

# Meet the rainmakers

It might be a nascent technology, but the competitive landscape for cloud computing is already brutal

By NICK CLAYTON

The battle to corner the market in cloud services is heating up. Companies across the globe are developing new strategies to get ahead in an industry that could be worth billions in the near future. However, revenues from cloud computing are as elusive as the concept is intangible and, for the moment at least, there is far more talk than action.

Given the amount of noise surrounding cloud computing it's easy to forget just how new the concept is. Amazon.com began offering services in 2006 and since then, according to technology consultant 451 Group, it has "almost single-handedly moved cloud computing to the center of the IT innovation agenda."

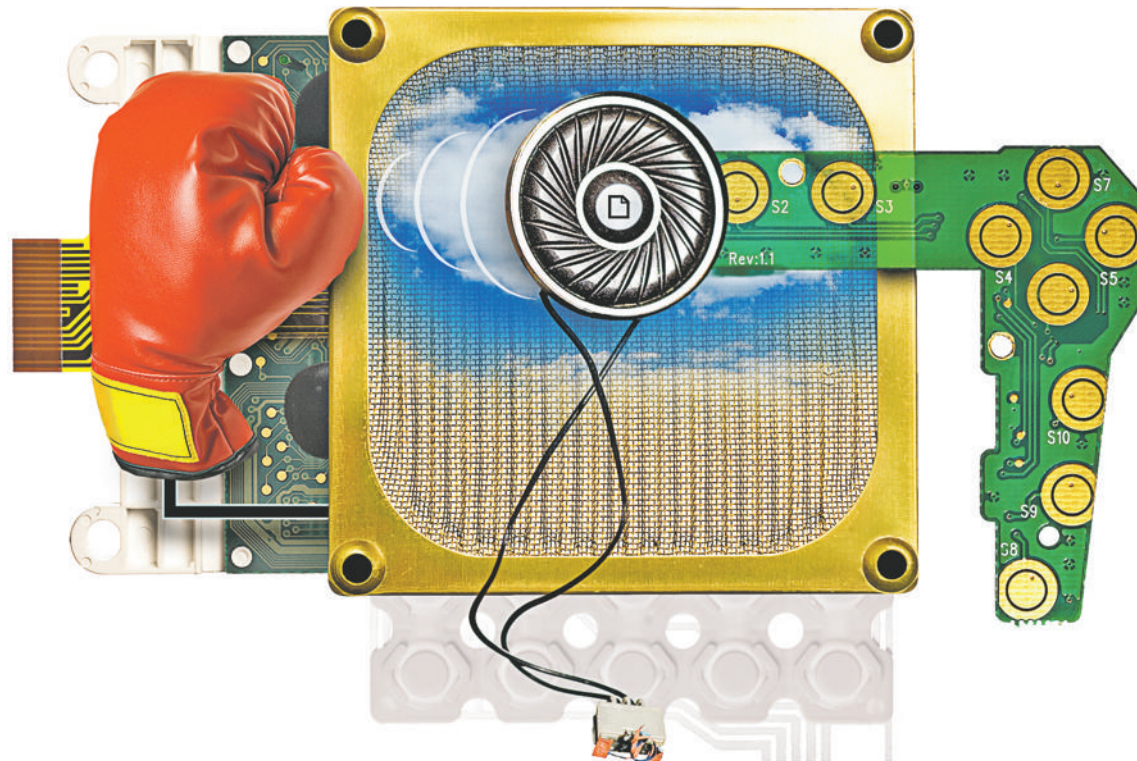
William Fellows, principal analyst of the 451 Group, says: "In terms of market share Amazon is Coke and there isn't yet a Pepsi." Although Amazon doesn't offer a detailed breakdown in its quarterly earnings, UBS Investment Research estimated that revenue for its cloud division, Amazon Web Services, reached \$500 million in 2010, rising to \$750 million in 2011 and could hit \$2.5 billion in 2014.

Last May, Amazon chief executive Jeff Bezos told the company's shareholder meeting that AWS had the potential to be as big as the firm's retail business. "It's a very large area right now (and) it's done in our opinion in a very inefficient way. Whenever something big is done inefficiently that creates an opportunity." Given that Amazon's total sales for 2009 were over \$24.5 billion, Mr. Bezos's claims are potentially gargantuan.

## Early stages

For now, however, and despite the global fanfare, cloud computing is still very much more talked about than performed. The most recent survey from the 451 Group backs this up. It shows that spending on cloud computing accounted for no more than 10% of firms' average total IT budgets in 2010. Mr. Fellows is confident that this figure will rise exponentially in the coming years.

"Most CEOs can see which way the wind is blowing. We see something of a perfect storm of conditions which make cloud computing interesting for them," he says. "The economic crisis means companies are avoiding capital expenditure. [Cloud computing] offers them a



John Weber

way of avoiding capital expenditure without negatively affecting capacity, and they don't have to provision for peak capacity."

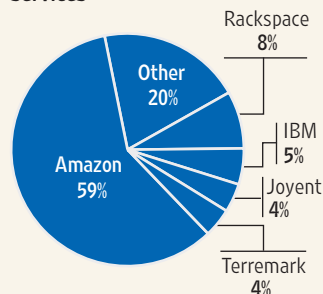
The type of cloud model pioneered by Amazon has become known as "infrastructure as a service." It describes a procedure whereby a customer rents rather than buys the raw hardware for computer processing and data storage, along with the Internet bandwidth to deliver it. The customer, not the provider, is responsible for the operating system and software to run on it.

The biggest player in IaaS behind Amazon is U.S.-based **Rackspace Hosting Inc.** The 451 Group estimates that revenue from Rackspace's cloud services was \$100 million in 2010, which the analysts say equals about one-third of Amazon's cloud-services income. The figures for both companies are more conservative than those from some other analysts because of disagreements over which services should be included within estimates for income from cloud computing.

The differences in measurement are even more marked in what is becoming known as "platform as a service," which includes more elements than IaaS. It provides the underlying software and hardware on which applications can be run directly. Amazon has a growing suite of Web services offering PaaS in addition to its raw IaaS offering. It is

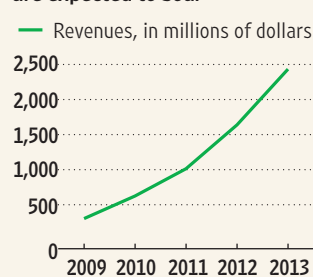
## Amazon's market to lose

Biggest players offering cloud services



## Money from nothing

Revenues from cloud services are expected to soar



Source: 451 Group

the area of cloud computing that is projected to grow fastest and it has already attracted other competitors, including **Google Inc.**'s AppEngine

and **Microsoft Corp.**'s Azure.

The entry of Microsoft may in some ways seem a little surprising. Its highly successful business model has been based on the sale of software licenses. You pay the same no matter how much or how often you use, for instance, Office or Windows.

Klaus Holsen Andersen, Microsoft corporate vice president, explains: "We see it is inevitable that the cloud is the way the world is going to go. In that case, you just have to live with the change in your business model. If you try to stick to the old business model then you become extinct at some point. I think we're really in a unique position where you can decide whether you want to be in our cloud or a hoster's cloud or your own private cloud."

The idea of the "private cloud" is essentially to gain advantages without risks. It involves utilizing the technology that makes the public cloud flexible and economical, but within the security of a company firewall.

The benefits might be real and substantial. But given that a company has the upfront costs of buying hardware and software, there is debate as to whether private clouds are really part of the cloud-computing revolution or simply older technology repackaged.

The situation is confused because much of cloud computing is based on tried and tested technologies, although they may be used in new

combinations.

For instance, one of the key processes generally used within clouds is virtualization. This means instead of an actual item such as a server, storage device or operating system a virtual item is created that is more flexible, efficient and faster to deploy. One of the leaders in this established field of technology is **VMware Inc.** It recently announced its vCloud Director, a product to manage private clouds as a service.

Shortly before VMware, **Novell Inc.** launched its Cloud Manager. And a number of newer players—**Eucalyptus Systems Inc.**, **newScale Inc.**, **rPath** and **MomentumSI**—have created a joint platform for private and hybrid clouds. Each of these products is based on the premise that businesses may not yet be ready to jump fully onto the cloud bandwagon but they need a way to integrate their current resources when eventually they do.

## Europe playing catch-up

In terms of the potential economic impact of cloud computing on a broader, pan-global scale, it appears that Europe is lagging behind the U.S. A recent report from the London-based Centre for Economics and Business Research estimated the annual benefit to Europe's five largest economies of widespread adoption of cloud computing could be in the hundreds of billions. However, uptake in Europe to date has been slow. In fact, Mr. Fellows says the overall European market "looks as if it's a year behind the U.S."

He suggests that a combination of cultural and legislative factors is to blame for the disparity. Tough European Union legislation combined with complex local regulatory environments adds to the lack of a homogenous market compared with the U.S. At the same time, Americans have more of a self-service culture and larger IT suppliers. These differences may, he believes, enable European telecoms providers to develop a more central role in the provision of cloud services.

Whichever type of company does eventually make the running in this nascent industry, there are two clear areas of agreement between vendors and analysts. Widespread adoption of some form of cloud computing is inevitable. But at the moment it still only represents a tiny proportion of IT spending.

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## Get off of my cloud

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thought we were kind of a little crazy. What bank would do that?," says Larry Ng, managing director of Wall Street Systems.

In other situations, technology suppliers are promoting what they call the "private cloud." The idea is to take the processes that enable cloud computing, but instead of sharing them between many customers, keep them in-house. Another variation on the cloud theme,

and one that also aims to assuage the paranoia, is the "virtual private cloud." In this case, a data center is shared between a limited number of larger customers. The aim is to make it feel as if it's an internal resource but is one that can achieve the cost-saving advantages of a public cloud.

Fears over security, as well as worries over legal frameworks, have meant that the market for cloud services remains somewhat under-

developed. "Cloud computing may well be as much as 10 years away from full maturity and widespread adoption," says Andrew Vize, propositions and strategy director at IT infrastructure provider Computacenter. "Many people refer to cloud as a 'game changer' but when games change, so do the rules. In this case, good practice, let alone best practice, has yet to be established in the integration, management and legal frameworks."

Even the leaders of some of the most successful cloud-related businesses remain pragmatic. Mike Lynch is chief executive of **Auton-**

**omy**, which has the world's largest private cloud. He says: "The [idea] you sometimes get from the megavendors is that everything is just going to move to the cloud tomorrow. The reality is that, like a lot of Silicon Valley projections, this is just not going to happen."

He believes instead that most enterprises will adopt some sort of hybrid that combines in-house IT with private or public cloud services as appropriate.

"Cloud computing is not about taking what people are doing already and moving it to the cloud," Mr. Lynch says. "In general, if some-

thing is working in IT you don't mess with it. Where cloud becomes really interesting is with new things where you have the option of doing it on your own server in-house or going with the cloud. Then you're much more likely to move those to the cloud than traditional IT."

As with all new technology, cloud computing will be approached with both adoration and caution. Only when businesses are satisfied their valuable data is safe will they emigrate en-masse to the cloud.

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