Chapter 5
A Comprehensive Survey on Trust Issue and Its Deployed Models in Computing Environment

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ABSTRACT

Cloud computing is growing with a giant pace in today's world. The speed with which it is growing, the same speed is taken over by the insecure data transfer over the cloud. There are many security issues that are underlying in cloud computing. This chapter presents how a trust is built between any user and a cloud service provider. Various techniques have been adopted to calculate the value of trust and further how it can be strength. This chapter has also explained various trust models based on the necessities of a user. This chapter has also thrown some light over the concept of TTP, i.e., Trusted Third Party which further helps in maintaining trust over the cloud environment.

INTRODUCTION

By the growing era of various computing techniques, resources have become cheaper in cost, powerful and available more than required without any hindrance or disturbance. This computing technology has enabled the world of realization that denotes a Cloud Computing model.

In Cloud Computing environment, resources are provided that can be leased on demand and then can be released by the users when their need is over. This Cloud Computing has made an impact on the IT industry over the past few years. Some of the examples of cloud services are Google, Amazon and Microsoft that provide the most powerful, trustworthy and cost efficient services.

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The cloud works on the "Pay-as-you-go" model that supports storage and network bandwidth services, whereas computation slightly depends on virtualisation level. While talking about Google AppEngine, it automatically scales in or scales out their services as required by the user. Amazon Web Services (AWS) charges the by number of instances that a user occupy per hour (even if the user's machine is idle) (Mell et al, 2009).

Cloud Computing providers provide various techniques for optimum use of resources. By imposing technique of per-hour or per-byte costing, a user can pay attention to his/her efficiency i.e. they need to release and acquire resources only when highly required by them.

VARIOUS DEFINITIONS OF CLOUD COMPUTING

A style of figuring where greatly versatile IT-related abilities are given as an administration over the Internet to different outside clients (Zissis et al, 2012).

A pool of disconnected, exceedingly versatile, and oversaw framework fit for facilitating end-client applications and charged by utilization.

The fantasy of vast processing assets accessible on request, the disposal of in advance responsibilities by cloud clients, and the capacity to pay for utilization of figuring assets on a fleeting premise as required.

Distributed computing grasps digital foundation, and expands on virtualisation, dispersed figuring, framework registering, utility processing, systems administration, and Web and programming administrations (Singh et al, 2015).

A kind of parallel and disseminated framework comprising of an accumulation of interconnected and virtualised PCs that are progressively provisioned and exhibited as at least one bound together figuring assets in light of administration level assentions built up through transaction between the specialist co-op and customers.

An expansive pool of effectively usable and available virtualised assets, (for example, equipment, improvement stages as well as administrations). These assets can be progressively reconfigured to acclimate to a variable load (scale), permitting additionally for an ideal asset use. This pool of assets is normally misused by a compensation for every utilization display in which ensures are offered by the framework supplier by methods for tweaked SLAs (Singh et al, 2016).

A model for empowering advantageous, on-request organize access to a mutual pool of configurable figuring assets (e.g. systems, servers, stockpiling, applications, and administrations) that can be quickly provisioned and discharged with negligible administration exertion or specialist co-op collaboration (Subashini et al, 2011).

TRUST IN CLOUD COMPUTING

Security is considered as one of the most important field that needs to be handled in the emerging area of cloud computing. If security is not handled as per requirement, then there are high chances of failing of cloud computing environment as it involves management of personal sensitive information in a public network. The security which is provided by service a provider becomes an important factor to protect the network and its resources so as to fulfil the feature of vigorous and trustworthiness.