



## Investigation of Cloud Computing Security Issue

Prachi Garg  
Research Scholar CSE  
MMEC Mullana, MMU  
India

Dr. Sandeep Goel  
Professor CSE  
MMEC Mullana, MMU  
India

Saurabh Garg  
CSE  
MMEC Mullana, MMU, India

**Abstract:** This paper describes the four types of security issues i.e. Data Issues, Privacy issues, Infected Application, Security issues while discussing security of a cloud. The cloud service provider for cloud makes sure that the customer does not face any problem such as loss of data or data theft. There is also a possibility where a malicious user can penetrate the cloud by impersonating a legitimate user, there by infecting the entire cloud. This paper has highlighted all these issues of cloud computing. We believe that due to the complexity of the cloud, it will be difficult to achieve end-to-end security. Security issues while discussing security of a cloud. The cloud service provider for cloud makes sure that the customer does not face any problem such as loss of data or data theft. There is also a possibility where a malicious user can penetrate the cloud by impersonating a legitimate user, there by infecting the entire cloud

**Keywords:** Cloud Computing, SAAS, Security Challenge, VOIP

### I. INTRODUCTION

Clouds are basically virtualized data centers and applications offered as service on a subscription basis. Web based companies (Amazon, eBay), hardware vendors (HP, IBM), telecom providers (AT&T, Verizon), and software[1] firms (Oracle/Sun) are investing huge amount of capital in establishing huge data centers. Cloud computing emphasizes on pay per use economic model means customers pay for services on pay-per-use (or pay as you go) basis as per their requirement. Cloud computing ensures performance needs through SLAs (Service Level Agreements) negotiated between customers and cloud providers by specifying the agreements on the QoS such as deadline constraints [2]. The use of cloud computing allows small and medium enterprises not to worry about buying, configuring, administering and maintaining their computing infrastructure.

Cloud computing is a novel and developing expertise where practical infrastructure is delivered by way of "service". In this method, customers of clouds (software designers) can custom virtualized resources as a facility, frequently compliantly scrabbling resource custom (and expense) up or down. One of this computing technology provision layers, Infrastructure-as-a Service (IaaS), provides designers liberty to advance their individual policy and custom their software by way of they would fix on their personal infrastructure, then this arises with a cost: handling software structural design on a large cloud at runtime can be a tough and subtle job, by way of individual minor mistake in a utilization script or an architectural alteration can consequence in thoughtful responsibilities ensuing in renunciation of facility or supplementary severe disappointments as a importance.

Cloud computing discusses to the provision of computing resources concluded the internet. In its place of custody information on your individual hard drive or apprising requests for your requirements, you practice a facility through the internet, at alternative place, to accumulate your

info or use its requests. Doing so can provide increase to convinced confidentiality insinuations. This computing technology is the distribution of facilities through the net. Cloud facilities permit persons and companies to custom software and hardware that are achieved by other peoples at faraway sites. Instances of cloud facilities comprise on the web document stowage, communal interacting sites, webmail, and online commercial services. This computing technology archetypal lets right to use to info and computer servers from wherever that a network linking is offered. This computing technology delivers a common puddle of servers, comprising inform stowage space, networks, computer processing power, and specific business and consumer requests.

### II. DEPLOYMENT MODELS

Deployment of Cloud m type of cloud[3] will provide the services. Requirement and environment have an impact of choosing the deployment model. Thus, keeping this thing in mind four deployment models has been proposed:

**2.1 Private Cloud:** In this type of cloud, the cloud services, infrastructure are maintained and operated for specific organization for their personal use only.

**2.2 Public Cloud:** The cloud services that are provided only for all public are called public cloud. Thus, a consumer can avail this cloud services at low cost as compared to the other type of cloud.

**2.3 Hybrid Cloud:** In Hybrid cloud, the cloud facilities are provided on basic of different cloud model. It is the combination of private and public cloud. Some services are provided on the basis of private cloud and others' are on the basis of public cloud.

**2.4 Community Cloud:** In community cloud, the services are used by the businesses that have similar requirements and interest. It also reduces the cost compared to other

deployment models as its services are gained by various organizations.

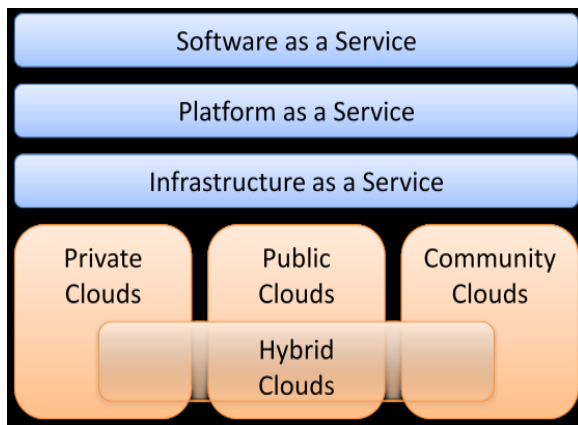


Fig 2.1 : Cloud Computing Deployment and service Models.

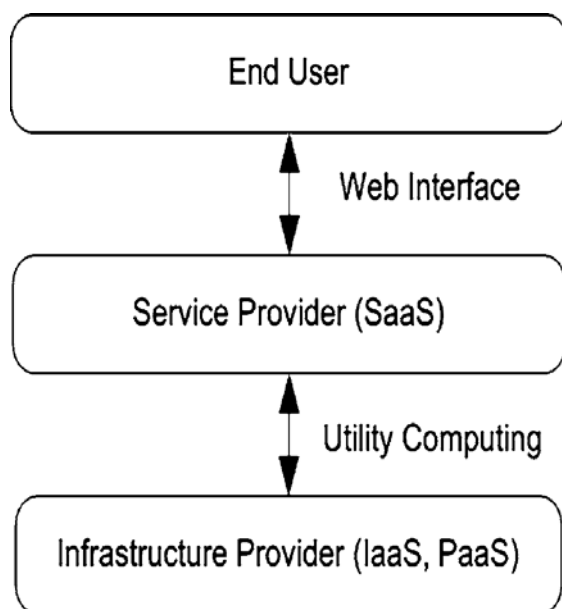


Fig 2.2: Cloud Computing Business Model.

### III. ATTRIBUTES OF CLOUD COMPUTING

#### What facilities can be used in the cloud?

Here are abundant facilities that can be brought through cloud computing, captivating benefit of the distributed[5] cloud prototype. At this time, approximately short-lived similes of a limited of the greatest general cloud-based IT solutions:

#### 3.1 Hosted Desktops

Hosted desktops eliminate the necessity for old-style desktop PCs in the organizational surroundings, and decrease the price of providing the facilities that you require. A hosted desktop appears and performs similar to a normal desktop PC; nonetheless the software and information consumers procedure are contained in faraway, extremely protected information focuses, somewhat on their personal machineries. Customers can merely contact their introduced desktops through an internet linking after, wherever in the sphere, by means of one or the other a present PC or laptop or, for determined cost competence, a particular expedient named a thin customer.

#### 3.2 Hosted Email

By way of additional groups appearance aimed[7] at a safe, consistent email explanation that will not price the world, they are progressively rotating to held Microsoft Exchange electronic mail strategies. By means of the universe's leading email stage, this facility occupancy administration together enormous and minor gain the welfares of exhausting MS Exchange interpretations deprived of obligating to capitalize in the expensive infrastructure. Electronic mail is stowed centrally on achieved provider, given that dismissal and debauched connectivity commencing some position. This permits customers to contact their email, schedule, associates and communal records by a diversity of income, counting Outlook, Outlook Mobile Access (OMA) and Outlook Web Access (OWA).

#### 3.3 Hosted Telephony (VOIP)

VOIP (Voice over IP) is a resource of transporting handset requests and facilities through digital net communication. In relations of rudimentary practice and features, VOIP[4] is no diverse to outdated telephony, and a VOIP-enabled handset the whole thing precisely similar to a 'common' one, nonetheless it has separated price compensations. A presented VOIP organization exchanges luxurious headset schemes, setting up, receivers, BT appearances and facts with a humble, cost-efficient substitute that is obtainable to custom on a regular contribution foundation. Characteristically, a pre-configured receiver fairly wants to be persevered in your broadband or workplace network to permit you to contact facility like voicemail, IVR and other.

#### 3.4 Storage

Stowage is rising in attractiveness owing to the profits it delivers, like humble, price, that contact and elimination of the pressure of in-house conservation and organization. It is essentially the distribution of information stowage like a facility, since a third party supplier, through contact through the internet and promoting considered on volume castoff in a sure age (e.g. per month).

#### 3.5 Dynamic Servers

Dynamic resources are the following age bracket of resources situation, substituting[8] conservative idea of the devoted provider. A supplier alike Think Grid provides its clientele contact to servers that appear and sensation precisely alike a devoted resource, but these are fully expendable. User could straight regulate the quantity of manipulating capability and space you custom, significance user need not to fee on behalf of hardware user could not want. Characteristically, user could create modifications to user's forceful provider at some period, over the hover, deprived of the prices related with touching as of one provider to added.

### IV. RELATED WORK

Author [5] The manager aggregates the information from got from diverse sensors and then styles a joint system inclusive conclusion regarding the presence of interruption

of any kind. The components of administrator are: Translation Engine, event dispatcher, interface engine. The experiment is performed to evaluate CIDS. CIDS brought down the missing alarm and false alarms and it had negligible impact on the performance. It could be applicable on small sized network only is the disadvantage of this framework. The aim of [6] is firstly to evaluate cloud security by identifying unique Security requirements and secondly to attempt to present available solution that eliminates these potential threats. proposes introducing a Trusted Third Party, tasked with assuring specific security characteristics within a cloud environment. The proposed solution calls upon cryptography, specifically Public Key Infrastructure operating in concert with SSO and LDAP, to ensure the authentication, integrity and confidentiality of involved data and communications. This paper [7] describes that in the past few years, a lot of research and development efforts have been made to define centralized and federated security mechanisms for the protection of identity information in a cloud environment. However, to the best of our knowledge none of the systems have been designed keeping anonymity as the key component. This paper describes an authentication and authorization protocol which outlines the main features of anonymous communication in the cloud. The solution is an extension of existing standards making it easy to integrate and compatible with existing standards.

## V. RESEARCH METHODOLOGY

Public verification in addition to the verification of the consistency, at existing days, maximum of PDP and POR systems can deliver third party verification (public verification). In systems, there are three causative parties, such that the Data Vendor, CSP, and TPA[9]. The individuality of this structure, CSP is not difficult to the uniqueness of authentication party. Several periods, that is not what we need to realize. We recognize that CSP and TPA are semi-trusted by the Data Vendor. For the reason that CSP is semi-trusted, we have the RDA rules. Meanwhile the conventional three-entity assembly cannot answer the difficulties of third party are being semi-trusted. Since, the old structure, the research message is modest so that can direct one to the CSP, and the CSP cannot authenticate the individuality of the research dispatcher. Under this purpose, the enemy can either get the associated info about the Data Owners file(s) or can collect statistical info around the CSPs service status. To this completion, usual PDP models cannot relatively encounter the assurance needs of auditing-as-a service, even though they sustain public verifiability.

2) Computational Slide Allocation in demand to settle the security and precisions of verification, maximum of the continuing RDA schemes verification bashes transfers a considerable part of the computational ability. But, in overall, the conniving regulation of the server is much coarser than that of a PC. So, it is healthier to let the server to transfer the computational beyond as much as possible, below the ground of approving security. In legitimacy, this is a win-win distinctive. For consumers, this reduces the waiting time and advances the consecutively speed of the complete route. Typically, this is the extreme important facility to the customer after security. CSPs, principally for some large creativities, can recuperate the sequentially swiftness of the

complete procedure by purifying their hardware performance. These resources, that they can accept the inventiveness to advance the excellence of capability. And this can usually assistance them attention additional clients. But a state occurs, mainly for minor companies, in which the server computing regulator converts the block that disapprovingly effect the speed of the entire protocol due to the huge amount of customers. So, it is difficult for the fixed-load sharing strategy to encounter appeal at all times, even yet the server has very powerful manipulative control. Consequently, we recommend the dynamic distribution idea in which, by evading, the server will calculate the enormous popular of the computational slide. At the comparable time, the server can transmit portion of the totaling above to the verification collecting. Remind that, this needs very high elasticity, in the control of proof.

3) Error Management in this field, observation faults has converted a problematic, and it has complicated the thought of several detectives. Consider that one operator feels that her or his documents are corrupted when they are tested. How to contract with these flyers, has develop an attentive difficult. The customer can remove all of the documents if they are not authoritative. But what should be prepared[11] if there is some searching (or significant) material in these documents? Can we attempt to retain these difficult evidences? In adding, circumstances can stand up in which operators feel errors when they checked a huge document. Regardless of whether it is an important dataset, removing the entire data would be a huge damage to the customer. In these two conditions, the problems grow abundant humbler if we are capable to resistor the location of the error. So this problem is worth revising.

B. Our Project Aims: Our project goals can be summarized as the succeeding:

- Open auditability to assure the accuracy of storing: To permit anyone, not unbiased the customers who reserved the document on cloud servers, to require the ability of authorizing the accuracy of the reserved information on request.
- Active information act provision: In the direction of agree the customers just before complete block-level procedures on the information documents though ongoing the corresponding glossy of assurance concerning the accuracy of the information. The project ought to be as effective as conceivable to protect the combined adding of open auditability and vigorous information procedure provisioning.
- Low calculation complication: To let TPAs[10] to do examination with smallest message and calculation overhead. But then again if the server advances the block of the control process, it can broadcast distinctly of the control load to the verification party proactively.
- Bidirectional verification: to let CSPs to authorize the character of TPA and spontaneously some verification requirements from the illegitimate customs.
- Error handling: To permit TPAs to collect fault material and redirect it to the genuine server; also, the server is asked for, to have the ability to categorize the authenticity of the info. Additional, TPAs can revalidate the important document portions founded on the last validation

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