2. Background

Cloud computing is a general term for anything that involves delivering hosted services over the Internet. It could be a service, a platform, or even an operating system, which provides hosting and storage services on the Internet. The main goal of the cloud computing is to provide scalable and inexpensive on-demand computing infrastructure with good quality of service levels (Singh & Sharma, 2011). There are three fundamental models which cloud computing providers offer: Infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS) (Velte, Velte, & R.Elsenpeter, 2009)

First, Software as a Service is software that is deployed over the Internet, available to the end user as and when wanted. Hence, it is also known as "software on demand". Payment can either be as per usage, via a subscription model or even free if advertisement is part of the equation. Second, Platform as a Service is a combination of a development platform and a solution stack, delivered as a service on demand. It provides infrastructure on which software developers can build new applications or extend existing ones without the cost and complexity of buying and managing the underlying hardware and software, and provisioning hosting capabilities. In other words, it provides the supporting infrastructure to enable end users to develop their own solutions. Third, Infrastructure as a Service delivers computer infrastructure – typically a platform virtualization environment – as a service. This includes servers, software, data-center space and network equipment, available in a single bundle and billed as per usage in a utility computing model.

Most studies in the field of cloud computing have focused on Security as being a very important and critical aspect. Jain (2012) notes that both the cloud service provider and the cloud service consumer should make sure that the cloud is safe enough from all kinds of external threats so that the consumer does not face any problem such as loss of data or data theft. There is need for advanced and extended technologies, concepts and methods that provide a secure server which leads to a secure cloud. One of these methods is using the wireless local area network (WLANs) protocol.

According to various researchers in the field, WLANs:

> link two or more devices using some wireless distribution method, and usually providing a connection through an access point to the wider Internet. This gives users the mobility to move around within a local coverage area and still be connected to the network (Jain, 2012).

However, the increase in the accessibility of WLANs has created large and serious security holes for hackers to abuse. To avoid such security issues, Jain (2012) suggests that some strong security protocols should be used, for instance: Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA) and 802.11i (WPA2).