

INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

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IMPLEMENTATION OF SECURITY IN CLOUD COMPUTING**SUDHIR DAWRA****ASSOCIATE PROFESSOR****DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING****IDEAL INSTITUTE OF TECHNOLOGY****GOVIND PURAM****PUSHPNEEL VERMA****ASST. PROFESSOR****DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING****BHAGWANT INSTITUTE OF TECHNOLOGY****MUZAFFARNAGAR****ABSTRACT**

This paper will discuss some security concerns of cloud computing. Cloud Computing provides several services in the market, such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS). There are many service providers in the cloud computing, all services are fully managed by providers. Users can consume their services at a rate that is set by the providers. There are significant security concerns that need to be discussed when data is exchanging between the clouds.

KEYWORDS

cloud computing, security issues.

1. INTRODUCTION

In the last few years, cloud computing has grown from being a promising business concept to one of the fastest growing segments of the IT industry. [1] Power grids, traffic control, healthcare, water supplies, food and energy, along with most of the world's financial transactions, now depend on information technology. An emerging IT delivery model-cloud computing - can significantly reduce IT costs & complexities while improving workload optimization and service delivery. Cloud computing is massively scalable, provides a superior user experience, and is characterized by new, internet-driven economics. Cloud computing is a class of the next generation highly scalable distributed computing platform in which computing resources are offered 'as a service'. Cloud based services include software-as-a-service (SaaS) and platform as a service (PaaS). Amazon's Elastic Compute Cloud (EC2) [2] and IBM's Blue Cloud [3] are example of cloud computing services [4]. These clouds have different architecture based on the services they provide. The data is stored on to centralized location called data centers having a large size of data storage. The data as well as processing is somewhere on servers. So, the clients have to trust the provider on the availability as well as data security. [5][6] One of the major issues slowing cloud computing growth is security. Despite the proliferation of security management tools, along with numerous reliability assurances from cloud providers, complications with data privacy and data protection continue to plague the market. This primer on cloud computing security contains all our recent cloud security news stories, tips and interviews. Thus to take full advantage of the power of cloud computing, end user need comprehensive security solution to attain assurance of the cloud's treatment of security issues. [4] In the end, one prevalent question remains: Will things get better or worse for security in the cloud?[7]

2. BACKGROUND WORK

The concept of cloud computing has been evolving for more than 40 years. In the 1960s, J.C.R. Licklider [8] introduced the term "intergalactic computer network" at the Advanced Research Projects Agency. This concept served to introduce the concept that the world came to know as the Internet. The underlying premise was a global interconnection of computer program and data [9].

Other experts attribute the cloud concept to computer scientist John McCarthy [10] who proposed the idea of computation being delivered as a public utility, similar to the service bureaus which date back to the sixties [11].

Since the sixties, cloud computing has developed along a number of lines, with Web 2.0 being the most recent evolution. However, since the internet only started to offer significant bandwidth in the nineties, cloud computing for the masses has been something of a late developer.

One of the first milestones for cloud computing was the arrival of Salesforce.com [12] in 1999, which pioneered the concept of delivering enterprise applications via a simple website. The services firm paved the way for both specialist and mainstream software firms to deliver applications over the internet.

The next development was Amazon Web Services in 2002 [12], which provided a suite of cloud-based services including storage, computation and even human intelligence through the Amazon Mechanical Turk.

Then in 2006, Amazon launched its Elastic Compute cloud (EC2) [12] as a commercial web service that allows small companies and individuals to rent computers on which to run their own computer applications.

Another big milestone came in 2009, as Web 2.0 [13] hit its stride, and Google and others started to offer browser-based enterprise applications, though services such as Google Apps.

"The most important contribution to cloud computing has been the emergence of "killer apps" from leading technology giants such as Microsoft and Google. When these companies deliver services in a way that is reliable and easy to consume, the knock-on effect to the industry as a whole is a wider general acceptance of online services," said Dan Germain [14], chief technology officer at IT service provider Cobweb Solutions.

Other key factors that have enabled cloud computing to evolve include the maturing of virtualization technology, the development of universal high-speed bandwidth, and universal software interoperability standards, said UK cloud computing pioneer Jamie Turner. Turner added, "As cloud computing extends its reach beyond a handful of early-adopter Google Docs users, we can only begin to imagine its scope and reach. Pretty much anything can be delivered from the cloud."

From a technical perspective, cloud computing includes service oriented architecture (SOA) and virtual applications of both hardware and software. Within this environment, it provides a scalable service delivery platform. Cloud computing share its resources among a cloud of service consumers, partners, and vendors. By sharing resources at various levels, this platform offers various services such as an Infrastructure cloud, a software cloud, an application cloud and a business cloud [11].

3. CLOUD PROVIDERS

There are so many Cloud Service Providers which provide their services according to cloud models. Some of them are based on IaaS, PaaS and others are on SaaS. Prominent Cloud Computing Service providers are:

TABLE 1: PROMINENT CLOUD PROVIDERS

Cloud Provider	Cloud Type
Microsoft	SaaS
Zenith InfoTech	IaaS
TCS	IaaS & SaaS
Cynapse India	IaaS & SaaS
Wipro	SaaS
Netmagic Solutions	IaaS
Reliance Data Centre	IaaS, PaaS & SaaS
Infosys	SaaS
Salesforce.com	SaaS
Amazon AWS	PaaS & IaaS
Google App. Engine	PaaS
Go Grid	IaaS
Rackspace	IaaS
Force.com	PaaS

4. SECURITY CONCERNS

Cloud computing brings benefits across three categories: economic, architectural, and strategic. First, it helps reduce IT costs. Second, it improves the experience of end-users. Third, it helps companies focus on their core competencies. While cost and ease are two great benefits of cloud computing, there are major security concerns which are to be discussed when data is moving from one cloud to another cloud. To address these concerns, the cloud provider must develop sufficient controls to provide the same or greater level of security. There are some security concerns to review in cloud computing.

Data Storage: With in the Cloud Computing, different countries have different requirements and controls placed on access. Because data resides in different physical locations, the cloud provider should agree in writing to provide the level of security required for customers.

Unauthorized Access: Access control is a key concern, because insider attacks are a huge risk. A potential hacker is someone who has been entrusted with approved access to the cloud. Anyone considering using the cloud needs to look at who is managing their data and what types of controls are applied to these individuals.

Genuine Cloud: Organizations operating in the US, Canada, or the European Union have many regulatory requirements that they must abide by (e.g., ISO 27002, Safe Harbor, ITIL, and COBIT). You must ensure that your cloud provider is able to meet these requirements and is willing to undergo certification, accreditation, and review.

Audit Rights: The cloud service providers should agree in writing to the terms of audit.

Trained Employers: Employees of the cloud service providers should be well trained because people will always be the weakest link in security. How the cloud service providers trains employees is also an important item to review.

Data Security Types: With the exact location of data anybody can enter in the virtual environment and access the data. The cloud service provider should ensure data confidently, integrity and availability. The storage provider must offer capabilities that, at a minimum, include tested encryption schema, unauthorized access to data, schedule data storage and backup [15]

Security Service Levels: The SLA serves as a contracted level of guaranteed service between the cloud provider and the customer that specifies what level of services will be provided.

Providers Reliability: How long has the cloud provider been in business and what is their track record. If they go out of business, what happens to your data? Will your data be returned, and if so, in what format? As an example, in 2007, online storage service Media Max went out of business following a system administration error that deleted active customer data. The failed company left behind unhappy users and focused concerns on the reliability of cloud computing.

Security Breach: If a security incident occurs, what support will you receive from the cloud service provider? While many providers promote their services as being unhackable but cloud based services are an attractive target to hackers.

Recovery & Backup: While you may not know the physical location of your services, it is physically located somewhere. All physical locations face threats such as fire, storms, natural disasters, and loss of power. In case of any of these events, how will the cloud provider respond, and what guarantee of continued services are they promising?

The cloud as a social networking hub: Now a Days one of the most popular concept is social networking sites, most of the people are using these sites regularly and they uploading their personal details, pictures & videos. Hence, users are encouraged to provide verifiable facts, such as birthdays, full names, educational or professional background, and so on. However, this leads to the problem that, if such a set of facts can be used to establish your own identity, then it is equally possible for an attacker to steal your identity if this set of facts is acquired. Identity theft is a huge concern for those who spend a great deal of their time online. Another security problem with social networks is the abundance of trust and permissions that is applied by your account to others in your network. For example, messages sent by a friend are likely to be more trusted than, for example, email, since anyone can send you an email but only certain people are in your network. [16]

The cloud as an online service provider: We will also tackle the cloud as a service provider. This covers Software as a Service (SaaS), web-hosting services, and so on.

SaaS was declared by the Software & Information Industry Association (SIIA) as a 'tide of web-based, outsourced products and services that remove the responsibility for installation, maintenance and upgrades from over-burdened MIS [Management Information System] staff' that will 'sweep away traditional packaged desktop and enterprise applications' [17]. An SaaS application traditionally has the following characteristics [18]:

- Network-based
- Centralized access (by the end-user) and management (by the vendor)
- (Usually) one-to-many model

Currently popular SaaS systems are SAP Business By Design, Microsoft Dynamics and Google Apps. Gartner estimates that by 2012, 80 per cent of Fortune 1000 companies will be using SaaS [19]. Because SaaS applications often involve the storage of business or institution data in the servers of a third-party vendor, the usual problems may arise as to the security and robustness of the data. We will not be considering cases in which the SaaS provider and client are the same entity. An additional problem is that because SaaS applications are managed remotely by the vendor, there may be a need to make non-IT people within the client organization administrators or owners of portals. [16]

The cloud as a commercial entity: We will talk about the cloud as an entity through which commercial transactions are made. This is a special case of the cloud as a storage space because in this sense the information stored is (1) compulsory – you won't be able to buy anything if you don't give out your credit card details and so on – and (2) The security problems associated with the cloud as a commercial entity all revolve around the safety of the data stored with online transaction processors. Online transactions are also susceptible to scamming tactics such as spoofing and phishing. The profitability of online transactions makes it a prime target for cyber criminals to try to get transaction data, for example through phishing for Pay Pal or Amazon credentials, or even online games. [16]

5. CLOUD COMPUTING SECURITY ATTACKS

In the following, we present a selection of security issues & attacks related to Cloud Computing. Each issue is explained briefly and accompanied with a short discussion. Some of the potential attack vectors criminals may attempt include:

Denial of Service (DoS) attacks: In a denial-of-service (DoS) attack, an attacker attempts to prevent legitimate users from accessing information or services. By targeting your computer and its network connection, or the computers and network of the sites you are trying to use, an attacker may be able to prevent you from accessing email, websites, online accounts (banking, etc.), or other services that rely on the affected computer. [20]

XML Signature: A well known type of attack on protocols using XML Signature for authentication or integrity protection is XML Signature element wrapping [21] (denoted as wrapping attack). [22]

Browser Security, In a Cloud, computation is done on remote servers. The client PC is used for I/O only, and for authentication and authorization of commands to the Cloud. It thus does not make sense to develop (platform dependent) client software, but to use a universal, platform independent tool for I/O: a standard Web browser. Modern Web browsers with their AJAX techniques (JavaScript, XML Http Request, Plugins) are ideally suited for I/O. But what about security? [22]

Side Channel attacks: Side Channel attacks are based on "Side Channel Information". Side Channel Information is information that can be retrieved from the encryption device that is neither the plaintext to be encrypted nor the cipher text resulting from the encryption process. [20]. So an attacker could attempt to compromise the cloud by placing a malicious virtual machine in close proximity to a target cloud server and then launching a side channel attack.

Flooding Attacks: In cloud computing, companies (users) to rent server hardware on demand (IaaS). In This approach day-and-night cycles can be attenuated by having the data traffic of different time zones operated by the same servers. Thus instead of buying sufficient server hardware for the high workload times, Cloud

Authentication attacks: Authentication is a weak point in hosted and virtual services and is frequently targeted. There are many different ways to authenticate users; for example, based on what a person knows, has, or is. The mechanisms used to secure the authentication process and the methods used are a frequent target of attackers.

Man-in-the-middle cryptographic attacks: This attack is carried out when an attacker places himself between two users. Anytime attackers can place themselves in the communication's path, there is the possibility that they can intercept and modify communications. [23]

Transaction security: The old saying that 'money is the root of all evil'. The fact that online transactions use a central system means that if a cyber criminal manages to get control of the transaction servers, everyone is affected regardless of how cautious or security-aware they are. For example, database breaches such as those that affected debit card processor Heartland were reportedly due to malware that infiltrated the company's systems [24].

According to the indictment of suspect Albert Gonzalez, SQL injection was the primary attack vector, and in some cases custom-made malware was installed in certain systems, which allowed the suspects to evade anti-virus programs, scan for data, and delete log files [25]. The criminals managed to infiltrate the system and may potentially have come away with as many as 100 million credit card numbers. Spoofing and phishing are two social engineering techniques that have emerged solely from the development of the cloud. [16]

Malware and exploits: In this section we will discuss some of the malware families that are known to use these techniques. Themed social engineering is what Win32/Waledac [26], a high-profile spamming family, uses to enlarge its users database. As for payloads, Win32/Waledac has the ability to download and execute arbitrary files, harvest email addresses from the local machine, perform denial-of-service attacks (DoS), act as a proxy server for network traffic, and sniff passwords. It was included in the Microsoft Malicious Software Removal Tool (MSRT) in April 2009 [27] due to its high prevalence. Win32/Koobface [28] is one of the biggest threats spreading through social networks, hence its addition to the MSRT in March 2009 [29]. It is highly complex and affects multiple networking sites, such as Bebo, Facebook, Friendster, Fubar, Hi5, LinkedIn, MySpace, Tagged and Twitter. [16]

REFERENCES

1. "Top Five Security Concerns", <http://www.puterweekly.com/Articles/2010/01/12/235782/Top-five-cloud-computing-security-issues.htm>
2. Amazon Elastic Compute Cloud[URL], <http://aws.amazon.com/ec2>, access on Oct. 2009.
3. IBM Blue Cloud project [URL]. <http://www.03.ibm.com/press/us/en/pressrelease/22613.wss>, access on Oct. 2009
4. "A Layered Security Approach for Cloud Computing Infrastructure", July 19, 2010 from IEEE Xplore
5. "Cloud Security Issues" July 2009 IEEE Xplore
6. "IBM Smart Business" <http://www-07.ibm.com/in/ibm/cloud/?ca=googleaw&gclid=Cle838v97KMCFQdB6wodbkM2>
7. http://searchcloudcomputing.techtarget.com/generic/0,295582,sid201_gci1372033,00.html
8. <http://www.computerweekly.com/Articles/2009/08/03/236832/Distributed-systems-grid-and-cloud-ssential-Guide.htm>
9. Lori M. Kaufman, "Data Security in the World of Cloud Computing", IEEE Xplore, Published July/August 2009
10. <http://ieeexplore.ieee.org/Xplore/login.jsp?url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F8013%2F5189548%2F05189563.pdf%3Far-number%3D5189563&authDecision=-203>
11. <http://thecloudcomputing.org/2009/2>
12. www.computerweekly.com/.../A-history-of-cloud-computing.htm
13. www.computerweekly.com/.../2009/.../A-history-of-cloud-computing.htm
14. <http://www.itbstorage.com/pr/35012>
15. "Data Security in the World of Cloud Computing", July 19, 2010 from IEEE Xplore
16. "The Cloud or The Mist?" Virus Bulletin Conference September 2009
17. Software & Information Industry Association. Software as a Service: Strategic Backgrounder. February 2001. <http://www.siiia.net/estore/ssb-01.pdf>.
18. Taudt, E. Konary, A. 2005 Software as a Service Taxonomy and Research Guide. IDC Research Report. June 2005.
19. Miller, C. Cloud security: Is it raining in the cloud? SC Magazine. March 2009. <http://www.scmagazineus.com/CloudsecurityIsitraininginthecloud/article/128308>.
20. "National Cyber Alert System", <http://www.us-cert.gov/cas/tips/ST04-15.html>
21. M. McIntosh and P. Austel, "XML signature element wrapping attacks and countermeasures", in SWS '05: Proceedings of the 2005 workshop on secure Web Services. ACM Press 2005, pp. 20-27
22. "On technical Security Issues in Cloud Computing", July 19, 2009 from IEEE Xplore.
23. "10 Security Concerns of Cloud Computing", <http://www.globalknowledge.ae/knowledge%20centre/white%20papers/virtualisation%20white%20papers/10%20security%20concerns%20for%20cloud.aspx>
24. Krebs, B. Payment Processor Breach May Be
25. Largest Ever. Security Fix/Washington Post. January 2009. http://voices.washingtonpost.com/securityfix/2009/01/payment_processor_breach_may_b.html.<http://securisis.com/blog/heartland-hackers-caughtanswers-and-questions/>.
26. Watanajanstra, A. Waledac spammers fake 'bomb blast' news story. ITPro UK. March 2009. <http://www.itpro.co.uk/610215/waledac-spammersfake-bomb-blast-news-story>.
27. MMPC Malware Encyclopedia. <http://www.microsoft.com/security/portal/Entry.aspx?Name=Win32%2fKoobface>.
28. Molenkamp, S. Anti-Social Networking. MMPC Blog. March 2009. <http://blogs.technet.com/mmpc/archive/2009/03/10/anti-social-networking.aspx>.
29. Totcheva, K. Personal communication.
30. Largest Ever. Security Fix/Washington Post. January 2009. http://voices.washingtonpost.com/securityfix/2009/01/payment_processor_breach_may_b.html.<http://securisis.com/blog/heartland-hackers-caughtanswers-and-questions/>.
31. Watanajanstra, A. Waledac spammers fake 'bomb blast' news story. ITPro UK. March 2009. <http://www.itpro.co.uk/610215/waledac-spammersfake-bomb-blast-news-story>.
32. MMPC Malware Encyclopedia. <http://www.microsoft.com/security/portal/Entry.aspx?Name=Win32%2fKoobface>.
33. Molenkamp, S. Anti-Social Networking. MMPC Blog. March 2009. <http://blogs.technet.com/mmpc/archive/2009/03/10/anti-social-networking.aspx>.
34. Totcheva, K. Personal communication.

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