Brief summary on cloud computing

Abstract. This paper provides a brief summary on cloud computing.

Summary

Cloud computing is considered as one of most accomplished and ubiquitous paradigms in 21st century, especially for the service related computing. It has been credited for the revolution, it has brought by abstracting the complex and expansive computing infrastructure underneath. Though, in service-oriented age, there are only three cloud paradigms that have attained significant popularity -- Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS). Elasticity in service usage and consequently price (pay-per-use), low financial inputs upfront, reasonably reduced time to market (TTM), responsibility shift in risk management, etc. are some of the potential convincing attributes of cloud computing. Such features attribute it as pervasive, economical, and a quintessential paradigm that is highly suitable for novel applications deployment. Such economic feasibility is very far from reality under the ambit of any traditional infrastructure environment; as a result of which, more and more applications are migrating into cloud environment. This results a sharp spike in the scale of the data traffic through, which indicates that the voluminous scalable data, storage, and their processing models are important components of the cloud environment. In sum, cloud computing is a financially economical but technologically robust invention that is designed for complex and overly large scale computations; which relinquishes any need for a dedicated space, and onsite management of expensive hardware infrastructure and delicate software systems. In an informal way, cloud computing can be defined as the pay-per-use service of the highly scalable computing resources, offered from an outer environment by a third party vendor. A resource-rich cloud environment may house thousands of resources, but a client (or a user) is just billed only for those resources that are requested or used by him. However, at any point of time, and from any geographical location, where Internet accessibility is available, any resources, active under the contractual agreement, can be accessed. A cloud service provider is solely responsible for the administration of infrastructure, constituted by physical hardware and expansive software; a client is absolutely free from such burdens. In this section, a general classification of some of the leading cloud services is provided. Each class is briefly described. SaaS is one of the most popular, repository-rich and widely used cloud model that is offering the services for more than a decade now. The service repository is much diversified and cover a very wide range of simple to complex services such as Google Email, Google Doc, etc. Under the contractual agreement of SaaS model, the vendor also called the service provider is fully responsible to provide all the essential infrastructure consisting of the robust hardware resources and expansive software systems. As, the name suggests, IaaS offers the infrastructure as service. The infrastructure consists of various building blocks, which can be combined or layered to derive a customized environment most appropriate to execute the designated applications. Some of the most popular examples of IaaS cloud model include Amazon Web Services (AWS), Rackspace, etc. In the PaaS cloud model, the service provider is responsible to provide the risk free and robust environment for software product development. The environment consists of required software tools and is hosted on the hardware infrastructure of the service provider.

Conclusion. This paper was a one pager on cloud computing.

References


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