private Clouds

A private cloud is a cloud computing infrastructure that was created internally by an organization for which the organization uses.

2- Public Clouds

Describes cloud computing's in the traditional mainstreams sense of it.

3- Hybrid clouds (mixed)

Provide a hybrid cloud that includes multiple internal and external, is a good choice for most businesses.

4-Group clouds

Cloud infrastructure is shared between multiple organizations and a group that supports collaborative and same tasks.

5- Management Challenges:

* Vulnerability againstEconomical Pressures

Computer service models, is very vulnerable to the economic downturn. During a recession, as companies are cautious, costs incurred for services they will do reduce the computers costs.

* The new forms of software

The software professionals, faced with several new challenges, in create software that millions of computer users instead of running it on their own pc's, and that they can use it as a service.

* Compliance

This approach is relatively is new approach and in many cases still it is not accepted.

* Control

The Service providers usually are not designed IT platforms to support specific business practices of the company's, in additions, the users will not be able to change the technology platforms when they needed. However, given that what technology providers to best meet the needs and when needed it can change, that this work is done without the consent of the customer.

* Bandwidth costs

Regarding to the high network bandwidth, even when the user is using the web as a universal computer,he feelshe is working on the local system.

* Trappingwith providers and Standards

There are needs to using the open standards for all modes of sweeping the web as a computer. With the increasing of the number of cloud providers the importance of mobility will be increases. If a company is dissatisfied with the services of the providers; or if the seller of this business withdraws, it cannot be necessarily an easy and low cost, be transferred to another provider, Or that the services will be restored back into the company.

*Access transparency

Ifthe companies couldn't show who has access to the customers dataand how to prevent unauthorized staffs to access to the information, they will not be able to successfully come out with the accounting of their capacity via future customers.

* Privacy protection

Privacy advocates are criticizing the cloud model, because cloud service providers can full monitor and control legal and illegal on the data and relationships between service users and their cloud hosts.Events such as the secret NSA program, United States of America (CIA), that has recorded more than ten million American citizen telephone conversations, creates distrust among privacy advocates have been.

* Security

The relative security of cloud computing is controversialthat may be cause delay in the adoption of cloud computing. Some believes that the security of data is higher when they are in the office,while the others believe that the service providers have strong motivations to maintain trusts, and hence uses a higher security level.

* The availability and effectiveness

In addition to security of host data, availability and performance of applications that are hosted on cloud are also has a high importance.

V. CONCLUSIONS AND THE FUTURE WORKS

In this research we examined the performance of cloud computing as well as administrative and security problems. One of the future workscan be reviewing of the security status of these services in Iran, comparison with the other countries.

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