



Pie in the sky or an opportunity in the cloud? Why shared computing might be the answer to some current pressures on the public sector

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As the public sector seeks to wrestle with the need to cut costs while accessing new technologies, is the development of the so-called “G-cloud” a way forward?

I asked two leading thinkers, Jon Pyke (co-author of the recent *Enterprise Cloud Computing: A Strategy Guide for Business and Technology Leaders*) and Simon Norbury (IT adviser and former local authority head of IT) what they think.

So what is “cloud computing”?

According to Jon Pyke, this is the question on everybody’s lips right now. As organisations struggle to cope with globalisation, extreme competition and the Great Recession, they are seeking radical changes in the ways they organise work and conduct business. Cloud computing has been suggested as a way to deliver these changes, by improving the organisation’s focus on customers, cost-cutting, quality and constant adaptability.

Together with Andy Mulholland, the CTO at CAP Gemini, and Peter Fingar, an industry expert at Process Technologies, Jon decided to investigate further. The result was the recently published *Enterprise Cloud Computing*.

While cloud computing has been hyped as an essential enabler of business reinvention, it’s not yet clear how it will do this. It turns out, Jon suggests, that there is no such ‘thing’ as cloud computing: “It’s not a new technology. It’s not a new architecture. It’s not a new methodology. It is, however, a new means of delivering IT resources, and that very simple statement speaks volumes.”

Jon points to the US National Institute of Standards and Technology, which provides, he suggests, the most neutral definition of cloud computing:

“Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

Jon and his co-authors also talk about *enterprise* cloud computing. This is the special case of utilising cloud computing to deliver both cost savings and, more importantly, business innovation. This can be achieved because cloud computing provides unprecedented speed and agility and vastly improved collaboration with business partners and customers.

Why does it matter?

Jon makes three key points here:

- 1) With cloud computing many, but not all, IT and data centre costs can be reduced and tied directly to usage - so costs go up or down as demand rises or falls.
- 2) Risk and start-up expenses for innovation initiatives can be cut dramatically as a result of cloud computing, which means organisations can take more small bets and test out more new ideas. They can then be scaled up instantly if they take off, or shut down quickly if they fail. For example, Animoto.com, a start-up which renders animated MTV-like photos matched to music, was able to go from using five virtual servers to 7,500 within six days when it got explosive traction on Facebook.
- 3) Companies don’t work alone – on average, over 20 organisations make up a value chain. They can collaborate in new ways through cloud computing, and collaboration is the key to gaining competitive advantage. By establishing shared workspaces in “Community Clouds”, employees from multiple companies work together as a “virtual enterprise network” and function as though they were a single organisation. They all participate in the same value delivery system, sharing computing, communication and information resources. This is especially important as no single company “owns” the overall value chain.

Is it different in the public sector context?

I then asked Simon Norbury about the traction that cloud computing has gained in the public sector of late. Are we discussing the same thing when we talk about the so-called “G-cloud” – and for the same reasons?

Simon starts by suggesting it’s a mistake to think of the public sector as a collective whole. It’s not, he says. For example, big government departments such as the Department of Work and Pensions operate largely within their own microcosm. They will see life very differently from a small rural district council, which will need to partner or follow others.

In addition, the view of the public sector is heavily influenced by security concerns. With the introduction of GCSX (Government Connect), local and central government have to take heed of guidance from



CESG (the information assurance arm of GCHQ) and adoption of the cloud is very much dependent upon their rulings.

Simon points out that Google and Microsoft have provided compliant data centres in the US, but here in the UK we are awaiting equivalent offerings. Inevitably the development will be slower, apart from specific innovations. A good example he thinks is Warwickshire County Council, which is hosting its open data on the cloud and even organising a 'hack Warks' competition to re-use their data.

This also raises an interesting point about what the 'G-cloud' is. In Simon's opinion it should be viewed as a generic name for secure cloud services offered by numerous vendors. It is most definitely not a single data centre set up by government to host services.

For Jon Pyke these are very pertinent points. The way the cloud is structured, he says, pretty much mirrors how Government and business tends to be structured. In other words there won't be just one cloud – there will be many clouds, all serving different needs. There will be the pure Amazon-type offerings, there will be the outsource offerings, and so on.

Jon argues that the cloud can relieve some of the pressures that government is under to cut costs and be more responsive and innovative. The economics of cloud deployment are indeed very compelling. For example, he points out that there are something like four million PCs in use in the public sector. The average annual cost of ownership per PC is around £2,300, so for every one hundred pounds saved per PC results in a reduction in spending of £400 million.

"Why wouldn't you go after that?" he asks.

Data centres are another target, Jon suggests. Currently there are something like 130 in operation and sharing resources could easily reduce this number drastically – and very quickly. The public sector must have a duty, says Jon, to provide cost effective IT functionality to the general public – so the G-cloud must be a priority.

But there are challenges in making it happen, Jon points out: "I think the first one is to get each and every local authority, County Council and national department to forget about protecting their individual domains and pull together to make it happen. As Einstein once said, 'we won't solve today's problems using the same thought processes that we used to create them.' "

How are current budgetary pressures likely to influence the role of the G-cloud?

As Jon says, if the current economic conditions and budgetary constraints do not result in someone taking a good hard look at how our money is spent, there is something very wrong with the way we manage our IT services.

Simon agrees that the public sector will need to seek out cost-effective ways to deliver services such as G-cloud. However, he feels that Government is risk averse and will initially try to use less risky platforms, such as development and testing, whilst it builds expertise and trust. It may also seek to utilise the cloud where there is an element of experimentation and potential growth. ➔

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Simon also points out that Government also has a lot of legacy systems, which may not be viable for cloud platforms. It has been argued that cloud savings can only be realised when existing data centres are closed. This will be difficult due to the preponderance of these legacy systems. This offers opportunities for specialist Infrastructure as a Service (IaaS) or Platform as a Service (PaaS) providers, which are capable of supporting the legacy platforms, or alternatively data centre consolidation.

The Government will also want to separate out its secure systems by linking to secure data centres through the Public Sector Network (PSN), rather than over the internet. The development of the PSN is therefore critical to the development of the G-cloud.

So what is the future in terms of cloud computing (or what comes after it)?

The cloud is here to stay, says Jon: "I've been asked several times what I think will happen to the cloud once the recession is over and things return to 'normal' – well I don't think the 'old normal' will come back. Those who have embraced the cloud have seen significant benefits (not just economic) and as those benefits are realised by more and more users then a 'new normal' will take hold." In Jon's view the future of the PC has to be in doubt: all we require to do the computing we do on the desktop is a phone, a wireless keyboard and a screen – all connected to the cloud.

Like Jon, Simon doesn't see the cloud disappearing. "I'd like to think it might encourage innovation through 'skunkworks' developments," he says, which are tested out via the cloud and provided via cheap standardised platforms. These can then be expanded if popular (and designed correctly), or switched off if not.

Whilst at Westminster, Simon took this approach to on-line Parking Penalty payments: "I remember expressing my concern at lack of testing to the business manager. He took an interesting approach (being ex-Easyjet). If it works - fantastic. If it doesn't then what have we lost? He was right, as within a few months it was collecting millions and saving a lot of money (compared to an outsourced payment service). However this approach is unusual in Government due to its risk-averse nature."

Simon concludes: "Once we have tried the cloud I doubt we will ever go back!"

For more information contact Paul on paul.jackson@cipfa.org.uk

Jon Pyke has been in the field of software development for over 30 years, for the past 15 years working in the areas of workflow and business process management, including 12 years as chief technology officer for Staffware plc (now Tibco). After Staffware Jon was the founder and CEO of the Process Factory and CSO for Cordys, where he opened up the UK office, set their "total BPM" strategy, defined the Cloud proposition and headed Marketing. Jon is currently working on a brand new venture, *Collaborate In Motion*, which is due to launch onto the market in autumn 2010.

Simon Norbury has been a leader in local government ICT for the last 23 years and has managed several leading local authority ICT operations, including Newham and Westminster. He has also advised central government on its e-government strategy and sat on numerous advisory bodies. More recently, he became an independent consultant and has worked closely in turning around technical delivery of the Government Connect programme and the design of the secure File Transfer system between DWP and 410 Local Authorities. Since completing implementation of the GCSX network, Simon has been advising Local Authority regions on the move to PSN, G-Cloud and remote working in a secure environment.

Enterprise Cloud Computing: A Strategy Guide for Business and Technology Leaders, by Andy Mulholland, Jon Pyke and Peter Fingar, was published by Meghan-Kiffer Press in April 2010.