

Chapter 1

INTRODUCTION

There are countless definitions and interpretations of cloud computing to be found from multiple sources. The term “cloud computing” itself likely comes from network diagrams in which cloud shape are used to describe certain types of networks, either the Internet or internal networks. Some sources refer to cloud computing as a set of applications delivered as services combined with the datacenter hardware and software that enables the applications. Others say that cloud computing is a business model rather than a specific technology or service.

In present opinion, cloud computing consists of both technological and business components. Certain cloud-enabling technologies significantly helped to form the cloud, and it is unlikely that cloud computing could have existed without them and discuss these more closely in the next chapter, but it is worth mentioning that cloud-enablers such as open-source software, virtualization, distributed storage, distributed databases, and monitoring systems are the cornerstones of cloud infrastructure.

Cloud computing assumes that every software application or system component becomes a service or part of a service. Therefore, the architecture of new or existing systems might have to be changed to become cloud compatible. As such, in order to realize the value of the cloud and enable it for an organization, businesses must typically make major structural adjustments to internal IT organizations and evangelize cloud philosophy to employees. Depending on the type of cloud used by an organization, this may also create competition within the company. It is typical that people resist change, so cloud evangelists often face resistance within their organizations.

1.1 Why Cloud Computing?

Cloud computing is set to form the bedrock of a fundamental change in the way enterprise IT and consumer services are implemented and delivered. Already cloud computing providers are offering infrastructure-as-a-service; implementing virtualized compute, storage and network as an environment in which to deploy and run applications and services; and new enterprise IT and consumer services implemented in these environments are appearing every day. Paid for according to use, such environments afford service providers the ability to scale far beyond the limits of investment justified by fluctuating and uncertain demand and without impacting user quality of experience.