Chapter 82
Cloud Computing Decisions in Real Enterprises

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ABSTRACT

Money is one of the most important things for enterprises today. Computer Centers represent a large part of the total costs of enterprises, irrespective of their size. This chapter describes some (real) ways to convince enterprises to use Cloud computing in order to save money and obtain better returns from their computer (hard and soft) resources.

1. INTRODUCTION

Enterprises have grown over the years and have increased their computer resources in line with their needs accordingly. The current economic crisis is deeply affecting people and enterprises, and consequently some of them have chosen to optimize their resources while others have opted to share resources with others.

The word "Cloud," a collective term for a large number of developments and possibilities, is now in fashion after words such as "Grid" and "Virtualization." Petri (2010) states that this is not an invention but more of a "practical innovation."

However, the term was first defined by Prof. Kenneth K. Chellapa in 1997 as "a computing paradigm where the boundaries of computing would be determined by economic rationale rather than technical limits." Wikipedia provides more details on how the name and use was defined: "Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote servers with a user's data, software and computation" (Wikipedia, 12/2012).

On the other hand, the NIST (National Institute of Standards and Technology www.nist.gov) provides a clearer definition:

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model is composed of five essential characteristics, three service models, and four deployment models (NIST, 2011).

When computer experts in enterprises were asked what they thought about Cloud Computing, the answers varied from "this is a new paradigm" to "this is a mix between Grid and Virtualization." Other answers were even more complex such as "this is when you are using infrastructures, platforms and applications that are not yours but they seem to be yours," that is like the scenario of your new vision. Reality is in this case about professionals. What about ordinary people, where the idea of computing is "any complex device that contains a microprocessor," and when you ask them about Cloud the answer normally is "everything is a Cloud nowadays, you never know where things are." It clarifies what is happening with this new paradigm. Things may be clear, but they are not clear enough, so it is necessary to explain what is happening from within. Documents such as "The top 5 truths behind what the Cloud is not " (CITRIX, 2012), can show, clearly, that our idea of computer people, for users and ordinary people, the term Cloud is far from clear.

This moves us to try to find out how people are using the Cloud nowadays, and as we can see in many documents (Infoworld (www.infoworld.com, 2008), Gartner Group (www.gartner.com, 2012), Microsoft (www.microsoft.com/nube, 2012), Oracle (www.oracle.com/Cloud-Compting, 2012) IBM (www.ibm.com/Computacion/

Nube, 1012), Hewlett-Packard (www.hp.com/go/Cloud, 2012), Spanish Cloud distributor (http://nube.es, 2012), Amazon (www.amazon.com, 2012) and others (the list today is probably longer)) the problem is, as we said in the previous paragraph, that definitions of Cloud are very different, and consequently how people use it is also very different. We define cloud as, "the use of services, platforms and applications using the net, taking all or some of them from the net." Therefore, almost everybody who is using a smartphone, a tablet, a PC or any other device plugged into the net and using services or applications offered or provided (and of course their platforms) in using the net.

In a conference held in Chapman University (Schmid College of Science and Technology), available in video from iTunes U (www.apple.com since 2011) and entitled "Cloud Computing: The Power of the Cloud" Dr. Jim Doti, Dr. Renee Bergeron, Dr. Menas Kafatos and Dr. Narinder Singh (among others), made a very interesting analysis about what people, academics, and enterprises think use, assume or opine about Cloud Computing. Even within academia, opinions that are varied, and some of them are very simple while others are complex. Nevertheless, they give a clear vision about the enterprise-academic view of the Cloud. It should probably be academic-enterprise because it was the academic world that invited the enterprise to show them the advantages of using the Cloud.

Kenneth and Jane Laudon, in their famous book "Management Information Systems" (Laudon, 2012), made a study on how to apply Cloud Computing in the new digital enterprises. They analyze, from almost all points of view, the application of computer technologies to make enterprises use digital systems. And, in their 12th edition, they also apply the use of the Cloud (explained in previous editions, but in greater detail in this one) as one of the most interesting parts of computers to be used in actual enterprises, that is, they analyze problems with using Cloud.

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