ComputerWeekly

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BlackBerry 10

SMARTPHONE MAKER TARGETS BUSINESS AND CONSUMERS WITH NEW OPERATING SYSTEM, BYOD FEATURES AND TOUCHSCREEN DEVICE – BUT IS IT ENOUGH TO SAVE THE COMPANY?

MOBILE HARDWARE

HMRC to roll out 7,000 mobile devices, including iPads, to support mobility

HM Revenue & Customs (HMRC) is to roll out 7,000 mobile devices, including Apple iPads and MacBook laptops, as part of a move to increase mobile working. HMRC CIO Mark Hall said the department was looking to introduce out-of-the-box consumer devices for users. Historically, HMRC has used standard, locked-down Windows desktops, but it now wants to introduce a broader range of devices.

IT EDUCATION

Gove makes EBacc U-turn as Computer Science curriculum is revealed

Michael Gove has been forced to shelve his plans to scrap GCSEs, admitting his English Baccalaureate Certificate (EBacc) mission was a "bridge too far". The U-turn also revealed that the new computing curriculum will teach children the basics of algorithms and programming from as early as Key Stage 1 for children aged between five and seven.

CYBER ATTACK

Hackers hit US Federal Reserve

The US Federal Reserve has confirmed an internal website has been breached, but denied claims that hacktivist group Anonymous accessed a file containing the passwords of more than 4,000 bank executives. The claim was made via Twitter using an account registered to OpLastResort, which is linked to Anonymous.

IT MANAGEMENT

Andy Nelson appointed DWP CIO

Government CIO Andy Nelson has been officially appointed CIO at the Department for Work and Pensions (DWP). He will succeed former DWP CIO Philip Langsdale, who passed away over Christmas. Nelson is expected to take a full-time role as DWP CIO, with the position of government CIO unlikely to be filled.

IT SUPPLIERS

Dell goes private helped by $2bn loan from Microsoft

Michael Dell has succeeded in raising $24bn funding to buy back the computer company he founded in 1984, thanks in part to a $2bn loan from Microsoft. Silver Lake Partners will contribute financing to the deal, while Michael Dell will effectively put in $3.8bn of his own money by rolling over his 15.7% stake in the company.

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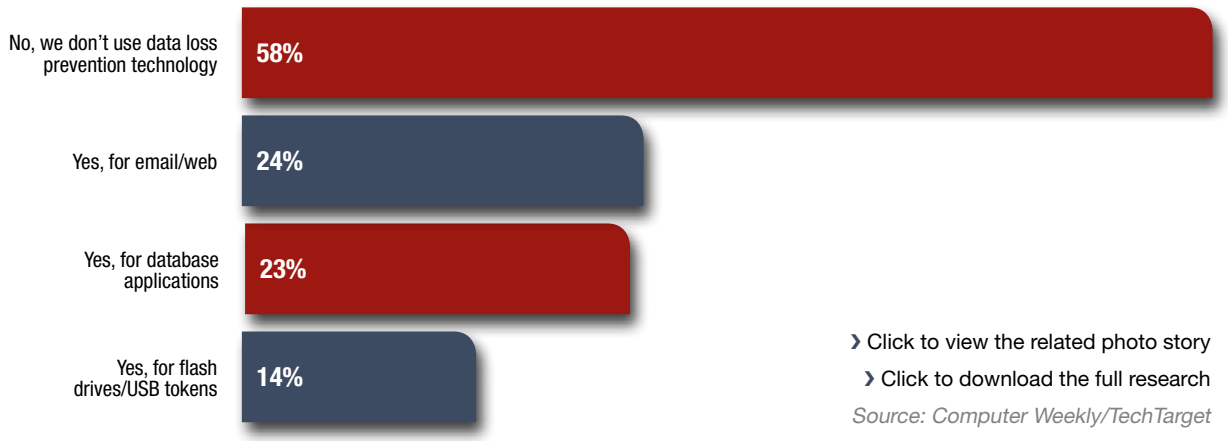
VIRUS ALERT

Beebus virus targets aerospace and defence

Security researchers have discovered a new threat that targets companies in the aerospace and defence industries, which appears to have links with attacks originating from China. The virus, dubbed Beebus, uses malicious email attachments that exploit vulnerabilities in PDF and .doc files to infect computers within target companies, according to researchers at security firm FireEye.

HOW WIDELY IS DATA LEAKAGE PREVENTION USED?



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Source: Computer Weekly/TechTarget

CYBER ATTACK

Twitter resets a quarter of a million accounts after hacker attack

Twitter has reset the passwords of 250,000 accounts after detecting and shutting down a hacker attack last week. Twitter's information security director Bob Lord said investigations revealed that the attackers may have had access to usernames, email addresses, session tokens and encrypted/salted versions of passwords.

IT RISK MANAGEMENT

Europe leads the way in cyber security, finds Microsoft report

Microsoft has published a special edition *Security Intelligence Report* on the factors that contribute to differences in malware infection rates around the world, showing that Europe leads the way.

FINANCIAL RESULTS

CSC returns to profit one year after NHS contract debacle

IT services supplier CSC increased its sales by almost 3% in its latest financial quarter and recorded a profit of $268m a year after it suffered a $1.5bn charge related to its failed contract with the NHS. Sales in CSC's third quarter were $3.78bn, compared with $3.69bn in the same period the year before.

BROADBAND COMMUNICATIONS

Liberty Global buys Virgin Media

Cable company Liberty Global is to buy Virgin Media for $23.3bn (£15bn), which will see the US business move aggressively into the European telecoms market to create a powerful global communications company covering 47 million homes and serving 25 million customers across 14 countries.

IT OUTSOURCING

Controversial Cornwall outsourcing plan faces more challenges

The Royal Cornwall Hospital Trust has pulled out of a programme that would have seen it share services, including IT, with other healthcare organisations and the local council in a partnership with BT.

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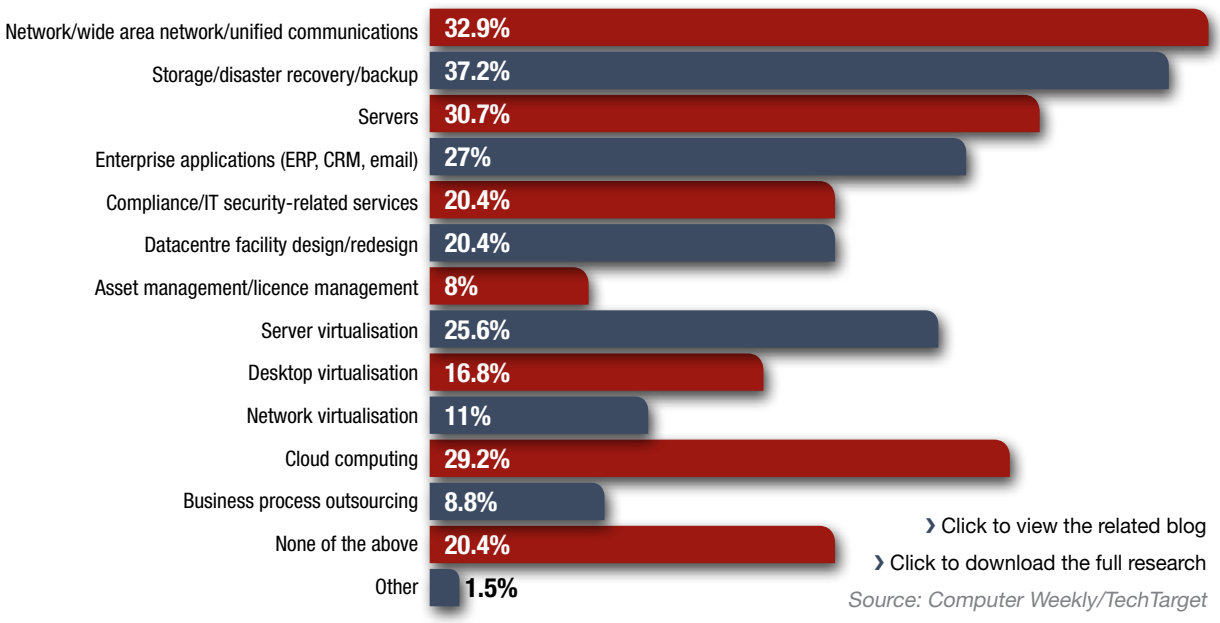
NETWORK HARDWARE

Oracle adds unified communications tools with Acme Packet acquisition

Oracle has bought Acme Packet in a deal worth $1.7bn. Oracle has been expanding its way into the datacentre hardware market for some years following its acquisition of Sun Microsystems while also building up its communications business. With this latest buy, it adds another string to its bow with IP networking tools. ■

MOST POPULAR IT TECHNOLOGIES TO OUTSOURCE



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Source: Computer Weekly/TechTarget

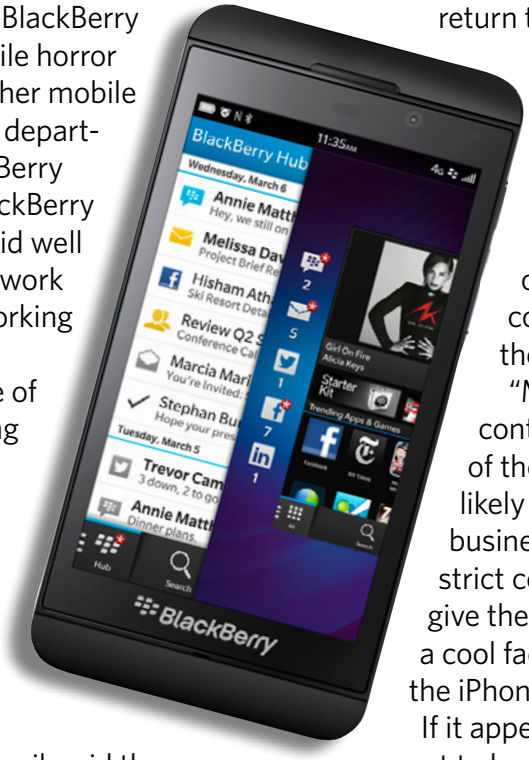
BlackBerry bets its future on OS and handset aimed at BYOD users

BlackBerry's latest launch, with separate screens for consumer and business uses, could be just what it needs to win customers back, says Jennifer Scott

Research in Motion is no more. The company has ditched the ailing brand and staked its future as BlackBerry. Enter BlackBerry 10, the company's new mobile operating system (OS), which it hopes will entice back the enterprise customers it lost to Apple and Google, as well as luring aboard some new ones.

The enduring appeal of BlackBerry has been its security. While horror stories emerged about other mobile platforms, the way the IT department could control BlackBerry handsets through the BlackBerry Enterprise Server (BES) did well to keep the corporate network secure and employees working safely on the move.

But with the emergence of consumerisation and bring your own device (BYOD) schemes, as workers started to use their personal handsets for work, the almost retro-looking BlackBerry lost market share.



Sander Kristel, CIO at Staffordshire County Council, said the authority had decommissioned its BlackBerry deployments and had no plans to go back. As Kristel's head of ICT service management, Vic Falcus, said: "Why provide corporate smartphones when a BYOD subscription for a personal device would cost even less?"

Second homescreen for users

With the launch of the new OS, BlackBerry introduced its first touchscreen handset, the Z10. Aesthetically, this easily sits on the shelf next to the iPhone or Galaxy range, but thanks to the software it offers more.

BlackBerry Balance – a feature of the new OS – gives the user two homescreens, one for personal use and one for work. The professional profile can be controlled by the IT department, enabling a company to use its own app store with approved software and lock out consumer apps that could pose a threat to the corporate network.

But with a swipe of the finger, the user can return to their personal profile and have everything they want at their fingertips, dispensing with the need for two separate devices.

Jim Somers, chief marketing and strategy officer at mobile software company Antenna, praised the introduction.

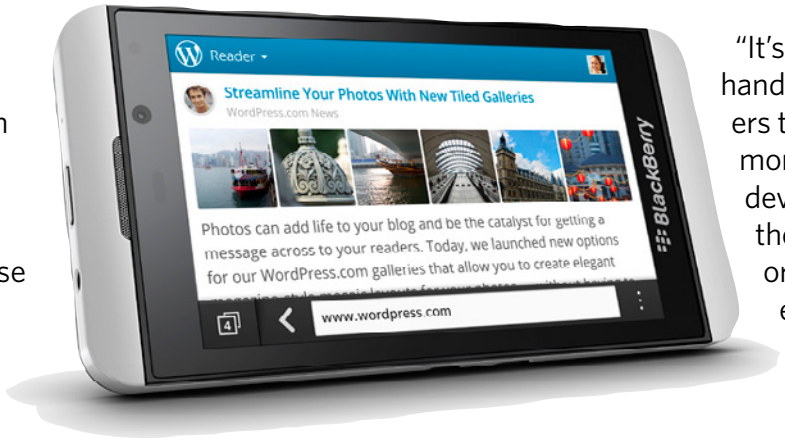
"Making a secure 'business' container a fundamental part of the OS is a smart move and likely to pay dividends with businesses that want to maintain strict control over their data and give their employees a device with a cool factor approaching that of the iPhone," he said.

If it appeals to the consumers who want to buy the device themselves, but can also be secured by the IT department without it having to pay for the handset, it could offer the likes of Staffordshire Council the right balance of what they need.

"We are piloting a BYOD solution at the moment so, if that is proved robust, we could see our corporate smartphone population dramatically reduced," said Falcus.

"I carry around a business phone and my private phone, which I pay for unlimited data, calls and texts. If I could, without compromising my own device, use a BYOD application, I'd save the council money and wear and tear on my trouser pockets," he said.

Security



Details of integration with existing BES deployments remain scarce but no enterprise environment belongs to just one handset manufacturer any more.

If BlackBerry still wants to play the game, it will have to offer its extra security to devices from other ecosystems as well.

David Wilde, CIO for Essex County Council, told Computer Weekly: "It's too early to say what it will actually do, but the promise seems to be around being able to support devices on multiple platforms securely and segregate personal and multi-organisation channels and apps.

> "IT IS TIME SMARTPHONES WERE ACCEPTED AS IT HARDWARE AND FUNDED ACCORDINGLY"
>
> JASON YEOMANS, PMGC TECHNOLOGY GROUP

"For the public sector, being able to securely access systems from more than one organisation is critical for the future as we do more shared-service delivery to the public.

"BB10 may be able to make that possible."

Be it a business purchase or a consumer upgrade, this isn't a device everyone would be able to afford. The pricing announced so far is at the very high end. With Vodafone, for example, you can get a Samsung Galaxy S3 for almost £10 less a month than the BlackBerry Z10.

"It's unrealistic for handset manufacturers to create new, more advanced devices that cost the same as a PC or laptop, and expect mobile networks or providers to fund these gratis," said Jason Yeomans, managing director of mobile managed services company PMGC Technology Group.

"These devices are more powerful than many PCs still in operation and careful planning has to be given to how organisations will fund the purchase of these. I think it is time for smartphones to be accepted as IT hardware and funded accordingly."

User acceptance

With a new platform and gestures, it has yet to be seen if the Z10 has the ease of use that won so many to iOS and Android.

Stephen Timms, MP for East Ham, took a sneak peak at BlackBerry 10 before the launch and expressed mixed feelings.

"It looked a significant step-up in functionality compared with existing smartphones," he told Computer Weekly, "but it also struck me as quite challenging to learn how to use the full range of its capabilities."

IT managers have so far given mixed reviews but, if the integration with existing BES deployments is announced and the Balance feature of the software is as smooth as the company says it is, BlackBerry could be on to a winner.

Convincing the IT department is one thing, but now it is time to convince users too.

"Without that consumer appeal, BlackBerry's ability to re-break the workplace may also be in doubt – especially as the number of firms actively issuing devices to their workers is decreasing all the time," concluded Antenna's Somers.

"We're looking forward to seeing what they might say in their ads, since some of the consumer draw may be pulled through in those spots and we remain hopeful they can re-open the door to the enterprise and turn things around." ■

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› Balancing BYOD risks and rewards
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CW BUYER'S GUIDE: GOVERNMENT IT
GOVT IT REFORMERS CRITICISE IT LEADERSHIP SHAKE-UP

Government departments brace for challenge to culture of data security

Risk-averse policy has long curbed government IT reform but – in simplifying security – Whitehall hopes to widen its scope of technology, says Kathleen Hall

The government has recategorised its data security rules to widen the range of commodity IT cleared to handle government data, with a revised security marking system re-organising the current six security bands into a three-tier system.

The hope is to reduce IT running costs by moving away from bespoke systems; increase availability of cloud services; and introduce a wider range of commercial hardware technology, such as smartphones and the like.

The Cabinet Office hopes a simplified marking system will push down much information previously classified as restricted (impact level 3 – IL3) to the lower "official" band. This means that data will be cleared for use on commodity IT services.

"The security required for the official level is still very strong, we have just placed a greater emphasis on using proven commercial technology, such as the type routinely used by banks and other major businesses, rather than expensive and bespoke government solutions – which often don't provide the functionality that we need," said guidelines seen by Computer Weekly.

MI5

Thames House: Data classification governance lies in the hands of individual civil service departments

The cost of risk aversion

Bill McCluggage, former deputy government CIO and chief technologist at EMC, said the previous system conflated privacy concerns with those of national security. "So we end up with lot of material classified at impact level 3 (IL3), from a risk-averse civil service perspective," he said.

With each tier the costs of running data escalate. McCluggage estimates a three-fold increase in the cost of running data on devices and systems accredited for restricted use, compared to those categorised at IL0.

"Nearly 80-90% of information is not sensitive. When I was in government, I can't remember when I got a confidential document," McCluggage said.

"The key benefit is that it will allow for commercially available off-the-shelf equipment and a move toward public cloud infrastructure, for the best price point and commercial deals. So it will be less of a burden for network security.

"That isn't to say departments shouldn't encrypt hard disks, which there is still no excuse for not doing."

Complexity, restriction and cost

Steve Tuppen, director of independent system integrator Mozaic, has long experience of working with the public sector. He said departments are often restricted by the complexity of the current multi-tier system.

"That is unnecessary compared to other organisations. Often the complexity is not needed, when you compare the security system with what they are trying to achieve.

A new system would be more effective, efficient and cost less."

He added it would also reduce duplicating infrastructure, as data is stored in a more standardised infrastructure and hosting.

> **"We need to work on the assumption it is not always possible to keep intruders out. They will be successful at some point"**
>
> Rik Ferguson, Trend Micro

Don Smith, technology director at Dell SecureWorks, agreed: "The difficulty is that the standards are confusing, organisations seem to have different interpretations of them," he said.

"I could think of a couple of scenarios where data doesn't need to be classified at impact level 3. And as a security professional, I would always say it is good for to err on the side of caution.

"The proposals would simplify the landscape for a huge number of local authorities and NGOs. But it will be interesting to see how they are wrapped with guidance."

Rik Ferguson, analyst at Trend Micro, said three labels classified as a verbal description would be easier to work with. However, he said the flipside was that it could reduce the granularity of control.

› Government IT leadership in major reshuffle
› Cloud computing in the public sector
› MI5 fights 'astonishing' level of cyber attacks

He said this could be an opportune time to rethink security classifications and architecture. "We need to now work on the assumption that it's not always possible to keep intruders out of systems. They will at some point be successful. We should be designing architecture from the inside out and secure the data at the heart of the network."

Change in departments' hands

It will be up to departments to decide where information will sit in the new system. Existing information will not be reclassified.

McCluggage said it will be crucial that departments understand the business reasons for driving through savings, accessibility and trying to get to a point for value judgements about security.

"That change is not technical, but about business process. Realistically, I imagine it will take two to three years before we recognise the value of simplifying the system."

But despite government's intention to open up the market for lower-cost consumer technology, the guidelines lack detail about how such lower-cost technology could be introduced. There remains much uncertainty around cloud, bring your own device (BYOD) schemes and opening up the smartphone estate beyond BlackBerry.

Without a strong business case from the Cabinet Office outlining the benefits of the new marking system, there is a danger that departments will simply ignore the system. That could mean a missed opportunity for government to make much-needed immediate savings and improve efficiency through more flexible technology. ■

McCluggage: "When I was in government, I can't remember when I got a confidential document"

Dublin Airport Authority uses virtualisation to overhaul IT

DAA's virtualisation project has already delivered cost savings, standardised IT and a centrally managed environment. Archana Venkatraman reports

Dublin Airport Authority (DAA) launched a major IT infrastructure overhaul last year, installing HP's converged infrastructure and VMware's vSphere platform to manage expanding workloads. Less than a year in, the virtualisation project has given the IT team cost savings, standardised IT, a highly available infrastructure and a centrally managed environment.

The DAA virtualisation project is a five-year, €2m IT plan that will drive IT efficiency across its airports and bring cost savings.

Virtualisation adds efficiency

It all started when the IT team started developing a virtualisation test environment in 2010 on Microsoft Hyper-V platform.

"We used Hyper-V for testing and found out that virtualisation brought a lot of IT efficiency, improved our speed to delivery and helped us save costs," says Martin Clohessy, server and storage manager at DAA.

But for the actual production environment, it chose VMware's vSphere platform for a more stable and high-performance infrastructure.

While the IT team found the Hyper-V platform-based test environment efficient and cost-effective, when systems failed, it took too long to failover the system to another server, says David McCabe, technology solutions manager at DAA.

"Microsoft was cheaper than VMware, but what's the point of having something that wouldn't do what you want it to?" says Clohessy. "When we invited tenders for an end-to-end virtualisation and management infrastructure, most environments were VMware-based."

DAA's IT team awarded the five-year contract to HP after assessing the tenders, including those from IBM and Dell. "We selected HP to handle our expanding workload and to meet our growing IT requirements for the next five years," says Gerry Luttrell, DAA's head of IT.

IT challenges at DAA

Dublin Airport Authority owns and operates Ireland's three largest airports – Dublin, Cork and Shannon.

As well as day-to-day management of the airports, it is responsible for major commercial activities, including the operation of airport retail shops and car parks. It is also responsible for any technical activities, including the planning, design and construction of airport infrastructure and facilities.

In 2011 alone, it handled almost 23 million passengers across all its Irish airports. As it looked for cost savings and business expansion, the IT team embarked on the virtualisation project.


Dublin Airport


Dublin Airport

Hyper-V boost pushes Microsoft virtualisation closer to VMware

DAA turns to virtualisation for CCTV data storage

"As the IT landscape became more complex, DAA needed to consolidate and virtualise its IT systems," says Peter Ryan, managing director for Europe at HP.

The IT team did not just want a virtualisation platform, but a complete virtualised infrastructure with servers, storage, backup and disaster recovery features, as well as centralised management support. Its requirements for the new solution included server consolidation, high availability, high performance, a scalable and flexible infrastructure, thin-provisioning features and datacentre cost savings.

As part of the project, DAA aims to virtualise and consolidate more than 360 physical servers. In the first year alone, it moved 150 servers to the new HP virtual infrastructure.

DAA's datacentre now comprises a highly virtualised environment, incorporating HP 3PAR storage systems, Cisco networking products, VMware vSphere, Netbackup's tool for data back-up, VRanger's tool for disaster recovery, and Veeam's monitoring tool.

As end-to-end support was critical, the team also selected HP Critical Advantage services for the next five years. For datacentre cooling, DAA uses air-conditioning units and uninterruptible power supplies.

The team started seeing the benefits of its project in the third quarter of 2012. The virtualised HP server and storage infrastructure now delivers agility and efficiency well beyond the capability of the previous IT environment, says Luttrell.

Robust and future-ready IT

For high availability, the team selected HP's ProLiant BladeSystem c7000, which allows DAA to ensure that data is constantly available to its business-critical applications.

Meanwhile, thin-provisioning features have enabled DAA to purchase disk capacity as it is required. "We don't have to pre-invest in huge amounts of storage hardware anticipating data growth," says Clohessy.

Automated provisioning and management has relieved the IT team of tedious manual administration, minimising disruption and saving the operating costs of unused disk capacity, he adds. The centrally managed storage environment is flexible and scalable, giving the IT team the ability to change and expand its data storage provisioning without pre-planning or downtime.

DAA is hoping to recover the costs of the virtualisation project within five years through cost savings and IT efficiency

"We now have a platform fit to support business solutions for our airlines and passengers in a critical 24/7 airport environment," says Luttrell.

But the team was strategic in its virtualisation strategy. It did not virtualise its Oracle enterprise applications. "We heard that Oracle doesn't work well on VMware and didn't want to risk it," says McCabe. Instead, DAA runs its Oracle apps on physical IBM machines.

DAA is hoping to recover the costs of the virtualisation project within five years through cost savings and IT efficiency. ■


Dublin Airport


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Bringing electronic trading to the over-the-counter brokering sector

Yann L'Huillier was the obvious choice when OTC firm Tradition decided to introduce an electronic trading platform for its dealers. Karl Flinders reports

CW500 INTERVIEW

When Yann L'Huillier joined trading firm Tradition in 2010 as global CIO, he had a three-pronged challenge. These were: to prepare the organisation for increased electronic trading; to rebalance IT budgets to favour its trading activity, rather than just keeping the lights on; and to restructure the global IT organisation.

L'Huillier's previous job was CTO at trading venue Turquoise, where he built its trading platform from scratch (*see panel, page 13*). Turquoise was later acquired by the London Stock Exchange and he moved on.

Before Turquoise, L'Huillier held senior IT positions at stock exchanges such as the Toronto Stock Exchange, where he replaced the entire trading system in 2001; and the Boston Stock Exchange, where he replaced the core system in 2005.

L'Huillier: "The OTC market is changing and there is more need to make the market electronic"

Move to over-the-counter sector

His years of experience in introducing electronic equity trading to exchanges made him the obvious choice to prepare inter-dealer broker (IDB) firm Tradition for the onset of electronic trading in the over-the-counter (OTC) sector.

Unlike the equity trading industry – which moved to electronic platforms at pace because of demand for high-speed automated dealing from high-frequency traders – the OTC sector is mainly voice-based.

OTC trades are deals between banks and IDBs broker those deals. This might involve a bank doing a deal to buy corporate or government bonds for a large corporate customer. Or it could mean a bank swapping currency for a corporate customer through an OTC trade. These deals are anonymous and do not go through an exchange.

L'Huillier says the big difference between equities and OTC is that the nature of OTCs does not lend itself to high-frequency trading. Where stock exchanges must offer investment banks the fastest trades possible (milliseconds can make a substantial difference), speed is not essential for OTC IDBs.

IDBs act like a matching engine for banks. Brokers, which make up about two-thirds of Tradition's 2,500 workforce, match traders at banks in the same way software matches buyers and sellers in the equities market. The difference is that an automated matching engine at a stock exchange needs to do this in fractions of a second but, in the OTC market, brokers use computers to find potential deals and telephone their clients.

"But the OTC market is changing and there is more need to make the market electronic," says L'Huillier.

He says this is because of regulations demanding greater transparency as well as making the deal easier.

"We are trying to make what we can electronic. We do not know what the right balance will be but we need to have the technology in place so we can have the ideal balance." He says he does not think the OTC market will go fully electronic.

> "Look, the world is changing and we still need to be in business, you have to work with us. We want the same service for less money"

Software platform

The first part of L'Huillier's challenge was to build a core software platform to enable new systems to be added when required. The Java-based system, known as Nebula, was completed in May 2011.

"This has all the components of a trading system at an exchange," says L'Huillier. Nebula processes five to seven million orders every day.

"We do not have high frequency traders in this market so there is no race for speed. Stability is most important." Tradition's uptime is as good as the very best stock exchanges, says L'Huillier.

Systems built on Nebula include one that enables brokers to deal in interest rate swaps and another for currency.

The demands on L'Huillier as the global CIO of Tradition also mean he must balance resources between the business-critical trading platforms and the IT that keeps the business running efficiently for 2,500 staff in 27 locations.

Tradition has about 200 IT staff, with over 90% of new IT developments related to electronic trading. "Most of my time is spent on work related to electronic trading," he says. Much of this is overseeing development work in New York and London.

This year, much of L'Huillier's focus on corporate IT will be to bring costs down so more of the budget can be invested in electronic trading. Last year the IT team was cut by about 10%.

Tough negotiations

Other cost reductions in corporate IT come from tough negotiating with suppliers, says L'Huillier: "We are going to a lot of our vendors and saying, 'Look, the world is changing and we still need to be in business, you have to work with us. We want the same service for less money.'"

He says most of the meetings he has had with suppliers have been positive. "The industry is going through a lot of transformation and some suppliers are willing to reduce costs for a longer term relationship."

On outsourcing, L'Huillier says he only outsources software testing.

To support the transformation to electronic trading and the rebalancing of the IT budget, L'Huillier had to restructure the lead IT team. Under L'Huillier there is a group CTO who looks after all the IT infrastructure and in each continent there is an IT head. ■

› Minimising latency in global online trading
› CIO interview: Matt Peers, Deloitte
› IT as a driver of M&A success

BUILDING TURQUOISE'S TRADING PLATFORM

CTO Yann L'Huillier built Turquoise's IT infrastructure from scratch. The platform went live in August 2008.

L'Huillier used off-the-shelf technology. The core trading platform came from supplier Cinnober. A combination of Progress Software and Detica technology provided the market surveillance application.

The platform uses software from Neonet to provide market data and EuroCCP for clearing and settlement services. The infrastructure is housed in two datacentres run by financial services IT service provider BT Radianz, using HP blade servers running on a Red Hat Linux operating system.

IT leaders must get a handle on tectonic sector movements

We've all become used to the idea of constant change, working in a sector like IT. We're so familiar with coping with the pace of innovation, that sometimes it's easy to miss the scale of what is happening around us.

Make no mistake, we're seeing change at a pace and scale that even for technology is almost unprecedented.

Last week, one of the world's most successful IT companies basically admitted that its strategy is wrong and desperate measures are needed to secure its long-term survival. Michael Dell placed a $24bn bet that he can turn the company he founded into a modern software, services and cloud provider.

Taking the firm private is a huge gamble. It's also a historic milestone in the decline of the PC sector that has sustained so much of the IT industry for 30 years.

We're entering a period where change is no longer a gradual, inexorable downward curve, but a cliff-face. Dell saw the cliff approaching too late and is trying to perform a high-speed handbrake turn.

BlackBerry, the original icon of the smartphone and mobile working world, has also placed what could be its final bet. After far too many years of development, its new BlackBerry 10 operating system and associated handsets are the last throw of the dice.

Closer to home, we've seen one of the UK's biggest and best known resellers, 2e2, collapse into insolvency, its administrators scrabbling for cash.

In an industry that has always been obsessed with the "next big thing" – take a look at the current big things: cloud, mobile, social, big data. As we know those topics today, they were barely on the edges of many IT leaders' radar even three years ago.

In the midst of such change, it's hard sometimes to find the time to step back and get some perspective. But for IT leaders it's going to be increasingly important to understand the broader context of the current landscape, and to plot a successful route.

A lot of people in IT will be placing a lot of bets in the next year or two, and a lot of companies will see their future determined as a result. ■

Bryan Glick
Editor in chief

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Tips for software contract negotiation

Mark Bartrick shares four essential tips on negotiating successful IT contracts

You may have found yourself being called into software contract negotiations too late – the supplier has already been told they are the only game in town, the budget is "good to go" and the product is needed ASAP. It's a perfect storm for any negotiator to face.

Being given insufficient time to do your job properly can cause you to accept deals that you wish you could reject or, worse, get blamed for problems that appear months later. More often than not, the net result is not only that you pay too much today, but you will pay even more later when the nasty nuances in the contract reveal themselves.

At Forrester, we get many inquiry calls from clients looking for advice on software negotiation best practices. To help them, we developed the *Strategic Software Sourcing Playbook*, which highlights four key best practices that you can address if you want to negotiate great software deals and obtain the maximum value for your organisation.

Negotiation best practices

Good software negotiations require a well-prepared execution of a coherent software sourcing strategy.

Once your internal stakeholders appreciate the real value that your sourcing and supplier management practice brings to the negotiating table, they will never leave you out of the loop again. This means applying the four cornerstones of best negotiation practices: education, preparation, support and control.

Consistently successful contract negotiation begins with the knowledge that it is an ongoing process and not a one-hit wonder.

1. Educate your stakeholders

Educating stakeholders as to what constitutes good and bad procurement practice is a key, ongoing task for executives in charge of sourcing and supplier management. This is something that you have to keep doing. The best way to educate stakeholders is to conduct a post mortem of a poorly negotiated previous deal.

2. Preparation is key

Since the beginning of time, the one who prepares the best does the best. So if it is a new supplier you face, then it is time to start your due diligence by researching the market, the supplier and its competitors. You need to clarify what your business needs to buy, why and when, and review your contracts database.

3. Gather relevant support

To maximise your opportunity at the negotiating table you need to gather support. To do this, you should get the right people involved, leverage internal expertise, and obtain some outside advice on the supplier from either your peers or from a market analyst such as Forrester.

4. Control the negotiation

As the lead sourcing professional, you should exert control of the negotiation over the supplier and influence over your colleagues as to who does what, when and where. Make sure to lay down some rules for the supplier, allocate sufficient time for the process, and ensure that there are no information leaks.

Add value to your business

Negotiating software contracts is as much an art as it is a science. If you prepare well, manage the process and educate your organisation on what constitutes good practice, then you can minimise the emotional distractions and maximise your success at the negotiating table – and play a tremendous value-added role within your organisation. ■

Mark Bartrick (pictured) is a senior analyst serving sourcing and vendor management professionals at Forrester Research. This is an edited version. Click to read the full article online.

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STORAGE STRUGGLES TO KEEP UP WITH DATA GROWTH EXPLOSION

Big data analysis needs a split from the traditional approach of matching back-end infrastructure to application requirements. Cliff Saran reports

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INFRASTRUCTURE FOR BIG DATA PART 3 OF 3

Traditional approaches to building storage infrastructure may be wholly unsuitable to the analysis of large, real-time datasets. Enterprise storage can be very application-focused. IT deploys storage area network (SAN) storage for transactional systems or network-attached storage (NAS) for file storage. Businesses usually think about their applications first and the back-end storage comes afterwards.

Big data needs a different approach, due to the large volumes of data involved. Ovum senior analyst Tim Stammers warns: "There is no clear consensus in the industry in what to sell customers." Some suppliers are offering object storage, clustered, scalable NAS or block-level SANs. "All have their own advantages but it all depends on your environment," he adds.

Suppliers sell big data appliances with integrated storage, which improves performance, but it may also cause businesses issues when the data needs to be shared.

BIG DATA IMPACT ON STORAGE INFRASTRUCTURE

THE DATACENTRE GUIDE TO BIG DATA

Storage for Hadoop

Hadoop, the Apache open-source implementation of Google's MapReduce algorithm, takes a different approach to processing data over the relational databases used to power transactional systems.

Hadoop processes data by running parallel processing . Data is effectively split across multiple nodes in a large computer cluster, allowing big data to be analysed across a large number of low-cost computing nodes. The cluster can be on-premise or hosted somewhere such as the Amazon cloud.

"It maps data to store on computer nodes in a cluster and reduces the amount of data transferred to the cluster," says Gartner research director Jie Zhang. "Traditionally IT infrastructure is siloed and is very vertical, big data uses a scale-out architecture."

Server farms for big data

Hadoop effectively splits the datasets into smaller pieces known as blocks through its filing system, known as the Hadoop Filing System (HDFS).

Such a cluster puts a heavy load on the network. According to IBM, for Hadoop deployments using a SAN or NAS, the extra network communication overhead can cause performance bottlenecks, especially for larger clusters. So NAS and SAN-based storage is out of the question.

Ovum principal analyst Tony Baer has been looking at how to extend the performance and enterprise-readiness of Hadoop.

Given that it relies on large numbers of low-cost disks, rather than enterprise-grade disk drives, factors such as the mean time between failures quoted by disk manufacturers become significant.

In 2010 Facebook was the largest deployment of Hadoop with a 30PB database. Now consider using 30,000 1TB drives for storage.

For simplicity, assume the installation was built all in one go. If a typical drive has a mean time between failure (MBFT) of 300,000 hours, in a year each will run 8,766 hours. The total number of hours the 30PB storage system will run in a year is 263 million (8766 x 30,000). That means 877 drives will fail in a year, or 2.4 disk drive failures a day.

> "The amount of data generated by heavy equipment is astounding. One sensor on a turbine blade generates 520GB per day and you have 20 of them"
>
> Bill Ruh, GE

Luckily, HDFS has built-in redundancy so disk failure does not result in data loss. But one must feel a little sorry for the technician whose job it is to locate and replace the failed drive, even if it becomes part of a regular maintenance routine.

However, in spite of its redundancy capabilities, Baer notes in his latest research paper *Big Data Storage in Hadoop,* that HDFS lacks many data protection, security, access and performance optimisation features associated with mature commercial file and data storage subsystems. Many of these features are not essential for existing Hadoop analytic processing patterns. He says: "Because big data analytics is a moving target, the Hadoop platform may have to accommodate features currently offered by more mature file and storage systems, such as support of snapshots, if it is to become accepted as an enterprise analytics platform."

Fast Data

Big data in the real world cannot be processed by Hadoop, as it is batch-based. Bill Ruh, vice-president for the software centre at GE, explains the problem: "The amount of data generated by sensor networks on heavy equipment is astounding. A day's worth of

real-time feeds on Twitter amounts to 80GB. One sensor on a blade of a turbine generates 520GB per day and you have 20 of them."

These sensors produce real-time big data that enables GE to manage the efficiency of each blade of every turbine in a wind farm. The performance of the blades are influenced not only by the weather, but also by the turbulence caused by the turbines in front of it. GE has developed its own software to take on some of the big data processing, but Hadoop is also used.

Gartner's Zhang says disk drives will become performance bottlenecks. "The hottest trend is SSD [solid-state disk] drives, to eliminate mechanical disk drives," she explains.

Zhang says Hadoop can be configured to mix and match SSD with hard disk drives: "In your disk array, not all the data is accessed all the time. The really important data at any given moment is not a large dataset. This hot data needs to be quickly accessible, so can be migrated to SSD." Just like traditional disk tiering, more historical data will be pushed down to cheaper, mechanical disk drives.

The major suppliers are also addressing the real-time aspects of big data analysis, through vertically integrated appliances and in-memory databases like Hana from SAP. Clive Longbottom, founder of analyst Quocirca says: "New systems from the likes of IBM with PureData, Oracle with Exadata, and Teradata are providing architected solutions designed to deal with masses of data in real time."

Cloud-based big data

Mandhir Gidda is UK technical director at Razorfish, a global interactive digital agency. When the company was set up, it built a complex datacentre infrastructure to run a service called Atlas. This uses a single cookie on a browser and JavaScript to allow agencies see what sites a user is visiting, the products they put in their baskets and what they ultimately buy online.

He says it was a challenge for the company that, as consumers moved to multi-channel ecommerce – with the attendant growth in social data – its own infrastructure could no longer cope.

"We were one of the biggest datacentres with Atlas, but we struggled to meet client deadlines," he says.

> "Cloud computing in its present form is not suitable for machine-to-machine interactions"
> Bill Ruh, GE

Investment catches up with growth

The company needed to invest £500,000 in upgrades. Gidda says the company probably needed to invest a further £500,000 three months later just to keep up with the data growth: "We needed an IT organisation the size of the whole business."

In 2009 Razorfish decided to move to Amazon. "We use Elastic MapReduce on Amazon and Cascading, a tool to upload 500GB per day." This represents a trillion impressions, clicks and actions per day. Processing this amount of data on its old infrastructure used to take three days. "It now takes four hours," he adds.

› Choosing a platform to manage big data
› How to choose big data infrastructure
› The fundamentals of big data infrastructure

However, cloud-based processing of big data is not for everyone. GE's Ruh explains: "Cloud computing in its present form is not wholly suitable for machine-to-machine (M2M) interactions at GE. We are seeing more processing running on machines, due to latency."

The technology is based around in-memory database systems. Since the datasets are extremely large, Ruh says GE uses NoSQL and Hadoop.

"We have also developed our own database for time series analysis," he says. But GE is also working with Microsoft Azure and Amazon Web Services to investigate how to offload processing to the cloud. ■

CLOUD SUPPORTS BUSINESS AS USUAL

Cloud disaster recovery has opened up previously unaffordable business continuity options for SMEs. Manek Dubash reports

ISTOCKPHOTO/THINKSTOCK

Before server virtualisation, the standard approach to implementing disaster recovery (DR) was to build a second site that duplicated the primary datacentre's hardware and software. Of course, duplicating the infrastructure meant doubling costs, so only larger organisations opted for this route.

Now, virtualisation has made servers and apps independent of hardware so there is no need for the duplicate machines. You can even run software from someone else's servers, so the need to own any secondary hardware disappears. This is cloud disaster recovery, and it is ideal for small and medium-sized enterprises (SMEs).

It comes in two key varieties – hybrid and pure:

- The hybrid model – many cloud DR services use a hybrid model in which an on-site appliance receives your data and stages it to the cloud. Should disaster strike you can work from servers and data held on the appliance or work from the cloud, depending on the severity of the outage. The key advantage of the hybrid model is that it overcomes a key limitation of working in the cloud – the lack of bandwidth.
- The pure model – the pure cloud DR model sees data transferred immediately to the cloud without the intermediate staging appliance. Restoration in this model can be by

remote working from the provider's cloud or by receipt of a data disk from which servers are rebuilt. Pure cloud models incur smaller upfront and ongoing costs, but are only really suited to smaller organisations.

Disaster recovery planning and pricing

All cloud disaster recovery services are priced on a per-use basis, with rates varying according to your recovery point objective (RPO) and recovery time objective (RTO).

But, there are key questions to ask your DR provider. You will need to be sure the service provider will transfer data securely in the event of a disaster, authenticate users properly, and ensure compliance with regulatory requirements.

You also need to ensure you have enough bandwidth and network capacity to redirect users to the cloud. A DR plan should also detail how you will restore data, including expected recovery times. And your due diligence should include research into reference

CASE STUDY: REDMAYNE BENTLEY VIRTUALISES IN THE CLOUD

Ed Sibley, head of IT at Leeds-based stockbroker Redmayne Bentley, was looking for a partner to help modernise the company's infrastructure, and turned to cloud and disaster recovery (DR) provider Phoenix for help. Disaster recovery was included in the bundle of cloud-delivered services Phoenix provided.

Redmayne Bentley owns and franchises branch offices across the UK, with sites in Leeds, London and Farnborough, and originally had servers on site in London, with traditional tape backup.

Its infrastructure was in need of an upgrade and the plan was to consolidate into a new head office in Leeds, but this would introduce a potential single point of failure.

"A year away from that move, we could see a weakness in our DR provision," says Sibley. "A disaster affecting the computer room in Leeds would cut off all our 38 branches. We didn't want to build a new computer room, so we set a strategy to move all services into a hosted environment with an IT services partner."

This meant using the cloud for services such as voice over IP (VoIP), virtual desktops and remote access.

"For us, the cloud partner had to look after the whole hosted environment," says Sibley. And when Phoenix merged with ICM and Servo, with which Redmayne Bentley already had relationships, it made sense to stay with Phoenix and use its hosted cloud facilities.

"All our systems are hosted with Phoenix and all are virtualised," says Sibley. "The benefit is flexibility, so we can increase CPU and memory and servers easily."

Disaster recovery is built into the offering, as Phoenix uses NetApps SnapMirror array-to-array replication. This takes hourly snapshots from the firm's Wakefield datacentre, close to Redmayne Bentley's Leeds headquarters, and pushes it out to the hosting company's datacentre in Farnborough.

"We are also considering using the Farnborough datacentre for warm standby," says Sibley.

The benefits of using DR in the cloud are primarily the time it saves. "Using traditional recovery methods, if there was an outage in Leeds and we had to fall back to a server in London we would have had to recover tapes to that server," says Sibley. "This could take half a day or so. We then had to make sure it worked and reconfigure the network infrastructure to make sure it was accessible, all before giving users access. It could easily take a day."

With the new system, it takes 15 minutes to set up the new workplace, whereupon users can work in one of Phoenix's 18 work area recovery facilities, remotely or in the office using a virtual desktop. "The great thing about this system is that it removes the grunt work of doing a DR test," says Sibley. "Everything continues as normal, the whole system is giving continual service and it's a more flexible basis for continuing basic operations."

sites and case studies of real-world disasters and the provider's response.

A DR PLAN SHOULD DETAIL HOW YOU WILL RESTORE DATA, INCLUDING EXPECTED RECOVERY TIMES

CLOUD DISASTER RECOVERY PROVIDERS

Among key cloud DR service providers are:

- Amazon Web Services – underpins the cloud DR services of a number of providers and offers its systems as the basis for a DIY approach to cloud DR.
- Phoenix – offers geographically-dispersed workplace as well as IT DR services. The latter includes a ship-to-site service for when the building is intact but equipment has been lost through damage or theft.
- Plan B – recovers individual servers every night, just in case they are needed, tests recovered systems overnight, and promises to repay a year's fees if it misses its guaranteed recovery time.
- Rackspace – offers host-based replication services and support for physical and virtualised environments at the low-cost end of its price range. At the high end, datacentre-to-datacentre replication for mission-critical data on storage arrays is available.
- Savvis – offers a cloud DR service that includes cold, warm and/or hot site provision. ■

CASE STUDY: GROUND CONTROL GETS PLAN B CLOUD DR

Essex-based Ground Control is a UK-wide commercial landscape design and construction company that 18 months ago outsourced DR to provider Plan B. Previously, the company backed up its four servers to HP LTO-4 tape, but had no server recovery technology.

"When the Microsoft Exchange server went down, which it did often, we had to retrieve our email records and SQL Server data from tape. Rebuilding the server out of the box could take half a day or more," says head of IT Sim Hassall.

When that server crashed and was unavailable for two days, Hassall and his team knew they needed a better solution, especially as the company was experiencing high levels of growth in volumes of business and numbers of employees.

"We decided to replace the servers with new hardware and all the latest software upgrades, applications and databases," says Hassall. "We also decided to see how long it would take to fix them if they went down, and at that point we realised we had no off-site backup, so we looked at cloud DR.

"At the time, we ran the company on four ADSL lines so we didn't want to upload large amounts of data to the cloud during working hours. Our research for a solution found Plan B, which provided a hardware device embedded in our datacentre that backs up the servers and uploads snapshot images of our servers overnight, taking four hours."

Hassall says his trust in the system is the result of experience. "We have had to invoke the DR service. A server went down, so we phoned Plan B and said we needed to rebuild it. It took less than 20 minutes to connect to an image of that server hosted at Plan B's datacentre. We found the experience not too bad over ADSL; it allowed us to remote desktop into it until we were able to rebuild the in-house server," he says.

"We test the DR service once a month and Plan B provides a daily report to let us know of any problems. It takes an image every night and can tell us of any application failures, which is particularly important for critical services such as DNS, domain controllers and so on. It also looks to see if there are any replication issues," says Hassall.

"This means it's not just assurance that our data is safe if there's a fire, but our servers are also monitored proactively," he adds.

SCANRAIL/ISTOCKPHOTO

DATACENTRES MUST MANAGE LEGACY WHILE LOOKING AHEAD

IT leaders met at roundtable event, hosted by Computer Weekly in association with Oracle, to discuss the future of the datacentre. Lisa Kelly reports

In recent years, the datacentre has been at the heart of most IT leaders' efforts to cut costs and optimise IT service delivery.

Technologies such as virtualisation have transformed the operation of datacentres – but not necessarily removed the complexity inherent in legacy systems.

With greater business demands for web and mobile access to applications – and data residing in the datacentre – the need for greater flexibility is only going to grow and such complexity will be the enemy of achieving the desired flexibility. IT leaders shared their views at our recent roundtable.

The influence of regulation

Sean Curran, chief operating officer of investment management firm CCLA, said: "The future of the datacentre is not driven by technology, it's driven by regulations." Energy efficiency is at the heart of much legislation, and reducing the cost of power to the datacentre goes hand-in-hand with going green, but there are concerns this will affect legacy datacentres.

Martyn Boxall, UK datacentre manager at Telefonica O2, said: "The EU code of conduct on datacentres will bite all datacentre owners eventually." With the cost of energy increasing, Boxall said it is possible to move to wherever power is cheapest.

However, other legislation covering data protection means CIOs are more concerned about where data resides. "I need to know where the data is," said Lance Fisher, global CIO

Tips for Improving Data Centre Energy Efficiency

How transforming a datacentre can transform your business

of recruitment company SThree (*see box, SThree and the commodity datacentre, on page 26*). "CIOs must maintain control of data."

IT leaders need to be able to have control of data as well as access to data – these considerations affect use of the cloud and datacentre location choices.

"If North America experiences a natural disaster, at what point do you stop caring?" said Vijay Mistry, head of European datacentres at Morgan Stanley. "You need the confidence of uptime and availability of your service in the cloud."

"With any supplier going down the cloud route, you have to plan for that," added Fisher.

As for legislation concerning data protection and the movement of data, Fisher said it is possible to ensure personal data is protected and stays within its legislative boundaries, but derived data – such as the results of anonymised queries – can be subjected to analysis elsewhere. "You can split the model easily," he said.

Geoff Linnell, group CIO at Celerant Consulting, said datacentre outsourcing can give access to better skills than he could recruit, but data protection is an overriding concern.

"I spend more time with lawyers finding which country has the best protection for data rather than discussing box and type. I need to know where a provider is on legislation," he said.

Cloud versus build-your-own

The argument for cloud has not been won outright. Although many CIOs and suppliers are heading in that direction, Damien Daupeyroux, UK IT manager at recruitment firm Ambition, said: "We have been disappointed with software as a service [SaaS] and cloud offerings and are thinking of build-your-own."

The size of an organisation and how many datacentres it already has helps determine whether cloud is a viable option. O2's Boxall said smaller firms would choose outsourcing, but Telefonica is doing the opposite and offering managed datacentre services itself.

"The frame room is already heavily commoditised," he said. "We're vertically integrating and joining with the Rackspaces of this world by offering a service."

Many CIOs opt for cloud for improved disaster recovery capability, but cloud is not infallible – just as build-your-own comes with no 100% guarantees.

> **"I spend more time with lawyers finding which country has the best protection for data rather than discussing box and type"**
>
> **Geoff Linnell, Celerant Consulting**

Guy Ruddock, vice-president of design and delivery for datacentre services at Colt, said that in both models it comes down to resilience, reliability and uptime, but he questioned who has the capability to build a datacentre from scratch.

"We spend a fortune keeping up with legislation and on efficiency," he said.

Matthew Malthouse, datacentre manager at Guardian News & Media, said the firm built a datacentre five years ago, but doubts whether it would do the same again.

"You wouldn't build on that same scale today," he said.

But Morgan Stanley's Mistry said CIOs wanting to move to the cloud are often hampered by decisions they made years ago, pointing out that business forecasts have no clue on growth and the appetite is not there to build your own datacentre.

"We are looking at a modular datacentre," he added.

Si Chan, global datacentre architect at Manpower Group, said he has no problem with a hybrid approach to the datacentre based on cloud and colocation hosting, but does not see the advantages. "One gives you more control and the other more freedom to do what you want to do in the business, but isn't it inefficient [to do both]?" he said.

In creating a private cloud, it is also vital to think about the network infrastructure and data transfer, especially if office locations are global.

Corrine Dive-Reclus, senior vice-president of enabling technologies at Pearson, said: "You need to think about data transfer across the datacentre and data traffic across applications. There is a careful topology to think about."

Paul Flannery, senior director for server product management at Oracle, said: "Choice starts not at the datacentre, but at the application. Very few companies can deliver hybrid in the cloud – we have developed middleware to enable that to happen."

> "The Europeans are way ahead of the Americans, who are not innovating and are stuck in the same mentality as towards their cars – biggest is best – but that's inefficient"
> Richard Stern, ARM

Datacentre requirements

Colt's Ruddock said many CIOs want flexibility from their datacentre to match changes in the business, which is not possible if you buy a datacentre.

"If you have tons of heavy duty equipment, but it later becomes unnecessary, you want some chance to get money back," he said.

Richard Stern, datacentre and transformation manager at chip designer ARM, said bigger is not necessarily better when it comes to energy efficiency and keeping power costs down – a requirement for all CIOs.

"The Europeans are way ahead of the Americans, who are not innovating and are stuck in the same mentality as towards their cars – biggest is best – but that's inefficient," he said.

However, the IT leaders agreed that in some European countries, change in the datacentre may be slowed because of employment laws.

"It is easier to change in the UK than anywhere else," said Gareth Webb, database infrastructure architect at Vodafone.

In less-developed European countries, however, the lack of legacy means they can embrace new technology more readily. "In eastern Europe, there is little legacy, and the attitude is do it now to embrace innovation," said Oracle's Flannery.

Webb added: "Carrying legacy is not a drawback, but being unable to adopt new working processes is. If you drive cost out of the datacentre, then you find people don't want to use new features because they say their job is being changed."

The datacentre is a commodity

Ruddock highlighted how CIOs may think their requirements are unique, but often they are not. "Over 85% say their datacentres have very distinct requirements, but they all have similar requirements," he said.

› Software-defined datacentres demystified
› The new future of datacentres
› The new virtual datacentre

Convincing the business that the datacentre is becoming a commodity is not a problem, said SThree's Fisher – it is the IT team that needs persuading, fearing the effect on their jobs.

Fisher spends a lot of time working out the cost of IT and talks about cost per user when building a business case. "As the business grows, the cost per user should come down. By commoditising, it should bring the cost down further," he said.

Service outages also affect cost and need to be accounted for. The O2 network outages last year were in the public view. Boxall said the internal implications were clear because cost is calculated by "customer lost hours" (CLH).

"We had hundreds of millions of CLH due to an outage on the servers. We count them up and put a monetary value to it," he said.

Flannery said he is not so sure platforms are as commoditised as some people like to think and there is a reputational risk from making the wrong decisions.

"CIOs are making bets on the next five years – what is relevant and deliverable – and making decisions about what is most appropriate in a market which is potentially polarising," he said.

IT leaders need a vision of how to drive cost out of the datacentre so they can focus on innovation. "Up to 85% of the budget is spent on keeping the lights on – we want to change that, so not everything is spent on re-engineering IT infrastructure," Flannery said.

Vodafone's Webb said it is no longer about what IT can do – it is about what the business can do with data: "There is an opportunity for the business to change significantly, but the business has to understand the opportunities and IT must give those opportunities." ■

STHREE AND THE COMMODITY DATACENTRE

Lance Fisher, global CIO of specialist recruitment company SThree, said his focus is not just on the datacentre and its evolution – it is on what you do with data. "These are two distinct perspectives – data, and how we use it, is key," he said.

SThree, which has 64 offices in 18 countries, consolidated 68 databases into a single Oracle Exadata system, following a risk assessment by Fisher which showed that a fragmented and expensive legacy system was unable to support the business and projected growth.

"We have grown organically, but now have the same technologies wherever we are, and the Oracle database is a key part," he said.

Fisher, who comes from a financial services background, said matching a recruitment candidate with a client is simply a transaction, but the secret to making a successful match is the data. To this end, having an optimised datacentre is fundamental and Fisher foresees a move to the cloud. "I see cloud as the future. To get there, we must go through three key stages: Getting core technologies to be the same; having a hosted facility; and then moving to cloud services. Before, the attitude was 'if you didn't build the frame room, you couldn't control it, and people could get into the network', but now that has changed and the datacentre is becoming a commodity," he said.

Fisher believes the differentiator is data, search algorithms and being clever with applications. "I don't want to have to worry about the hardware, the rack or the operating systems," he said. "All I want to have to worry about is the data or the application, and how I knit it together with back-office systems."

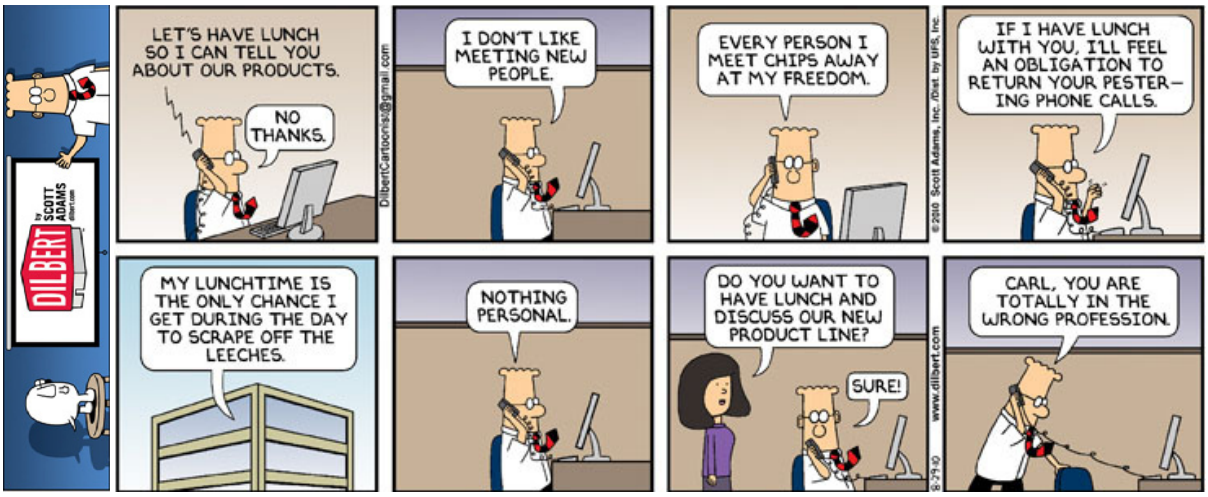
Fisher does a lot of work justifying the cost of IT. "It boils down to cost per user per month, and the whole of IT is a figure per month per user," he said. Within that figure are costs such as capital expenditure and licensing. Although it is easy for Fisher to see how costs change, he said the challenge from public cloud services is that they are offered as a cost per user. "That's great for start-ups because the clever bit is in their invention or intellectual property – it isn't in hosting."

He sees the future of the datacentre as giving value to the business and relying on cloud services to prevent the problem of legacy becoming outdated at an increasingly fast pace. "Two iPads came out last year. The rate of change is becoming harder and harder to keep up with. The datacentre will become just a commodity," said Fisher.

However, the future of data is something CIOs will have to grapple with. "Data is increasing on personal devices and used in different sources. Lots of it needs to be protected," he said.

He said the future plays into where data is going and the control of that data. "You increasingly need to know who has control of data and where it resides. I spend a lot of time thinking about that problem."

However, moving to the cloud is just a matter of time and money. "It's a timing issue. We haven't got Microsoft's Azure yet, but it's inevitable if the price is right," he said.



Disgruntled employee's unlikely APT

Advanced Persistent Threats (APTs) usually refer to some clever combination of social engineering and malware deployed stealthily over a long time to steal information or sabotage data.

However, a credit controller who was denied a pay rise at his firm in Oxford has given the term a whole new meaning.

He applied his destructive strategy painstakingly over three years to exact revenge on his employers by causing computer failures and £32,000 worth of damage.

Edward Sobolewski would have achieved the ultimate cyber criminal objective of getting away with it undetected and unpunished, if his employers had not turned to technology to find the source of the attacks.

Sobolewski's nemesis was not some bleeding edge technology, but a set of CCTV cameras. What they revealed was even more surprising.

The tool that the disgruntled employee was using to create IT chaos was nothing more than a common household cleaner.

The cameras finally solved the riddle by capturing Sobolewski squirting the caustic cleaning fluid Cillit Bang into the company's computers, according to reports.

A judge sentenced Sobolewski to eight months in jail and ordered him to pay £10,000 costs for his "malicious" attacks.

Downtime wonders if the computer killer will be put on the cleaning crew in prison or if he will be restricted access to dangerous cleaning materials. ■

APPLE SETS ITS SIGHTS ON THE MAFIA

News that Apple has filed a patent for software that enables strangers to lend money to each other could see the IT giant step on the toes of a few gangsters.

Apparently, the iPhone software can be used when people are unable to find a cash machine. It sends out an SOS to other members and if they are close by, they can lend the needy individual some cash.

Downtime doesn't think this will take off. There is a bloke in our neighborhood who is always on hand to lend a few quid if you need it. His name is Tony. Great bloke – from Cuba, we think. Our mates have borrowed off him in the past. Well, we say mates, but they obviously didn't like us that much because they seem to have left the area without saying goodbye.

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