

# *What is cloud computing?*

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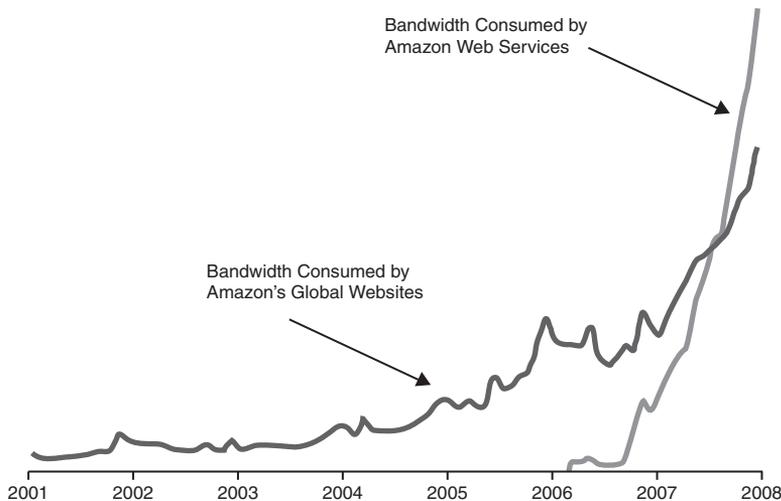


*Cloud computing* is the hottest buzzword in the IT world right now. Let's understand why this is and what this cloud computing hype is all about. A growing consensus among cloud vendors, analysts, and users defines cloud computing at the highest level as computing services offered by a third party, available for use when needed, that can be scaled dynamically in response to changing needs. Cloud computing represents a departure from the norm of developing, operating, and managing IT systems. From the economic perspective, not only does adoption of cloud computing have the potential of providing enormous economic benefit, but it also provides much greater flexibility and agility. We'll continue to refine and expand our definition of cloud computing as well as your understanding of its costs and benefits throughout this book.

Not only are IT journals and IT conferences writing and talking about cloud computing, but even mainstream business magazines and the mass media are caught up in its storm. It may win the prize for the most over-hyped concept IT has ever had. Other terms in this over-hyped category include Service-Oriented Architectures (SOA), application service providers, and artificial intelligence, to name a few. Because this book is about cloud computing, we need to define it at a much more detailed level. You need to fully understand its pros and cons, and when it makes sense to adopt it, all of which we'll explain in this chapter. We hope to cut through the hype; and to do that we won't merely repeat what you've been hearing but will instead give you a framework to understand what the concept is all about and why it really is important.

You may wonder what is driving this cloud hype. And it would be easy to blame analysts and other prognosticators trying to promote their services, or vendors trying to play up their capabilities to demonstrate their thought leadership in the market, or authors trying to sell new books. But that would ignore a good deal of what is legitimately fueling the cloud mania. All of the great expectations for it are based on the facts on the ground.

Software developers around the world are beginning to use cloud services. In the first 18 months that it was open for use, the first public cloud offering from Amazon attracted over 500,000 customers. This isn't hype; these are facts. As figure 1.1 from Amazon's website shows, the bandwidth consumed by the company's cloud has quickly eclipsed that used by their online store. As the old adage goes, "where there's smoke, there must be a fire," and clearly something is driving the rapid uptake in usage from a cold start in mid-2006.



**Figure 1.1** Amazon originally deployed a large IT infrastructure to support its global e-commerce platform. In less than 18 months after making the platform available as a cloud service to external users, its usage, as measured by amount of bandwidth consumed, outstripped bandwidth used internally.

Similar to the previous technology shifts—such as the move from mainframes to client-server, and then from client-server to the internet—cloud computing will have major implications on the business of IT. We hope to provide you with the background and perspective to understand how it can be effectively used as a component of your overall IT portfolio.