Review Article

Inside the technology an overview of cloud computing on CQM

A. S. Rajput[*1] and P. S. Rajput[2]

[1]Research scholar, Department of Computer Science, BERI, India
[2]Research Scholar, Department of Computer Science, India.

*Corresponding Author

A. S. Rajput
Research scholar,
Department of Computer Science, BERI, India
E-mail: asrajput1007@gmail.com

Keywords:
Cloud Applications,
Cloud Platform,
Cloud Infrastructure,
Cloud Quality Management.

Abstract

In this paper, I will study the progress of cloud computing and their associated services. When the cloud gets better, how do we use it to benefit business strategy. To do this efficiently we must discuss hosting infrastructures separately from services, attempt to clarify their definitions, and finally bring them back together for analysis. That analysis must include a consideration of advanced virtualization operations, because these are essential elements of a cloud computing environment. I will show how cloud computing offering services at a higher level of abstraction. In a feature the IT products evolutes the service "Pay as You Demand Services".

1. Introduction

1.1 What is Cloud Computing?

Many people are confused as to exactly what cloud computing is, especially as the term can be used to mean almost anything. Roughly, it describes highly scalable computing resources provided as an external service via the internet on a pay-as-you-go basis. The cloud is simply a metaphor for the internet, based on the symbol used to represent the worldwide network in computer network diagrams. Economically, the main appeal of cloud computing is that customers only use what they need, and only pay for what they actually use. Resources are available to be accessed from the cloud at any time, and from any location via the internet. There's no need to worry about how things are being maintained behind the scenes – you simply purchase the IT service you require as you would any other utility. Because of this, cloud computing has also been called utility computing, or 'IT on demand'. This new, web-based generation of computing utilizes remote servers housed in highly secure data centers for data storage and management, so organizations no longer need to purchase and look after their IT solutions in-house.

1.2 What does it comprise?

Cloud computing can be visualized as a pyramid consisting of three sections: Cloud Application This is the apex of the cloud pyramid, where applications are run and interacted with via a web browser, hosted desktop or remote client. A hallmark of commercial cloud computing applications is that users never need to purchase expensive software licenses themselves. Instead, the cost is incorporated into the subscription fee. A cloud application eliminates the need to install and run the application on the customer's own computer, thus removing the burden of software maintenance, ongoing operation and support. Cloud Platform The middle layer of the cloud pyramid, which provides a computing platform or framework as a service.

2. Services

A cloud computing platform dynamically provisions, configures, reconfigures and de-provisions servers as needed to cope with increases or decreases in demand. This in reality is a distributed computing model, where many services pull together to deliver an application or infrastructure request. Cloud Infrastructure The foundation of the cloud pyramid is the delivery of IT infrastructure through virtualization. Virtualization allows the splitting of a single physical piece of hardware into independent, self governed environments, which can be scaled in terms of CPU, RAM, Disk and other elements. The infrastructure includes servers, networks and other hardware appliances delivered as Infrastructure "Web Services", "farms"

or "cloud centers". These are then interlinked with others for resilience and additional capacity.

a) Platforms supported:

It support many operating system like Red Hat Enterprise Linux, Windows Server 2003/2008, Oracle Enterprise Linux, IBM DB2, Microsoft SQL Server, MySQL Enterprise, Oracle Database 11g & many more.

b) Data security:

App Engine runs Java applications using the Java 6 virtual machine (JVM). The JVM runs in a secured "sandbox" environment to isolate your application for service and security. The JVM can execute any Java byte code that operates within the sandbox restrictions The Python interpreter also runs in a secured "sandbox" environment to isolate your application for service and security.

c) Language support:

Java, VB.NET, C#, PHP, Ruby and many more.

d) Maximum limit of user:

No matter how many users you have or how much data your application stores, App Engine can scale to meet your needs. Automatic scaling is built in with App Engine.

Figure 1: Pyramid hierarchy of cloud computing
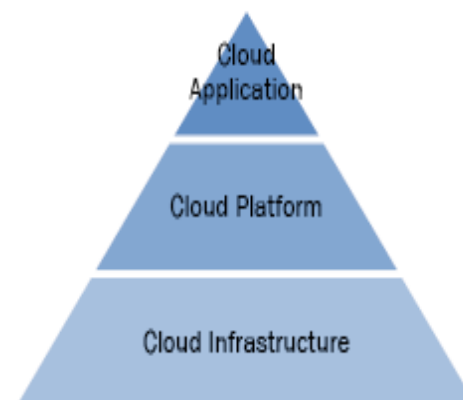
Cloud is basically an extension to the object oriented programming concept of abstraction. It eliminates the complex working details from being visible to the users. What users can view is just an interface, which only involves receiving the inputs and providing the outputs. The process involved in generating the outputs is completely invisible.

Figure 1: Showing with the front-end interface seen by individual users
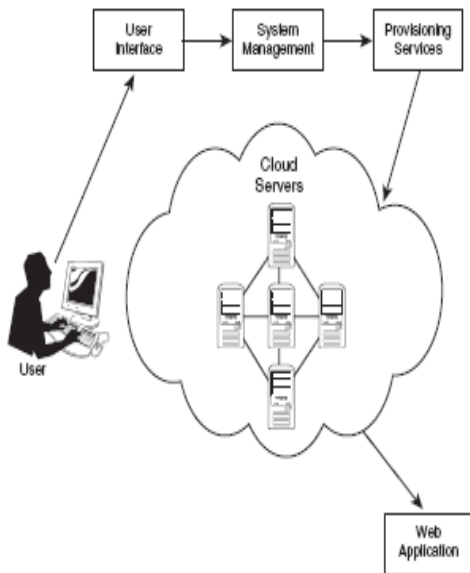
In the Figure Fig 2 we see with the front-end interface seen by individual users. This is how users select a task or service (either starting an application or opening a document).[7] The user's request then gets passed to the system management, which finds the correct resources and then calls the system's appropriate provisioning services. These services carve out the necessary resources in the cloud, launch the appropriate web application, and either creates or opens the requested document. After the web application is launched, the system's monitoring and metering functions track the usage of the cloud so that resources are apportioned and attributed to the proper user(s)

3. Methods

3.1 How does cloud computing work?

"What does cloud computing mean for the way you use a computer? What are the top cloud computing applications? *Applications That Change the Way You Work and Collaborate Online*" to answer every question I try to give you a good solid overview of the cloud computing phenomenon, and introduce you to some of the more popular cloud applications—in particular, those that facilitate group collaboration. And that's where cloud computing really shines. Whether you want to share photographs with family members, coordinate volunteers for a community organization, or manage a multifaceted project in a large organization, cloud computing can help you collaborate and communicate with other group members.

3.2 Way to do it:

Computing as you know it is about to change: Your applications and documents are going to move from the desktop into the cloud. I'm talking about cloud computing, where applications and files are hosted on a "cloud" consisting of thousands of computers and servers, all linked together and accessible via the Internet. With cloud computing, everything you do is now web based instead of being desktop based. You can access all your programs and documents from any computer that's connected to the Internet. How will cloud computing change the way you work? For one thing, you're no longer tied to a single computer. You can take your work anywhere because it's always accessible via the web. In addition, cloud computing facilitates group collaboration, as all group members can access the same Programs and documents from wherever they happen to be.

3.3 Four Cloud Computing Methods:

3.3.1 Data Storage – If you want a basic entry level cloud service, there is nothing more basic than data storage. Just figure out how much storage space you need and what it is you want to store and find a suitable service provider to meet your needs.

3.3.2 Managed Server – Are you ready to upgrade to your own server, but you aren't ready for a complete data center? Find a hosting company that will manage your server for you.

3.3.3 Software as a Service – Chances are, you can replace bulky expensive software you are currently using with something less expensive on a pay-per-use basis. Survey your current software needs and find something online that can replace your expensive, high maintenance software. You might even find something for free.

3.3.4 Dedicated Server – Tired of paying rent? Then opt for a dedicated server. You own it through a hosting company and you can put all your data on the server you own without having to pay rent. [1]

Definition 1:

Cloud computing is Internet-based computing, whereby shared resources, software, and information are provided to computers and other devices on demand, like the electricity grid.

Definition 2:

Cloud computing describes a new supplement, consumption, and delivery model for IT services based on the Internet, and it typically involves over-the-Internet provision of dynamically scalable and often virtualized resources.

4. Advantages

1) Reduce capital expenses
2) Easily expand scalability and enhance elasticity
3) Save energy
4) Increase end-user productivity
5) Improve dependability
6) Improve performance
7) Free up capacity to invest in new projects
a) A cloud computing architecture is intended to enable users to use difference services without the need for investment in the underlying architecture. Cloud computing isn't restricted to just that. With a cloud users can avail various services such as website hosting etc
b) Cloud computing is built on this concept and goes one step further to provide on- demand availability of resources. Which can be seen in the architecture diagram?
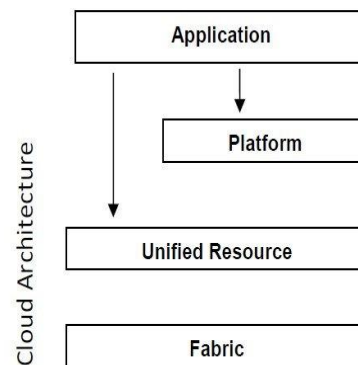
Architecture of cloud:

Figure 3: Cloud Architecture

c). In cloud computing the users don't need to worry about the infrastructure, service location and resource maintenance concepts

5. Cloud Quality Management (CQM)

In the past several years have seen dramatic shifts in the IT industry or companies. It was not to very long ago when web accessible "On Demand" software and virtualized in-house servers were considered cutting edge technology. Now a day, there is a whole new set of technology start-ups focused on innovating new delivery models to capitalize on the fully realized Cloud These market evolutions have precipitate changes in business processing models for industries as wide ranging as healthcare, manufacturing, government, professional services, among many others.

Figure 2: Cloud Computing

Cloud Computing
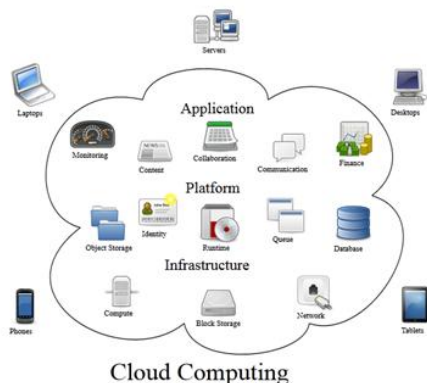
In the above figure we given the surroundings of impending change, In this paper intended to be a tool to help quality and IT professionals better understand what the Cloud is and how it can improve quality management processes across their organizations.

6. Conclusion

When your business grows, your IT needs grow too. The scalability and speed of deployment offered by cloud computing means you can expand your IT provision instantly to meet increased requirements, and you can also scale it down again whenever you want. Security is typically greatly enhanced, along with resilience, and the flexibility and responsiveness of cloud-based IT services mean that you can react quickly to a changing business environment. Waste (of both time and resources) is reduced, allowing you to effectively do more with less. This provides you a leaner, more efficient IT model, available on demand.

References

[1] Hecloudguytim.wordpress.com/2011/01/07/4-cloud-computing-newbies/

[2] Amazon Compute Cloud. July 2008.

[3] Buyya, Rajkumar; in 2009, Market Oriented Grid and Utility Computing.

[4] Grid Computing Products and Services, SG24-6650

[5] Carl Kesselman, in 1998, definition in the book "The Grid: Blueprint for a New Computing Infrastructure."

[6] Surridge, Mike; et al," Experience with gria- industrial applications on a web services grid"(pdf).IEEE

[7] Greg Boss, Padma Malladi, Dennis Quan, Linda Legregni, Harold.www.ibm.com/developerworks/websphere/zones/hipods

[8] B. R. Kandukuri, V. R. Paturi and Rakshit, "Cloud Security Issues," Proceedings of the 2009 IEEE International Conference on Services Computing, Washington DC, September 2009, pp. 517-520.

[9] D. Jamil and H. Zaki, "Cloud Computing Security," International Journal of Engineering Science and Technology, Vol. 3, No. 4, 2011, pp. 3478-3483.

[10] K. Popovic and Z. Hocenski, "Cloud Computing Security Issues and Challenges," Proceedings of the 33rd International Convention in MIPRO, 2010, pp. 344-349.

[11] Ferreira, Luis; et al.. "Globus Toolkit 3.0 Quick Start". IBM. BY Plaszczak/Wellner.

[12] Cloud computing: Don't get caught without an exit strategy. http://www.computerworld.com/action/article.do?