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Cloud ready data centres

Cloud computing and infrastructure services – what's required?

By Kevin Dean, Chief Marketing Officer, Interxion.

We are at an inflection point in the history of business IT as the 20-year era of client/server computing morphs into the new age of cloud computing.

If you believe the pundits, we're going to move away from managing IT in-house towards a model that sees servers, storage, applications, and operational management of these elements shift to administration by a remote third-party. The implications of this are enormous, of course, changing the fundamental economics of IT operations. Moving into the cloud may allow organisations to remove the administrative burden on IT departments, obviate the requirement for expensive hardware and continuous upgrades, drastically change the nature of software licences and associated maintenance charges.

The high priest for this ethos is Nicholas G. Carr, the American academic and writer whose books – Does IT Matter? Information Technology and the Corrosion of Competitive Advantage and The Big Switch: Rewiring the World, from Edison to Google – argue that just as electricity moved to become a public utility, so bits and bytes will move to a similar grid model with little or no differentiation from supplier to supplier. This, he believes, will bring about the end of corporate computing as we know it, deliver huge savings in cost and force new business models. Carr's visions of the future have provoked understandable angst among those who believe that IT is a rare source of competitive differentiation, and many critics have also remarked that IT remains a complex, piecemeal tool with a questionable track record when it comes to reliability. Whatever the feelings about Carr's projections, it's quite clear that major changes are taking place. The only question is about the velocity of that change. And, even if you're a sceptic on the merits of cloud computing, it's pretty clear that things are changing fast. Customer relationships, for example, are increasingly being managed by companies such as Salesforce.com that, as well as offering the advantages outlined previously, can also entice finance directors with predictable, regular tariffs on a subscription basis.

Email systems often reside outside the organisation, whether users know it or not. These systems allow users anywhere in the world to access their email so long as they have a client device that can connect to the Internet. Security for that email, through programs that sweep messages to check for viruses and other malware, often sit outside the corporate local area network in cloud systems that can block issues before they infect end-user organisations.

Even fundamentals of the modern office – such as word processing, presentation, spreadsheet and other productivity tools – can now be accessed over the Internet through tools such as Google Docs. Users realise lower cost, access from anywhere and lessening of local administrative burdens. Additionally, such services often offer inherent collaborative capabilities of being web-based – sharing and editing documents in real-time, for example.

Conferencing is another attractive cloud application, with the Internet providing a solid platform for communicating through audio, video, shared space and whiteboard functionality. Many of the tools moving rapidly from consumer social networking to business networking already reside in the cloud, from Facebook to Twitter to LinkedIn and others; and it is perfectly conceivable that today's generation of children, raised on browser-based programs like iTunes and Spotify and experienced in shopping on eBay and Amazon.com, may never physically install an application program on a computer.

Even complex back-office applications such as ERP suites are moving to the cloud through companies like Workday, a company built by the founder of PeopleSoft.

Indeed, it's hard to think of a single category of software that is not being energized by this revolution. And although many executives will not realise it, that most basic application, payroll, is already very often handled by an external agency that is very likely a cloud user.

Increasingly, organisations of all types are seeking some sort of assistance and measures that make them confident that their operations can continue free of disruption. That is why many are turning to companies like Interxion to provide carrier-neutral colocation services

What does this move towards cloud computing mean for infrastructure and business operations? Plenty.
If the companies of the future are not to have their own data centres – or at least if their dependence on internal data centres is significantly lessened – external facilities and services will have to fill the ever growing need for communication, processing, storage and backup.

Enter, then, a new generation of external data centres that provide state-of-the-art capabilities in the shape of servers, storage, connectivity and expertise. The man in the street might not know what they are, but data centres are popping up everywhere in much the same way as pylons and railway tracks once did when electrical power generation and the train network were being built out. They vary in size, of course.

Not every facility is going to resemble the 'bit factories' of mega-data centres like Microsoft in Dublin where a 303,000 square-feet plant can accommodate up to 22 megawatts of power in order to meet the needs of Internet activity across the firm's huge number of web pages, applications it delivers from the site and more recently its cloud service offering.

These colocation data centres are growing because they satisfy a basic requirement to access useful information, quickly, at lowest cost and with minimised risk of disruption. The mega-data centres of the Googles and Microsofts provide answers to searches, serve up advertising and provide access to applications. And even these organisations, with their own in-house mega-data centres, justify the use of colocation data centres for many of their IT needs.

The third-party data centre is not a new phenomenon, and for several years more and more companies have realised the benefits of having a portion of their data processing, storage and networking needs in a third-party facility.

What is happening in the world of the mega-data centre is in some ways merely an extension of what is going on in the business world. More companies are realising that having data tethered to their own facilities, together with expensive servers and disk arrays, is an expensive way to go about things.

As data volumes continue to grow – doubling every two years, according to most research – this problem will only be exacerbated. Worst of all, this data must be carefully governed, software systems must be updated and patched, and corporate governance and legal requirements mean that all this data must be searchable so that critical information can be retrieved in a trice.

Cloud computing offers an alternative with proven benefits to this system, but innately conservative companies are just starting to run towards the new world. They're taking baby steps, moving the low-hanging fruit of applications such as CRM systems, email and others onto the cloud while keeping key applications and infrastructure such as databases in-house.

Increasingly, organisations of all types are seeking some sort of assistance and measures that make them confident that their operations can continue free of disruption. That is why many are turning to companies like Interxion to provide carrier-neutral colocation services. Interxion provides exceptional levels of connectivity with over 350 carriers and 18 internext exchanges with a point of presence at it's data centres that deliver high-speed application performance, enabling an improved user experience and increased network resilience, whilst driving down bandwidth and other costs at the same time.

Colocation also provides the option to subscribe to managed services that support critical business operations to back up data, resolve operational issues, manage maintenance, and monitor systems.

Moving the capabilities beyond simple colocation, some organisations like Interxion have built up specific 'cloud communities' – or communities of interest – of organisations that benefit from colocating in close proximity to markets and within the same colocation services provider. Interxion, for example, has built a community around the financial services sector, where speed of trading between businesses is crucial. By operating within an Interxion data centre, they

gain the benefits of speed to market and physical/ transactional proximity to financial markets across Europe.

Additionally, the organisations in the hub community gain direct access to financial exchanges, brokers, market data suppliers, and a large range of managed services providers and ISVs, many of which connect and use a common infrastructure and/or applications. Interxion's Financial Hub community now has some 200 members. Using a similar philosophy, Interxion has also built other substantial communities of interest in the digital media and service providers, carriers and Internet exchange and enterprise sectors across it's pan European footprint of 27 data centres.

Like other colocation providers, Interxion provides access to expertise, ensuring that revenues are not swallowed up on recruiting, training and retaining staff. Economies of scale derive from serving multiple customers under one roof. And colocation data centres provide high levels of robustness; scalability and security because modern server rooms with the latest capabilities prevent power outages and data loss. Operating a modern data centre is no easy task these days. Data processing and storage requirements continue to spiral as more use is made of bandwidth-hungry, disk-grabbing video, audio and graphic images.

Firms attempt to combat this by squeezing more and more ultra-thin servers into cramped spaces that generate heat – and then install cooling devices that eat more power, which itself is increasingly becoming a major cost factor. The complexity makes it increasingly difficult to realise strategic progress in IT.

Just as cloud applications provide relief from the hamster-wheel endeavour of installing, maintaining and upgrading applications, carrier-neutral colocation data centres offer the ability to take a fresh approach to managing day-to-day operations, with clear divisions between what needs to be handled internally and what can be done externally through partners.

We're only just at the beginning of a major change in the way we 'do' IT in business. In ten years we may all look back and be amazed that we once employed large teams of people to run day-to-day operations, that we paid huge prices for hardware, and that we paid large sums for software – and then an additional annual 'maintenance' price – all of this for systems that were often flaky and needed tender loving care just to operate in a satisfactory manner.
In the new cloud centric world these IT personnel can add additional value by focusing on application development, deployment, and understanding of business requirements while hardware and software suppliers will be compelled to work together to offer cloud based services.

The likelihood is that the change will take time, and the move towards cloud computing will become a staged operation with more and more data processing, storage and applications moving out-of-house, perhaps first onto private clouds. Eventually companies will have the confidence to move fully into the cloud. Even at the earliest stages of testing the cloud, the benefits of using third-party colocation data centres are already a case proven.

Interxion is a leading provider of carrier-neutral colocation data centre services in Europe, serving over 1,100 customers through 27 data centres in 11 European countries. Interxion's uniformly designed, energy-efficient data centres offer customers extensive security and uptime for their mission-critical applications. With connectivity provided by 350 carriers and ISPs and 18 European Internet exchanges across its footprint, Interxion has created content and connectivity hubs that foster growing customer communities of interest.