

# **PART I**

## **Getting Started with Google Cloud Platform**

## CHAPTER 1

# What Is Cloud Computing?

Cloud computing is the practice where computing services such as storage options, processing units, and networking capabilities are exposed for consumption by users over the Internet (the cloud). These services range from free to pay-as-you-use billing.

The central idea behind cloud computing is to make aggregated computational power available for large-scale consumption. By doing so, the microeconomics principle of economies of scale kicks into effect where cost per unit output is minimized with increasing scale of operations.

In a cloud computing environment, enterprises or individuals can take advantage of the same speed and power of aggregated high-performance computing services and only pay for what they use and relinquish these compute resources when they are no longer needed.

The concept of cloud computing had existed as time-sharing systems from the early years of the modern computer where jobs submitted from different users were scheduled to execute on a mainframe. The idea of time-sharing machines fizzled away at the advent of the PC. Now, with the rise of enterprise data centers managed by big IT companies such as Google, Microsoft, Amazon, IBM, and Oracle, the cloud computing notion has resurfaced with the added twist of multi-tenancy as opposed to time-sharing. This computing model is set to disrupt the way we work and utilize software systems and services.

In addition to storage, networking, and processing services, cloud computing provides other product solutions such as databases, artificial intelligence, and data analytics capabilities and serverless infrastructures.