Chapter 12
Impact of Cloud Gaming in Health Care, Education, and Entertainment Services

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ABSTRACT

With the rapid growth of Cloud Computing, various diverse applications are growing exponentially through large data centers with the use of Internet. Cloud gaming is one of the most novel service applications that helps to store the video games in cloud and client can access the games as audio/video streams. Cloud gaming in practice substantially reduces the computational cost at the client side and enables the use of thin clients. Further, Quality of Service (QoS) may be affected through cloud gaming by introducing access latency. The objective of this chapter is to bring the impact and effectiveness of cloud gaming application on users, Health care, Entertainment, and Education.

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INTRODUCTION

Cloud Computing: A Quick Review

The term cloud computing defines itself a type of computing that relies on sharing computing resources rather than a personal server or devices to handle the applications. The word "cloud" is used as a metaphor for Internet and the phrase "cloud computing" defines Internet based commuting that integrates different services such as servers, storage and applications etc. It can be defined as a centralized storage of huge no. of remote servers having network connectivity allow on-line access for computer services and resources. Cloud computing services can be represented in four ways. These are Software as a service (SaaS), Platform as a service (PaaS), Infrastructure as a service (IaaS), and business process as a service (BPaaS). SaaS uses the web to develop applications owned by a third party vendor, whose interface is accessed by client side. A complete software application is delivered to the end-users including the associated data and hosted centrally in the cloud. The data can be accessed anywhere through the web browser. PaaS includes software platform including infrastructure elements such as database, middleware, security, and presentation layer to develop custom applications. It allows the users for development and testing of applications in a simple cost effective way whereas the resources are managed and controlled by a third party vendor. IaaS is known as the basic service model of cloud. The company provides resources in terms of servers, network bandwidth, and storage space on pay per use basis. BPaaS provides an external web enabled service for external business process. The general architecture of cloud computing is shown in Figure 1.

The deployment models of cloud computing can be classified as Public, Private, Hybrid, and Community cloud. The deployment model of cloud computing is shown in Figure 2. Private clouds are meant for private usage and owned by a single company located either inside the campus or outside the campus. It can be owned by an external third party that provides a virtual infrastructure for applications and communications for internal business users. Private cloud offers the benefit of on-demand infrastructure with dedicated resources to an organization. But the computing resources are shared across the applications and business units of those applications. This model is highly suitable for enterprisers with strong concern about data security and data privacy. Public cloud is meant for the public users to access over a network and owned by a third party vendor. Unlike private cloud, the public cloud customers never need provision, manage, upgrade or replace any hardware. Of course, pricing depends on the company's utility-style. They pay only for resources they reserve or consume during a defined time span. Hybrid cloud enjoys the benefits of both the private and public cloud. It maintains data confidentiality in private

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