

Cloud Computing Made Clear

It's the tech term of the moment, but what does it really mean, who has it, who wants it, and why?

By Steve Hamm

When Hewlett-Packard's chief strategy officer, Shane V. Robison, visited *Business Week* recently, we asked him to define cloud computing, one of the hot new terms in tech. He laughed and politely refused. We asked again. He offered some general thoughts, but again avoided a precise definition.

It was an unusual response from one of the renowned thinkers in the tech industry. Yet Robison's reticence shows how difficult it is to get clarity about cloud computing these days. Almost every week, there's a new initiative unveiled using the term. Most recently, Google and Salesforce.com announced a joint effort, with Google CEO Eric Schmidt declaring this "the computing cloud age." And as the buzz about clouds has grown, the term is being stretched to cover a whole host of very different activities. Here's a guide:

What is cloud computing?

The broadest definition refers to any situation in which computing is done in a remote location (out in the clouds), rather than on your desktop or hand-held device. You tap into that computing power over an Web connection. "The cloud is a smart, complex, powerful computing system in the sky that people can just plug into," says Web browser pioneer Marc Andreessen.

The difference today is scale: Vast data centers at Google, Yahoo, and Amazon offer computing power like never before



What's new about that?

Cloud computing is similar to what the tech industry years ago called "on-demand" or "utility" computing to describe the ability to tap into computing power on the Web with the same ease as plugging into an electric outlet in your home. But cloud computing is different from those older concepts in a number of ways. One is scale. Google, Yahoo!, Microsoft, and Amazon.com have such vast data centers,

full of thousands of server computers, that they can offer computing power of a magnitude never before available. Cloud computing is also more flexible. Clouds can not only perform specific computing tasks but also handle wide swaths of the technologies companies need to run their operations.

What are the most common uses?

Web services that require immense computing power, including Web search and social networking sites such as Facebook and MySpace, are examples. And many small Web outfits can't afford to operate their own data centers, so they use those of Google and Amazon. Most of these projects are simple Web sites, but business analysts are starting to tap Amazon and Google's computers to mine huge stores of Web data for business intelligence.

Are there different kinds of clouds?

Yes. While Google's is ideal for sifting through data, Salesforce.com's is best for running business applications like customer management and accounting software. It lets companies write their own programs to run on its servers.

Are large companies using cloud computing?

Few are using it extensively. Corporate software maker SAP is looking for ways to offer the efficiency and flexibility of clouds. IBM has built a cloud center in Ireland to showcase the new technologies. But analysts say corporations are smart to go slowly until the technology advances. "This is Silicon Valley cranking up the dream machine," warns analyst Bruce Richardson of AMR Research.

As more tech companiesglom onto the term for marketing purposes, cloud computing's true potential is likely to get even foggier. But eventually, where consumers and businesses find value, tech suppliers will find profits. **IBW**