



# The Smart Cloud is ready to use

A white paper from Colt Technology Services

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It doesn't matter how big or small your company is you can make the most of Cloud Computing right now. It's not complicated or exclusive – it's like a public utility that's waiting for you to plug in.

## The Cloud makes everyone big

The term, Cloud Computing, has been around for a while. IT specialists have banded it about as if it's something that's terribly complicated and only suited to huge corporations with limitless IT budgets; but it is, quite simply, the opposite of both those things.

The 'Cloud' is a revolutionary new approach to computing that is beginning to flatten the world and strip big companies of their size advantage. The Cloud can make you Big. And it can make you grow very fast – if that's what you want.

Take Twitter. It started in the Cloud. When its developers came up with the idea they didn't have the resources to go out and buy lots of servers and high-end desktop computers, they simply attached a laptop to a good internet connection and used Amazon's spare server capacity. The rest is, as they say, history.

And that, in essence, is just what the Cloud is. It's a network of computers that are all connected to each other and offer processing power and applications as if they were a utility like electricity. All you have to do is buy some of it when and where you need it. You don't have to fill your basement or an expensive piece of commercial real-estate with your own servers and technicians, and then develop your own software; you just buy time and space from big companies who have already done all the hard work. It's just like plugging machinery into an

electricity socket and then using that machine (powered by the electricity you pay for as and when you use it) to create whatever it is you want to create (and sell).

## Computing becomes a utility

Nicholas Carr, in his book, *The Big Switch*<sup>1</sup> made the analogy and very quickly commentators all over the world jumped on the idea and, in an Internet-instant, it's become the accepted way in which Cloud Computing is now described. The British newspaper, *The Guardian*, titled one of its recent articles thus: "Cloud Computing: Time to Stop Sitting on your data – Just as early industrialists abandoned generators in favour of centrally provided electricity, so businesses will abandon hardware in favour of cloud computing."<sup>2</sup>

The argument is a compelling one. As the Industrial Revolution gathered pace across Europe in the nineteenth century and the factory system took off, industrialists had to build their own generators and power plants right next to their factories to make use of the new and wonderful source of power that was electricity. Then Thomas Edison, in the 1880s, realised that this was a wasteful way of working. If each and every place of work had to build its own power plant then there would be a tremendous amount of waste, not just of electricity, but of money too. The capital needed to generate power was enormous. This would, eventually turn an advantage (having the power that your competitors didn't have) into

a disadvantage (you'd have to maintain your generators and upgrade them constantly).

It didn't make business sense. But, Edison argued, building huge, centralised power plants that could distribute electricity as and when it was needed would make economic sense for the provider of that service, and for those that consumed it. Capital expenditure would be turned into an operational expenditure and costs would go down. It was as if Edison had decided to create, to use a very modern concept, 'Electricity as a Service'.

He was proved right, even though his own form of power, Direct Current, lost the battle for supremacy with Alternating Current. Industry was able to invest capital in its own specialised operations and products rather than spend great amounts individually generating electricity.

Carr then draws a direct line from that experience to the age of the computer. Up until about a decade ago the computing model was very simple. Large companies sought competitive advantage by developing and building their own processing power and designed their own applications too. They spent capital on PCs, Servers, Software, data storage and so on, and then housed it all in specially cooled and powered real-estate that ate up yet more capital. They employed software people to work on applications that were tailored to their needs, hardly ever looking

<sup>1</sup> Nicholas Carr: *The Big Switch: Rewiring the World, from Edison to Google* 2009

<sup>2</sup> *The Guardian* June 21st 2010.

to see if there was an on-the-shelf solution that might come at a fraction of the total cost. That seemed the only way to make the most of the power of both the computer itself and the Internet.

But as the Twitter example shows, that advantage didn't last long. The rise of the Internet (especially the high-speed version) took everyone by surprise. Suddenly, you didn't really need hefty computers sitting on each desk with servers in the basement. All you had to do was connect with even more powerful computers and servers housed in specially built and usually vast data centres run by providers who specialised in that kind of business. The applications were out there too; you just picked one that suited your needs. And, of course, you could also go to organisations like Amazon, which had built enormous capacity to cope with unpredictable online demand but didn't use it all. That meant they could offer that spare capacity to entrepreneurs like the ones who started Twitter.

All they had to do was pay for what they used. They didn't care where the servers were based (some of them are in the USA, some are even in India and Malaysia) – all they cared about was the fact that – it worked!

Suddenly, computing was a utility that delivered economies of scale to companies who hadn't even bothered to invest in their own hardware (except for the odd PC and laptop). Another important saving was on software licences. They were a significant cost that often got overlooked at the start of a project, but always added up to a surprise on the bottom line. Cloud computing is a big, big threat to the easy-money that used to be made on them.

### From Capital Expenditure to Operational Expenditure

Medium sized enterprises (SMEs to use the annoying acronym) are well placed to make the most of cloud computing. It's their opportunity to think big and act bigger and all without having to raise capital. Computing becomes like electricity – you use the power and applications and pay for them without the need for hardware or arcane and expensive licence agreements. You don't have an IT department, or even an IT specialist on your payroll, and you don't need one.

The vision of Cloud Computing has been around for years. Back in the 1990s Sun Microsystems came out with a slogan that claimed, 'The Network is the Computer' – and Larry Ellison, founder of Oracle, was often quoted as saying that PCs need not have such big hard-drives or complex software because, eventually, we'd do everyone online. People thought he was just trying to undermine his rival, Bill Gates.

But, as it's turned out, both the slogan and Ellison have been proved right. The network is the computer. Carr says that we shouldn't talk about the World Wide Web but the World Wide Computer. It's one big machine that offers power to everyone. All you have to do is connect.

The point is to do it in a smart way, and medium sized companies are best placed to do that. They can have great ideas and spend the money they raise from capital markets on the idea rather than on computer hardware or software licences. They don't have to employ specialists, or create an IT department. That makes better sense financially because computing then becomes a mere operational expense.

Cloud Computing is growing very fast across the world, especially in the USA. Analysts Gartner estimate that global sales of Cloud Services will have risen by 17% by the end of 2010 to reach \$68.3 billion, up from 2009's \$58.6 billion. Over the next couple of years that figure will almost double. Europe currently represents 26% of spending on Cloud Services, and that should grow to 29% in 2012.<sup>3</sup>

Europe faces a dilemma. Its pan-European privacy and data protection laws are, according to firms like Microsoft, Google and Oracle, hindering the spread of Cloud Computing because rules forbid data from being exchanged across borders. Because 'the cloud' can deliver processing power anywhere – such as India or Malaysia – then the storage or manipulation of data might not actually happen within the country where the client is based.<sup>4</sup>

Efforts to relax those laws and free up cloud services are continuing and liberalisation of some legal restrictions is expected soon. But the potential for job and wealth creation is there. Frederick Etro, an associate professor of Economics at the University of Milan recently produced a report that claimed European businesses of all shapes and sizes would be able to cut their capital spending on IT by very large amounts very quickly. He also pointed out that Cloud Computing was the one thing that could break down barriers to entry in a range of sectors, enabling small to medium sized businesses to compete on an equal footing with the big boys very easily. He predicted that economies with a healthy SME sector, such as Italy and Britain (which has 35,000 firms of that size) will experience growth by making good use of cloud services.<sup>5</sup>

<sup>3</sup> "Tech Firms Fight European Limits of Cloud Computing" New York Times 20th September 2010.

<sup>4</sup> *Ibid*

<sup>5</sup> "Cloud Computing: Time to Stop Sitting on Your Data" *op cit*

## You use the Cloud each and every day

Each morning you power up your PC, or your laptop, or your iPhone and BlackBerry and check something on Google or look at your email using Gmail or Hotmail, or you look at Facebook or send out a Tweet: you're using the cloud. You're already an expert in Cloud Computing. That's it. No more explanation needed.

All you need to know is that the Cloud will help you reduce costs and make you more flexible. By outsourcing your computer processing and software needs you're able to work at 100% availability and capacity, cope with the peaks and troughs of demand for whatever it is you're offering customers, and never be afraid of missing out on an upgrade. Because your cloud provider will be worrying about upgrades and maintenance and availability you can get on with what you do best. It really is that simple.

Even governments are looking to the cloud to help them cut spending in these times of austerity. The British government is hoping to slash over 20% of its IT spending by using the cloud, and is even creating its own cloud – called G Cloud – to deal with more sensitive information and services.

So, how do you make the most of the cloud? Because your access to the cloud is via the Internet then it's pretty obvious that your connection to the web is what really counts. That means you have to work with a provider who can offer secure and robust connectivity so that you always have access to the services that are working for you out in the cloud.

The one thing you don't want to do is to have to bring in IT experts (at great cost) and worry about how all your systems – from email to voice calls to online security and data storage – will work together. You need a smart solution that brings all those things together and then enables you to work confident that your connection will never fail you.

## Colt Smart Office

Colt has developed Smart Office to offer what they call 'Big Business Performance – Small Business Flexibility' which is, after all, what we've been talking about in this whitepaper. It's a flexible suite of products that have been designed to operate on Colt's fully scalable business grade network. And that's important: Colt only serves business, and it offers a pan-European reach that gives you the power you need to reach out to customers across the continent, or other offices, or different sites that you own. It doesn't matter if you have one, small office – the fact that Colt's network is only used for business (they don't serve domestic consumers) means that the power and security you need are always available.

Smart Office covers every aspect of 21st century business life: from powerful Internet connectivity to email, from security of all your data and PC backup through to making all your phone calls (to landlines, mobiles and computer based systems) using Voice over IP or traditional Voice Interfaces.

Colt works in many different European countries and so understands a very simple fact: no two companies are the same. Smart Office has been designed to reflect that truth: it's totally modular and scalable. You can start out using one element of

the product and then add another seamlessly when you're ready. That modularity delivers the flexibility you need at the right price. You only pay for what you need, when you need it.

The product offers five distinct modules that can work separately as well as together. They are: Voice over IP (simply, voice calls using the Internet), ISDN voice, Email, Security, and PC Backup. Those elements have been developed based on what small to medium sized businesses actually want, and can be combined in a variety of ways to achieve a bespoke service.

And for those companies which don't need high levels of customisation Colt has created a series of packs that deliver bundled essential services that cover vital areas such as Access, Messaging, Security, and Backup. They, in turn, come in four different sizes to reflect differing SME needs: there's a Branch Office pack, Small Site, Large Site and Extra Large Site.

The foundation of all those offerings is, of course, Colt's business-grade Internet. That delivers the continuous connectivity and dedicated access you need. Just as important is guaranteed bandwidth: many businesses have to vie for bandwidth with other commercial organisations and the public if they rely on the public Internet. Colt bypasses that contended bandwidth with its own wholly owned and managed network. Colt can manage your router or you can do it, and Colt always delivers a symmetrical service which means that you upload data at the same fast speed with which you can download it.

## Conclusion: The Smart Cloud is here

Cloud Computing isn't complicated; there's no technical mystery that only the experts can understand. It's a very simple concept: you can make the most of immense processing power through your internet connection. You can compete with much larger organisations because you have access to the power and software you need in the same way as you access electricity and other utilities. Computing is now a utility. All you have to do is have the great ideas and deliver the best customer service and you can win no matter how big or small you happen to be.

It's the smart cloud. It's here. And you can make the most of it by using Colt Smart Office which has been designed specifically you give you access to a whole new world of possibilities.

## About Colt

Colt is Europe's information delivery platform, enabling its customers to share, process and store their vital business information. Colt provides major organisations, midsize businesses and wholesale customers with a powerful resource that combines network and IT infrastructure with expertise in IT managed services, networking and communication solutions. Colt operates a 13-country, 25,000km network that includes metropolitan area networks in 34 major European cities with direct fibre connections into 16,000 buildings and 19 Colt data centres.

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