

Cloud Computing & Cloud Deployment Models

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Abstract: As times gone, computing specially, the cloud computing development shows its major progression. In this paper, we reviewed the benefits and drawbacks of cloud computing, what opportunities and weaknesses cloud computing brings to the business, and technological prospects. The computing industry is witnessing a paradigm shift within the manner computing is performed worldwide. There is a growing awareness among customers and enterprises to access their data technology (IT) resources extensively through a "utility" model referred to as "cloud computing." Cloud computing was initially rooted in distributed grid-based computing. It has become a significant technology trend and expect that cloud computing can reshape IT processes and the IT marketplace.

Key Words: Cloud Computing, Cloud Evolution, Cloud professionals Cons.

1. INTRODUCTION:

Cloud Computing may be an utterly new IT technology and it's referred to as the third revolution after PC and Internet in IT. To be more specific, Cloud Computing is the improvement of Distributed Computing, Parallel Computing, Grid Computing and Distributed Databases, and also the principle of Cloud Computing is creating tasks distributed in giant numbers of distributed computers however not in native computers or remote servers. In different words, by assembling giant quantities of knowledge and resources stored in personal computers, mobile phones and different instrumentality, Cloud Computing is capable of group action them and golf stroke them on the general public cloud for serving users" The platform idea of cloud computing first began during the 1960's by an American Computer scientist named John McCarthy wherever he projected that within the future "computers might sometime be organized as a public utility". He believed with a new way of organizing data or knowledge, stuff that we'd like is barely among arm's reach. According to Server Motion (2012), mentioned that in the past, massive computing combined by supercomputers and mainframes where connected to central processing units (CPU) to divide the tasks and obtain the results quicker. In 1999, Salesforce.com is one among the primary to take a position in cloud computing, they introduced the conception of delivering enterprise applications through a straightforward web site. Second was the Amazon in 2002 after they launched the Amazon net Service. Then in 2006, came Google Docs that has unfold the word of cloud computing and have become the lead of public awareness.

2. LITERATURE REVIEW:

2.1. Features and Types of Service Models:

"Cloud computing is Associate in Nursing subject field model for deploying and accessing pc facilities via the Internet. A cloud service provider would supply ubiquitous access through an online browser to computer code services dead in an exceedingly cloud knowledge center. The software would satisfy client and business needs". In simple terms, anything involves through the net to deliver hosted services is taken into account Cloud Computing. The National Institute of Standards and technology (NIST) outlined Cloud Computing as "a model for sanctioning convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) which will be chop-chop provisioned and free with marginal management effort or service provider interaction. This cloud model promotes availability and is composed of five essential characteristics, 3 service models, and 4 preparation models" (Mell, 2009). The four service deployment models are:

2. 1.1 Public Cloud:

The cloud infrastructure is design as open and accessible to the general public , it managed by cloud service provider. This enables a consumer to extend and organize a service in the cloud with terribly low value compared to the price pay needed compared to different deployment options. However, it makes Public clouds less secured than the opposite cloud models (Susanto, Almunawar, & Kang, 2012), because it places more flexibility and straightforward access for all sort of users, as consequently malicious attacks and leak of information more frequent.

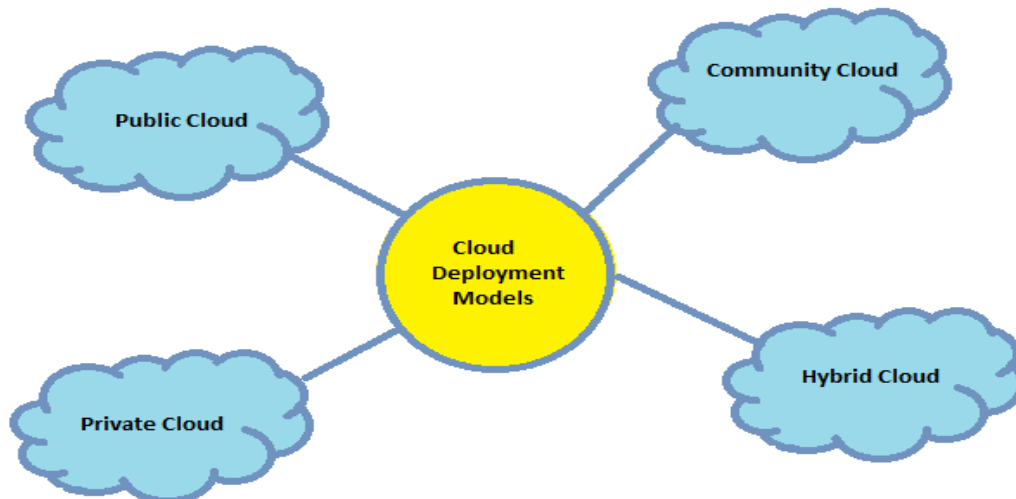


Figure.1 Cloud Deployment Models

2.1.2. Private Cloud:

The cloud infrastructure is deployed, customized, operated and maintained mainly for an organization as consumer wherever it supervised by cloud service supplier. It is different from the general public cloud as a result of all the cloud resources and applications managed by the organization and strictly closed to the public. Private cloud more secure than public cloud since it's custom options that ends up in safer of their application, as consequently only selected stakeholder switch in organization may access an mangoan specific Private cloud.

2.1.3. Hybrid Cloud:

Hybrid cloud might be a mixture of private and public clouds that support the requirement to shield information and data in a corporation. “Hybrid Cloud provides more secure management of the information and applications and permits varied parties to access information over the Internet. It additionally has AN open design that enables interfaces with other management systems. Hybrid cloud can describe configuration combining an area device, like a Plug computer with cloud services. It also can describe combining virtual and physical, collocated assets -for example, a mostly virtualized environment that needs physical servers, routers, or other hardware like a network appliance acting as a firewall or spam filter.”

2.1.4. Community Cloud:

The community cloud infrastructure is shared by sort of organizations and supports a specific community that has shared issues (e.g., mission, security requirements, policy, and compliance considerations). It managed by the organizations or a third party and may existed on-off premises (TWP, 2010). Moreover, 3 cloud service models provides a read of what a cloud service is. A cloud service system could be a set of parts that facilitate the event of cloud applications. The three main cloud service delivery models are:

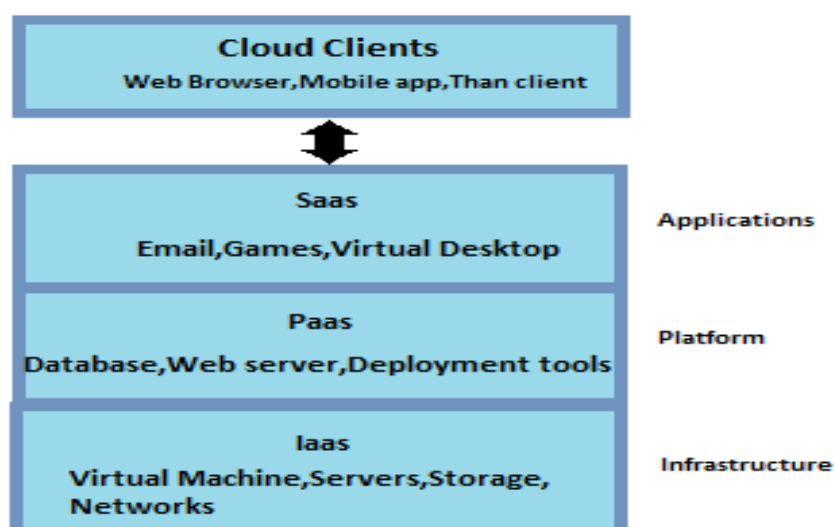


Figure 2. Community cloud

2.1.5. Infrastructure-as-a-Service (IaaS):

Consumers organize the systems in terms of the operational systems, applications, storage, and network property, however, they don't for cloud infrastructure (TWP, 2010). The ability provided to the consumer is to provision processing, storage, networks, and alternative basic computing resources wherever the patron is in a position to line up and run arbitrary software, which can include operating systems and applications. The consumer doesn't organize the underlying cloud infrastructure however has management over operating systems, storage, deployed applications, and possibly limited control of select networking components (e.g., host firewalls).

2.1.6. Platform-as-a-Service (PaaS):

Customers purchase access to the platforms, enabling them to deploy their own software and applications in the cloud (TWP, 2010). The customer does not manage the operating systems and network access, and there might be constraints as to which applications deployed, the customer has control over the deployed applications and possibly application hosting environment configurations.

2.1.7. Software-as-a-Service (SaaS):

Customers are able to purchase the ability to access and use an application or service hosted in the cloud (TWP, 2010). As example is Salesforce.com, where crucial information for the relations between the customer and the service is hosted as part of the service in the cloud. The capability provided to the customer is to deploy onto the cloud infrastructure customer- created or non inheritable applications created exploitation programming languages and tools supported by the supplier.

3. PROD & CONS:

The introduction of cloud computing has bring variety of benefits not just for individuals, but also for businesses. The first common benefit of using cloud computing is that it helps to reduce the cost in terms of time, money and storage. Cloud computing reduce prices in terms of cash as a result of it enable users to access their files from any personal computer particularly the computer code as a Service (SaaS) application, which caused the users to be able to use their current computer rather than buying a new one. As for time, cloud computing is more flexible compare to other sorts of computing systems. It can be accessed anywhere as long as there is an Internet connection, thus it is an advantage for users who are in a crunch and critical time. Moreover, cloud computing helps company to try and do their work from being long as they ready to access the file we need in a shorter time than finding the file manually. Furthermore, cloud computing stored more than a personal computer. Cloud computing has no limited over the space and storage. Although individual's area unit typically disturbed regarding the safety and liableness of cloud computing, it will still be a plus of exploitation cloud computing. However, compared to other network, cloud computing is a lot of secured since most of the cloud service vendors has the highest security certifications, such as health insurance portability and accountability Act (HIPAA), ISO 27001 which is also known as information security management system, SAS 70 Type II which is a statement on auditing standards by American institute of certified public accountants (AICPA) and also payment card business knowledge security normal (PCI DSS). The accessibility is one in every of blessings of cloud, where it allows users to access their files anytime-anywhere as long as there is an Internet connection and computer access. This benefit permits the users to possess a larger sense of freedom as they'll access the info from several devices like mobile phones, tablets and even traditional computers. Not only that, automatic update for the server are going to be a plus for each businesses and users. Businesses don't ought to rent individuals to update the server because it mechanically updates and once the server is updated, users will be able to use the updated services without downloading anything.

Despite the benefits that cloud computing brings, we've in contact in mind that each technology has its own drawbacks. The first common issue for cloud computing would be their security and privacy problem. As we have a tendency to all understand, cloud computing is about storing files and documents to another party. For individuals, they might feel uneasy about sharing their files with another party especially the sensitive files. Furthermore, cloud computing allows the files to be accessed from any pc , therefore virus infection and malware could occur. In addition, since the files are not restricted to anyone, unauthorized users from any a part of the planet will access it. The second downside would be in terms of management. Since cloud service providers offer to save their files through the internet, thus it is not reassuring to use it because of the data saved might be lost. With the info being lost, cloud service providers might not be able to retrieve the files back as there's no backup or restore recovery. T-Mobile's Sidekick smart phone services where in October 2009; the data of the clients have been lost and were not able to be retrieved. Therefore, it's quite risky to use cloud computing as there would be loss of management over the saved knowledge. Decreasing in terms of flexibility, cloud computing has been practiced for many years, they are think about within the "experimenting" or "developing" stages. The rate of flexibility is not hundred p.c, in which this has caused some of users to find it impossible to improve their computing atmosphere while not losing a number of their knowledge, users especially the "new" users might find it difficult to use their cloud computing server as some of the cloud computing server won't offer directions which will guide them on a way to use it. In terms of data and integration, for those businesses that offer

cloud services, their workers would need to be an expert in cloud computing field as it needs deeper knowledge to understand it. If those workers have never dealt or has a little experienced about cloud computing, they will find it hard to understand. Meanwhile, as for integration, it's known that not everything are often done through cloud computing.

4. CONCLUSION:

The main benefit of cloud computing is the ability to reduce costs where effective and efficiency. The could influence the entire society and economic of the planet , businesses could refocus and rethink their resource on sales or more business opportunity for cloud provider. Furthermore, the influential power of social media or web 2,0 are all given by cloud computing where reader had an opportunity to speak with writer or with other reader. However, the main problem of cloud computing is security and privacy due to its data is held on the cloud or its data is organized by third party, as consequence it increase the danger of its confidential data leaked out. Therefore, future cloud computing need to have a well-built security to ensure every user's data are secured, as in the future the number of cloud user increase.

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