Cloudhosting

Dec/Jan 2014/2015 | www.cloudhostingmagazine.co.uk | £8.50 Where Sold

Building for the future

Collaboration in the construction industry

WAN-way traffic

How IaaS can impact network performance

Data recovery

Where do you start?

Public cloud security

Protecting the 'Everywhere enterprise'

Forward thinking

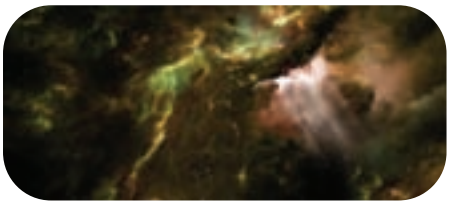
What will 2015 bring?

To infinity and beyond?

Cloud and the Voyager mission

INDUSTRY NEWS - USER STORIES - OPINIONS - INTERVIEWS - ANALYSIS

Contents



Nothing on the box this Christmas?

Think Again

Order a Microsoft Windows dedicated Server or Hosted Exchange Mailboxes from any iomart Brand before 31st December and grab a

FREE
Xbox One + FIFA 15 Bundle

XBOX ONE

Microsoft

Offer available from

redstation MELBOURNE Easyspace RapidSwitch dedicated expertise

iomart

Visit: **www.iomart.com/xbox**
for full details and terms and conditions.

iomart recommends Windows® Server

From the Editor

As is traditional at this time of year (along with ill-advised knitwear and the swelling of Simon Cowell's coffers), our turn-of-the-year issue includes a round-up of predictions and insights from industry luminaries, vendors and analysts about what 2015 might bring to the sector. There are some dark days ahead for hosting companies according to some, as an overdue 'thinning of the herd' could see a reduction in the number of players in the market. Nigel Beighton of Rackspace says "The UK has an abundance of hosting providers, making it hugely competitive. But competition can make it hard for the smaller hosting companies so, as they struggle to compete, it is likely that a whole host of them will go bust."

At the same time, most observers agree that the overall picture for adoption of cloud is extremely positive. Alex Hilton of the Cloud Industry Forum (CIF) homes in on the end of support for Windows Server 2003 (due in July 2015) as a catalyst: "The next 12 months represent a great opportunity for customers to make a Cloud migration and adopt the latest enterprise ready technology at a fraction of the price. Our research suggests that 61 per cent of UK organisations are still running Microsoft Windows Server 2003. This product has been supported for 11 years but technology has moved on. Doing nothing is not a viable option, the majority of users will move to Cloud or Managed Services."

There is less widespread agreement on the potential influence of emerging technologies such as the Internet of Things (IoT) on the cloud space. While some believe that next year will see a proliferation of sensor-enabled tech changing our lives, others are more cautious. Ovum's Saurabh Sharma comments "Cloud-based IoT platforms will continue to gain traction and play a key role in the first wave of IoT adoption by enterprises. However, a lack of common (vendor and platform-agnostic) connectivity standards will hinder wider IoT adoption, especially from the perspective of enterprise IoT initiatives of reasonable scale."

If there is one area on which all our commentators agree, it is that cloud adoption is set to increase still further in 2015. CIF is predicting that Cloud adoption will reach another peak, increasing in breadth with more organisations overall using Cloud services, and in depth, as existing users expand their use of Cloud services. They say that over 90 per cent of organisations will be using Cloud services by the end of the year - which has to be good news for everyone in the industry. Happy New Year!

David Tyler
david.tyler@btc.co.uk

EDITOR: David Tyler
(david.tyler@btc.co.uk)

NEWS EDITOR: Mark Lyward
(mark.lyward@btc.co.uk)

PRODUCTION MANAGER: Abby Penn
(abby.penn@btc.co.uk)

DESIGN: Ian Collis
(ian.collis@btc.co.uk)

COMMERCIAL MANAGER: Josh Boulton
(josh.boulton@btc.co.uk)

MANAGING DIRECTOR: John Jageurs
(john.jageurs@btc.co.uk)

DISTRIBUTION/SUBSCRIPTIONS:
Christina Willis
(christina.willis@btc.co.uk)

PUBLISHED BY: Barrow & Thompkins Connexions Ltd (BTC)
35 Station Square, Petts Wood
Kent BR5 1LZ, UK
Tel: +44 (0)1689 616 000
Fax: +44 (0)1689 82 66 22

SUBSCRIPTIONS:
UK £35/year, £60/two years, £80/three years;
Europe:
£48/year, £85 two years, £127/three years;
R.O.W. £62/year
£115/two years, £168/three years.
Single copies can be bought for £8.50 (includes postage & packaging).
Published 6 times a year.

Fortinet - The Threats Stop Here

The stakes of protecting your business assets are higher than ever. Advanced targeted attacks are being launched to steal sensitive corporate data, intellectual property and insider information. And traditional network defences often cannot detect and mitigate them.

Fortinet offers a comprehensive, multi-layer solution that uniquely encompasses the three necessary steps of Advanced Threat Protection (ATP): Mitigation, Discovery and Response. Fortinet's ATP combines a number of state of the art technologies to form a modern and intelligent threat protection to ensure that users, devices and applications can connect securely to the network. And all of these technologies are backed by the human intelligence of the FortiGuard threat research experts.

Every organization, no matter how large or small, is a potential target to advanced targeted attacks. Don't take the risk - protect your network with Fortinet.

FORTINET®

www.fortinet.com

READY FOR IAAS?

Over four-fifths (82 per cent) of current UK IT leaders do not believe they are yet fully ready to move from traditional server and hosting environments to IaaS providers due to a shortage of in-house skills according to new research commissioned by Reconnix, the open source IT specialists. When asked if they were ready to migrate to Infrastructure-as-a-Service (IaaS), only 10 per cent of the 100 IT decision makers surveyed believed they were, while only a further 8 per cent had already migrated or were in the process of migration.

Despite the relatively low rates of migration to IaaS, 88 per cent of IT decision makers stated that moving applications from traditional server environments to the cloud was of top, high or medium priority, with only one-in-twenty stating it was not a priority at all. Only 7 per cent of respondents were confident that they could call on all the required skills to manage applications running in IaaS environments from an in-house team. While over one-third (36 per cent) believed they had most skills in house, a combined 59 per cent had only some of the required skills, no skills or did not know.

These findings were reflected in planned IaaS buying and management behaviour, with only 26 per cent planning to buy directly from the vendor. Nearly two-thirds admitted they would need some form of third party support, with 38 per cent engaging a third-party consultancy for total management, and 25 per cent planning a mixed model of in-house skills and consultancy services.

"There's a very clear desire for businesses to move applications away from traditional environments and towards Infrastructure-as-a-Service providers, however a lack of adequate skills seem to be holding back many IT departments from making this move," says Steve Nice, CTO, Reconnix.

www.reconnix.com

A10 NETWORKS BALANCES THE LOAD FOR INTERMAX

Intermax, a growing Dutch hosting and cloud computing provider for business-critical (web) applications - serving customers in industries such as healthcare, government, media and e-commerce - has selected A10 Networks for its robust, reliable, and efficient ADC solution.

Intermax created its own private cloud - and four data centres in the Netherlands - to offer their customers the highest possible 24/7 uptime and fulfil their continually changing needs. To keep up with demanding customers requirements in areas such as media and e-commerce that have high traffic and websites prone to high traffic peaks or bursts, Intermax has constantly been challenged to improve, innovate and increase its hosting service. Analysis showed that the causes of risks of downtime usually were application and server issues, and not network bottlenecks. To avoid and solve these problems, Intermax implemented multiple high availability pairs of A10 ADCs. In addition to load balancing, Intermax uses the dedicated SSL Offloading functionality in the ADCs for terminating thousands of SSL connections per second, which would normally overload the web servers. Moreover, for several critical sites, they selectively use the cache to relieve always heavily loaded servers.

Although Intermax initially selected A10 Networks' ADCs for load balancing, the company also uses A10 Networks aFleX Deep Packet Inspection (DPI) Scripting Technology to extend application delivery functionality; for example, providing a waiting queue for new visitors with a special landing page to inform them that the server is busy giving services to other visitors.

www.a10networks.com/emea

IOMART BECOMES MICROSOFT CLOUD SOLUTIONS PROVIDER

Iomart has joined the Microsoft Cloud Solution Provider Programme. The programme is designed to strengthen customer relationships and expand cloud sales opportunities by enabling partners to provide direct billing, sell combined offers and services, as well as directly provision, manage and support products and services.

Angus MacSween, CEO of iomart, said: "We are delighted to have been chosen by Microsoft as one of only a handful of cloud providers to work with them on this programme in Europe. It is a natural fit for us because of the expertise we already have across a number of Tier 1 technology leaders. Interest in the cloud is growing at a tremendous rate and we have invested heavily in the infrastructure and skills to support this. Joining the Cloud Solution Provider programme and fully supporting and integrating Office 365 into our offering allows us to build stronger relationships with our customers and provide them with


Angus MacSween

the best cloud solutions to enhance their business."

Phil Sorgen, corporate vice president, Worldwide Partner Group at Microsoft Corp., said: "The Cloud Solution Provider Program puts our partners at the centre of the customer relationship. Through participation these partners have demonstrated dedication to helping our mutual customers successfully move to the cloud."

www.iomart.com/office365

INTEGRATED SECURE CLOUD SERVICES FROM TOLOMY

tolomy, the secure cloud provider, has launched a suite of secure cloud services making government-level accredited cloud available to all. tolomy supports CESG accredited Business Impact Levels 1, 2 and 3 across its Software as a Service (SaaS), Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) (the SPI model). Services are available on a managed, collaborative or unmanaged basis to confer maximum agility and flexibility, and all benefit from integral security controls delivered by tolomy, an accredited cloud provider operating out of government certified UK-based data centres.

Recognising the burgeoning need for solutions that place assurance at the heart of cloud services, tolomy decided to take the SPI cloud model and integrate security throughout the delivery process offering. The result is a flexible, scalable suite of services designed and delivered by security proficient technical personnel that include CESG listed advisors and security solution architects, providing added assurance.

tolomy is ISO9001, ISO20000, ISO27001, PSN, and Cyber Essentials Scheme compliant, and undergoing both the Cyber Essentials Basic and Cyber Essentials Plus certification. The Cyber Essentials Scheme was introduced in 2014 to reduce cyber risk and help safeguard the country's growing digital economy. Assessment is focused on the configuration and management of ICT systems and end-user devices, and assesses resilience using various cyber-attack scenarios.

"Security can make or break the Cloud. It's the biggest obstacle, with many expressing reservations over how to safely migrate, access, and ensure the integrity of data. I've even heard some compare it to emptying their data out on to the street. And with some justification, as many Cloud Service Providers see security as an add-on at best," said Louise T. Dunne, Managing Director.

www.tolomy.com

CLOUD BACKUP AND RECOVERY PARTNERSHIP

Cloud service providers Softwerx and Databarracks have joined forces to provide backup and disaster recovery (DR) services to the UK market. On the partnership, David Smart at Softwerx commented: “The backup and disaster recovery market has changed a lot in the last few years. It’s not about selling an organisation an expensive set of hardware and leaving them to it anymore - it’s about providing a reliable and scalable service, and managing that service seamlessly.

“As organisations are improving their connectivity, they’re realising they can update and modernise their business continuity processes at an affordable price - something that wasn’t an option before now. A manual, tape-based back-up system just isn’t viable anymore. Businesses need reliable, automated solutions that help them meet their regulatory requirements, without putting a drain on their in-house IT team. That’s one of the reasons working with Databarracks was an easy choice for us. They’ve been providing business continuity services for over a decade - they understand how the market is changing, and they’re growing with it.”

Peter Groucutt, MD at Databarracks, added: “Organisations that in the past may have been hesitant to adopt cloud services due to security, compliance or cost issues are beginning to take their first steps with cloud service providers, and backup and DR are usually their starting point. Working with a trusted provider like Softwerx, that has the skills and experience to advise their customers when selecting the right cloud services for their business, is invaluable.”

www.databarracks.com

CHEERS TO NAVISITE!

Virgin Wines has selected NaviSite for managed hosting and web application support services. Established in 2000 under Sir Richard Branson's Virgin branding, Virgin Wines was acquired in 2005 by Direct Wines. In 2013 Virgin Wines underwent a management buyout from its parent company and, as a result, the online wine retailer needed to replace its existing IT system and find a new provider to deliver hosting and managed application support that was affordable, reliable and could grow with the business.

The wine merchant runs their business solely online, as an ecommerce company, and therefore uptime and stability became a key priority as part of their selection criteria for their new provider. After a careful evaluation of service providers, Virgin Wines selected NaviSite.

NaviSite provides highly customized managed hosting and application support in addition to colocation and cloud services housed in NaviSite's high security data centres in the UK. Virgin Wines deployed NaviSite's managed hosting and application support to host and manage its web servers, applications servers and database system in February this year. Since the implementation, Virgin Wines has been able to successfully sustain system performance at a constant and stable level, seeing it through its most successful and busiest July since the start of the business.

www.navisite.com

From customer to partner

IT solutions provider Ultima found the ideal partner for its enterprise cloud offering in Berkshire-based Pulsant

"We are driven by our customer base and in Pulsant we found a business that is very similar to us in approach… very much aligned to us and our philosophy. The big plus was that Pulsant specialised in providing private, public and hybrid cloud solutions which is exactly what we were looking for."

Ultima Business Solutions, an IT solutions provider with a 24-year track record, has grown from a traditional reseller into the solutions-focused organisation it is today. The company is structured around three core areas - fulfilment, professional services, and managed services - much of which involves the support and sales of cloud computing.

The relationship between Pulsant, the cloud computing, managed hosting and colocation expert, and Ultima began four years ago. The IT solutions provider sought a secure, caged area within Pulsant's Maidenhead data centre facility to host its cloud infrastructure.

"Part of our managed services portfolio includes cloud services that are supported, backed up and managed by our technical support centre in Reading," said Danny Fisher, head of managed and support services at Ultima. "Our requirements were of course security and reliability, but we also wanted the location within a reasonable distance of our support centre and we ideally wanted a partner that was able to work alongside us, as a visible extension of our offering." In addition, Ultima required a hosting environment that was scalable so that it could offer additional colocation services with networking interconnects.

After several months of reviewing the cloud market and evaluating solutions in terms of their technology offerings, contract flexibility, delivery of SLAs and overall management mechanisms, Ultima selected Pulsant.

"We are driven by our customer base and in Pulsant we found a business that is very similar to us in approach. Pulsant is very much aligned to us and our philosophy. For example, it offered us a cloud platform based on HP software, a VMware hypervisor, a high performing network with Cisco as the backbone, and security provided by Check Point - all things that reinforced the synergy between our two organisations. The big plus was that Pulsant specialised in providing private, public and hybrid cloud solutions which is exactly what we were looking for."

The team at Ultima worked closely with Pulsant to shape an Ultima-centric offering and very quickly started migrating a number of its customers from on-premise and other cloud platforms onto Pulsant's Enterprise Cloud.

"We host some of our own systems in the Maidenhead facility and it is excellent, they have a great team that works closely with our technical support centre and product champions for cloud. As a solutions provider we are bound by our SLAs so it is imperative that we have people on the ground who are capable and efficient to see that through," said Fisher.

The company also enjoys a collaborative relationship with the cloud provider as a member of the Pulsant Partner Programme. When selling cloud solutions to potential customers, Ultima works with Pulsant from a deal's inception, pre-sales and sales assistance, and to create commercial and technological flexibility.

"We looked for a partner that offered us compelling technology-proven, contractually stable, secure platform for us to leverage. And we definitely found that in Pulsant," concludes Fisher.

More info: www.pulsant.com

STORAGE AWARDS
THE STORRIES X

winners 2011, 2012, 2013

Storage is changing… the good news is your expectations can too.

At Q Associates we live and breathe information technology and we're passionate about the difference it can make to an organisation when you get it right.

The relentless growth of data has meant that we all have to be smarter about the way that we work. Buying a bigger box, simply doesn't cut it. The world has moved on.

That's where we're different. We aim to collaborate with our clients, combine our skills and knowledge and provide versatile solutions designed for todays changing market.

If you share our view that harnessing your data could have a profoundly positive affect on your organisation, then we'd love to work with you…

Q ASSOCIATES

Your IT. Our Business.

For Award Winning storage advice, contact **storage@qassociates.co.uk**

WAN-way traffic

Jae Lee, director of cloud product management at Silver Peak discusses the potential impact on network performance of the Infrastructure-as-a-Service (IaaS) model

Organisations are increasingly using Infrastructure-as-a-Service (IaaS) for its ability to offer fast, agile and elastic computing with minimal operational overhead. For larger enterprises, IaaS is no longer limited to proof-of-concept (POC) projects. IaaS now plays a key role in hosting business critical applications. This is driving IT to scale processes off corporate premises towards a hybrid cloud model where companies can provide and manage some resources in-house and others externally. As such, traffic within the hybrid cloud model is scaling at a rate that is forcing a new look at legacy wide area networks (WANs).

GROWTH OF THE HYBRID CLOUD

There are multiple factors driving increased workload migration into the cloud, including expanded presence throughout the world via IaaS 'regions' and availability zones, improved cloud security and automation features. For CIOs, moving to the cloud means converting capital equipment expenditure into operational expenditure, utility spending, faster time to value and building a leaner infrastructure. Common use cases for IaaS include cloud backup and replication, disaster recovery, short-term development and test activities, and supporting temporary workload surges. While IaaS deployments offer numerous benefits, connecting the enterprise to the cloud can also present hidden challenges and costs.

HOW IAAS IMPACTS THE WAN

The hybrid delivery model directly impacts the existing enterprise WAN by increasing the complexity of network topology between the enterprise and IaaS sites. Increased use of internet connectivity and the need to extend site-to-site Virtual Private Networking (VPN) to the cloud adds further complexity. And as hybrid cloud models begin to take hold in more enterprises, WAN performance becomes critical for ensuring workload performance. The impact IaaS has on the WAN includes the following areas:

Setup: Virtual Private Clouds (VPCs) are logically isolated environments hosted at an IaaS provider. Each VPC provides network-level segmentation on shared hardware, and in some cases, organisations can select dedicated hardware isolation. Isolation between customers is a basic requirement for internet-based computing, along with privacy for data at rest and in flight. However, extending security can require multiple complex steps. For example, organisations setting up a VPN connection between an Amazon Web Services (AWS) VPC and its data centre will find it complex, as it requires the company's data centre firewall to be on the supported equipment list published by AWS. Configuring and setting up this tunnel typically requires approval and involvement from one or more different IT departments.

Networking: Most cloud providers offer a standard set of basic services, such as multi-tenant isolation, workload size archetypes, and provisioning and management tools. However, there are still major differences in each provider's networking requirements, both within a VPC and across VPCs. Multi-cloud peering also presents limitations because of the inherent differences in each IaaS provider's architecture.

Bandwidth usage: Some applications require guaranteed bandwidth rates between server instances. Cloud computing applications are highly

"For CIOs, moving to the cloud means converting capital equipment expenditure into operational expenditure, utility spending, faster time to value and building a leaner infrastructure. Common use cases for IaaS include cloud backup and replication, disaster recovery, short-term development and test activities, and supporting temporary workload surges. While IaaS deployments offer numerous benefits, connecting the enterprise to the cloud can also present hidden challenges and costs."

dependent on internet bandwidth, latency and link quality. Bandwidth controls need to be in place to reduce or throttle the amount of bandwidth consumed while not compromising application performance.

VPN limitations: Establishing a secure VPN connection between the data centre and the IaaS provider is a must. Even within a single cloud provider environment, there may be limitations to how many VPN tunnels can be supported from a VPC to a data centre, forcing new decisions about architecture and topology that can slow down the planning phase prior to migrating into the cloud. For example, a single VPC can typically only support a certain number of VPN tunnels per customer-facing gateway. For an organisation looking to extend a fully meshed VPN environment into the cloud, this is an architectural limitation. For example, a company with several branch offices accessing applications hosted at an IaaS provider will each need their own tunnel, thereby limiting the number of sites that can be connected to that VPC.

Multi-cloud support: Migrating data to another virtual private cloud from the same provider, or to a different cloud provider, can be problematic. Establishing direct connectivity between IaaS vendors is complex. For cloud-based disaster recovery, enterprises should maintain redundant copies of data on-premises and at different cloud providers for mission-critical data. These datasets are generally quite large, scaling up to tens-of-terabytes in size. Without the intervention of specialised cloud migration service providers, data may need to be "backhauled" from one IaaS host through a VPN connection to the on-premises data centre, and then sent out through a second VPN connection to the other IaaS host. Each provider may charge for data transfer, unnecessarily running up the enterprise customer's variable costs.

Initial migration can be slow: As IaaS typically involves moving large amounts of data into the cloud via an Internet-based extension of the traditional WAN, its success is often gated by the available bandwidth. When data movement needs to be performed in real-time, geographic distance and WAN quality can play a major role in whether this is done successfully. Large volumes of data, available bandwidth and the data centre's proximity to the cloud data centre can all affect the time required for data migration. Therefore, enterprises must consider strategies for migrating data both into and out of the cloud, or deploying across multiple cloud vendors for data protection.

ADDRESSING IAAS LIMITATIONS

In light of the continued growth of hybrid cloud computing, organisations must re-imagine and build the WAN now to support an entirely new set of application delivery requirements. One such architecture is to unify the traditional and new hybrid cloud topologies via a single WAN overlay that controls and accelerates connectivity to any combination of enterprise services, IaaS resources and even cloud-based Software-as-a-Service (SaaS) applications. Not only does this approach yield better performance and visibility across both premise - and cloud-based infrastructure, it offers secure and simplified connectivity between the enterprise and multiple IaaS providers, bypassing many of the limitations inherent in IaaS deployments and making it possible to easily build performance consistency into the hybrid infrastructure while maintaining compliance and a high degree of networking flexibility, for example a hybrid 256-bit AES VPN mesh.

Ultimately, enterprises can gain efficient, scalable and cost effective computing by migrating some of their core services into hybrid clouds using IaaS. However, only by addressing the limitations inherent in IaaS deployments will organisations be able to implement consistency into their hybrid infrastructure - the key component to staying one step ahead of their competitors.

More info: www.silver-peak.com

Forward thinking

At the end of every year, the IT industry feels the need to channel Mystic Meg and predict what will come in the next 12 months. Cloud Hosting summarises the likely highlights and low points

There are, it has been said, only two certainties in life: death and taxes. If that is true, why are we all so keen to impress others with our predictions for the future? The IT world is probably one of the worst culprits in this regard, and at this time of year it is hard to move in the Cloud Hosting offices without falling over someone's press releases announcing the rise of privately-owned drones filling the skies over Hampstead Heath, or a new watch that automatically keeps me up to date with Miley Cyrus' latest publicity stunts on Twitter.

Nonetheless it is worth sifting through the blatant 'PR puff' because our industry also employs some of the smartest and most insightful people around. We've pulled together some predictions from across the cloud sector and the wider IT world, to give you some idea of the kind of issues you're likely to be dealing with over the next year or two.

THE TROUBLE WITH MICROSOFT

Several of those we spoke to singled out the impending end of support for Microsoft's Windows Server 2003 as a significant event for the industry, as users look for an alternative to a server infrastructure that has been around for 11 years.

Alex Hilton, CEO of the Cloud Industry Forum (CIF), describes it as a new imperative for businesses to look to Cloud-based alternatives: "In the period leading up to July 2015 the market faces the most significant IT refresh of the 21st century to date with the end of support of both Microsoft Windows Server 2003 and Small Business Server 2003. These products have not only underpinned the IT server market for the last decade they have been the basis upon which many local IT providers have built their businesses. In the UK alone, an average of 1000 servers per day are likely to need to be transitioned in the final year of

"Like XP in 2014, Server 2003 has been one of the data centre workhorses and one of the operating systems businesses really rely on. It is at points like these when businesses have to review whether they want to continue to run those applications in-house, or whether they want to move them out to the cloud." - *Peter Groucutt, Databarracks*

support. Some customers will take the opportunity to move the server workloads to Cloud services, some will undertake a rudimentary incremental upgrade and others will take the opportunity to refine their IT strategy. The next 12 months represent a great opportunity for customers to make a Cloud migration and adopt the latest enterprise ready technology at a fraction of the price. Our research suggests that 61 per cent of UK organisations are still running Microsoft Windows Server 2003. This product has been supported for 11 years but technology has moved on. Doing nothing is not a viable option, the majority of users will move to Cloud or Managed Services."

Perhaps surprisingly, Glenn Woolaghan, UK SMB Director at Microsoft, seems to agree: "Migration to the Cloud presents businesses of all sizes with an opportunity to discover the right balance of simplicity, flexibility and cost and enable SMBs to take advantage of enterprise-grade features at start-up prices. By this we mean that businesses will be able to host applications in the way that bests suits their business and cost structure, whether on-site or in the cloud. They'll also be able to grow efficiently and use only what they need, when they need it. Finally, employees of SMBs will be able to get their work done anywhere and work together easily with the latest cloud-based mobility and productivity solutions."

CIF is predicting that Cloud adoption will reach another peak throughout 2015, increasing in breadth with more organisations overall using Cloud services, and in depth, as existing users expand their use of Cloud services. They say that over 90 per cent of organisations will be using Cloud services by the end of the year, up from 78 per cent in 2014, and 60 per cent of these will use two or more 'material Cloud services'.

Peter Groucutt of Databarracks also points to the end of Server 2003 as a catalyst for cloud migration: "Like XP in 2014, Server 2003 has been one of the data centre workhorses and one of the operating systems businesses really rely on. It is at points like these when businesses have to review whether they want to continue to run those applications in-house, or whether they want to move them out to the cloud."

But there is no suggestion that Microsoft themselves aren't keenly aware of how the cloud is changing the landscape. Groucutt goes on: "In 2015 the cloud computing trend will still be 'hybrid cloud' in its various guises. Hybrid means different things to different people, but for us it means customers choosing to tactically adopt the specific services that offer the most value. Disaster recovery is one example of this and Office 365 is another. The move from Microsoft to offer free versions of Office on tablets and smartphones is a very clever one. For a while now we have been looking at Microsoft and Google and waiting for one of them to offer a serious challenge to Amazon Web Services' dominance of cloud computing. Under Satya Nadella, Microsoft is doing just that, and it's using Office as its best weapon."

FOCUS ON OBJECT STORAGE

Cloud object storage is another area to watch in 2015, says Radek Dymacz, Head of R&D at Databarracks: "We have been saying this for years, but object storage is something that's hugely underused at the moment. Data is continuing to grow faster than most organisations know how to handle, and the costs associated with storing that data are growing year on year. Odds are, most businesses end each day with more data than they started with - but not all of that data is business-critical. IT managers are getting smarter about the way they sort, store and retrieve their data. By moving non-critical data to inexpensive, cloud-based object storage, it's still available should you need to restore it, but it costs a fraction of the price of high-performance disk space you'd keep your active files on. AWS's S3 storage service, for example, offers storage costs as low as 3p/GB."

BIG DATA GETS BIGGER

For the past few years there have been predictions of a major upswing in the importance of big data and the tools and skills needed to manage it at scale. In 2015, that need for big data will increase, according to John Engates, CTO at Rackspace: "Enterprises are catching on to the big data wave, but they don't have the skills needed in house to pull

"We are increasingly starting to see the rise of PAYG pricing plans with providers such as AWS, meaning the initial investment in terms of software, infrastructure and skills can be minimised. Companies will therefore have the freedom to experiment with Hadoop through 'Big Data as a Service' to demonstrate ROI and evaluate the possible return of a bigger investment." -

Matt Davies, Splunk

necessary value out of that data. The explosion of connected devices will further fuel the flames, creating more data that needs to be extracted and analysed. Data scientists will be a hot commodity, but much like the DevOps revolution of 2014, top data talent will be difficult to come by and expensive to hire. But big data won't slow down - look for as many as five disruptive new big data technologies to emerge in the coming year. At the same time, current technologies like Hadoop will become even more ingrained into your business. To navigate the increasingly complex big data landscape, companies will outsource their big data needs to remove the burden and cost of doing big data internally. Enterprises will demand a shortcut."

Matt Davies, Head of Marketing, EMEA at Splunk, sees Hadoop as central to a growth in big data analytics in 2015, with many of this year's proof-of-concepts moving into production: "Currently organisations are struggling to drive value from the data at rest in Hadoop, and asking questions of this data remains a time consuming and expensive process that requires experienced data scientists. However, as analytics on Hadoop become easier to use and more mainstream, anyone within an organisation will be able to take advantage of software to gain business insight from Hadoop in real-time, opening an organisation's data to an entirely new audience. Key to this will be self service analytics capabilities and the ability for anyone to ask the questions of big data regardless of their job role and technical know-how."

Davies also expects to see an increase in the number and type of organisations that are looking to 'test the waters' with Hadoop, as managed/cloud services make this a more affordable option: "We are increasingly starting to see the rise of PAYG pricing plans with providers such as AWS, meaning the initial investment in terms of software, infrastructure and skills can be minimised. Companies will therefore have the freedom to experiment with Hadoop through 'Big Data as a Service' to demonstrate ROI and evaluate the possible return of a bigger investment."

SENSOR SENSIBLITY

Connected devices is a recurring theme with many of our crystal ball gazers as the Internet of Things looks to finally become a reality with commercial implications. Rackspace's Engates explains: "Cars, smartwatches, tablets, smartphones - sensors will be embedded in everything! (Well, maybe not every single thing, but most things.) If we so choose, we can be connected to the Internet 24x7x365, and every product we buy will have some sort of embedded sensor to collect, transmit or distribute data. Look how Apple Pay is already disrupting the payment industry by giving users zero-click buying power in their pocket. And Apple Watch is going to take that one step further. This goes well beyond the BYOD conversations of yesteryear. Embedded devices and sensors are taking us into uncharted territory. With all of these devices generating all of this data, IT will have to exact some level of control to ensure that security and data integrity are not compromised. But it's a delicate balance, as end users won't want to be restricted in what devices and solutions they use."

Ovum is slightly less convinced, citing issues of middleware as a potential barrier to wider adoption of the Internet of Things 'wave'. Saurabh Sharma, Senior Analyst there, says "With the ever-increasing need to 'do more with less', enterprises will be keen to adopt agile approaches to integration. Therefore, a significant share of the budget for integration projects will be spent on infrastructure modernisation, including the adoption of new mobile and internet of things (IoT) middleware, B2B integration solutions, and cloud-based integration platforms. Cloud-based IoT platforms will continue to gain traction and play a key role in the first wave of IoT adoption by enterprises. However, a lack of common (vendor and platform-agnostic) connectivity standards will hinder wider IoT adoption, especially from the

perspective of enterprise IoT initiatives of reasonable scale."

The Internet of Things, then, may remain something of a work-in-progress for most of us. So which business functions will be seen as most IT-savvy in the coming year?

THE SHIFTING SANDS OF BUSINESS

Gartner has predicted that by 2017, marketing will 'spend more on technology than on IT'. Meanwhile, according to Forrester Research, roughly 40 percent of marketing leaders rank technology as the No. 1 area for improvement in their departments. Marketers will rely more heavily on tools like collaboration software, CRM, automation, CMS and social. John Engates of Rackspace describes the situation thus: "In 2015, marketers will be increasingly called upon to make decisions about how to adopt these new technologies. They'll have to add more technology chops as the demand for tech know-how continually increases, thus forcing the Chief Marketing Officer (CMO) to become the Chief Marketing Technologist (CMT)."

Stuart Evans, CTO at document management specialists INVU sees opportunities emerging for specific application areas and vertical sectors: "The Cloud is not just 'hosting', it's a whole new approach to software and its consumption. It will change the speed of delivery and sales cycle of software and enable new solutions to be assembled as IT barriers are torn down. From a vendor's perspective the Cloud is a maturing and powerful new enabler that is ripe for use. Customers are still wondering what it really is, but they will all too soon be demanding its benefits: reduced IT barriers for projects, Opex commercials and powerful computing features and scaling not possible on a normal business network. Cloud is now in its prime time of disruption - vital for vendors to embrace

and of real interest to customers. We will see many vertical Cloud apps appearing that solve similar collaboration challenges but with tie-ins for particular sectors - health being a great example."

TOUGH TIMES AHEAD?

It is no surprise that 2015 will be a tougher year for businesses, but what it means is that innovation and more 'risky' projects will be put on the backburner. Nigel Beighton, VP of Technology at Rackspace summarise the pressures to move to cloud: "Businesses will be focused on driving efficiencies in order to knock down cost. Many businesses will turn to public cloud and data consolidation as monetary benefits are well known and the cloud is now much more mature and able to cope with their demands."

At the same time, Beighton believes the time is right for consolidation in the hosting market, saying: "The UK has an abundance of hosting providers making it hugely competitive. But competition can make it hard for the smaller hosting companies so, as they struggle to compete, it is likely that a whole host of them will go bust." It is to be hoped that enough of the industry survives the cull that we still have some readers left this time next year! Ch

Retro retailer with the futuristic business model

Retro clothing and gift specialist TruffleShuffle are able to focus on their core business - supplying weird and wonderful T-shirts, homewares and more - and leave the management of their e-commerce function to hosting company iomart

Retro clothing specialist TruffleShuffle is 10 years old and is just as young at heart. Founder Pat Wood started the business after coming back from a holiday in the US and getting compliments about the Dukes of Hazzard t-shirt he wore out to his local pub. He decided to start a small business selling the best retro tees he could find, named it after the famous dance in the classic 80's movie 'The Goonies', and the rest, as they say, is history!

From a few hundred t-shirts in the early days TruffleShuffle now has hundreds of exclusive ranges of retro t-shirts, gifts and accessories. It has an online presence to rival the footfall of the biggest flagship stores on London's Oxford Street, with millions of people visiting its website. The e-commerce model TruffleShuffle is based on is key to its success.

"Having our products easily available online is the most important thing for us," says Pat. "If we were selling our t-shirts out of a small shop we'd never make money. Our website gets around 8,000 to 10,000 visitors a day during normal months and at Christmas time that can peak to 35,000. The internet opens another door for your business - there really is no better marketplace."

TruffleShuffle is a connected business. It reaches its customers through the website, Twitter, Facebook and other social media channels. Pat explains, "We've embraced social media and connected it to how our customers use the internet. Even though we're an online business, providing outstanding customer service is hugely important to us. If you treat people well they come back and that's what we focus on in everything we do. We've invested in creating a website that's appealing, easy to navigate and to buy through and crucially is optimised for mobile."

The TruffleShuffle website and database is supported by a fully managed hosting package from iomart. There are two dedicated web servers and a dedicated master database server that are load balanced with Single Quad Core Core Xeon, lots of RAM, RAID and Redundant PSU. TruffleShuffle also has a CloudSure VM Slave Database server with RAM and HDD (SATA), Database Set Up and mirroring configuration with Postfix set up. All the servers use Linux and there is a Cisco ASA 5505 with SEC Plus Dedicated Firewall for protection.

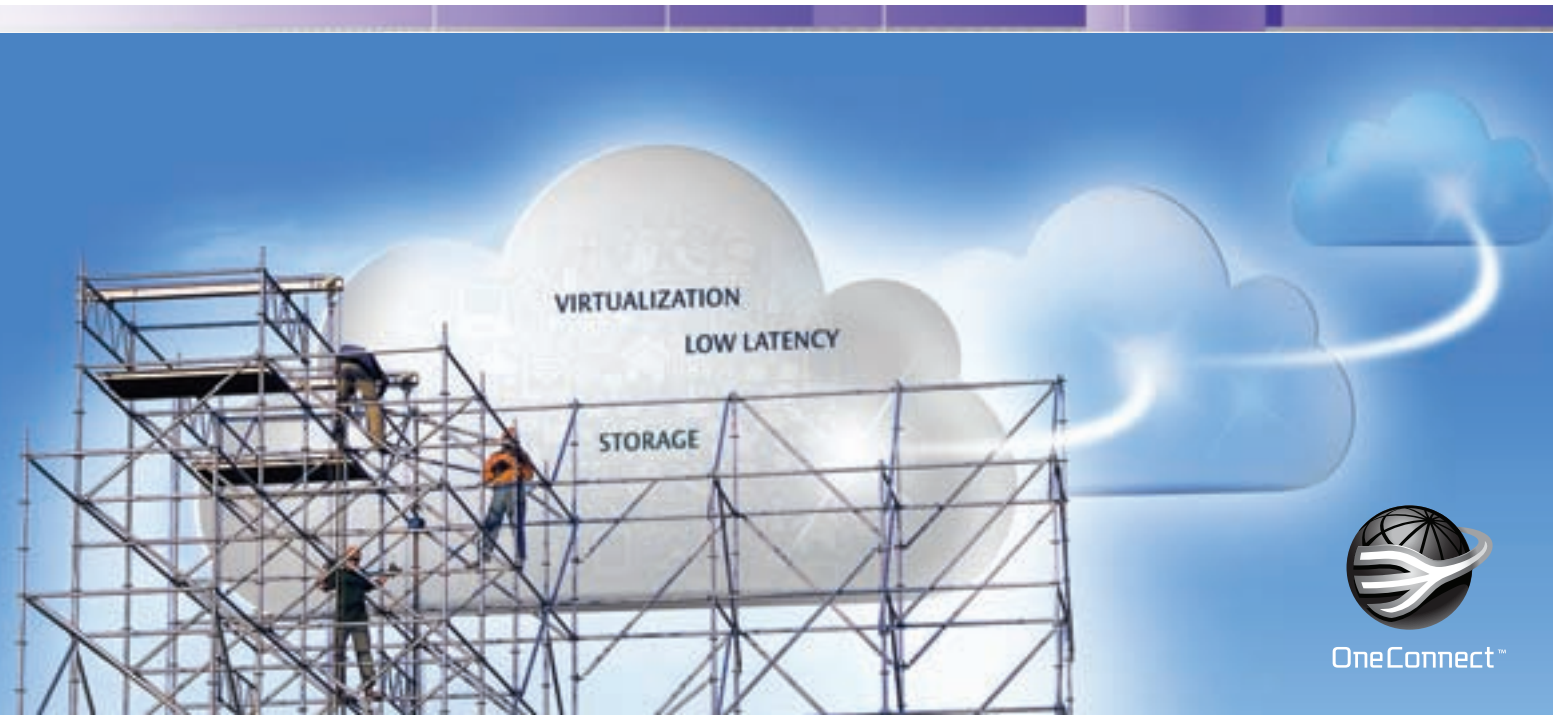
Because of the huge amount of items they sell, TruffleShuffle's backups need to be tailored to individual requirements. Storage demands can vary up to 50GB depending on how busy it is. Meanwhile iomart provides a 100% uptime guarantee, round the clock server and service monitoring; sys admin support; telephone and helpdesk support. There is full Operating System support and configuration services and server-side application support.

Pat Wood, Managing Director of TruffleShuffle, says, "The reason for having a fully managed service from iomart is that during times like Christmas when we are so busy we can rely on their technical team to deal with any IT issues so we can get on with ensuring our customers have the best experience through our website and ecommerce operation. It means that orders are seamless from website to warehouse to delivery and that is vital when you're running a busy online retail business like this."

More info: www.iomart.com

connect • monitor • manage

EMULEX®



NEW High Performance Networking for Enterprise Virtualisation and the Cloud

Great migrations in IT—cloud, big data and the race for web-scale IT. It's all about business agility!

- Concerned about the pressure to reduce operational and capital expenditures (CAPEX and OPEX) conflicting with the need to provide scalable virtualisation and applications?
- Worried about increased need for application acceleration?
- Need to improve on operational efficiency?

Look no further than Emulex's latest OneConnect® 10Gb and 40Gb Ethernet Adapters.

Connectivity, virtualisation, hybrid cloud, convergence, high performance application delivery from Emulex

Emulex's latest generation of OneConnect high performance Ethernet connectivity solutions for virtualised, enterprise and cloud data centres enables higher virtual machine (VM) densities, supports secure hybrid clouds with overlay networks, leverages a low latency architecture to deliver application acceleration and provides an open application performance interface (API) that integrates with the next generation of software-defined networking.

1 **Adaptable and future proofed cloud architectures**
Pervasive support for software-defined solutions and multi-tenant cloud technologies

2 **Fast, secure, high performance application delivery**
Accelerated and offloaded support for cloud scale and big data applications

3 **Optimised for data processing and analytics**
Heterogeneous application and data store support

The Right Choice for your networking needs – Today and Tomorrow

NETWORKcomputing AWARDS 2014 ★ WINNER ★ COMPANY OF THE YEAR

www.emulex.com/oce14000-10gbe

www.emulex.com/oce14000-40gbe

www.emulex.com

14-0946E-A4 · 4/14

To infinity... and beyond?

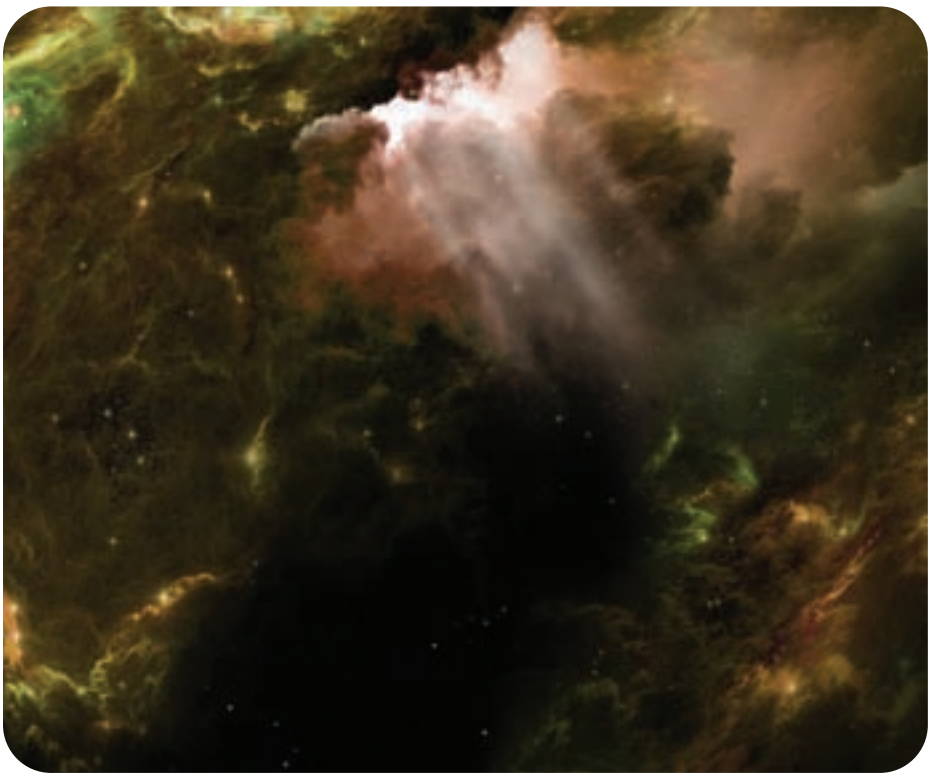
The ongoing epic journey of the Voyager space probe has parallels with the journey we are all making toward a Cloud-oriented future, suggests Paul Hickingbotham, Group Technical Director at Hammer

In September 1977 the Voyager probe was launched into space to collect data about the outer planets Jupiter, Saturn, Uranus and Neptune, and to undertake an exploration into space. It is now the farthest man-made object from Earth, at almost 19.5 billion kilometres away, and it has travelled farther than anyone, or anything, in history.

For almost 37 years it has been quietly drifting through the solar system; yet last year, the Voyager made the news again because NASA announced it had finally crossed over the border of the solar system - known as the heliopause - and into interstellar, or unknown, space. The Voyager's epic journey has recently reminded me of Cloud computing's own epic expedition.

PRECIOUS DATA

The information that the Voyager has the potential to collect and transmit back to Earth from this unknown expanse could be scientifically groundbreaking, and the spacecraft is sending scientific information about its surroundings back to Earth through the Deep Space Network, or DSN. An article on the NASA website states that "Voyager 1… has been sending back so much unexpected data that the science team has been grappling with the question of how to explain all the information."



However, in roughly 10 years, the plutonium power sources in the Voyager will stop generating electricity, and data will no longer be sent. In fact, some capabilities of the spacecraft have already halted due to electrical power limitations. This is how the constantly evolving Cloud, on its own ground-breaking journey, evoked in my mind similarities to the Voyager.

The Cloud has recently undergone a transformation in terms of how it is marketed to the masses; from its humble beginnings when its definition was still being formed, to Cloud providers now rushing to define the Cloud and its benefits to their customers in their own individual ways. Analyst firm Gartner has also described Cloud computing as being "a disruptive phenomenon, with the potential to make IT organisations more responsive than ever. Cloud computing promises economic advantages, speed, agility, flexibility, infinite elasticity and innovation," but Gartner also poses the question: "How will you phase your organisation into cloud computing?"

Its ubiquitous nature is the prevailing factor, demonstrated in taglines recently attached to it such as 'any time, any device, anywhere', 'infinite', and 'borderless'. The 'borderless, infinite' connotations especially reflect the journey the Voyager is undertaking.

Imagine the planets representing virtualisation in the data centre, the solar system representing the Cloud, and the edge of the solar system, which the Voyager

"The key in the Voyager mission is the data itself - as it is with the Cloud - because without data being sent back to NASA for analysis, the Voyager probe could be anywhere in the Milky Way, and it wouldn't matter because the data would not be safely transmitted back to Earth. Also, the data transmitted needs to be reconstructed and analysed to provide worthwhile information. Similarly, data stored in the Cloud can be stored virtually anywhere - as long as it is safely transmitted back to its rightful owner in perfect condition."

has now entered, representing the 'borderless, infinite' Cloud. Similarly to the Voyager, our understanding of data management began with virtualisation in the data centre, which extended out into the 'solar system', or the Cloud, as the Voyager itself did. The question is - how will the Cloud adapt now that, like the Voyager, it has entered new and unexplored, 'borderless' territories?

The key in the Voyager mission is the data itself - as it is with the Cloud - because without data being sent back to NASA for analysis, the Voyager probe could be anywhere in the Milky Way, and it wouldn't matter because the data would not be safely transmitted back to Earth. Also, the data transmitted needs to be reconstructed and analysed to provide worthwhile information. Similarly, data stored in the Cloud can be stored virtually anywhere - as long as it is safely transmitted back to its rightful owner in perfect condition.

CRUCIAL ADAPTABILITY

Since departing in 1977, scientists have been able to manipulate the Voyager mission and the technology therein, and continue to do so up to the present day - enabling it to change direction, update software, update operating systems (Fortran 5, Fortran77 and C) and repair hardware faults without loss of service.

The NASA website meticulously lists the weekly Mission Operations Status Reports and Flight Operations Schedules for the spacecraft, and the Voyager is equipped with computer programming for autonomous fault protection. There are seven top-level fault protection routines, each capable of covering a multitude of possible failures; and the spacecraft can place itself in a safe state in a matter of only seconds or minutes.

The ability of the Cloud to offer the same seamless 'always-on' service, with the ability to evolve dynamically as needs change, is key to its future success. This ability to evolve can be demonstrated through the recent addition of community Cloud to the previous list of Cloud deployment model descriptions: private, public and hybrid, as outlined by the International Organisation for Standardisation (ISO).

Similarly, Cloud System Builders (CSBs), such as Hammer, and Cloud System Providers (CSPs) will need to adapt as the market changes, in order to be flexible enough to survive and thrive in the Cloud, and tailor their offerings accordingly. Understanding not just the technology, but how the hardware and software ecosystem marry together through each ISV's abilities to create the correct combination to be bespoke for each specification, is crucial.

ARE WE THERE YET?

Last year the Voyager made history by leaving the solar system and crossing into a previously unknown region of space - what will it find as its exploration continues into infinity, which humankind may never know due to its finite ability to transmit data back to Earth? And how can the boundaries of Cloud computing as we know it be stretched not just to infinity, but beyond, as it continues to develop in the world of storage?

Ed Stone, Voyager Project Scientist for NASA, said when the Voyager entered interstellar space: "We can now answer the question we've all been asking - 'Are we there yet?' Yes, we are."

The ISO has also recently released two new standards for Cloud computing, calling it an "evolving paradigm." Therefore, as long as data is still restored to its owner in its original condition every time (the fundamental storage function of the Cloud), its evolution has far from finished - but this is no bad thing. Consequently, I don't think we will be able to answer with as much certainty as NASA did for quite some time, as Cloud continues to evolve into infinity, and beyond.

More info: www.hammerplc.com

Data recovery: where do you start?

When you consider an ever-changing network infrastructure, it can be all too easy to overlook the data. Russel Ridgley, head of cloud services at Pulsant shares his thoughts

Recovery of any sort - whether of a system or a specific data set - begins with determining the value of data and having access to it. While developing and testing such a strategy comes with challenges in terms of resource, know-how and budget, answering these questions can form the basis of the plan and often leads to another question: is it a business continuity requirement or disaster recovery?

DISASTER RECOVERY VERSUS BUSINESS CONTINUITY

The two concepts are similar in their outcome but are achieved quite differently. However, if something is absolutely critical to the business, then defining an effective strategy is crucial.

Generally, there is little risk of something catastrophic happening, as modern IT is, on the whole, extremely reliable. Even so, this small risk must be considered and could be affected by a number of factors beyond the system itself, including network connectivity. Having ultra-high availability statistics for a data centre server becomes irrelevant when users cannot connect while you are in your DR position. As a result, continuity or recovery must be considered as a whole, based on the effect an issue could have on the business, rather than on the individual business system. This should include the actual user data, be it a public or internal user, or another system.

If you are trying to achieve a system with no point of failure, then there needs to be no point of failure in the whole process and not just in areas identified as at direct risk.

THE ROLE OF THE DATA CENTRE PROVIDER

In the age of cloud and data centre hosting, service providers build a lot of disaster recovery functionality into the services they offer; from redundancy of power and network connectivity, to having multiple data centres. They do it on a large scale so it is cost-effective. This has inherent benefits for organisations, not least of which are cost savings. Data centre operators have the skills, technology resources and infrastructure to deal with both disaster recovery and business continuity types of requirement and, as a result, it could be more beneficial for an organisation to rely on such a vendor as part of their strategy. According to a Forrester report entitled, "The State of IT Resiliency and Preparedness", 42 per cent of organisations use an outsourced disaster recovery service of some kind.

Service providers therefore must be able to accommodate the specifics of a business' IT estate, as opposed to offering an out of the box style service.

SECURITY

Security is a commonly missed consideration when developing a disaster recovery plan. Issues such as data breaches, hackers or data loss can have an equally devastating effect on a business as a network failure, for example. For small and medium sized enterprises that don't have dedicated security teams, breaches are often difficult to detect in the first place. As a result, hosting data with a third party, for example a data centre provider, is often more effective as these smaller organisations are able to benefit from the expertise, resources and technologies of these operators.

CONCLUSION

In a perfect world an organisation would have two data centres, platforms, networks, and data replication with all aspects fully resilient. This of course requires a colossal investment that is not realistic for many. Data centre providers, however, encompass these aspects as part of their business model. Everything that they do to protect their own business can be of benefit to their customers. Disaster recovery is therefore not something that a business needs to face alone. Working with a trusted provider can be a cost-effective and efficient way of delivering a comprehensive strategy.

More info: www.pulsant.com

DOMAINS | MAIL | HOSTING | eCOMMERCE | **SERVERS**

NEW: DEDICATED SERVER BUSINESS LINE

Trust is important when it comes to choosing the right server provider. With 13 years of server experience and 6,000 employees in 11 countries, 1&1 is one of the largest Internet service providers in the world and a company you can trust. Benefit from our expertise and the maximum security offered by our high-tech data centres.

NEW! **Dedicated Server Business Line X8i and X10i, built on Dell™ PowerEdge™ R630 hardware**

- Latest Intel® Xeon® processors E5-2600 V3 (up to 10 cores HT/2.3 GHz) and 128 GB DDR4 RAM
- Up to 6 TB HDD, Hardware RAID 6 and optional Intel® SSD hard drive
- 1 Gbit/s connection with unlimited traffic
- Maximum security due to redundant components
- Conveniently connect your server to your existing Dell™ infrastructure with Dell™ OpenManage™ Essential Tools

The complete 1&1 Server range: Great entry-level web servers from £19.99 per month, to high-end servers with the highest capabilities. Visit 1and1.co.uk

BUSINESS LINE by Dell™

From **£199.99** per month* excl. 20% VAT

1 TRIAL TRY FOR 30 DAYS

1 MONTH SHORT TERM CONTRACTS

1 CALL SPEAK TO AN EXPERT

0330 123 0274

1&1

1and1.co.uk

* 1&1 Dedicated Server X8i from £199.99/month with 6 month contract term. 1&1 Dedicated Server X10i from £249.99/month with 6 month contract term. After 6 months regular prices apply. 12 month and 1 month contract terms also available (prices vary). £99 setup fee applies for all contract terms. Prices exclude 20% VAT. Visit www.1and1.co.uk for full offer details, terms and conditions. Dell, the Dell logo, the Dell badge and PowerEdge are trademarks of Dell Inc.

Transforming the enterprise - one tier at a time

Ken Oberman, VP of EMEA commercial sales at SanDisk, looks at the growth of flash in the data centre

As 2014 comes to a close, multiple innovations in data centre and storage technology have emerged to place the possibility of a Flash Transformed Data Centre (FTDC) within reach. Triggered by companies looking to address the "mismatch" between increasing processor speeds and storage based on mechanically-driven hard-disk drives (HDDs), the rise of FTDC will address the mismatch in I/O data transfer that has caused noticeable slowdowns in enterprise workloads.

As a result, flash now appears everywhere-across all areas data centre infrastructure: i.e. all-flash storage arrays, servers, and integrated systems with converged infrastructure. More importantly, now flash-based storage solutions can also be accelerated even further through the use of data centre software solutions that flow across many computing tiers - web-serving, application-serving and database-serving.

But there are other factors driving this shift. First, solid state drives (SSDs) have become more reliable and have taken on more enterprise features to ensure that data isn't lost. This step makes flash reliable enough to store mission-critical information.

Additionally, many storage solutions are now able to take advantage of the full performance benefits that flash delivers versus HDDs, such as significantly improved IOPS performance, lower power consumption and heat emission, as well as lower latency - which allows flash to serve up today's read/write intensive applications, such as Big Data analytics, cloud computing, VDI, virtualisation, and more. These data-intensive applications-which are fuelling today's businesses - will never be able to be served up with the processing power of an HDD.

The advantages of using flash in the data centre don't stop there. Today, flash extends to almost every layer of the data centre and is deployed in multiple flavours to fit into existing infrastructure, whether it is in SATA, SAS, PCIe or even DIMM slots. It also opens up new server system design opportunities in order to meet evolving application needs.

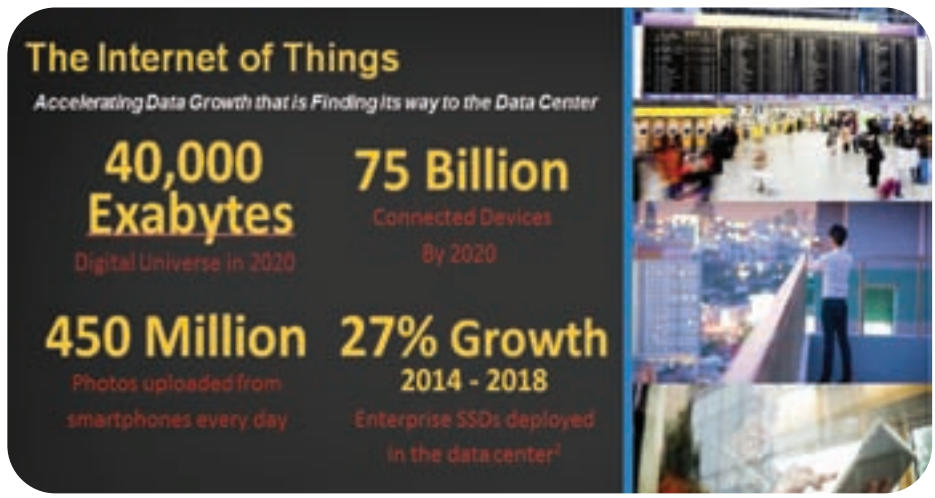
For example, increasing numbers of companies are exploring the ways that flash can accelerate transactional enterprise applications like ERP functions, online transaction processing, video on demand and other forms of content delivery. Flash storage will increase the speed, performance and agility of not only the data centre, but the enterprise as a whole-which is a must for CIOs who are continually challenged to maintain budgets and lower total cost of ownership to enable the flash empowered workforce.

Next, we have seen SSDs gain further ground on HDDs when it comes to capacity. This year has seen SSDs in a standard 2.5-inch form factor reach capacities of 4TB-8TB. Combined with the cost of flash continuing to fall will allow SSDs to reach near cost parity with HDDs. This coupled with the energy, efficiency, scalability, and performance benefits of SSDs will lead to further penetration of flash

"Many storage solutions are now able to take advantage of the full performance benefits that flash delivers versus HDDs, such as significantly improved IOPS performance, lower power consumption and heat emission, as well as lower latency - which allows flash to serve up today's read/write intensive applications, such as Big Data analytics, cloud computing, VDI, virtualisation, and more. These data-intensive applications-which are fuelling today's businesses will never be able to be served up with the processing power of an HDD."

in the data centre and make flash a viable option for archiving and other cold storage applications. I have no doubt that 2015 will be the year that SSDs eliminate the use of 15K HDDs in the data centre.

We will also see vertically integrated flash storage providers continue to drive down the costs of solid state memory and take on workloads in the near-line and archival tiers of the data centre that traditionally belonged to SATA HDDs. With these advantages across multiple tiers of storage, the reality of the flash transformed data centre will manifest itself sooner rather than later.



These advances mean that flash storage will continue to drive the implementation of Big Data analytics and allow businesses to make more informed decisions. Flash will also allow for faster processing and more VMs per server, providing greater compute density. The improvements in performance will make it possible to store, access and analyse Big Data in real time, which is essential for integral applications such as fraud detection.

Over the last year, increased attention has been given to Memory Channel Storage (MCS) technology, making the conversion from storage to memory possible. New storage technologies, such as SanDisk's ultra-low latency ULLtraDIMM SSD, address application latency challenges, while delivering a cost-effective storage solution that achieves DRAM (Dynamic Random Access Memory) performance.

By connecting NAND flash directly to the memory channel via a DIMM (Dual In-Line Memory Module), one can remove the last bottleneck in the storage data path, which enables a marked performance improvement in various applications, especially in regards to Big Data. This server architecture lends itself well to data-intensive applications, and by blurring the line between storage and memory, storage system designers can expect more than just performance gains. It will now be possible to design systems that reduce data management overheads and simplify architectures for clustering.

According to IDC, 80% of all storage devices shipped in 2015 will be flash-enabled. Revenue growth for all SSDs was 35% year over year, from 2012 to 2013, resulting in $9.2 billion in revenue worldwide. The future looks even brighter: IDC is forecasting that enterprise SSD terabytes will grow at a 72% compound annual growth rate (CAGR) from 2012 to 2017. All the signs indicate that 2015 will be an exciting year for the industry. Data centre managers should start to evaluate what business applications-both today and tomorrow-will require in terms of performance, so they can position themselves to catch the 'flash-transformed data centre' wave.
More info: www.sandisk.com/enterprise

Protecting the ´Everywhere enterprise´

The market for public cloud services is expanding rapidly, with radically changing demands driven by business needs. Against that backdrop, staying safe has never been more of a challenge for organisations of all types and sizes

The world of enterprise security has been undergoing a complete transformation as a result of rapid and sweeping changes that are fundamentally altering the way companies do business.

New technologies and trends are changing the very definition of an enterprise network; how and where we work, and the tools we use to do our jobs.

"The 'Everywhere Enterprise' is not some future vision," states Charles Milton, service provider director EMEA, Zscaler. "It's today's reality for thousands of enterprises with operations that span the globe. These technology trends include mobility, cloud applications and social media."

"In the digital revolution we are currently experiencing, it is business needs and not necessarily the IT departments of companies that are forcing change. Public cloud applications, like Salesforce.com for ERP or Office 365, are attractive for enterprises, due to the flexibility, ease of use and cost calculation models next to their applicability in the prevailing work environment. Nowadays, working habits are characterised by staff mobility, new cloud-based applications and communication structures. The everywhere enterprise is born, where staff have access to business data and information, regardless of location or device."

CONSIDERED APPROACH

IT departments are often struggling to adapt to this new reality, on account of the speed

of change that business needs demand. Historically, those departments would prefer to deliver application projects in a slower timeframe, with a considered approach to the impact on the network design and the corporate security posture.

"One of the major considerations with adopting to public cloud applications is how you keep the data in the applications secure, says Milton. "As users are accessing the data from these cloud-based applications, from anywhere at anytime on any device, security infrastructures have to reflect the new working habits.

"The user has become the primary threat vector for corporate security. Hackers have adapted the current malware landscape to exploit the new mobile way of working with targeted attacks that go directly after the new weak point: staff moving outside the secured corporate perimeter, accessing data on the go. The legacy way to deliver user centric security - i.e. to protect that user with services delivered from within the network - doesn't apply any more in a cloud-based working environment," he points out.

NO LONGER PROTECTED

"Those systems protect the perimeter, but, when a user moves outside the secured perimeter, he is no longer protected on all the devices he uses to access corporate data. When a mobile device connects to a public or 4G network, IT administrators lose visibility and control, because appliances cannot see the traffic outside the corporate realm any more."

So where a company is adopting public cloud applications, the right place to provide security is in the public cloud as well, he argues. "Securing business in the cloud requires an entirely new approach to enterprise security: one that is built from the ground up to address the new realities of the mobile, social, Everywhere Enterprise. It requires solutions that allow CIOs and CISOs to regain control and visibility into all of the enterprise's digital assets and user activity, whether located internally or externally on the Internet.

"A Security as a Service model, delivered through the cloud, enables large global organisations to leverage a whole new way of securing its users, devices and data that can scale and adapt to the needs of their business for the next ten years," Milton concludes.

THE ESSENTIALS

As concerns over cloud security continue to trouble businesses, one initiative aimed at bringing greater resilience and peace of mind is the government's Cyber Essentials Scheme. Launched to help smaller enterprises delivering products or services to the UK public sector defend their systems, networks and data from attack, the scheme addresses more than 80% of the most common cyber threats. It is something that has been warmly welcomed by John Godwin, head of compliance and information assurance, Skyscape Cloud Services, who points out that the education of businesses of all sizes - especially SMEs - is essential when it comes to cyber security.

Since 1 October this year, the government has required all suppliers bidding for contracts that include the handling of certain sensitive and personal information to have been certified against the scheme. "The Assurance Framework claims to have been designed with SMEs in mind, ensuring that validation and certification activities are neither excessively time consuming nor prohibitively expensive to complete," explains Godwin. "Initiatives such as Cyber Essentials are clearly providing a step in the right direction: encouraging UK businesses to become more secure and resilient against basic cyber threats and, in turn, making the UK a safer place to conduct business online.

"Meanwhile, significant accreditation changes to the G-Cloud Framework are coming, as the Government Security Classification Policy (GSCP) has replaced the existing Government Protective Marking Scheme (GPMS). Associated with this, cloud suppliers will no longer need to seek Pan Government Accreditation (PGA) and will instead have to self-assert their services with appropriate supporting evidence. Buyers have now become fully responsible for assessing and selecting the most appropriate cloud services that deliver the security features required by their data."

CONFIDENCE FRAGILE

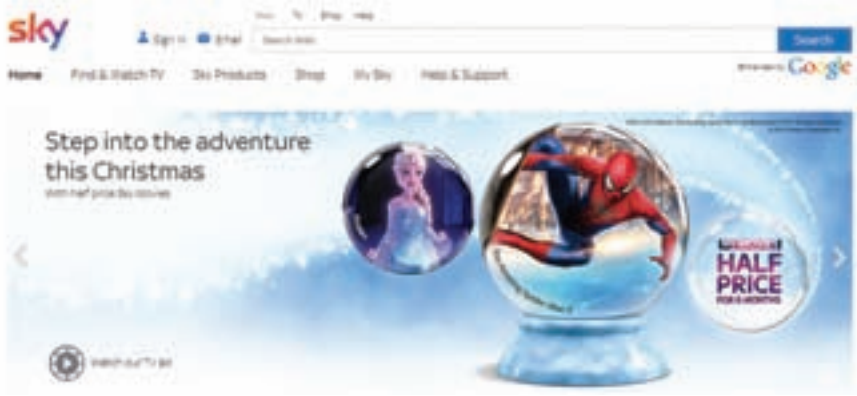
Given these significant changes, the onus is very much on suppliers to ensure that the increase in the adoption of cloud services is not undermined by the consequences of a serious data leak. "There are concerns that it would take just one breach as a result of a cloud supplier overstating or misrepresenting their security credentials - whether that be accidentally or intentionally - for confidence in the security of cloud services to be seriously eroded", states Godwin.

For buyers, CESG's 'Cloud Security Principles' document provides a sensible approach, he suggests, with fourteen principles summarising the controls that should be assessed when evaluating the security of a cloud service. "Alongside guidance for buyers on acceptable levels for asset protection, consumer separation and personnel security, one of the principles focuses on assessing how well a supplier manages an effective security governance framework. In this regard, buyers are advised to assess how well a potential supplier performed under the robust PGA system that was in place for the first five G-Cloud frameworks.

"With G-Cloud 6 fast approaching, we look forward to seeing additional guidance and support from GDS to ensure that public sector customers are able to fully understand and properly evaluate supplier assertions. The security of their data depends upon it," Godwin warns. Ch

That´s entertainment

Entertainment giant Sky has standardised on Cleversafe technologies for its private cloud platform



Sky, Europe's leading home entertainment and communications company, has standardised on Cleversafe's object-based storage solution. Sky uses Cleversafe in the UK for its private cloud platform, hosting large amounts of unstructured data, including video, audio, documents, backups and more.

With over 20m customers enjoying a range of TV, broadband and home telephony services, Sky is Europe's biggest investor in television content, investing more than £4.6 billion a year in channels such as Sky 1, Sky Atlantic, Sky Living, Sky Arts, Sky Sports, Sky Movies and Sky News.

Sky manages multiple petabytes of data. As its unstructured data - video content, archive information and more - began to expand, the company sought a solution that could grow with it. To address the growing data challenge, Sky selected Cleversafe's storage platform to build a highly scalable and cost efficient storage system.

Cleversafe has created a breakthrough technology that solves petabyte-and-beyond big data storage problems. This solution reduces 80 percent or more of the storage cost from the business while enabling secure and reliable global access and collaboration, and many of the world's largest data repositories rely on Cleversafe.

"As a leading media and communications company, we manage an enormous amount of unstructured data, including video, audio and documents, and every bit of that data needs to be readily accessible. As data grows, it becomes harder and harder to make this a reality in an economically sustainable way," said Will Westwick, Head of Enterprise Technology at Sky. "Cleversafe's platform has the maturity and scalability we require, while also supporting our objective to lower data centre TCO without comprising service. This is a fundamental requirement as we scale."

The Cleversafe platform also makes global file sharing efficient and secure. Files are relocated seamlessly across Sky's strategic regional data centres. The data is extremely reliable and always available. In the two and a half years Sky has utilised Cleversafe, the company has experienced 24/7 data availability.

Ease of use and flexibility are also key to Sky's storage environment. Managing, scaling and securing Sky's data management operations has been easy because the Cleversafe platform doesn't require "heavy lifting." Sky's existing storage team has been able to master the system, and Cleversafe delivers a mature support experience.

Sky is now able to support its rapid data growth using its existing operational teams. Security is equally easy to manage. Cleversafe's patented, geographically dispersed erasure coding method - which houses data as virtualised and encrypted "slices" spread across devices - eliminates the need for costly data replication.

"Sky has never been stronger in technology innovation. From creating new ways to watch and enjoy your favourite shows to utilising a mobile app for customer service, Sky is at the forefront of using technology to deliver a great customer experience," said Russ Kennedy, Senior Vice President of Product Strategy and Customer Solutions at Cleversafe. "Our relationship has been a true strategic partnership, and we look forward to continuing on our joint path of innovation."

More info: www.cleversafe.com

PURESTORAGE

Pure Storage have made all-flash storage affordable enough to use broadly across the enterprise. We believe every company should enjoy the performance, space and efficiency advantages of flash as well as the lower maintenance, power, cooling, rackspace and management costs. All Applications. All customers. All budgets. **Flash for all**

100% Flash Array for the same price as fibre channel disk.

SOL-TEC AND PURE STORAGE LUNCH AND LEARN

BOOK NOW AT: WWW.SOL-TEC.COM/EVENTS

EIGHT MEMBERS CLUB
LONDON

SOL-TEC
IT Services

E : SALES@SOL-TEC.COM
T : +44 (0) 1189 514 203
W : WWW@SOL-TEC.COM

Building for the future

Construction group Bowmer & Kirkland has been able to improve collaboration and speed up project times thanks to a hybrid cloud solution from Egnyte

Founded by a bricklayer and a joiner in 1923, today Bowmer & Kirkland (B&K) is a construction and engineering group made up of 26 companies spread across three continents - Europe, North America and the Middle East, employing a staff of over 1,300.

B&K works on large scale national projects as well as some of the best-known sporting, academic and transport buildings in the UK including the Edinburgh Elite Sports Centre and Gatwick Airport. Last year, the company had a turnover of about £662 million.

B&K's construction group and its subsidiaries heavily rely on the IT team to connect the head office, regional offices and site office teams across Europe, North America and the Middle East to increase efficiency and growth. Following the slow economic growth in the late 2000's, the management team at B&K decided to consolidate how its groups utilised IT. This consolidation meant all 26 companies in the group were initiated into a global project of digital transformation.

Kevin McDonald, Head of IT at Bowmer and Kirkland, led the transformation project after undertaking an in-depth research project to analyse how each department interacted with technology, and how employees fit IT into their individual ways of working.

VERSION CONTROL

A key finding from his study revealed that over the years, paper use for document management became a bigger problem for the group as double data entry confused project teams and lack of document versioning was making it hard to identify the latest copy of a blueprint or a new business pitch. Also, the environmental and economic costs associated with purchasing reams of paper were excessive which made moving to a digital documentation system the logical choice.

SHORTENED DEADLINES

Another discovery was that sub-contractor and client management had evolved rapidly in

"Egnyte's hybrid deployment, on premises or in the cloud, meant B&K had two avenues to share large CAD and BIM files quickly and securely while not being at the mercy of limited bandwidth coverage on job sites detrimental to cloud-only solutions. This offered employees fast access from their mobile devices to the local storage on the job site, coupled with the global easy sharing and sync capabilities provided by the cloud."

the last three years. Construction project timelines had shortened, from 52 weeks to 40 weeks, and construction companies were forced to find a solution which delivered value in a shorter time period.

BYOD CONCERNS

Continued research found the design stage of the project had become increasingly ad hoc as engineers adopted mobile devices to 'design on the job' rather than the past method of agreeing on the design before building commenced. Client demands, a shorter time to complete projects, and limited economical resources meant B&K needed technology to help employees securely access the right design to exploit Building Information Modelling (BIM) or pitch documents at any time.

EFFECTIVE COLLABORATION

In response to the new demands of the construction industry, McDonald sought a file collaboration technology where employees could access and share content across multiple time zones. B&K wanted to achieve "value engineering". The main reason Egnyte was chosen ahead of Huddle and Dropbox was because it provided multiple deployment models of its Enterprise File Services solution. One of those deployment models is Egnyte's hybrid cloud solution which bi-directionally syncs local storage systems with the cloud.

Through the use of Egnyte's platform, McDonald and his team have "one version of the truth" at all times giving each of the 25 companies in the group autonomy as they have the choice to decide what files should be kept on the local network and what files can be shared in the cloud with external contractors. With Egnyte's hybrid cloud solution, the company's files can be replicated across sites for cross-office file sharing and data redundancy through the use of Netgear ReadyNAS boxes at each location.

"Egnyte's hybrid deployment provides everything our business needs," comments McDonald. "It's easy to use, secure, and allows us to deliver high quality projects quicker than before at a competitive cost. It makes things easier not only for my team and I, but for the whole Bowmer & Kirkland organisation."

CONTROL OVER FILES AND USERS

A key feature of the Egnyte solution for B&K was the Audit Reporting feature which allowed the IT team to identify the location of any file and see who had access to this file. The IT team was not comfortable using Dropbox because they could not see where the files were located.

Egnyte also helped B&K comply with data privacy and recovery regulation, an issue facing construction companies across the world. Having offices in three continents and managing sub-contractors and employees means requests for information come in all day, every day. Egnyte's Enterprise File Services solution offers multiple ways for IT to control and securely share information with subcontractors and employees. Egnyte's administrative controls help the IT team set up specific users and groups along with specific folders and sub-folders for projects while controlling the structure and permissioning.

ACCESS TO CAD AND BIM FILES VIA ANY DEVICE

Egnyte's hybrid deployment, on premises or in the cloud, meant B&K had two avenues to share large CAD and BIM files quickly and securely while not being at the mercy of limited bandwidth coverage on job sites detrimental to cloud-only solutions.

This offered employees fast access from their mobile devices to the local storage on the job site, coupled with the global easy sharing and sync capabilities provided by the cloud. Being able to access the right files at any time from any device means new business proposals and design files are delivered quicker to customers, giving B&K a better chance of winning new projects. Being application agnostic, Egnyte is used by B&K via the Microsoft Outlook interface (using an Egnyte plugin) which means employees do not have the hassle of going back and forth to work on and share construction content.

McDonald concludes, "With Egnyte, there is no need to watch an egg timer while waiting for the 10GB file to sync. Its speed and ability to audit trails of files really helped in managing documents. Egnyte became the cornerstone of our new IT strategy."

More info: www.egnyte.com

Telco Cloud Forum: positively unmissable

Cloud Hosting magazine previews the only event for Telco Cloud providers & their channel partners

The 2015 Telco Cloud Forum will be covering all the crucial and essential topics from all the possible angles. The organisers aim to delve into the deepest details of Business Models and Go-to-Market strategies. These are some of the sessions they already have lined up:

- What do Telcos sell best?
- SaaS and other XaaS: Challenges to overcome and the right decisions to make
- Hybrid models - Delivering best-in-class High-Performance and High-Availability
- M2M opportunities for Telco Cloud
- Unified Communication as an essential business reality
- The SME as the Number 1 customer group that Telcos can grow their revenue from
- New and enhanced revenue streams from Enterprise Mobility
- What are the skill-sets required to successfully sell Cloud

Last year's Pre-Event Masterclasses proved to be a huge hit with attendees, led by the Open Data Centre Alliance, AppDirect and Huawei, and the event team is looking forward to bringing the next level in education with more classroom sessions in London.

THE SECRETS OF MY SUCCESS

At Telco Cloud 2015 there will be more success stories and case studies providing critical insight for the Telco community. Among the key topics will be Virtualisation: NFV, VDC, SDN and future Network Architectures; Smart Investment with a focus on building Data Centres; Cloud Security - technical and legal insights; Growing Cloud revenues through SME market and many more.

Again following on from their success last year, delegates will again be able to take part in exclusive speed networking sessions- which continue to prove to be a fantastic way for the Telco community to



meet and exchange ideas as well as business cards and contacts.

WHAT'S ON THE AGENDA?

Months of research across the industry have identified challenges and trends that the Telco Cloud community is facing currently when launching cloud services. And after speaking to over 50 top industry experts it has become clear that there are definitely key common trends amongst Telcos that will be covered in the 2015 agenda:

- XaaS, Hybrid and Vertical Cloud
- M2M, Innovations, Big Data
- Unified Communications
- Network Virtualisation
- Open Sources
- Cloud Sales Skills
- IAM and Encryption
- Cloud for SME, SoHo
- Enterprise Mobility
- Virtualised Value for Enterprises
- 5G

Virtualisation is one topic that everybody is talking about. Last year's event had a stream devoted to technical innovations, including virtualisation. It went so well that the forum organisers decided to expand it in 2015. So watch out for a whole stream on new trends, interesting case studies and exciting talks on NFV, SDN and network virtualisation.

Not surprisingly, cloud security will be another major topic for delegates. Over 70% of those questioned in the organisers' research mentioned that security is becoming progressively more important to Telcos looking to win in the cloud space. Building a strong holistic approach towards a wide range of security problems is 'a must' for any Telco: it's not an IT service anymore, it's a Telco's USP.

NOT JUST THE USUAL SUSPECTS

Delegates will get the opportunity to hear from a number of new and highly relevant disruptive players in Telco Cloud as well as CTOs and Heads of Cloud Services from leading Telcos globally. Only this event can bring attendees the entire ecosystem under one roof: hear from Telcos as well as OTT players, developers and enterprise end users with comprehensive coverage of all things Telco Cloud.

Of course an event like this is nothing without the support of the industry itself, and Telco Cloud Forum boasts a raft of big names happy to be associated with the conference: Host Operator this year is Telefonica, while AppDirect is the Lead Stream Sponsor for the show, and both mm1 and InverCloud are Premier Sponsors. Research Partners include CompTIA and Ovum.

Speakers already confirmed as we went to press included an impressive list of Telcos, analysts and other industry luminaries:

- Deutsche Telekom
- Telefonica
- Telecom Italia
- CenturyLink
- Amazon Web Services
- Ovum
- Orange Business Services
- Colt
- BT Global Services
- Tesco

As Martin Chadban, Head of Cloud Services, Business Products and Services, Vodafone Group, commented after the 2014 event: "There's a real diverse bunch of people here and it's good to meet many of my fellow Telcos. The people standing up and presenting have got a lot of experience. The whole ecosystem is well represented."

Alain Decartes, Global Industry Software Marketing, Communications Media Entertainment Lead, HP Software Marketing, agreed: "This is the fourth time I've been to this event. What I like about this show is the level of energy you get in the networking opportunities but also the fact that people are speaking candidly about how they can improve their business and what they can learn from each other."

Telco Cloud 2015 takes place on the 28th and 29th of April 2015, at the Radisson Blu Portman on London's Portman Square.

More info:
www.telecomcloudservices.com

Securing the perimeter

The enterprise perimeter does not exist anymore and a much more proactive approach to security is needed, says Bill Strain, CTO of cloud company iomart

For the past fifteen years, the standard business defence against online attacks has been to deploy multiple layers of security controls. Organisations have relied on deploying security devices at specific points in the network for protection and on point solutions that look at specific threats in isolation.

But what we've been doing isn't working. Remember US retailer Target, which suffered one of the biggest data breaches in history last year when as many as 40 million customers saw their credit and debit cards become subject to potential fraud after a malware attack? Target was using Endpoint, Firewall, IPS and malware sandboxes. The sandbox detected something, sent multiple high priority alerts to the security team and the alerts got lost among all the others.

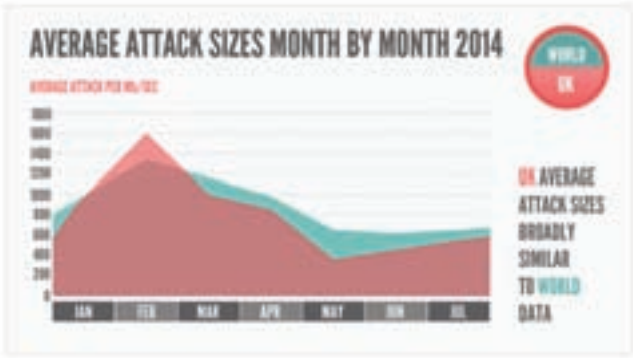
In this current era of the cloud and mobility, we now need to be thinking about defence in breadth, rather than defence in depth. These individual security devices all generate alerts, adding up to billions per year for large global organisations. This approach is a reactive and inefficient way to identify threats, and essentially gives attackers the upper hand.

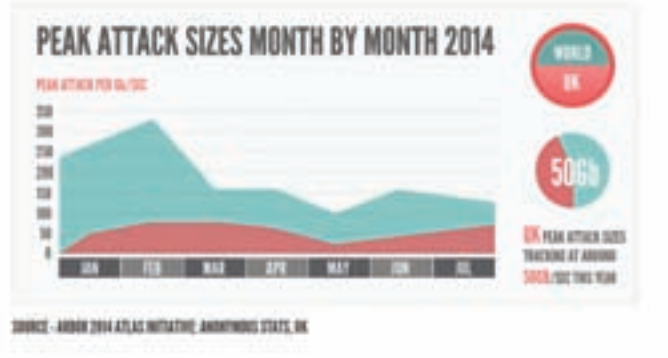
MORE PROACTIVE

A much more proactive approach to security is needed. The enterprise perimeter does not exist anymore. Corporate data resides all over the Internet at multiple third party suppliers, who provide the software and services your organisation relies on. So, more than ever you have to be reliant on the security capabilities of your partner.

It is common for service providers to have to contend with evolving DDoS attacks (Distributed Denial of Service], which have grown in size and frequency and sophistication in recent years. If successful, these can cause costly outages and affect service availability.

According to security firm Arbor Networks, which monitors more than 90Tbps of global internet traffic, DDoS activity in the UK is in





line with global averages - and that's troubling. The barrier to entry for attackers has been obliterated by new tools that enable anyone with an Internet connection and a grievance to launch an attack. This is a true game changer, in terms of the threat landscape and which businesses should consider themselves as potential targets. Today, any business, for any reason, any real or perceived offence or affiliation, can become a target.

Here are some statistics from Arbor's latest report:

- In the first half of 2014, more than 38,000 DDoS attacks targeted the UK (17,359 in Q1 and 20,733 in Q2)
- The largest DDoS attack in the UK was 75Gbps
- The average DDoS attack in the UK was less than 1Gbps
- The length of DDoS attacks varied from an hour to several days (and ranged from 75Gbps to several hundred Mbps).

HIGHEST ORDER OF PROTECTION

Managed customers need to know they are being protected to the very highest order. Rather than implementing one level of protection for an elite set of customers, we owe it to all customers to consider their security. This is where advance threat protection and pervasive network visibility can ensure your network is fully protected at its furthest outreaches.

There are very real consequences to successful cyber attacks. Targeted attacks that use malware to compromise intellectual property can have a severe impact on your business from a competitive standpoint. Increasingly, businesses are compelled to publicly disclose breaches that impact customer data; a nightmare for all involved. A successful DDoS attacks means your business is taken offline. This has the same impact to business continuity as, say, losing your electricity supply.

Security is no longer a check box, compliance-driven function. It is one of huge strategic importance, and is fast becoming an executive and board level issue. After price, the next question to be asked of a hosting provider these days is usually interrogating its security capabilities. Hosting providers have responded by investing in their security infrastructure and also in their ability to offer suites of managed security services.

TRUSTED ADVISORS

Market research firm IDC, in a white paper sponsored by Arbor Networks, titled 'Considering DDoS Prevention in Hosted Environments', concluded: "Not all companies have the resources or expertise to properly prioritise security, which enables attackers to cast an incredibly wide net when planning offensives. It's these organisations that can benefit most from trusting in and relying on their hosting partners for help in security planning, especially since under hosting arrangements, they no longer own the infrastructure directly. This makes it imperative for service providers to position themselves as trusted advisors, especially when it comes to security offerings and recommendations."

There are seven key questions you should ask of a hosting provider:

1. What is your capability to stop DDoS attacks?
2. What is your ability to trace attack traffic?
3. What current best practices have you implemented in your DDoS service?
4. What mitigation options do you offer?
5. What is your service and response capability?
6. What is your staff's level of expertise?
7. How will my organisation be notified that it is under attack?

The answers you get should guide you as to the reliability of the provider and enable you to make a firm judgment about its capabilities to protect your organisation in the event of a cyber attack.

Executive and board level focus on this issue is increasing and more organisations are investing in outside expertise to deal with it. As we move over towards a more proactive detect-and-respond model, we can help the good guys to regain the upper hand.
More info: www.iomart.com

Taking IT to the wire

ExtraHop's Owen Cole explains why 'wire data' offers the IT operational intelligence needed for the emerging Application-Centric Infrastructure

With all of the hype surrounding Software Defined Networking (SDN), a very important and all too often overlooked issue is that administrators still have very poor visibility over the performance and behaviour of the business dependant applications that they support. Although SDN offers the potential to streamline networks to better serve these applications, without visibility and an understanding of how the various applications are linked and the per-user transactions taking place, SDN offers only half the solution.

To address this there is an emerging new technology that aims to improve the scalability, reliability and performance of the network and its dependant applications. Application-Centric Infrastructure (ACI) offers some initiatives that promise to help tackle the problem of application performance by using SDN compatible hardware with various APIs like OpenFlow, combined with software policy controllers to define service levels and access privileges using the network hardware. This level of network reconfiguration and flexibility extends across both the physical and virtual network and is driven by Cisco, who has announced about fifty customers so far.

ACI is promoted as having a number of benefits for enterprises and service providers. At an application level, it claims to dramatically reduce the time needed to deliver services and allow on-demand scale-out and tear-down, thus leading to more predictable application and IT spending.

At the network level, an ACI environment may allow more automation of network provisioning, which should reduce management overheads and human errors and allow application owners to self-serve and scale. This last point is of particular value to cloud and SaaS applications, often constrained by rigid networking structures.

ACI provides some visibility and correlation between the virtual and physical infrastructure, however a critical component for enacting ACI in a meaningful way is to first understand what is going on at an application level. While ACI lacks substance in this area, wire data analytics can provide a major advantage in precision benchmarking and deep inspection of application performance and behaviour.

Unlike other monitoring methods relying on historical logs or agents as it travels the network, wire data reassembles all packets into per-client transactions, flows, and sessions across a range of protocols including HTTP/S, MQ, SOAP, SQL, CIFS, LDAP and others commonly used by client server and web applications. These data flows are rebuilt into real-time conversations, and this helps IT teams to analyse transactional information and fully understand the who, what, why, when, how and where of the transaction. This includes correlated network, web, middleware, database, or storage performance and availability for clients and servers involved in the original transaction.

From an implementation standpoint, wire data tools are non-disruptive to any ACI or SDN schema. They feedback the application analytics into the existing network and application management tools already in common use within Network Operation Centres (NOCs).

Although a slight simplification, in essence SDN provides the hardware abstraction, ACI provides policy enforcement and wire data offers the IT operational intelligence. In concert, the three technologies can help to improve performance and scalability across all tiers of the application delivery chain, including network, VDI, web, middleware, database, and storage.

It is still early days for ACI, and although its champion Cisco has announced support for a number of standards, including OpenFlow, OVSDB, onePK and NetConf, ACI is not the only game in town. Other networking innovators such as VMware with its NSX software overlay approach, are pursuing a different route. What is clear is that elements such as wire data analytics are remaining agnostic to the rivalling networking technologies, providing a spur to adoption.

More info: www.extrahop.com

ACCESS ALL AREAS

Cloud Hosting is now available in e-Newsletter form every single month

The interest in our newest specialist IT title has been astounding, and we've responded by introducing the Cloud Hosting eNewsletter - distributed to over 20,000 readers every month, featuring all the best content from the print edition and much more:

- **Up to the minute news stories and analysis**
- **Interviews**
- **Opinions and viewpoints from the industry**
- **Case studies**
- **White papers and other unmissable downloads**

To make sure you aren't missing out, register now at:
http://www.btc.co.uk/newsletter/register.html

Vectorworks® Cloud Services

…imagine the possibilities

What if you could store, synchronise and share your Vectorworks files in the cloud to make decisions from any location?

Now you can.

NEMETSCHEK Vectorworks

www.vectorworks.net/service-select/cloud-services

Distributed by

COMPUTERS UNLIMITED

3ddesign@unlimited.com
www.bimvectorworks.com
020 8358 6668

Associations we work with include the following:

NETWORK · RIBA · CPD PROVIDERS

buildingSMART

NBS