Chapter 89
Information Retrieval and Access in Cloud

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ABSTRACT

With increase of information sharing over the internet or intranet, we require techniques to increase the availability of shared resource over large number of users trying to access the resources at the same time. Many techniques are being proposed to make access easy and more secure in distributed environment. Information retrieval plays an important to serve the most reliant data in least waiting, this chapter discuses all such techniques for information retrieval and sharing over the cloud infrastructure. Cloud Computing services provide better performance in terms of resource sharing and resource access with high reliability and scalability under high load.

INTRODUCTION TO CLOUD COMPUTING

Describe Cloud computing is a trending topic that many find confusing but It isn't, though, in fact, most of those who claim not to understand the subject are part of the majority that uses it daily. In basic terms, cloud computing is the word used to describe different scenarios of computation in which computing resource is delivered as a service over a network connection (usually, over the internet). Datacenter hardware and software that the vendors use to offer the computing resources and services. Cloud technology allows for the automatic provision and releases resources as per requirement and when it is necessary, thus ensuring of resource availability match to current demand as possible. This is a defining characteristic that completely differentiates it from other computing models where the resource is delivered in blocks (e.g., individual servers, downloaded software applications), usually with fixed capacities and high costs. See more characteristics in Figure 1. With cloud computing, the end user usually pays only

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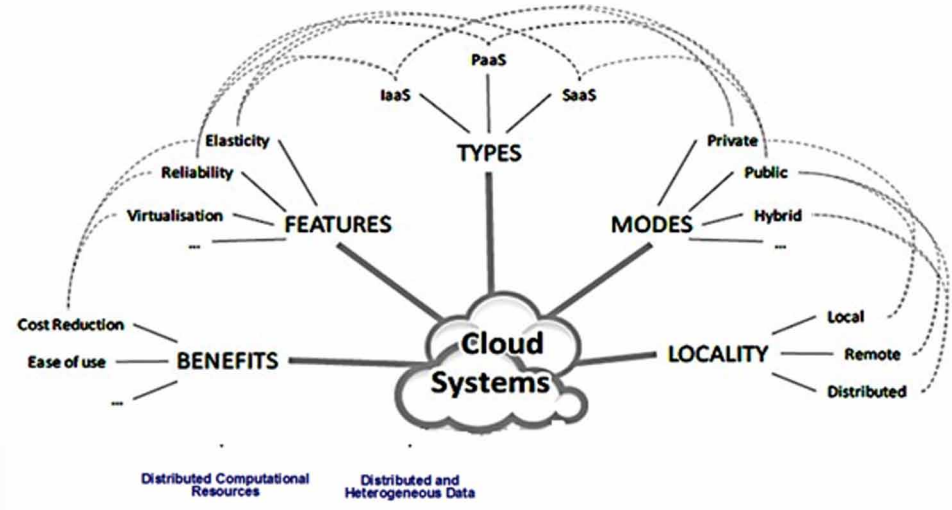
for the resource they use and so it avoids the inefficiencies and expense of any unused computation models (Sakr, 2010).

However, the advantages of cloud computing are not limited to flexibility even there are many things which make it more reliable and make a very good choice of computation option. Enterprise industries can also benefit (in varying degrees) from the economies of scale created by setting up services all together with the same computing environments, and the reliability of physically hosting services across multiple servers which may be like geographically on same machine or differentplace where individual system failures do not break or affect the continuity of the service (Sen, n.d).

Figure 1. Characteristics of cloud computing



Over conventional method of resource sharing over a private server fails to provide Quality of Service as assured under large users or requests made for a resource. Cloud computing is a solution to guarantee an assured Quality of Service in any conditions of high load or sharing large resources.

It has been categories in major parts naming as public, private and hybrid cloud computing. To understand these three terms, let's imagine it in your mind to have a clear vision. See Figure 2.

Public Cloud

A public cloud, for example, is a cloud in which services and infrastructure are hosted off-site or we can say over the server by a cloud provider or can say a vendor, shared across their client base and accessed by these clients via public networks or the internet. Public clouds offer great economies of scale and redundancy but are more vulnerable than private cloud setups due to their high levels of accessibility and services management.