Is NHS IT strategy in good health?

Computer Weekly examines the challenges the health service faces in implementing its new information strategy page 5

Flameproof your business

New cyber threat highlights need to fold security into business processes page 4

A flash of genius?

We consider whether EMC’s XtremIO buy was a costly mistake or a good investment page 7
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10. Cookie law: many UK firms still unprepared, says law firm

**VIDEOS: CW500 CLUB**

Josko Grijevic, IS director at Thetrainline.com, on datacentre management. IT departments are often caught in a dilemma when it comes to datacentre management. Demands for storage and processing power continuously increase, while budgets are nearly flat. Meanwhile, new technology models, such as virtualisation and cloud computing, are offering radical new ways to deliver datacentre services.

Colin Rees, IT director, Domino’s Pizza, talks to Computer Weekly editor in chief Bryan Glick about how to ensure that a datacentre transformation improves service levels, meets user needs and cuts costs.

John Rakowski, analyst and advisor, Forrester Research.

In this CW500 Club video, John Rakowski, analyst and advisor at Forrester Research, talks to Computer Weekly editor in chief Bryan Glick about datacentre management.

**PREMIUM CONTENT**

> **The NFC retail opportunity**
This exclusive report for Computer Weekly by Juniper Research offers a comprehensive briefing on the opportunities for near-field communications (NFC) mobile payment technology in the retail industry. Written for senior IT professionals, it covers the main trends in NFC payment technology, the factors driving NFC and emerging business models, and gives market forecasts for NFC mobile payments. Download the full report here.

> **Enabling rapid and effective IT recovery**
IT vendors and analysts sometimes make statements about SMEs not “getting” the importance of disaster recovery (DR). But how true is this? And for those taking measures to allow recovery of IT systems and data in the event of a major incident or disaster, how well are they doing and what are their options for improvement? This research by Freeform Dynamics highlights seven key enablers of effective IT DR, which should not be beyond the reach of any SME IT department. Download the full report here.

> **How social media drives business success**
There is a growing recognition that rather than being a distraction or a time drain, social tools could hold the key to a more productive way of doing business, this report from Google argues. Download the full report here.

**OPINION**

> **Cookie consent: Preparing for the compliance crunch**
Data privacy specialist Phil Lee, from law firm Field Fisher Waterhouse, answers some frequently asked questions about the new cookie rules, providing practical advice on what the cookie consent rule requires, exemptions from consent, and what to do if your website uses cookies.

> **Cloud choices: How to select the right hosted services**
Adopting cloud computing can save money, but it is important to choose the right cloud solution for your business. ISACA member Mike Small provides an overview of the range of cloud services and deployment models available, to set businesses on the right path to choosing the one most suitable for their needs.

> **Karl Flinders: IT outsourcing renewals lead to dissection of contracts**
It has been rather quiet in the IT outsourcing market for some time now, with big deals seemingly few and far between. Last month, Fujitsu signed a big deal with the Post Office to act as a service integrator. Fujitsu will manage TalkTalk, Capita and MDS in a five-year deal. Anthony Miller, analyst at Techmarketview, believes the contract could be worth £500m.

> **Adrian Bridgewater: From punch cards to speech, our input method methodologies**
Where once considered punch cards to be at the cutting edge of human-computer interaction, the years have passed and industry innovations have brought us to a point where speech recognition technology is a reality – and has become so advanced that I am writing this blog without touching my keyboard.

> **Philip Virgo: Is DWP herding the vulnerable online, to be fleeced?**
As the 2012 National Digital Conference welcomes delegates to explore “the policy, leadership, innovation and collective action needed to support an inclusive and enterprising digital nation”, current debates over electronic identities and payment mechanisms indicate that inclusion and innovation will be the last things in the minds of those seeking to herd the sheep online to be fleeced.

> **Hannah Dee: Why I attend the London Hopper Colloquium**
The London Hopper Colloquium is one of the key events in the women-in-computing calendar. For eight years it has provided a focus and an opportunity for women at the start of their research career, with a poster contest showcasing the work of early career (PhD and post-doctoral) researchers and talks from women on both academic research and career options outside the academy.
GOVERNMENT & PUBLIC SECTOR
Universal Credit systems go live early in Manchester
Universal Credit systems are being prepared to go live in the Greater Manchester and Cheshire region in April 2013, six months before the national roll-out. The Department for Work and Pensions said the roll-out will see 1,500 new Universal Credit claimants from Tameside, Oldham, Wigan and Warrington per month. The trial will test the payment system with local authorities, employers and claimants in a live environment before the national roll-out in 2013.

SMARTPHONE TECHNOLOGY
BlackBerry maker RIM to slash thousands of jobs
Research in Motion is planning to cut its workforce by at least 2,000 as the troubled maker of the BlackBerry smartphone embarks on a global restructuring. According to a report on Canadian website Globe and Mail, sources close to the company, which has 16,500 workers worldwide, believe the cuts could be bigger.

OUTSOURCING
CGI makes £1.7bn offer for Logica as services sector consolidates
Canadian IT and business process services firm CGI has offered £1.7bn in cash to acquire Anglo-Dutch IT services giant Logica in a sign of continued consolidation. There have been persistent rumours that one of the tier-one Indian IT services firms would acquire Logica to gain a foothold in the UK and Europe, but once again it is a company from North America that is driving industry consolidation.

WIRELESS NETWORKING
Post Office rolls out NFC contactless payments
The Post Office is introducing contactless payments to its network of branches, providing the largest deployment of near-field communications technology in Europe. The British institution will provide contactless payment terminals at 30,000 counters across all of its 11,500 branches in the UK.

BROADBAND COMMUNICATIONS
BT kills broadband roll-out in London borough
BT is scrapping plans to provide fibre broadband in the London borough of Kensington and Chelsea after the local council complained about cabinets “ruining its historic streetscape.” The telecoms firm was set to build 108 fibre cabinets across the area, which in turn would provide broadband connections to over 34,000 homes and businesses.

EDUCATION & TRAINING
UK businesses prefer training to hiring to plug IT skills gap
A shortage of IT skills in the UK is affecting businesses, driving 70% of organisations to invest in training while 40% plan to hire people to fill the gap. Research of 250 senior UK IT professionals, carried out by IT trade association CompTIA, found 43% of IT professionals believe the skills shortage has increased in the past two years. The top technology area of concern is networking and infrastructure technology skills, where 44% of the companies interviewed said there is a shortage.

STRATEGY
Police shared service supports forces miles apart
Northamptonshire and Cheshire police forces are linking their back office systems, despite being miles apart, after identifying one another as being at similar points in their IT development. The partnership, known as the Multi-Force Shared Service, has already set up finance and purchasing shared services and upgraded technology to support finance and purchasing, as well as estates and logistics transactions.

SOFTWARE DEVELOPMENT TOOLS
Aviva tackles code quality with Coverity quality assurance toolset
Aviva is taking a strategic view of software testing with a quality assurance programme powered by static code analysis toolset Coverity. The company has been using the toolset in general insurance where its software teams develop front-end applications,artner applications and administration systems for quotations and new business.

GOVERNMENT & PUBLIC SECTOR
Home Office saves £10m by opting for open source
The Home Office saved £10m by running a key messaging infrastructure on open source software. The system, which is related to international border control, previously cost £12m over five years, a figure that reduced to £2m over the same period.

MOBILE HARDWARE
Intel makes long-term commitment to smartphones
Intel has joined with Orange to unveil its first smartphone and promised it was in the market for the long haul. At the launch event in London, Graham Palmer, country manager in the UK for Intel, said the San Diego handset marked the beginning of a new drive for his company, with high levels of research dollars going into furthering its position.

“Consumers need clear information on actual, real-life broadband speeds. Not just the speed at 3am, but the speed at peak times”
Neele Kroes, vice-president, European Commission
Security researchers have discovered the most powerful cyber weapon to date, but what does the latest super cyber threat, dubbed Flame, mean for the IT security industry?

Initial analysis reveals that Flame can steal valuable information, including – but not limited to – computer display contents, information about targeted systems, stored files, contact data and even verbal conversation, which could enable attackers to hijack administrative accounts and acquire high-level privilege to other computers and network locations.

Flame is described as one of the most advanced and complete attack toolkits ever discovered, and is believed to comprise multiple modules with 20 times more executable code than Stuxnet.

It is also already clear that Flame has the ability to replicate over a local network using several methods, including the same printer vulnerability and USB infection method exploited by Stuxnet. Researchers believe Flame has been “in the wild” since March 2010, which means it has evaded detection by security software for just over two years.

According to researchers at the Laboratory of Cryptography and System Security in Hungary, Flame stayed hidden because it was so different to the viruses, worms and trojans that most security programs are designed to detect.

Flame appears to have the ability to identify which security scanning software was installed on a target machine and then disguise itself as a type of file that the detected anti-virus software would regard as benign.

Proactive protection

What are the implications of all this? Security industry representatives say Flame provides confirmation that traditional security technology no longer does the job.

“In the past 18-24 months, everything that we’ve known about security has changed. Perimeter security as we knew it is dead,” said Adam Bosnian, executive vice-president at identity management firm CyberArk.

In the light of the fact that anyone can infect a network, regardless of perimeter security protocols, organisations need to change their thinking quickly and focus on protection from the inside out, he said.

In this new era of cyber threats, a growing number of security professionals believe that security has to start with the assumption that the attackers are already on the inside.

“Organisations need to identify their most valuable assets and proactively secure them before moving towards perimeter security,” said Bosnian.

This does not mean anti-virus software is no longer necessary, said Richard Turner, chief executive of UK security firm Clearswift, because organisations still need a way to capture the 90% of known and copycat malware, and this can be done with signatures and heuristics. But it does mean that the current approach to information security must change.

“It is no longer about keeping everybody out. Organisations need to recognise that they can’t stop the determined attacker, that there is risk involved, and that they need to identify mission-critical data and focus resources on ensuring that is not compromised,” he said.

Business benefits

This change in focus and approach from reactive to proactive security, said Turner, is also an opportunity to move away from purely preventative security that is just a cost to business, making security the means for expanding the business, providing new sources of revenue and building competitive advantage.

This is achieved by thinking about what the business needs to do to grow and then planning the security strategy and capability based on that, he said. This can be something as simple as enabling a secure bring-your-own-device (BYOD) programme to attract the best employees who want the latest devices and know how to use them to work flexibly and improve productivity and efficiency.

This approach, where security is tightly linked to the aims of the business, provides better business cases for security investments and leads to the creation of more defensible IT environments, said Turner.

Stealing privileged access

Flame also provides a good example of how attackers are using the exploitation of privileged accounts as the primary attack method for enterprise cyber security assaults, said CyberArk’s Bosnian.

Privileged access points consist of privileged and administrative accounts, default and hardcoded passwords, application back doors, and more. “These accounts act as a gateway to an organisation’s most sensitive data, which is accessible across systems, applications and servers,” he said.

Privileged access points exist in almost every device with a microprocessor, but they are often secured with weak or default passwords, he said, and once inside, attackers use the privileged account, or elevate privileges associated with the account, to gain access to additional servers, databases and other high-value systems that only a select few people are actually granted permission to access.

Flame could spread

Perhaps the most sobering observation on the significance of Flame comes from Stephen Wolthusen of the information security group at Royal Holloway, University of London. “Any zero-day attack will quickly become part of the general armoury; these soon percolate down,” he told a Westminster eForum on cyber security in London.

Businesses therefore cannot afford to disregard Flame and dismiss it as a cyber weapon that is about nation states and nothing to do with them.

Flame is an indication that the game is yet again changing, and if nothing else, it means that businesses need to look at controlling privileged access points as a matter of urgency. Flame also highlights the need for businesses to focus on their internal security structure to safeguard the access points to sensitive data.

Flame can steal valuable information which could enable hackers to hijack admin accounts and acquire high-level privilege to computers and networks
Pull between centralised and local IT development shows divide opening in move to digitisation, writes Kathleen Hall

Following the publication of the Department of Health’s long-awaited Information Strategy, what are the challenges of its implementation and the relevance of a central IT agenda, now the structure of the NHS is devolved to local commissioning groups?

Jon Lindberg, head of trade body Intellect’s healthcare programme – which has been working closely with the department on the strategy – says the document is a blueprint for IT over the next 10 years.

“It doesn’t say anything new. It’s all things we’ve been trying to achieve over the last 20 to 30 years. But it details what the department expects its IT to look like, and who will be responsible for what,” said Lindberg.

The most significant area of the strategy is the department’s ability to legally enforce standards to enable system interoperability.

“We wouldn’t have strong contractual levers if we didn’t set minimum standards centrally,” senior responsible owner for the strategy, Giles Wilmor, told Computer Weekly.

Previously, standards were set through large, national contracts under the now-defunct NHS National Programme for IT (NPfIT). But Lindberg said the document fails to specify who is doing what with standards.

“They have some timeframes, but have not fully outlined who is responsible for what; who is going to enforce and implement it; and the costs,” he said.

“In that sense it lacks teeth. People might wait for the implementation plan, but we don’t want to see a lag. The problem is the Commissioning Board will not be in until next April.”

He said the information strategy should be tied into the Quality, Innovation, Productivity and Prevention (QIPP) programme – which aims to make £20bn efficiency savings across the NHS – for the organisation to realise maximum cost savings.

Justin Watling, vice-chair at BCS Health, said the strategy could only so far, given that a lot of NHS organisations are in a state of flux.

But he said one area which could have had more detail was the introduction of globally recognised standards, along with more explicit plans about how informatics could be embedded in curricula.

View from GPs

The headline news from the strategy is the department’s intention to allow patients to access their own health records electronically and book appointments with GPs online by 2015. It committed to patients being able to renew prescriptions online and communicate with GPs electronically.

Around 50% of GP practices already have the capability to allow patients to access their records under the widely-used EMIS software, but fewer than 2% offer the service.

Chaand Nagpaul, a GP and member of the British Medical Association’s working party on IT, is sceptical that doctors will be able to achieve this goal by the deadline.

“I think the stance of patients having more access to information could be an advantage,” Nagpaul said.

“The political headlines and deadlines are running ahead of having thought through logistics and important issues – such as those of information governance.”

Issues around data assurance would also need to be addressed when digitising records to ensure information wouldn’t be abused.

Another issue is whether the move could widen the digital divide.

“The most vulnerable patients are unlikely to use such technology and there is a concern this move could be to their detriment,” said Nagpaul.

“We must ensure these proposals don’t worsen inequalities and work against those who are disadvantaged, for example preferential appointments for those who book online.”

The government has to be open to revising its original commitments, including the content as well as the deadline, he said.

“The NPfIT was a top-down programme driven by political ambitions, which didn’t allow for meaningful discussions,” said Nagpaul.

“The last thing the NHS needs is another IT political programme.”

But while targets have been set for GP records, other areas of healthcare have not been given digital deadlines. This could bode badly for widespread digitisation plans, considering primary care is the most advanced with electronic records, yet still lacks a national online system.

Veena Raleigh, senior fellow at health thinktank The King’s Fund, said: “No-one could quarrel with the strategy’s aims to make more information available to patients and clinicians. But one of my main concerns is that social care data is way behind, it doesn’t even have electronic records. It’s an area which is going to require some significant investment.”

The legacy of NPfIT

Lindberg said the money saved from dismantling aspects of the NPfIT, such as contract renegotiations with CSC, will be re-invested in buying systems. But the downside of national funding is it could mean everyone will have to wait for it.

He said existing summary healthcare records – the troubled central electronic hospital patient record plans, under the NPfIT – would probably remain in some form. In some areas, such as the north-east, the system had been successful, while other trusts had walked away from it.

“The current view of NPfIT, N3, Spine, Choose and Book will continue to be national services, with the centre continuing to provide minimum infrastructure for trusts to get everything,” he said.

He added: “What we need from the centre is to make sure there is no further fragmentation and for it to set national standards, minimum standards for digital identification and so on. If you can get those enforced, then everyone can play in the market.”

This is an edited excerpt. Click here to read the full article online.

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XtremiO: Costly acquisition mistake or genius flash investment for EMC?

After EMC announced it was to buy a firm with no product or roadmap, Jennifer Scott asks why it took such a gamble.

Flash is big news in the storage sector right now and proved a hot topic at EMC World in Las Vegas last month. But this is no longer about flash confined to solid state drives (SSDs), hidden away in desktop PCs or storage arrays. Flash is breaking out all over the datacentre, boosting performance and driving down latency for companies taking a punt on the latest technology trend.

As a result, the start-ups exploring new ways of introducing flash into hardware are rapidly being courted by the big storage firms. But some companies have gone further and last month EMC announced it was buying Israeli flash company XtremiO for $430m.

But this is where the information stops. The problem is, XtremiO has never released a product past the pre-beta stage, has no record of revenues and no published roadmap of where it is heading. We know flash is a big deal, but is purchasing a firm without an end product in the first quarter of 2013, only enter beta testing at the end of this year, with general availability not coming until 2013. The technology might be great, but it obviously needs development.

“XtremiO was making some pretty strong comments internally as we said, they are pre-revenue and asked, is it too early to move yet, should we wait a little longer?” he said.

But Gelsinger admitted it wasn’t all plain sailing to decide on buying.

“There were some pretty harsh discussions internally as we said, they are pre-revenue and asked, is it too early to move yet, should we wait a little longer?” he said.

“We wanted the pick of the litter, so we got it.”

EMC revealed last month that its first product based on XtremiO technology – codenamed Project X – would only enter beta testing at the end of this year, with general availability not coming until 2013. The technology might be great, but it obviously needs development.

“XtremiO was making some pretty good news, and it cost EMC less than half a billion, which seems to be what someone like Joe Tucci [EMC’s CEO] can find down the back of his seat as small change,” Clive Longbottom, founder and analyst for Quocirca, told Computer Weekly.

“XtremiO might pay off for EMC and the technology. EMC have already stated that they are going to use the technology – codenamed Project X – for attitude towards Flash, so more acquisitions are on the cards. The SSD array vendors just need to wait for that call.”

It is clear flash is going to become even more imperative for the big storage players and getting in first with XtremiO might pay off for EMC and become the deal of the year. But until developers get their hands on Project X and find out what is on offer, there can be no guarantees.

What next?

Evans pointed out EMC was the first of the big six storage suppliers to get in the game by buying a flash startup, so more merger and acquisition activity could be on its way. Rumours are already rife around Dell and FusionIO.

“EMC is making a play in this market first,” he said. “Neither HP, IBM, HDS, Netapp nor Dell have an equivalent product, so more acquisitions are on the cards. The SSD array vendors just need to wait for that call.”

But the deal may have come about due to pressure from rival firms sniffing around XtremiO for a good deal. A source close to the situation told Computer Weekly that, while no-one put in a formal offer for the company, EMC had an allotted time to finalise its bid before some of the other big players came knocking at the door.

2012 Storage trends to watch

- Data volumes will continue growing. Despite advances in storage technology, business spending on storage will remain flat or increase.
- New forms of database and analytic tools encourage storage of big data.
- Dynamic data tiering in disk arrays will continue to boost the use of flash memory in datacentre storage. Flash memory will itself split into multiple tiers and applications, spanning dedicated usage, dynamic data tiering, cache extensions and multiple interface standards.

Source: Computer Weekly report, 2012 Trends to Watch: Storage
Technology transforms how Aviva takes its insurance models to market

CIO Cathryn Riley tells Kathleen Hall how technological innovation revolutionises the way the insurer reaches customers

It has been a tumultuous time for Aviva’s top brass, with former CEO Andrew Moss forced to step down recently after a shareholder revolt. But for the insurance giant’s CIO Cathryn Riley, it is business as usual.

Riley has worked at Aviva in various roles for 16 years and was appointed CIO in 2011. Needless to say, the IT has evolved a lot during that time and Riley is eager to put Aviva at the centre of technological change.

“Aviva can become a digital insurer. At its heart, insurance is about a promise and a piece of paper. Well, that piece of paper can now be translated to digital,” she says.

Riley believes IT is moving from its traditional emphasis on technology towards a greater focus on information. “The challenge now is the explosion of unstructured, publicly available data,” she says.

“We have always been about data and using it in underwriting, rating and so forth. But predominantly we’ve been around structured data. I think the whole explosion of data has made that a huge science,” says Riley.

Mobility and analytics

Consumer expectations are also rapidly changing, with people now buying their travel insurance via an app in the airport, she says.

“If you did not understand the rate of adoption of mobility, if you are not getting into big data and analytics and not engaging in social media, you are missing the creation of business value through IT,” says Riley.

Aviva has been piloting products around the convergence of mobility, social media and analytics. “We have a travel app piloted in Singapore, for example, because people tend to travel more there, so it’s a great way of testing the market.

Product testing is also underway in the UK. “One test centres around telematics and seeing if we can influence customer behaviour through having a device while they are driving. We are also doing internal testing around collaboration, improving networking, sharing best practice,” says Riley.

The company has also rolled out iPads among its risk surveyors and apps for its broker salesforce. Both have been live for several months. “As a risk surveyor, the ability to have all the tools, including a camera, and the ability to do it in real time onsite and file back to office, is fantastic,” she says. “The important thing is the service to the client is exponentially better.”

However, it is not just about the flashy iPads, she says: “Technology around analytics and segmentation is fundamental to our business.

“We are at the forefront of things like the cloud and have a number of applications on it. For example, our human resources systems is run on a single global system off the public cloud through Workday. Our intranet is also run on the cloud.

“We use the private cloud, too. We use a combination of public and private cloud, as well as traditional datacentres. There’s no doubt cloud gives us a huge opportunity to transform to a demand-based, service-led form of IT, which will see our cost curve decrease.”

As contracts come up for renewal and the offering matures, there will be more applications which can go into the private cloud, she says.

Simplifying IT

Although the company’s IT estate stretches across multiple sectors and geographies, there are opportunities to drive down costs through consolidation. “There is an increasing ability to simplify the business and the IT underneath it – that’s something on many a CIO’s agenda,” says Riley.

“There are certainly components common across the piece, and areas you can make common. HR, applications, testing, document management, for example – and the ability to extract, mine and manipulate data. We have to learn to love simplicity, in the same way as we have perhaps loved complexity in the past.

“Because there is no doubt the pace of change is exponential. Agility is one of the things that will drive competitive advantage and is one of the things that is IT-enabled. We have to do the magic of delivering things faster, cheaper and better. I think there has never been a better time, because things like cloud and mobility give you some of those opportunities,” she says.

The company has a mixed model, working with a number of partners. Its datacentres are outsourced, but it still has around 5,000 IT staff globally and roughly 3,500 in the UK, the company’s biggest market, with around 24,000 staff.

Riley is passionate about the need to keep staff refreshed and values training and development across the company. But, like most insurers, Aviva has a lot of legacy systems.

“It’s tempting to get wrapped up in the shiny new technology, but the people who have huge experience are looking after those systems, which is very important,” she says.

Riley is positive about the increasing importance in which technology is being viewed. “There’s never been a better time to be in IT. The opportunity for a CIO and IT folks to move from being in the back office to being part of the value driver of an organisation is fantastic, as is the current rate of innovation,” she says.

“Certainly my appointment a year ago was the first time we had IT on the group executive committee. I have expanded my role to add shared services to my IT and business change remit. It is recognition that IT is so fundamental to our business and it’s never been more important.

With several high-profile CIOs making the jump to CEO, such as Tesco’s Philip Clarke, could chief executive be the next move for her?

Riley prefers not to comment, but says: “I am very happy where I am. I think any role of chief executive at a large organisation is extremely challenging.”

more online

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› CIO interview: Matt Peers, chief information officer, Deloitte
› CIO interview: James Lomas, CIO, Comparethemarket.com
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Onus is on NHS IT managers to deliver success

This article should have been easy to write. It’s about the new NHS IT strategy, and it would be a simple task to cut and paste from every similar article about the ups and downs of NHS IT in the 10 years or so since the National Programme for IT (NPfIT) was first mooted.

There are a few key themes that would have to be included, for example:

- In this digital age, you cannot imagine not having online access to your medical records in the future.
- Medical professionals need to be involved in healthcare IT strategy from the start.
- The federated nature of the NHS needs to be central to any nationwide strategy.
- Don’t underestimate the challenge of cultural change to IT-enable a huge beast like the NHS.
- Get the contracts with IT suppliers right, to avoid costly overruns.

At some point, every one of these has been attempted, and nobody has yet got them right.

So what about the new NHS information strategy? Well, it ticks all those boxes at least. Overall, there’s much in the new plan that makes a lot of sense. But we all sort of thought that every time before.

The challenge for NHS IT is not in the strategy, it’s in the delivery.

The proposed combination of centrally-enforced IT standards, with local decision-making and implementation, is clearly the best way forward given the greater maturity of current technology, compared with 10 years ago when big centralised systems felt like the right choice.

But now the delivery rests not on a Department of Health agency, nor on a central CIO, but on every IT manager in every NHS trust. It’s time for them to become the real drivers of change to create an information-led health service.

The time for politics and strategising is over. NHS IT managers are finally empowered to deliver, as they have always wanted. The task is no less difficult, but this is their opportunity.

Editor’s blog
computerweekly.com/editor

Cookie consent: Dealing with the compliance crunch

Last year, new rules came into force requiring UK online businesses to get consent before serving or accessing website cookies on visitors’ computers or mobile devices.

The UK data protection watchdog, the Information Commissioner’s Office (ICO), said it would allow businesses a 12-month window – until 25 May 2012 – to achieve compliance.

Now this period has expired, businesses that have not already implemented cookie consent mechanisms need to do so promptly or risk regulatory enforcement.

Let’s look at some of the most common questions organisations are asking about the rules:

What does the cookie consent rule require?
Online businesses must give visitors comprehensive information about the website’s use of cookies and obtain consent when setting cookies. It is not enough just to make short cookie disclosures within your website privacy policy. Visitors must be made aware that cookies are being set and how they can control cookie use.

Are there any exemptions from consent?
Yes. There is no need to obtain consent for cookies which are necessary to operate the website. ICO guidance says cookies necessary to maintain website security, power online shopping baskets and balance website server load do not need consent. All other cookies do, however – even those used to provide analytics or remember visitor preferences.

Do website pop-ups need to get consent?
No. How you get consent is up to you. In some cases, providing simple cookie notices prominently on the face of the website that link to easy-to-use cookie controls will be enough to infer visitors’ consent if they do not change their cookie preferences. The most important thing is to make visitors aware that cookies are being served and how to control this.

Our website uses cookies. What should we do?
There are four essential steps:

- Perform an audit of your website to identify what cookies it serves. If you don’t have in-house capability to do this, consider using an outsourced solutions provider to do this;
- Assess the intrusiveness of the cookies your website serves. This will inform how prominent your consent notices must be. This stage will help identify which cookies are strictly necessary and so exempt from consent;
- Decide on an appropriate consent strategy. For websites making non-intrusive uses of cookies (for example, serving cookies for visitor preference purposes), an implied consent strategy will likely suffice. For websites making more intrusive cookie uses (for example, tracking visitors across multiple domains), a more express consent strategy will be appropriate;
- Implement your consent strategy. This will require technical and operational changes to your website to deliver prominent cookie notices and obtain visitors’ consent.

Are there any other practical recommendations?

- There are a number of quick wins online businesses can achieve. For example, where your audit reveals that you are using cookies you no longer need, get rid of those cookies – you will then have no need to ask for consent for them;
- If you are serving persistent cookies with long expiry periods, reduce those expiry periods. This will help minimise the intrusiveness of those cookies and better enable reliance on implied consent strategies;
- Lastly, when working with third-party technology partners, have them explain to you what cookies they serve and what they do. This information will enable you to make clearer, more meaningful cookie disclosures and improve the validity of your visitor consents.

For websites with more intrusive cookies, an express consent strategy will be appropriate

Phil Lee is a partner in the Privacy and Data Law Group at Field Fisher Waterhouse
HP Converged Storage eliminates boundaries so you’re ready for what’s next.

Increasingly, businesses are evaluating their legacy storage relative to its simplicity, efficiency, and agility in the face of unpredictable data center requirements.

HP Converged Storage powered by Intel® Xeon® processors combines management orchestration across storage, servers, and networks with innovative federated, scale-out software and standardized hardware platforms.

It’s modern scale-out storage architecture for the data center of the future.

HP Converged Storage powered by Intel® Xeon® processors
How storage provision must change with virtual desktop infrastructure

Centrally run storage can suck all benefits from a VDI deployment if it is not sufficiently provisioned, writes Cliff Saran

I

f 100 people tried to access the same piece of data on conventional PC infrastructure simultaneously, it would result in a denial of service. And this is exactly the case with virtual desktop infrastructure (VDI).

There is a growing realisation among IT professionals of an Achilles’ heel to desktop virtualisation, in the way conventional storage works in VDI. Virtualising hundreds, if not thousands, of desktop computers may make sense from a security and manageability perspective. But each machine has local processing, graphics processors and storage.

Server CPUs may be up to the task of running most desktop applications and modern VDI offers local graphics accelerators. But storage needs to run centrally. So if each physical PC has 120GB of local storage, a 1,000 virtual desktop deployment needs at least 120TB of enterprise storage.

However, even this is not enough. For a good user experience on VDI, the infrastructure must minimise latency. It boils down to I/O operations per seconds (IOPS) – the number of data reads and writes to disks.

Theoretical models of usage claim a desktop PC spends 70-80% of its time performing disk reads and 10-30% of its time writing to disk. But Ruben Spruijt, CTO at IT infrastructure specialist PQR, believes these numbers are underestimates.

“In my experience a user’s PC spends 20-40% of the time doing reads, and 60-80% on disk writes,” says Spruijt. And writing to disk can be difficult in VDI.

The more IOPS virtual desktops need, the greater the cost. Considering streaming media, desktop video conferencing and any application that spends 20-40% of the time doing writes, and 60-80% on disk writes,” says Spruijt.

Innovation in disk technology

“Innovation in disk technology Storage expert Hamish MacArthur, founder of MacArthur Stroud, says: “If you hold a lot of data in the disk controller, it reduces the number of writes to the disk.”

Hamish MacArthur, MacArthur Stroud

If you hold a lot of data in the disk controller, it reduces the number of writes to the disk

“SSD is still relatively expensive but it is getting cheaper. There is still some way to go before it becomes an option for companies in the mid-market.”

Exploiting SSD flash niche

EMC recently revealed elements of its upcoming product release resulting from its acquisition of XtremIO. It will use the start-up’s technology to create an entirely flash-based storage array to give enormous – albeit expensive – performance, compared with traditional disk drives.

Goldstein claimed it could achieve unlimited IOPS which, in a short demonstration, reached 150,000 write and 300,000 read speeds.

The key to the box is its ability to scale out and link up to other XtremIO arrays. Goldstein has demonstrated eight working together as a cluster, which had the potential to achieve over 2.3 million IOPS.

He also showed the array creating 100 10TB volumes in 20 seconds, configuring 1PB overall.

However, flash-based technologies and solid state drives are too expensive to run as primary storage in enterprise environments. Instead, companies are deploying tiered storage arrays, using SSD for immediate access to important data and cheaper hard drives for mass storage.

Taking this a step further, in the Ovum report, 2012 Trends to watch: Storage, analyst Tim Stammers notes storage vendors are planning to create flash-based caches of data physically located inside servers, to eliminate the latency introduced by SANs.

“Despite their location within third-party servers, these caches would be under the control of disk arrays. EMC has been the most vocal proponent of this concept, which is sometimes called host-side caching. EMC’s work in this area is called Project Lightning,” writes Stammers.

Project Lightning has now become a product called VFCache, which places flash memory onto a PCIe card that plugs into the server. It allows a copy of data to be taken immediately at the server level, rather than before it gets to the storage, upping performance yet again.

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> Understand how storage design has a big impact on your VDI

> VDI storage requirements: Do you need a new storage array?

> VDI storage options include flash appliances and bundled stacks
Thursday, 16 June 2011 was a big day for IBM. The company celebrated its centennial, with much fanfare. It surpassed Microsoft's market value for the first time in 15 years and demonstrated its technical prowess by winning a game show using a supercomputer that understands and interprets spoken language. That's a far cry from the company famous for making tabulating machines 100 years before.

Renowned for its mainframe and AS/400 minicomputer systems and inventing the personal computer (later selling the PC division to Lenovo), IBM's hardware now largely comprises a component of software and services packages.

The company is transforming its business to take advantage of substantial shifts in the way technology is used. Strong globalisation is propelled by a faster flow of information, making it easier for businesses to collaborate. The computerisation of everything from kitchen appliances to power lines is making the planet smarter. And customers are seeking to innovate more than ever before with technology.

"IBM is a market maker. It pretty much defined e-business, which became its core market in the mid-1990s," says Euan Davies, director at IT analyst company HfS Research.

"Now, it has coined a new market, around the concept of ‘smart’. It has smart planet, smart work, smarter solutions. That’s its core market."

**Anticipating shift to services**

Together services and software make up roughly 90% of IBM’s revenue. That’s not bad for a company that used to give away its software as part of mainframe sales.

IBM identified the trend towards services early on, according to Ron Gruia, principal analyst and senior consultant for Frost & Sullivan’s Information Communication Technologies practice. "It clearly saw that its margins on the hardware side of the business were becoming thinner, and that it needed to change, focusing more on the software and services side," he says.

It was one of the first firms to bundle software and services together and has made the move from prioritising mainframe hardware to services delivery. This has enabled IBM to get under the skin of its major customers, allowing it to provide business as well as IT services.

HP was perhaps the only other company to spot the trend as early as IBM. But it failed to shift its perspective substantially with its acquisition of EDS in 2008. As a services company, EDS became bogged down and lazy about supporting a few customers, says Hamish Macarthur, founder of IT analyst firm Macarthur Stroud.

HP may be changing, but services is the driving engine for IBM, he says.

IBM had created a healthy services operation of 150,000 employees by the time it bought PwC’s consultancy business in 2002. The £3.5bn acquisition, of one of the of the “big four” consultancy firms, brought IBM’s services greater maturity, allowing it to bridge IT and business.

Chris Ambrose, vice-president and service director at Gartner, says IBM has now reached number-one position in a variety of services businesses: “It has the scale and the resources spread around the world to maintain that leadership role," he says.

Meanwhile, Davies believes IBM has the potential to offer advanced customer-facing services for businesses in the future.

"The really interesting things are happening on the customer side, in the front office. The innovation in interaction between clients and customers is fascinating," he says.

For example, Watson – the supercomputer IBM tailored to beat opponents in the gameshow Jeopardy! in 2011 – is being groomed for commercial applications.

IBM is talking to retail and service...
industry firms about deploying the architecture and it could result, for example, in entirely automating basic telephone questions. But it is more likely to be employed to gather and process analytical data that could then be used to structure sales.

Analytics is one of the other focal points for IBM in the next five years. Big data – datasets that are too large to be manipulated via a simple relational database management system – is becoming big business. Online tools in areas such as social networking and computer dating are generating massive datasets with untapped potential. IBM’s analytic work will help to unlock this data, or so the company hopes.

The need for collaboration

However, like many other companies, IBM must learn to cope with evolving market conditions. The days of the outsourcing mega-deal are largely over and contracts tend to the smaller and shorter.

“I’ve seen many suppliers trying to move down into the mid-market with smaller deals, and I’m frankly surprised at the size of some deals that IT outsourcing is going after,” says Ambrose. “Many of them don’t have a sales model that necessarily scales to that kind of pursuit.”

As deals get smaller, customers looking for best-of-breed solutions are increasingly asking suppliers to work together. But can IBM play nicely with the others, though?

“There’s a danger that the bigger IBM doesn’t recognise why it has to collaborate and that it can’t own its client end to end,” says Davies.

“IBM has to be careful about engaging other providers beyond its own borders.”

IBM’s software business is closely aligned with its services group. Because so much IBM software is platform-based, in the form of its WebSphere middleware and groupware, customers generally need to buy services from IBM to get full traction on the product.

The firm sells a variety of operating systems, including its AIX version of Unix and its z/OS mainframe system. Its information management and business analytics software includes products such as DB2 and the Cognos business intelligence suite.

Tivoli is the focal point for IBM’s systems management software, while its Rational Software arm supports the software development lifecycle. Another hardy perennial is its Lotus software arm, which focuses on collaboration and groupware.

“What’s been interesting in the past few years is the way that IBM’s information management operation has drawn closer to the hardware people, and to global services,” says Philip Howard, research director for data management at Bloor Research.

Information management is an operation within IBM’s Software Group. “DB2 pureScale is its clustered solution for DB2, which is dependent on IBM hardware specifically,” he says. Marrying the information management and hardware functions enables IBM to offer a more complete service; giving the customer a better idea of how their information systems and hardware architectures fit together; and helping to create a road map for the customer Information management also crosses over with other parts of the software group, Howard adds.

“Some stuff that I would take to be information management products are actually WebSphere products.”

For a software group with such blurry lines, however, there are some notable disconnects, says Howard.

For example, IBM, like many, is getting more heavily into the highly profitable security subsector, having purchased database security company Guardium, among other security firms. Even with a security steering committee, Howard often notices that one product won’t integrate seamlessly with another obvious contender. The same is true in its information management arm. “It has so many subgroups that they don’t communicate,” he says.

Communication breakdown

Nor is all well in IBM’s unified communication and groupware effort, warns Yankee analyst Zeus Kerravala. IBM’s Lotus Domino groupware and collaboration server is “not user-friendly, slow and expensive”, Kerravala says.

IBMercontinues to develop the Lotusbrand, most recently launching LotusLive services, its hosted online collaboration suite. But it may be coming to the party too late, warns Martin Hindley, former IDC analyst and founder of independent IT analyst firm ITCanDo.

“I suppose there’s a lot you could do by ‘cloudifying’ it, but you tend to think that other people have stolen a march,” says Hindley.

While IBM continues to focus heavily on the enterprise market with its collaboration systems, others have been quicker to understand the role of consumerisation in this market. Consumers drive the use of communications tools. Just look at the iPhone, or Skype, for example. Microsoft has been heavily promoting SharePoint, and Cisco has its Quad platform, which has been better aligned with the kinds of experiences consumers are used to with social networking and messaging products, says Kerravala.

In spite of IBM’s best efforts, he says: “Lotus Notes hasn’t been transformed in the same way.”

He argues that IBM’s unified communications system, Sametime, is based on an incomplete strategy that should encompass a broader portfolio of products.

“Yankee was a Sametime shop for a long time, and then we moved to Google Mail and Google Talk. We were using the corporate versions,” Kerravala says.

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IBM delivers social media analytics software and services

Gallery: IBM Blue Fusion event at Hursley House

IBM grows cloud and Smarter Planet but services struggle
The rapid growth of digital business means organisations are facing a tsunami of information, combined with the requirement to store it securely and exploit it faster and cheaper to make the decisions necessary to survive in an increasingly competitive market.

Convergence has become a buzzword in storage, and most suppliers are advocating this approach for businesses requiring flexibility in coping with a deluge of data, exacerbated by the growing use of social networking sites and consumerisation of IT.

Delegates at a recent HP Converged Storage roadshow in London heard from experts gathered to discuss the challenges of reducing complexity and managing huge volumes of corporate information.

However much IT leaders are attracted to the idea of simplicity, most organisations, unless they are entirely new businesses, are hampered by their legacy IT estate.

A “Sunday night/Monday morning” scenario is developing, where employees – who are used to instantly surfing, downloading and accessing information on devices at home – go into the office and have to wait 10 minutes for their desktop to boot up so the day can begin.

With the advent of the cloud and suppliers such as Amazon, whose services can be purchased on a credit card, employees are unlikely to put up with delay – they will bypass the IT department and go direct to suppliers for what they need to get their job done.

Convergence, advanced networking, commoditisation of IT and cloud technologies present an opportunity for IT to reverse this trend. However, the reality is that many IT estates are stuck struggling with day-to-day operations.

Converged storage
Phil Lewis, pre-sales manager for HP enterprise servers, storage, and networks, told delegates at the roadshow that around 70% of IT budget for businesses with a traditional datacentre is allocated to IT operations.

“It is money spent keeping the lights on because of the sprawl of legacy and storage. It puts a brake on business and it can take 18 months to deliver a new application service via IT datacentres to customers or internal staff,” he said.

“Customers who can speed up delivery will have an advantage, and converged storage can reduce those 18 months to just weeks.”

Lewis said that by using standardised hardware to create storage, server and desktop systems, the resulting cost savings can be passed on to the customer.

“We find that legacy IT is often cobbled together to create a virtual server environment. It’s like baking a cake and knowing what the ingredients are but not knowing the quantities. With converged systems we have done the exploratory part for the customer to increase performance levels,” he said.

HP delivers private, public and hybrid models of cloud systems for customers which are built on a converged infrastructure, and there is a clear upgrade path. “We reduce the risk with protected and ready-to-go systems which bring services online faster than before and can reduce costs,” said Lewis.

Cut costs and deliver faster by using converged storage
A recent HP Converged Storage roadshow focused on the challenges of reducing complexity and managing huge volumes of corporate information. Lisa Kelly reports
CIOs are attracted by the promise of reducing the cost of power, cooling and datacentres through having a converged infrastructure and storage, which reduces physical components by up to 95%, when compared with the storage they are saddled with that was designed 15 to 20 years ago.

“Storage was done for predictable workloads and worked because data and applications were predictable – you knew where you were going for three to four years with little change,” said Phil Hooker, technology consultant strategist at HP.

**Escalating data**

Today, data is growing exponentially. According to Hooker, we are talking about massive numbers.

“Over the next 10 years, there will be 10 times as many servers, 50 times as much data, and 75 times the number of files, but there will only be one-and-a-half times as many IT staff to cope with this data volume – the numbers don’t stack up. This is where converged storage comes in, which has the capacity to scale and can go to petabytes,” he said.

Although many CIOs have used virtualisation technologies, such as VMware, to get more performance out of their servers, storage has often had to catch up. This is play catch-up. But the potential benefits make virtualisation and cloud worth pursuing.

Clive Wenman, technical systems engineer at VMware, said the cloud can increase agility and decrease costs, and that virtualisation can reduce capital expenditure by 60%, operational costs by 30% and energy by 80%. “It’s not an overnight journey to create a private then a hybrid cloud, and there is not a prescriptive approach,” he said.

Hooker said storage products such as HP’s 3PAR allow customers to start off small and keep growing efficiently and securely so the business is not slowed down. Data can be migrated easily via 3PAR Peer Motion software, which requires no application knowledge, eradicating expensive downtime.

“Businesses want storage that reduces complexity, increases speed and improves flexibility and reliability,” he said.

**Value for money**

Before any business buys storage, it is going to ask serious questions about value for money.

“In an uncertain world, the key question is, ‘how much does my storage cost and how can I make it cost less?’”, said Catherine Campbell, HP strategist and CTO for HP’s storage business in the UK and Ireland.

She said there are a number of factors, and people and process elements that must be considered, but the enabling technologies are there.

“The carrot is greater agility and making IT people’s lives easier; the stick is the growing presence of ‘shadow IT’ which used to be servers hiding under the desk, but is now business user accounts with the likes of Amazon which is much less visible,” said Campbell.

One storage cost that needs to be examined is the cost of total allocated capacity of storage compared with the total utilised capacity. Elements include cost of infrastructure, power, floor space, back-up, replication and dedicated people, but new storage technologies can eventually reduce total cost of ownership by 50%, she said.

Back-up costs are a special case; they are not the same as archive costs, even though they may use the same technologies. Campbell said organisations can achieve cost savings by driving archives out of the organisation.

“Look at active data that may need to be recovered on a day-to-day basis, and remember tape is good for being green and reducing costs,” she said.

Although the cost of change is rarely considered, Campbell said businesses have to start somewhere, but acknowledged that it is not an overnight transformation.

“There needs to be a sensible path, and organisations have to live with co-existent multiple environments as they move to drive up agility and gradually take advantage of new storage technologies,” she said.

Case study: Supporting Comic Relief in the cloud

Dan Sutherland, CEO of Carrenza, a cloud provider that relies on 3PAR and VMware technology, is “not interested in storage for storage’s sake”.

He said the key thing about cloud infrastructure is its ability to allow people to “do stuff” with it and connect.

“Anything you can run on an x86 platform can be run in the cloud; you can fork-lift the stuff and don’t have to follow the big-bang approach,” he said.

Proof of the cloud’s reliability and criticality is the fact that it is used to support Comic Relief on Red Nose Day and Sport Relief, the largest one-day charity fundraising events worldwide because of their unique position in having a national broadcaster, the BBC, providing seven hours of free airtime.

“We have worked with Comic Relief for five years during four record-breaking campaigns and have a short window of time. We chose HP as key partners for the blades and 3PAR storage because we had a number of challenges and wanted to be more efficient and adopt green computing,” said Sutherland.

Key challenges included time, budget and reliability. “We have 80 days to design and build the infrastructure, while 100% of the money raised is donated to the causes, so there is no spare cash. There must be 100% reliability,” he said.

Testing is necessarily limited and the infrastructure has one chance to perform. “The BBC will not let us try again. The campaign is media driven and you have no idea who will drive donations. Last year it was the Doctor Who actor in a hospital in Africa with kids dying of malaria. It is unpredictable on the night; 12 to 15 million people watch the show – if just 3% all donate at once it can change everything,” said Sutherland.

The donation platform takes all the money, whether through the web or the call centre, and the technology is key, with HP loaning spare equipment to cope with peak demand.

The website platform is built as a call-to-action, with videos and games incorporated, and supporting systems must record accurate data about donations and keep a count of the running total.

“More than 250 credit card transactions are made per second, with 700,000 transactions during the TV show, with a peak of £25,000 raised per second. There were one million sign-ups to the Sport Relief Mile and since 2009 around £270m has been raised,” said Sutherland.

The technology is of paramount importance. “We couldn’t do what we do for Comic Relief without the technology to build systems in those timeframes,” said Sutherland.

“It is fast and simple with 11,000 virtual machines and no dedicated storage engineers; systems administrators can do all the interactions with the platform. It works, which is the best thing I can say about storage.”

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A presidential cock-up
It is not unheard of for an American president to have trouble with his grammar, but surely if you are hoping to be the president of one of the world’s super-powers, good spelling should be a necessary skill?

Not so, it seems, as Republican presidential hopeful, Mitt Romney, demonstrated with his iPhone app (see screenshot above).

What should have been an inspiring message to show his party and his leadership would make to a better tomorrow for citizens, became a catastrophic spelling faux pas of the most important word for any US politician.

Spotted the mistake yet?
Well, all of us at Downtime would like to say God Bless America!

Stolen iPhone exposes thief
Katy McCaffrey assumed she had lost her iPhone and would never see it again when she discovered it was missing after she had been on a Caribbean cruise, but that was not the end.

A few weeks later, the iPhone began uploading images to the internet. The thief was using her iPhone to take pictures, but was unaware that they were being uploaded.

As soon as McCaffrey saw the images, she forwarded them to the cruise company, which was able to identify the thief as a member of staff, according to reports.

The cruise company confirmed that the suspected thief had been placed on administrative leave and promised to return the iPhone to McCaffrey as soon as the ship returned from its present cruise.

Would-be thieves beware. Smartphones are smarter than you think.
GPS functionality also means owners can usually track down their devices, providing they have installed the relevant app.

Look cool as you cool off
Now the weather has taken a warm turn, for the moment at least, what better way to cool off at your desk than with the iPhone-shaped compact air-conditioner.

For the bargain price of just £13, not only can you stay cool and collected in the heat, but also fool your co-workers into thinking you have the latest bit of Apple kit.

This perfumed portable fan also features a USB charger – no doubt white like Apple’s.
But let’s face it, with inflation continuing to rise, a bleak economic outlook, and consumers feeling the squeeze, this is probably the closest many people will get to owning one of Apple’s over-priced trinkets.

Mushroom app helps fanatics find favourite funghi
Finally, there is an app to help us locate mushrooms. The iMushroomHunter and iMushroomGuide apps are available for the iPhone and Android phones.

The app allows mushroom fanatics to share pictures of their favourite wild mushroom spots and share their location using GPS.

Mushrooms to cook with, obviously.
The website says “every user can compare the mushrooms they’ve discovered with perfect images and an exact description, all while they are still in the forest”.

Downtime understands: “I was in the local park when a giant man made of rubber offered to help me find the Hobbit that took my keys.”