Significance of Cloud Computing and Security Applications

Prof. Vikas P. Raut

Head – Department of Computer Science Vikas College of Arts, Science & Commerce, Kannamwar Nagar – 2, Vikhroli (East), Mumbai – 400083, Maharashtra, India.

ABSTRACT: Among the overflowing users the most low cost with massive scale services allowing flexible and scalable on demand for complex systems is the newly evolving technology ' Cloud Computing '. Access control and security issues are key problems in cloud computing which is also an extensive issue for both services and users. This research paper highlights the problematic grounds as well as the resolutions which means the security applications in cloud computing infrastructure.

Keywords : Cloud Computing, Security Application, Cloud Security, Cloud Computing Infrastructure.

I. INTRODUCTION

A super strong drive of Information Technology industry is ' Cloud Computing ', it's fresh new trend concentrating on users and driven by extensive usage of devices like laptop, mobiles, tablets, smart phones and desktops. European countries are in plan to invest about 54 billion euros in cloud computing development considering it to be the fastest growing segment in digital economy. Users basically request its usage from the cloud computing networks of data centers and server farms.

In information technology and especially in cloud computing it really doesn't matter where the hardware and its software are located and used because the word ' cloud ' is used as a symbol for internet. Cloud computing is considered to be the cheapest way to use application for developing and deploying applications as it's a new business model as well as a new technology platform.

Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS) are three different models distinguished about cloud computing, the ultimate reach of this is a model of software as a service, which represents lease of its resources applicable remote servers network where data is stored and applications are executed. Cloud computing applications are fastest growing because it's very popular among the users being internet available on larger extent it's driven by various devices. Cloud computing is a group of hardware gears and server connected via communication network like Intranet, LAN, WAN or Internet, individual users with permission can access the server to run the application, store data or for their any other computing requirements. It offers shared resources, information and software through internet as a PAYGO (Pay-as-you-go) basis, its also known as Virtualization Technology. In the field of education Cloud Computing provides several benefits such as creation of virtual teaching learning environment, speedy smart classrooms with interactive tools lessening the time for model preparation and delivery along with knowledge collection.

Consequently, cloud computing has some limitation as well as all the data and applications are located somewhere on the Internet but cloud computing is a well known paradigm. " A model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction" is defined by NIST.

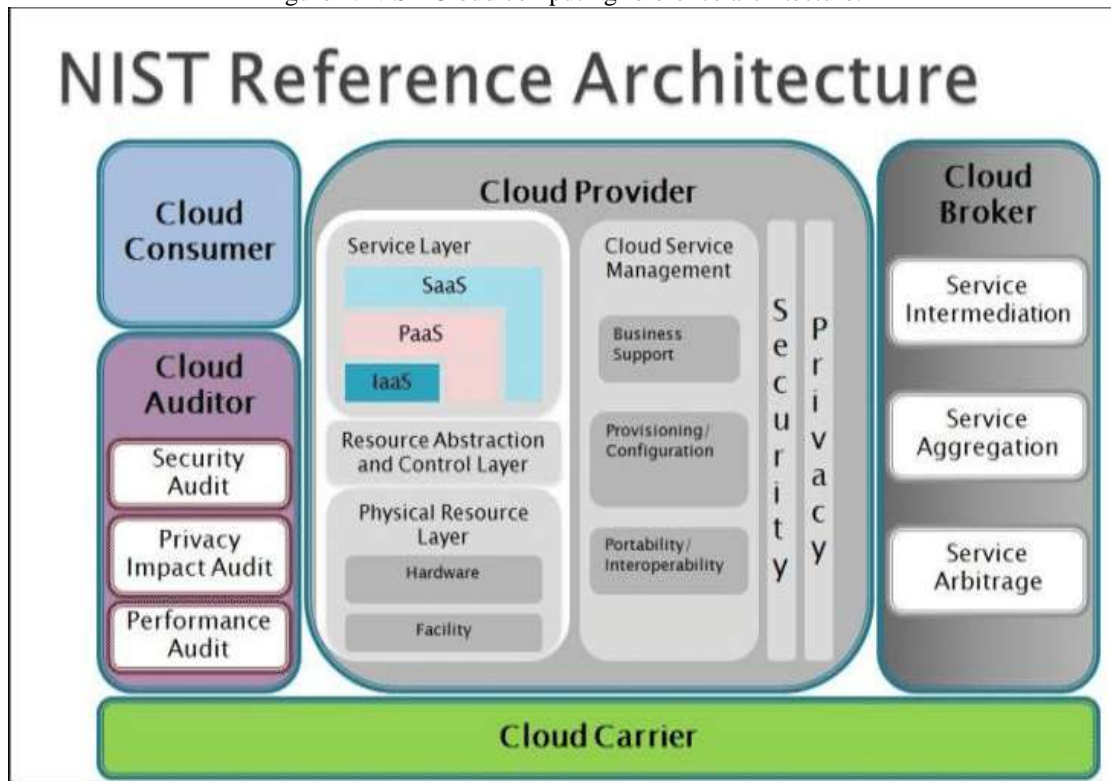Figure 1. NIST Cloud computing reference architecture.

Image source – IEEE Explore

Cloud Data Security

The explanation goes along with PC frameworks, smart phones and various other devices to reach out liberal ideas like national security, economy, privacy and data protection. Usually systems to secure vulnerabilities are discharged regularly which includes convention libraries TLS/SSL. This research finds an abnormal state viewpoint of Internet threats and cyber security stressing upon the fast changes and progress. One should not oversee that cyber-crime isn't harmless, as ransom wares keeps users out of their PCs preserving scanned original copies, family photos, payment details and blocking few sites for access. Wares assaults take away valuable intellectual property from an organization and this can surely disrupt an organization's reputation. Cyber security issues weaken financial development and national security by which we all are influenced, any framework is vulnerable to cyber security threat. Web assault misuse is advancing and adjusting themselves more rapidly than ever before, as lot many internet connected gadgets are dangerous to assure the security of medical gadgets in the network and modern control frameworks.

Figure 2 : The following table consist of various issues, threats and possible solutions for the security threat.
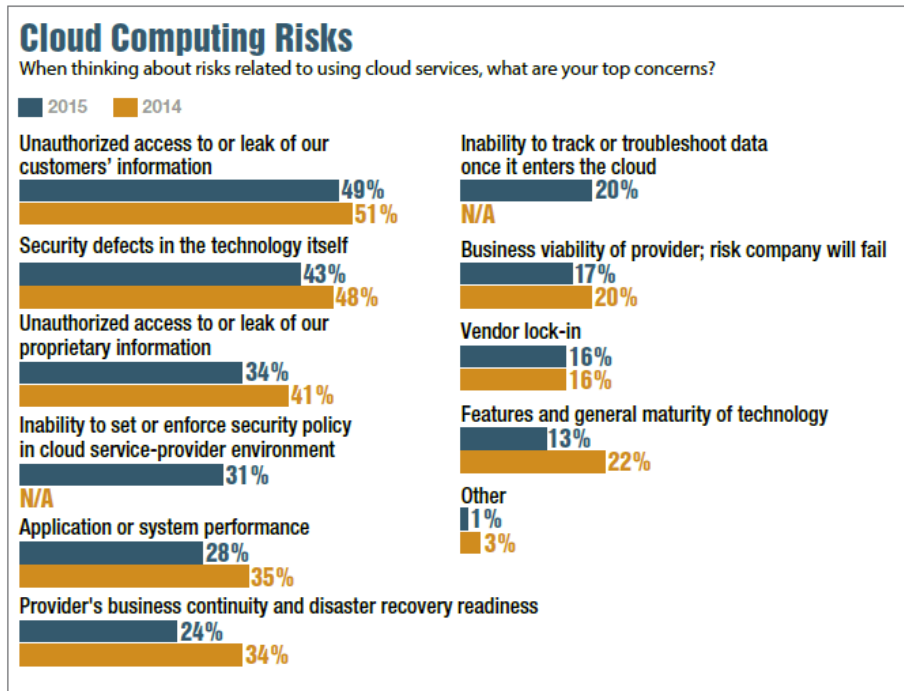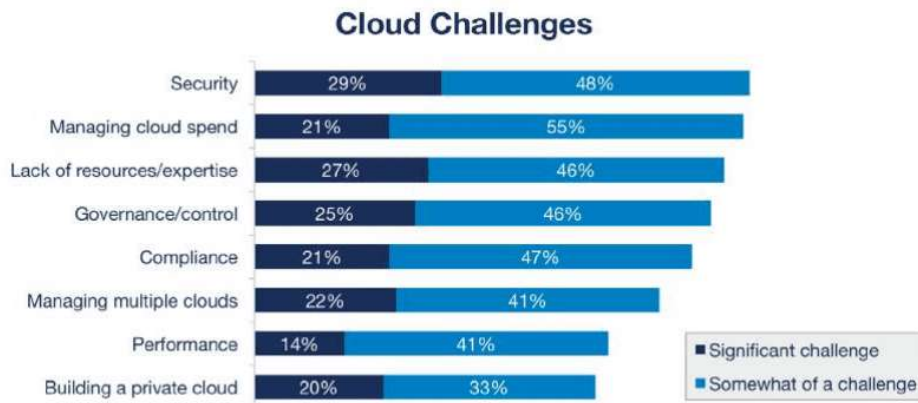

Image source - Calyptix Security

Image source – Datapine

Security Applications

The way enterprises shield against the application layer attacks are been transformed by monitoring of Cloud Security applications and SaaS application. The primary source of data breach is the flaws and vulnerabilities in web applications, only one in ten enterprises can test all critical software for pliability against data breach, usual testing application slow the pace of innovation.

Veracode : Veracode cloud security application offers a better solution as it doesn't require any special testing expertise and need no manpower for operation and maintenance, any developer can upload applications on Veracode's online platform and can receive test results. It comprises an automated services world class expertise and centralized policies in order to help any organization to manage best practices of cloud application security more efficiently and effectively.

Comprehensive Static Analysis : Static analysis is a quick service which identifies and fix flaws in any application written, purchased or downloaded

Software Composition Analysis : It is a tool to examine commercial and open source code classifying open source components for clear visibility into risk when such vulnerabilities are detected.

Dynamic Analysis : It's a service that detects, scans and monitors web applications pertaining to the organization, even those which the organization's IT team is not aware of.

Veracode Greenlight : It's a tool that runs in the background of an IDE which provides real time feedback and security suggestions when they write code.

II. CONCLUSION

On request the entire Cloud Computing can scale up services and virtual assets or resources, to process any clients usual cluster system cloud service gives a significant measures of points. Research ranging in scattered figuring, service computing, virtualization, benefit registering also including system administration, web and software administration is build on by cloud computing. The cloud is a remarkable test in which processing of resources are used since the time cloud computing is to modify the financial aspects of the data center, though before confidential and directed information move into the public cloud. Certain problems of security benchmarks and comparison must be apt to secure authentication, key management for encoded information, solid verification, assigned authorization, data misfortune assurances and regulatory reporting. An organization must know the risks and the shortcomings showed in the present cloud computing environment before being a part of it.

All components are of protected identity public or private cloud can be connected with the data and infrastructure model and also it can be connected to SAAS, IAAS services. There is no huge business enterprise is required for infrastructure updating, work and proceeding with cost. This research paper highlights on security issues and its solution viewing the difficulties in cloud computing infrastructure. An expert service provider must utilize the managing standards to hold and develop security methods, its tools and products to craft and offer end-to-end trustworthy cloud computing services advancement of private and public clouds.

REFERENCES –
[1]. S. Ramgovind, M. Eloff, and E. Smith,The management of security in cloud computing, Information Security for South Africa, IEEE, 1–7, 2010.
[2]. L. Tripathy and R.R. Patra, Scheduling in cloud computing, International Journal on Cloud Computing: Services and Architecture.
[3]. R. Patil and RK. Singh, Scaling in Cloud Computing, International Journal of Advance Research.
[4]. YouTube videos.
[5]. M. Armbrust, A. Fox, , R. Griffith, A. Joseph, R. Katz, A. Konwinsky, L. Andrew, P. Gunho, A. David, A. Rabkin and I. Stoica, Above the clouds: a Berkeley view of cloud computing, University of California at Berkeley, 2009.