Cloud computing is the hottest buzzword in IT right now. But is this the fabled magic bullet that promises to solve CIO headaches once and for all – or merely the latest in a long line of over-hyped, marketing-driven technologies? Joe Baguley forecasts some key considerations that will need to be addressed if cloud computing is to deliver on the hype.

As we know, ‘cloud computing’ essentially describes an approach whereby IT resources are provided as a service via the internet. Instead of purchasing physical servers, databases, middleware and applications separately, as was traditionally the case, organisations will simply be able to order these services over the internet in ‘virtual’ form, as demand requires.

In theory, cloud computing will deliver all the technical benefits, but none of the financial costs and technical headaches associated with wholly-owned IT assets. Consumption of computing power will be billed using a simple ‘utility’ model – a per-unit approach similar to that used by power companies. The electrical analogy is particularly apt given Nicholas Carr’s now infamous argument in the Harvard Business Review that, as IT’s competitive advantage is gradually eroded by commoditisation, so we are seeing a step-change similar to when local electricity generators were eclipsed by grid infrastructures in the early 20th century.

Whatever the wider economic environment, the recent stampede toward cloud computing has been startling. As big players like Google, Microsoft and Sun jostle to position themselves as cloud service providers (CSPs), so relative arrivistes like Amazon.com are also being increasingly seen as technology providers rather than mere retailers. In this brave new world, the rationale goes, why shouldn’t buying computing power online be as straightforward as purchasing books or DVDs with a click of one’s mouse?

Marc Benioff of Salesforce.com, an early pioneer of the software as a service (SaaS) mentality, would certainly agree. Speaking at his company’s London ‘Cloudforce’ conference in April 2009 – even the show’s name reflects this new mantra – Benioff argued that ‘the old model of enterprise software is not working; paying 22.5 per cent for maintenance every year does not work. Enterprise software can run in the cloud, which makes it much lower cost for everyone.’

With such noise around this technology right now, it would appear that the future for cloud computing is assured. Indeed, IDC predicts that the market for cloud computing will reach $42 billion by 2012. Before we all get carried away with such astronomic forecasts, however, it’s worth considering some potential pitfalls.

Foremost amongst these is the question of cost – or, to put it more accurately, value. Cloud computing certainly promises the potential for some significant efficiencies – but, when many organisations don’t even have an accurate picture of their IT costs today, how will they know whether the cloud can save them money? IT companies need to invest far more effort in helping customers understand their existing technology spend before they even start thinking about moving them into the cloud. Indeed, in the current economic climate, companies should be subjecting their IT budgets to more forensic examination, whether they are considering a cloud strategy or not.

With so much media hype around cloud computing, there is a danger that CIOs will be under pressure to reshape their IT strategy around a technology that may not be the most cost-effective option for their particular organisation. Providing accurate financial ‘dashboarding’ on internal IT efficiency versus business needs – ‘service value management’, as UK analyst firm Quocirca describes it – has long been a holy grail in this industry.

Allied to these cost concerns are ongoing questions about technical robustness. Microsoft attracted criticism recently for an outage of its fledgling Azure cloud platform. As I blogged at the time, though, I think that much of this flak was unwarranted. Azure is only at the ‘pre-beta’ stage and this sector of the market is equally new. Indeed, I would argue that these kind of glitches are positively healthy, as they highlight the need for greater industry collaboration and more cohesive standards within the cloud environment.

If a company’s applications are backed up across multiple CSP platforms, the potential for disaster is correspondingly minimal. Technology vendors must work together to make this scenario possible.

There is also the question of semantics. Firstly, there is a need to differentiate true cloud computing from related concepts like grid and utility computing. Secondly, we are seeing a tendency for vendors to group a multitude of disparate technologies under the handy ‘cloud’ moniker. A useful marketing play, perhaps, but does this provide clarity for customers too?

It is difficult to envision cloud computing losing its current momentum, but then again it wouldn’t be the first time that the technology industry’s next great white hope turned out to be only so much marketing rhetoric. To avoid a repeat scenario, the IT industry must work together to address nascent issues like cost and security, ensuring that this cloud at least has a silver lining.

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