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ENTERPRISE SOFTWARE**Fresh questions raised over Post Office IT system's role in fraud cases**

A leaked investigation report has revealed more details about the role of a computer system in fraud claims against sub-postmasters. Sub-postmasters have suffered heavy fines and even jail terms for alleged false accounting, but many have continually blamed the Horizon accounting system they use.

DATA SECURITY**Google denies breach after hackers leak millions of user logins**

Google has denied that its computer systems were breached and downplayed the threat after hackers claimed to have leaked 4.9 million Gmail logins. Hackers posted what they claimed were the email addresses, usernames and passwords of nearly five million Gmail customers, exposing them to identity theft.

IT OUTSOURCING**Tobacco giant outsources IT to Wipro**

Philip Morris International has outsourced IT infrastructure management to Indian services firm Wipro in a five-year deal that will see the tobacco giant's applications and technology managed from Wipro's cloud-based management platform. The tobacco company has outsourced a wide range of its infrastructure to Wipro, including management and support for servers, storage, backup and applications infrastructure.

MOBILE TECHNOLOGY**Apple launches iPhone 6 and Apple Watch**

Apple has announced its iPhone 6 and Apple Watch, along with capabilities such as Apple Pay, near-field communications and health monitoring. The iPhone 6 is available in two models - a handset similar to the iPhone 5S; and the iPhone 6 Plus, which has a bigger screen. Rising adoption of larger form factors suggests they appeal to consumers and businesses.

IT EDUCATION**BBC launches Make it Digital 2015 technology education programme**

The BBC has unveiled its 2015 education project, Make it Digital, to encourage people into coding, programming and digital technology. Outlining the initiative, project controller Jessica Cecil said Make it Digital will be the BBC's major education project for 2015, following on from World War One in 2014.

WEARABLE TECHNOLOGY**Premium wearables to push sales growth, says Juniper**

Premium wearable devices will push wearable revenues to \$53.2bn by 2019, according to research firm Juniper. A study found that sales of smartwatches and smartglasses will treble by the year 2016 due to the number of well-known brands entering the space. But Juniper's research found consumers are unsure how wearables will be useful.



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HAGUE OFFERS REASSURANCE OVER CLOUD DATA

The UK government has reassured MPs their parliamentary data is safe on Microsoft servers in Ireland, after a US judge found Microsoft in contempt of court for refusing to hand over email data stored on a server in Dublin. William Hague, the leader of the House of Commons, responded to concerns raised by an MP about the security of parliamentary data stored on Microsoft's cloud-based servers in Europe. "The relevant servers are situated in the Republic of Ireland and the Netherlands, both being territories covered by the EC Data Protection Directive. Any access by US authorities to such data would have to be by way of mutual legal assistance arrangements with those countries," said Hague.



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MOBILE APPS**Google to refund at least \$19m for unauthorised in-app purchases**

Google is to refund at least \$19m as part of a settlement agreement with the US Federal Trade Commission (FTC) over unfair and unauthorised charges through in-app purchases (IAPs). IAPs have been associated with false or deceptive marketing, especially "free" games that eventually require purchasing add-ons to finish or even advance in the game.

DATA PRIVACY**Most mobile apps fail on privacy, warns Information Commissioner's Office**

Most mobile applications are accessing personal information without explaining how that data is used, the Information Commissioner's Office has warned. Some 85% of apps fail to explain clearly how they are collecting, using and disclosing personal data, according to a survey of more than 1,200 mobile apps by 26 privacy regulators around the world.

HIGH-PERFORMANCE COMPUTING**King's College, UCL and LSE back £900,000 national datacentre project**

A consortium of universities, including University College London (UCL), King's College, the Sanger Institute, the Francis Crick Institute, the London School of Economics and Queen Mary University of London, is backing a datacentre project that will open up high-performance computing (HPC) to researchers at a reasonable price.

GREEN DATACENTRES**Salesforce builds green datacentre in France for European users**

Cloud CRM provider Salesforce is collaborating with datacentre provider Interxion to launch a facility in France for its European users. The datacentre, powered 100% by renewable energy sources, is the second of three planned Salesforce facilities in Europe - the first was opened in London this year and the third European facility will go live in Germany in 2015.

RETAIL IT**UK retailers must invest more in digital technologies, finds research**

The UK's biggest retailers are under-investing in digital technologies in-store. Despite nearly 90% of retailers agreeing digital and multi-channel is a significant factor to long-term growth, 66% of UK high street retailers are not investing enough in the technology, according to a survey by eBay and Conlumino.

ACCESS THE LATEST
IT NEWS VIA RSS FEED**TECHNOLOGY INNOVATION****EY seeks tech startups to address challenges of right to be forgotten**

Professional services firm Ernst & Young (EY) is turning to technology startups as it seeks a way to manage the right to be forgotten. EY hopes technologies such as data capture, data processing and data erasure will be useful in the company's bid to tackle the business challenges of the right to be forgotten. ■

BIG DATA PROJECTS FUEL SEARCH FOR TALENT

Organisations are using big data moderately or extensively to:

■ Global ■ UK


Source: Accenture

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The 'yes' vote: What IT challenges would an independent Scotland face?

With the referendum for Scottish independence just days away, *Caroline Baldwin* looks at how a 'yes' vote would affect public sector IT across Scotland

The economic impact of independence has dominated referendum debate across the UK. But if a majority of the Scottish electorate vote for independence this week, a huge public sector IT project to split systems from the UK will commence.

Even if the Scottish public votes no to independence, the additional powers being promised to them, through "devo max", might also require major changes to shared IT systems.

As part of the UK, Scotland currently shares more than 200 institutions with Whitehall, from the Department for Work and Pensions (DWP) and Her Majesty's Revenue & Customs (HMRC) to the BBC and UK Sport. If replicated by an independent Scotland, each of these services would need some form of IT system, whether through continued use of the UK's system on an outsourced basis or one entirely rebuilt by the new state.

According to a Gov.uk document entitled *United Kingdom, united future: Conclusions of the Scotland analysis programme*, "If people in Scotland vote to leave the UK, they will be voting to leave its supporting institutions and public bodies. These would operate on behalf of the continuing UK, and could not be shared without the agreement of the other parts of the continuing UK."

Independent states can co-operate. Ireland, for example, aligns its immigration policy with the UK's to reduce border controls, and states in the EU collaborate so that businesses can trade more easily. However, the UK does not currently share its public services, tax administration, pension systems or currency arrangements with any other state.

A COSTLY EXERCISE

So how much would it cost Scotland to create new IT systems as the engine rooms on which an independent Scotland would run? And what challenges would it face?



STOCKBYTE/THINKSTOCK

Estimates from academics, politicians and the Treasury of the potential total setup costs of new administrative structures for Scotland range from as little as £200m to billions.

Patrick Dunleavy, a professor at the London School of Economics, said hundreds of millions of pounds would be needed to build the necessary government IT systems, but it would be an investment in modern systems, not just setup costs.

Using available figures from the government statistics and intelligence company Porge, Computer Weekly estimated that Scotland could spend more than £1bn on replicating the necessary IT systems needed to run an independent state.

DWP estimated that the one-off cost to build a new social security system alone could be £300m to £400m, on top of annual operating costs of around £720m.

SHARING WHITEHALL SYSTEMS

The Scottish government has indicated that in the event of independence, it may want to continue using UK systems, staff and services for a transitional period that could run up to 2018.

However, Scotland and the rest of the UK will have different priorities. The UK has made it clear that there would be no sharing

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Whitehall's IT systems and services if an independent Scottish state plans to make changes to existing social security policy, to avoid putting at risk the continuity of payments to UK citizens.

Additionally, because the three main UK political parties have declared they would not enter into a currency union with an independent Scotland, the use of a currency other than sterling would rule out the sharing of any IT systems with monetary transactions, even for a transitional period.

A Scottish government spokesperson said services currently devolved to the Scottish government, such as health, schools, policing and Scottish courts, are already delivered through Scottish public sector IT systems.

"Other services presently reserved to the UK government, such as taxation and welfare, are delivered through a mixture of Scottish and Whitehall departments' systems. On independence, we would work closely with Westminster departments to ensure continuity of service and to identify and scope any transition to new systems," said the spokesperson.

AN OPPORTUNITY FOR BETTER SYSTEMS

Arguments about setup costs aside, it could also be an opportunity for Scotland to start afresh and make improvements to some less popular Whitehall systems.

"What about benefits administration? Nobody would want to copy the DWP's systems," wrote Iain McLean, professor of politics at Oxford University, on his blog. He said the two huge setup costs lie in tax collection and benefits distribution. "One may fairly say that these - especially the latter - are things the UK does not do very well, and that an independent Scotland could do better."

Central government adviser Alan Mather agreed that Scotland could use this as an opportunity to build much better IT systems than the UK. "Scotland could build something from scratch," he said, pointing to the digital example the Estonian government has set since its independence from the former Soviet Union.

A large challenge for Scotland, if it exits the UK, is to move its citizens from UK legacy IT systems to new Scottish systems.

Mather, who is also a former Whitehall IT

chief, said the main challenge would be when a citizen moves out of the UK into a Scottish system. The UK doesn't account for individuals because departments across Whitehall have different details on each citizen - such as PAYE, benefits and student loans - located on different IT systems.

Mather said Scotland would need to account for citizens collectively at the point of transition to simplify the IT and understand each citizen's account balance. "At the point of transition they would have to sum up who has student loans outstanding,

A LARGE CHALLENGE FOR SCOTLAND, IF IT EXITS THE UK, IS TO MOVE ITS CITIZENS FROM UK LEGACY IT SYSTEMS TO NEW SCOTTISH SYSTEMS

who owes tax to who and who receives what benefits," he said. "All of those things need to be looked at, so on the day the new system goes live it knows where the money is and who it's paying and who it's not paying."

Chris Chant, former digital director of the Cabinet Office, predicted Scotland will face challenges around skills, which the rest of the UK is currently struggling with. "They need to make sure they've got the right people," he said.

Chant explained that because IT has been outsourced to half a dozen big companies in recent years, in-house skills in the public sector have been significantly depleted. He added the framework would be easy for Scotland to replicate and therefore allow the state to access people with the right skills very quickly.

Overall, Chant believes Scotland is in a much better position to rebuild IT systems today than it would have been 10 years ago. "The good news is you can build systems today 100 times faster," he said. "Trying to do this 10 years ago, you'd have to have had a 10-year plan." ■

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BRINGS USER
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CIOs should evolve their desktop-first strategy to address the rise of mobile

Microsoft has said it will support Windows 7 until 2020. Cliff Saran questions whether it will be worth IT teams migrating to a future version of Windows



THINKSTOCK

CIOs need to evolve their desktop strategy after Windows 7, but migrating wholesale to a future version of Windows may not be a good option.

Microsoft will support Windows 7 until 14 January 2020, but IT departments should take a long-term view. IT consumerisation and the trend for bring your own device schemes could render a desktop strategy redundant by 2020. Software as a service and the internet delivery of applications via a browser are set to become the conventional way to deploy applications.

DESKTOP SOFTWARE STRATEGY

Rather than standardising Windows, IT teams should consider how they will operate in a heterogeneous user computing environment, where users might carry three types of devices including iOS, Android and Windows-based tablets and smartphones, all of which need to be supported.

Experts recommend taking a mobile-first approach to software and a generic approach to software development to avoid being tied to one environment.

"We are making a big push on all our suppliers to support browser-based applications, so the device's primary application is just a browser," said Glen Larkin, lead technical architect at Kent County Council. "This is a bit of an ideal, so we will need VMware's virtual desktop to give us the flexibility to contain our legacy environment, leaving the user device space in a greenfield, vanilla place, giving us freedom of choice and better mechanisms to upgrade in future."

The challenge for IT remains application compatibility. In the Gartner report *Plan Now to Avoid Windows XP Deja Vu With Windows 7*, analysts Stephen Kleynhans and Michael Silver wrote: "The biggest compatibility issues in terms of applications

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not working will continue to be those that require specific releases of Internet Explorer (IE)."

Gartner said the browser's enterprise mode supports strong backward compatibility with IE8: "It should enable many applications that require IE8 to run on IE11 on a per-website basis by IT, through group policies."

MOBILE FIRST

Some experts support the case for developing applications for mobile devices first. When Transport for London (TfL) redesigned its website, the body's head of online, Phil Young, said the site used responsive design to reformat web pages for the device being used. So the website renders in one column on a smartphone, and two on a tablet.

However, a report by Forrester, *2014 Mobile Developer Platform Preferences*, encourages IT managers to explore the implications of adding support for extra platforms. "Ask all teams to assess the impact of adding support for other mobile platforms. If your team is building hybrid or web apps, the impact of additional platform support will be higher in quality assurance than in development," said the report.

"If you are investing in native apps, the impact on development resources could be substantial, and you may need additional testing resources to validate Android apps running on compatible platforms."

DESKTOP CONTAINERISATION

A traditional desktop management strategy is not ideal in a world where users want the flexibility to run apps on their own devices. Virtualisation enables IT to separate the application from the underlying hardware.

"Today you have to run Windows on endpoint devices, while ensuring all your applications run on that

operating system (OS)," said VMware's senior product marketing manager, Garry Owen. "In a virtual environment, you can run a Windows desktop if necessary, but there is a choice: you could migrate

some of your applications to the cloud, so access is via a browser, rather than on a local copy of Windows, which is highly application-dependent."

Kent County Council plans to address future Windows upgrades by separating

"MANUAL MIGRATIONS ARE EXPENSIVE AND CUMBERSOME"

GLEN LARKIN, KENT COUNCIL

the application from the physical operating environment. The council's lead technical architect, Glen Larkin, said: "While it is a long way off, we are already forming a strategy on what we do post-Windows 7 migration."

Larkin said it is important to virtualise and containerise the council's desktop and user application environment, so any legacy applications are delivered from a single, central, contained environment.

"This allows us to use vanilla devices on the LAN and WAN that have no application dependencies," he said. "And it gives us the agility to change versions of Windows or OS platforms entirely."

He said the council is designing an architecture based on virtualising as much as possible and running applications in the browser where possible. "If you can rationalise, standardise, virtualise and reduce complexity, you give yourself options and agility to move faster," he said.

Changing the council's desktop strategy to support containerisation and browser-based computing will pay dividends when a new version of Windows is released, says Larkin. "We do not want to repeat migrations the way we have in the past - manually. It's too expensive, cumbersome and you never get off the roundabout."

Browser-based applications, containerisation and mobile-first software developments are the hallmarks of next-generation user computing. IT departments should start planning now, because the desktop of 2020 will look very different from the one deployed in 2014. ■



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Holiday Extras launches AWS system to replace its inadequate datacentre

Instead of upgrading its in-house datacentre, Holiday Extras saw the benefits of adopting public cloud and took the plunge. Archana Venkatraman reports

When IT became a limiting factor at Holiday Extras – a company that provides add-on services including airport parking, hotel bookings and holiday insurance for UK holidaymakers – its IT team jumped into action.

The firm's in-house datacentre, which has been operational since its launch in 1983, powered web applications, television campaigns and business operations. It was a regular facility with blade servers, load balancers and massive infrastructure around its web system.

However, the head of IT at Holiday Extras, Damien Turner, says his team noticed IT was consistently problematic.

Certain divisions wanted to move the business forward with big, innovative and creative ideas, but the IT team could not provide the software and hardware to power those ideas.

The tipping point came in September 2011 when the marketing team wanted to run a television campaign during prime time. For the campaign to be effective, the department required 1,900 user sessions.

"We did the load testing to see if our in-house IT kit could support the campaign," Turner explains. "But our infrastructure's capacity was just 790 user sessions. After that, we would see red spots."

To solve the issue, the IT team needed to increase the bandwidth, add new blade chassis and increase hardware infrastructure.

"We realised it would take between six and seven months to make our in-house IT kit ready if the entire team was to work on nothing else but that project. That's when we realised there must be an easier and better way to provision IT," says Turner.

"Around this time, cloud computing emerged as a feasible alternative to in-house infrastructure issues."



Holiday Extras provides add-on services such as airport parking, hotel bookings and insurance for holidaymakers

Because there are seasonal lulls in the holiday industry, Holiday Extras did not want to buy hardware resources that would remain idle during these periods, rendering the investment a waste. So Turner and his team picked Amazon Web Services (AWS).

"We were familiar with public cloud because we had just moved our email system to Google Apps. The team lifted some of its in-house kit and hosted it on AWS platforms to benefit from cloud's scalability, agility and flexibility.

"It was a bit strange because the technical team did not have a physical server to turn on and off when something went wrong. The machine was virtual, with just a name on the command line on the screen. But, once we overcame the initial culture shock around cloud IT, it was smooth sailing," says Turner.

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USING AMAZON WEB SERVICES

Holiday Extras uses AWS's Simple Storage Service (S3), Elastic Compute Cloud (EC2), CloudFormation, Elastic Load Balancing (ELB), Relational Database Service (RDS), MemCache and RedShift data-warehousing service.

The project involved moving 10 quad-core blade web servers and two 1TB MySQL databases on the back end to 12 web servers across three availability zones: one large

“THERE WAS A PERCEPTION OF THE CLOUD BEING UNRELIABLE”

Amazon RDS instance, a small number of memcached instances and 10 elastic load balancers. The cloud-based infrastructure has helped the company reduce IT hardware spending by more than half and cut user response times by 20%.

INVESTING IN PUBLIC CLOUD

Turner says convincing the business to invest in public cloud was a tricky task.

“The cloud was new and there was a perception of it being unreliable,” he says. “But, once we changed people's perception of the cloud by explaining the benefits, it was easy to implement a strategy.”

To instil confidence among staff, the IT team started planning its strategies with cloud outages in mind.

“We would make provisions in our scripts to make staff more tolerant of failures. Also, our internal datacentre operation can take over in case of an outage,” says Turner.

To ensure redundancy in its cloud infrastructure, Holiday Extras followed cloud

computing best practice and built across three availability zones in AWS's EU West region. This ensures high availability for the company's customer-facing website and allows the IT team to maintain a high-quality

customer web experience, even when one availability zone experiences disruption.

The team experienced a four-hour downtime during transition to the cloud and there were initial teething problems – it took the team 45 minutes to start a server instance on AWS.

“This was because of the legacy codebase. It was more of a lump and we had to change the codebase to provision servers more quickly. But even 45 minutes was a huge improvement on the six months we required previously,” says Turner.

ENJOYING THE BENEFITS OF PUBLIC CLOUD

Now the team can start up a server in seven minutes. Other benefits include faster roll-out of new technologies, increased focus on customers, lower operating expenditure and flexible working.

But, most importantly, IT can now respond to business changes quickly.

“We are spotting a new trend – our peak continues until September. I would have to worry about capacity planning if we were in our in-house infrastructure. But now it is easy to scale the infrastructure up for as long as we need it,” says Turner.

“My IT team is more of a DevOps team now. Focusing on strategic IT projects – such as coding for new business ideas rather than managing infrastructure – keeps the IT team more engaged and interested.”

However, Turner says Holiday Extras' core booking system still runs on the in-house mainframe system: “The core booking system was created 24 years ago. As the business evolved, we added more layers – such as payment applications and parking add-on applications – and it's not easy to move it to the cloud. Now we are slowly trying to take each layer out and run it as a separate workload on AWS,” he says.

The mission-critical booking system is expected to move to the cloud in two years.

“We can now move faster and more cost-efficiently than our competitors, meaning more focus on retaining and gaining customers and less on the infrastructure. But above all, IT has become a ‘yes’ department, thanks to AWS public cloud,” says Turner. ■



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ON AGILE
DEVELOPMENT

Acting on data analytics to engage with followers of fashion on the net

Net-A-Porter CIO Hugh Fahy discusses the online fashion retailer's agile development and customer engagement techniques. Caroline Baldwin reports

CW500
INTERVIEW

"I like to emphasise the 'I' in CIO," says Hugh Fahy, chief information officer at the Net-A-Porter Group.

"21st century technology is about being information-led and data-driven."

As group CIO, Fahy looks after technology for the brand's three global websites: Net-A-Porter, Mr Porter and The Outnet.

He heads up a 300-strong IT team, which uses a lot of services, including Salesforce.com for customer relationship management. But, while the retailer has a lot of commodity IT on its estate, it also develops its own innovative tools and services. Most of the IT team is in-house, which allows Net-A-Porter to experiment so it can differentiate itself in luxury fashion.

AN AGILE LEADER

The company was an early adopter of agile development methods. Fahy says it is important for the technical team to align with the business as closely as possible, and agile allows this to happen.

"21st century IT can't be an ivory tower, we have to communicate with the business," he says. "We deliver early and get the quickest possible feedback because, with the market, technology and pace of innovation, we can't afford to wait."

But the retailer does have integrated software testing and development to support these agile methodologies. Net-A-Porter has created teams where testers work closely with developers to ensure testing remains integral to the agile methodology. The testers train developers to test the code that is produced, which allows the testing team to work on more complex testing.

Fahy likes the "fail fast" euphemism which is making its way into IT departments at

some of the major brands at the moment.

"Don't spend six months building – get it out there, see what the customer wants and be led by that data," he says.

One project that was created and rolled out in-house was a cloud infrastructure for Net-A-Porter's sales pages. This on-demand platform was created using agile and continuous delivery techniques.

DATA-DRIVEN BUSINESS

Part of Net-A-Porter's success is down to its use of data analytics to make recommendations to its loyal army of customers.

"Actionable analytics is genuine – it's not a buzzword, it's derived from the approach to big data" says Fahy.

Net-A-Porter is driving its web and mobile strategies through web analytics, using this data to test customer experiences of the



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websites. He calls this "e-commerce optimising", which companies such as eBay have become expert in.

"Ebay has hundreds of different variants, and we like to use those same techniques to optimise, but sensitively," he says. "Customers love what we offer, so it's a fine-tuning activity for a mainstream e-commerce proposition, but we also like to innovate."

A SOCIAL EXPERIMENT

Fahy says using digital channels to market to customers can be effective, but because Net-A-Porter is a luxury brand, using social media has to be done with some sensitivity. Many websites now offer customers the chance to "share" their purchase or "recommend" to a friend via Facebook or Twitter but, as Fahy points out, if you've spent £2,000 on a luxury dress, do you really want to recommend it so everyone else can go and buy it?

To explore innovative new IT products, Net-A-Porter's mobile team has developed a mobile app called The Netbook for an experiment in social commerce. Net-A-Porter is testing social solutions on 6,000 of its more engaged users, including fashion bloggers and top customers, while keeping the app in beta.

The team has learnt a lot about online communities, and has also experimented with creating member profiles – similar to Facebook and Twitter – where customers can rate products, along with the reviews and profiles of other customers.

"It allows us to be more innovative and plan the next revolution, as opposed to the main website which is evolutionary," says Fahy.

Data can also be used to suggest items to customers in a more intelligent way. "If we know your size and you're trying to shop, you probably don't want to be presented

with clothes that are out of stock in your size," he says.

Net-A-Porter

also offers a "wear it with" service, which allows the site to recommend other items from 650 premium brands from around the world that may match an item in a customer's basket to create a whole outfit.

"But all these additions have to be data-led," says Fahy. "And there are only so many questions you can ask."

This means Net-A-Porter has to take information from all the customer touch-points, from what they've bought previously and where they've browsed on the site to whether they've bought Mr Porter which may infer they have a man in their lives.

THE PATH TO TECH SUCCESS

Before joining Net-A-Porter as CIO in April, Fahy was product and development director at Betfair, which has similar characteristics to the fashion retailer, allowing him to transfer his experience.

"Net-A-Porter and Betfair started up at the same time and are both internet success stories," he says.

"TECHNOLOGY IS A FANTASTIC CAREER – THERE ARE MANY ASPECTS TO IT"

Fahy's career in IT started when he took a vocational IT degree. He says he didn't look back: "Technology is a fantastic career – there are many aspects to it."

But he believes there is a significant shortfall of tech graduates in the UK. Net-A-Porter, for its part, is taking on 10 graduates for training schemes this year. "A lot of tech companies will be doing the same," he says. "We need people who understand social media, because they'll be the largest demographic."

Fahy has great admiration for Net-A-Porter founder Natalie Massenet, who he says is a huge advocate for technology. Massenet's original concept was to take *Vogue* magazine and make it shoppable online.

The website now lends itself well to publishing content. *The Edit* is the site's online magazine and, in February of this year, at a time when more and more publishers were stopping print to become online only, Net-A-Porter launched a glossy print fashion magazine, Porter. ■



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Yes or no, Scots must prepare for overhaul of public sector IT

Whichever way Scotland votes on its independence, one outcome that is assured will be the need for one of the fastest and most ambitious IT projects the public sector has ever seen.

If Scotland leaves the UK, it will need to set up IT systems to replace every one of the functions it currently shares with Whitehall – in particular tax collection and welfare payments. Computer Weekly research suggested the cost could be in excess of £1bn.

Even if Scotland votes to stay, the offer of much greater devolution is likely to mean that many of those systems will still need to be developed from scratch. The time it's taking to develop a new welfare system for the UK – Universal Credit – shows that it's no easy option to adapt current systems for a subset of the population who may be taxed or paid benefits using different rules and rates to those outside Scotland.

While Scotland has its own IT for existing devolved functions – such as NHS, education, police and justice – it's a huge undertaking to put in place the additional government services from scratch. And that's without even considering timescales – Scottish independence would start in March 2016, just 18 months after the vote.

Such a project would be unprecedented, but there are examples to turn to. Estonia is widely lauded as the most digital government in the world – thanks to the fact it had to start from nothing after gaining independence from the former Soviet Union. But even Estonia – a country with a quarter of Scotland's population – took a lot longer than 18 months to do so.

Scotland may yet be forced to use existing Whitehall systems on an outsourced basis – but that would seriously hinder its ability to make the sort of political and policy changes that the Yes campaigners have promised.

The UK government intends to redevelop tax and welfare systems as it rolls out the digital by default approach. But that's not going to happen by March 2016.

Technology, of course, is not one of the issues that will decide which way Scotland votes. But it will be a critical issue in delivering the future government that Scotland will gain either way. ■

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Balancing user and business needs

Updating IT governance processes will allow organisations to deal with greater user input and get the best from technology in the digital world, says Dale Vile

Much has been written about the rise of user influence and power. Some of it might exaggerate the degree to which phenomena such as bring your own device (BYOD) and shadow IT define the state of play, but there is no denying the trends.

Research consistently confirms that more demanding and less tolerant employees are increasingly challenging the IT status quo and, in some cases, bypassing or attempting to circumvent IT policies and processes.

Most organisations are seeing some of this behaviour, particularly in parts of the business that have more political power.

Some commentators interpret the trends as an indicator of IT departments failing to understand how needs are evolving in the business. Meanwhile, tech-savvy employees, educated through the use of technology and services in their personal lives, don't suffer from the same baggage, which today puts them in a better position than IT to decide what's optimal for the business.

It is even argued that IT teams will become redundant over time, or may be relegated to just looking after the "plumbing", as users drive the things that really matter, in collaboration with external providers which offer more flexibility.

It's a compelling narrative, and a great one to propagate if you are into sensationalist mischief-making. But, like most things in IT and business, the reality is more a little more complicated.

USER INFLUENCE A MIXED BLESSING

In truth, unilateral user activity is not always a function of business need. Employees using a personal device or consumer cloud service for business purposes might highlight a capability gap that needs to be addressed but, equally, such BYO adoption of technologies could be down to users simply acting on a personal preference or interest, following fashion or attempting to demonstrate their status or individuality.

Even if BYO activity reflects a genuine business requirement, users are generally not able to look beyond their own immediate needs and wants. Bigger-picture considerations such as security, compliance, data protection, future-proofing, interoperability, maintenance and support often don't figure very highly in their thinking, if at all.

And in opting to use something different to their colleagues, they may create more productivity problems than they solve due to limitations and incompatibilities that need to be worked around.

So users gaining more of a voice and assuming more power is a mixed blessing, if such developments are allowed to take place in a free-wheeling manner. Handled appropriately, however, with the right level of input, guidance and control from IT, the business can potentially benefit more quickly from new ideas and ways of working.

For progress to be made and harmony gained or maintained, it is critical that both IT and business stakeholders work together through the different sets of interests when considering a new idea, requirement or problem to be dealt with. Of course, when conflicts arise, it's the hard-core business interests that must be prioritised over the other two.

Putting this into practice by updating your IT governance processes to deal with an increased level of user input is easier said than done, but it's critical if the business is going to get the best from technology in an increasingly digital world, and various proven approaches exist that can be adopted. ■



Dale Vile is research director and CEO of IT industry analyst Freeform Dynamics.

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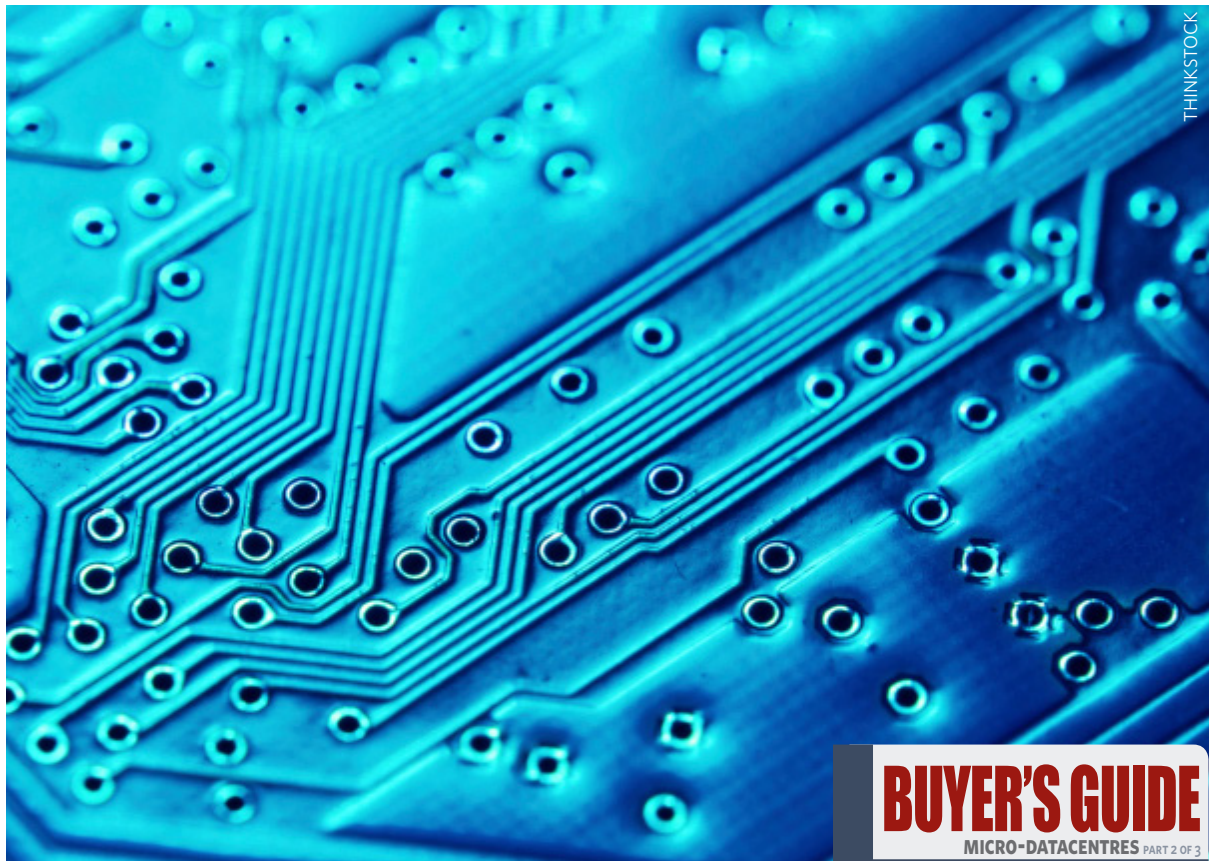
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**PROS AND
CONS OF THE
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TO X86 SERVERS**

**INTEL
LAUNCHES
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TO POWER CLOUD
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INTEL IS MAKING WAVES IN THE GROWING MICROSERVER MARKET

Analysts predict the microserver market will account for more than 10% of the server market by 2016. Archana Venkatraman reports on Intel's advancements



THINKSTOCK

BUYER'S GUIDE
 MICRO-DATACENTRES PART 2 OF 3

The market for microservers – lower-powered, small form-factor system-on-a-chip (SoC) servers – is growing. Low-power servers became popular in 2011, but shipments for that year were a mere 19,000 units, just 0.2% of the total server market. In 2012, shipments rose to 88,000 units and reached 290,000 in 2013. Analysts at research firm IHS iSuppli predict that microservers will account for more than 10% of the server market by 2016.

Although microservers have yet to gain wide acceptance in the datacentre, demand for mobile, lightweight cloud and internet of things (IoT) workloads is driving growth, as Intel enters the market with its Xeon and Atom processor C2000.

Most servers are powered by x86 processors, but adoption of microservers, which could give datacentres simpler, denser and cheaper options, is gaining momentum. Rivals AMD and ARM have collaborated to capture the market, by replacing traditional power-guzzling x86-compatible processors with a 64-bit derivative of the ARM chip, though Intel is starting to provide low-power, high-density architecture.

Microservers can be grouped into clusters for tasks that do not require several CPUs. While they are not suited to every type of workload in a datacentre, they are becoming the preferred option for static web pages, basic content delivery and more. This is because a hosting

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environment supports computationally light tasks, such as requests for login authentication or serving small, static HTML pages. The large number of small nodes in microservers makes them ideal for such jobs.

Because microservers have a high density and energy-efficient design, their infrastructure (including the fan and power supply) can be shared by hundreds of physical server nodes, saving datacentre space.

"Microservers provide a solution to the challenge of the increasing datacentre usage driven by mobile platforms," say IHS iSuppli researchers. "With cloud computing and datacentres in high demand, specific aspects of server design, including maintenance, expandability, energy efficiency and low cost, are becoming more important."

But they are not yet mainstream. Computationally intense tasks make up most jobs in an enterprise datacentre, which require traditional high performance server infrastructures based on the x86 platforms served by Intel. However, analyst firm Gartner estimates microservers will account for 4% to 5% of the revenue from the global server market by 2017. Experts say the fiercest battle will be between Cambridge-based ARM and x86 heavyweight Intel.

It is still early days for the adoption of microservers, says Chris Feltham, Intel's European server manager: "We think current adoption is less than 1% but we are seeing interest and we take the architecture seriously. Microservers are definitely a big part of Intel's strategy today as power costs are becoming a big priority."

INTEL'S XEON AND ATOM CHIPS

Intel provides processors for the smaller and larger ends of the microserver spectrum for enterprises' lightweight workloads. The Intel Xeon processor E3 family offers a choice of node performance, performance per watt and flexibility, while the Intel Atom processor C2000 product family offers lower power and higher density.

The Xeon E3 1200 v3 chip features the highest single-threaded performance per node, better PCIe connectivity and graphic support, while the Atom processors C2000 and S1200 provide high-node density. The Atom processor C2000 product family is Intel's second generation 8-core, 64-bit Atom SoC. It provides up to seven times higher performance, eight times more memory capacity and up to six times better power efficiency than the Atom S1200 series, according to Intel. The C2000, at 5 watts, is similar to Xeon E3's 13 watts power consumption, but Xeon E3 family features x86-compatibility and includes datacentre-class features.

Even in the microserver category, there is no one-size-fits-all answer to system design and processor choice, says Feltham. Some microservers may have high-performing single-socket processors with robust memory and storage, while others have a far higher number of miniature dense configurations with lower power and low compute capacity per node. Intel pitches Xeon processor E3-based platforms for web-scale workloads requiring a highly dense infrastructure. The platform also boasts high performance demanding tasks in media, cloud or online gaming. Meanwhile, Atom C2000s are designed for lightweight scale-out workloads such as low-end front-end web and distributed memory caching.

"People think microservers are a solution to datacentre power problems, but that's not true," warns Feltham. "They also assume microservers are always cheaper, but that's false too."

Feltham says the cost of the processor should not be taken into account in isolation. The cost of management, the output derived from the processor and whether it meets the enterprise's IT needs on time all together determine the total cost, he says.

**"PEOPLE THINK
MICROSERVERS
ARE A SOLUTION
TO DATACENTRE
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CHRIS FELTHAM, INTEL

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STANDARDISATION OF INTEL PROCESSORS

But among the providers, Intel still controls this market, says Gartner's analyst Errol Rasit. While microservers previously focused on low power, he expects Intel's market presence will lead to high-performance microservers. Intel's processor technology is considered more advanced compared with ARM's architecture. "You get more peak performance per thread on Intel than on ARM-based chips," says Nebojsa Novakovic, a Singapore-based consultant at Computational Resource Centre.

Intel is also investing in Haswell 22nm process and Broadwell 14nm process, both of which are designed to optimise the power savings and performance benefits. Intel's Haswell line of chips are aimed at addressing enterprises' low-power needs to power cloud and mobile lightweight workloads, while the Xeon processor E5 2600 v3 family, code-named Haswell, is based on DDR4, which cuts more power consumption according to Intel.

Rasit says that, because most datacentres have invested heavily in the x86 architecture, adding Intel's own low-powered versions of microprocessors is easier for compatibility with the rest of the infrastructure, compared with an alternative chip such as ARM.

"When you look at its competition, those architectures are based on an open-source ecosystem and there is no standard architecture yet, while the mainstream x86 server market is standardised around Intel," says Rasit. "Standardisation, compatibility and the economies of scale give Intel an upper hand," he says.

"There is a growing market for low-power CPU architecture and that's where ARM is winning and that will be Intel's biggest threat," says US-based technology blogger Scott Wasson, speaking at an Intel workshop in August.

But according to Intel, standardisation can facilitate microserver innovation and it is working with companies, such as Tyan and Quanta, in the Server System Infrastructure (SSI) Forum to create the micro module server specification

According to Intel's Feltham, though, there is a lot of experimentation in the microserver market. "Some enterprises are testing and evaluating them but most CIOs are still interested in other IT priorities such as virtualisation and cloud computing," he says.

But Rasit warns: "Intel shouldn't be complacent because competitive architecture is very credible and giants such as Google will experiment with the alternative architectures powered by ARM." Despite Intel having a stronghold in the server market, the equation could change if Intel takes its eyes off the ball, he says.

As power usage of datacentre products is increasingly becoming a priority for enterprises, microservers could become more than a device to fill the gap between PCs and servers, or a system for small and medium-sized enterprises that need a server but aren't ready to invest in rack servers or blades, say experts.

"Intel must keep developing these architectures in parallel," says Gartner's Rasit. "Every piece of innovation from competition has to be taken seriously as there are some really credible and hungry competitors that are developing exceptionally good alternatives."

The commoditisation of the standard X86-based server market will remain Intel's bread and butter. However, Intel CIO, Diane Byrant, says that, with the launch of its Haswell and Avaton range of processors, designed for low-power computing, Intel may be moving from a "general-purpose compute provider" to delivering targeted systems for specific datacentre workloads. And Intel's existing grip on the datacentre infrastructure could play a strong role in swaying users to adopt its own versions of low-power processors than alternative options. ■

**"EVERY PIECE
OF INNOVATION
FROM INTEL'S
COMPETITION
HAS TO BE TAKEN
SERIOUSLY"**

**ERROL RASIT,
GARTNER**

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LARGE SUPPLIERS TARGET OBJECT STORAGE AT CLOUD AND ARCHIVE

Object storage can handle large amounts of unstructured data, so can it meet organisations' growing needs? Manek Dubash looks at the products available



THINKSTOCK

Object storage is an increasingly important category of storage, with nearly all the big suppliers jostling in the space, along with numerous smaller players. With its ability to handle large amounts of unstructured data, object storage fits the bill for some of the key storage challenges facing organisations. So, what are the benefits of object storage and what products have the big players brought to market?

Traditional file systems are based on blocks and files, storing data in hierarchical, tree-like directory structures. As the number of files and users grows, so does the number of directories and, with it, the complexity of the tree structure.

As a result, it takes ever longer to locate a particular file. There comes a point where this hits performance significantly or the file system reaches the limit of the numbers of files, directories and hierarchy levels it can manage.

Object storage systems were designed to resolve this problem. Implementations vary and there is no single recognised definition, but they do share several broad attributes.

Files have no meaning in an object-based storage system. Instead, all data is broken down into objects addressed by a unique identifier and stored in a flat address space – there are no subdirectories. Objects are retrieved using the identifiers contained in an indexed database and assembled at a higher level into meaningful data, such as files.

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Objects consist of metadata, which provides contextual information about the data, and the payload or actual data. In file-based storage systems, metadata is limited to file attributes, but metadata in object storage systems can be enriched with any number of custom attributes.

But very large systems, object stores and their associated databases are often distributed across multiple geographies (often using techniques such as erasure coding), which makes traditional access protocols such as common internet file system (CIFS) and network file system (NFS) unsuitable.

Instead, access is usually via a representational state transfer (Rest) application programming interface (API) over the hypertext transfer protocol (HTTP). Commands sent over HTTP to object storage are simple: "put" to create an object; "get" to read an object; "delete" to purge an object; and "list" to list objects.

WHY OBJECT STORAGE?

The consolidation of data into ever-larger storage systems – a trend accelerated by the growth of cloud computing – has highlighted the limitations of traditional file storage systems.

Object storage works well as a highly scalable data store for unstructured data that is updated infrequently, so it is well-suited to cloud-based file content, especially images and videos. It is not so well suited to transactional data, such as database queries, because of its slower throughput.

Web-scale companies such as Facebook and Google hit the limits of block and file storage some time ago, and now use object storage to surmount performance and capacity barriers.

They are not alone. Cloud storage providers are among the most eager adopters of the technology, using it to improve performance and scalability at the back end, and to ease access for users at the front end through multi-tenancy features.

BIG SUPPLIERS' APPROACHES TO OBJECT STORAGE

EMC: Atmos Cloud Storage is the company's mainstream object storage product line. It is aimed at multi-tenant environments and offers a global namespace, distributed architecture, Rest API, metering and chargeback.

Connectivity is via HTTP, central authentication service (CAS), web services and file-based access. It can be deployed as one of two hardware-based editions – the Light Edition for single locations and the Complete Edition for distributed locations – and as a virtual appliance for VMware environments.

The Atmos active/active architecture offers automatic replication for easier scalability, as well as versioning, compression, data deduplication and disk drive spin-down.

The hardware versions are all 40U or 42U systems. The WS2-120 permits up to 360TB from 120 3TB 7,200rpm SAS disks, the WS2-240 doubles the numbers of disks and total capacity, and the WS2-360 trebles the number of disks for a total capacity of 1,080TB. The two smaller configurations provide space for other computing systems to co-exist in the same rack, but the WS2-360 does not.

The 40U Atmos G3 series was launched in December 2012 and includes support for Amazon's S3 API. It is split into four editions, each with increasing levels of density and capacity. The densest – the Dense-480 node – comprises up to eight nodes, each housed in a 4U enclosure and carrying 60 disks, and eight servers interconnected via 10 gigabit Ethernet (GbE). When populated with 4TB disks, total capacity is 1,920TB.

Scalability is achieved by adding new systems and EMC says there is no capacity limit. It has not quoted performance figures.

EMC also offers object storage via its acquired Isilon product line (positioned as scale-out NAS), through Centera and in its ViPR storage virtualisation/big data environment.

OBJECT STORAGE IS WELL-SUITED TO CLOUD-BASED FILE CONTENT, ESPECIALLY IMAGES AND VIDEOS

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Dell: The company's DX object storage hardware platform was based on Caringo's CAStor. It switched to selling the product as software-only in 2013. Now, however, Dell's website points potential buyers to its Compellent SC8000 Storage Center Controller, a traditional storage area network (SAN) product, which seems to indicate the company no longer sells object storage.

Hitachi Data Systems: The Hitachi Content Platform (HCP) is a distributed object storage system aimed at public and private cloud providers to enable data-sharing, synchronisation, analysis and retrieval.

The system uses redundant nodes – Hitachi CR220 servers – and provides support for multi-tenancy with the ability to subdivide each tenancy into multiple namespaces, and for multiple protocols and scalability up to 80PB. Each server includes five disks in a Raid5 configuration.

Entry to the HCP series starts with the HCP 300, with a minimum of four and a maximum of 20 nodes connected over 1GbE and offering up to 140TB. The highest capacity of the five-strong series is provided by the HCP 500XL, which comprises up to 80 2U nodes with four 10GbE and two 4Gbps fibre channel (FC) ports.

The system is accessible using a Rest API, as well as traditional protocols such as NFS and CIFS. Uniquely, simple mail transfer protocol (SMTP) is also provided to allow email archiving.

Configurable data protection by redundancy provides for up to four copies of each piece of data, along with continuous data integrity checking. It has data retention policies and write-once, read-many features for compliance, and data shredding where appropriate.

Archiving features include disk spin-down and tiering, and versioning over HTTP Rest only. Metadata search is integrated into the system.

Security features include layered access control for administrative, tenancy management and user purposes. Tenants' passwords are inaccessible to system administrators.

HP: Bringing together HP's StoreAll 9320 and 9730 storage systems with its StoreAll 8800 storage node, the StoreAll 8800 series was launched in December 2012 and is aimed at firms that need to store and access archives of unstructured as well as production data.

It uses an object store to manage a maximum 16PB of capacity with billions of objects, scaled by adding nodes and controllers, in what HP describes as "a single hyperscale, economic, ultra-dense appliance".

Disks are arranged in multiple pairs of nodes, each node consisting of a 2U enclosure accessible over a range of protocols including HTTP, WebDAV, Rest API, OpenStack object storage API, NFS, CIFS and file transfer protocol (FTP). In each 2U enclosure are 36 or 70 7,200rpm SAS disks up to 4TB capacity, depending on model. Network connectivity is over 10GbE, with 1GbE ports provided for management purposes.

Features include snapshotting, replication, data deduplication and policy-based data tiering and retention, plus continuous data integrity checking. Using technology from the firm's acquisition of Autonomy, the system also includes automatic indexing and fast retrieval of data for analytic purposes, and aims to provide real-time access to, and querying of, data.

IBM: The supplier offers two routes to object storage. It does not yet produce an on-premise system itself, but has pledged to do so. The first route is its Elastic Storage software, launched in May 2014. The technology is based on IBM's General Parallel File System (GPFS) and the Watson supercomputer. It uses Watson's cognitive technology to handle workloads

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generated from cloud, analytics, mobile and social media, and can be deployed on-premise or via IBM's SoftLayer cloud.

In similar fashion to EMC's ViPR, it works as a control plane that offers block, file and object storage access with automated tiering, guided by analytics, using patterns, storage characteristics and the network to determine where to move data. It also includes automated backup and snapshots, using one copy of the data for snapshots and their replication, so reducing storage consumption and costs.

Elastic Storage sits above OpenStack Swift, so users can access and manage data across private and public clouds. Open-source OpenStack Swift is accessed through a Rest API and can scale horizontally to petabytes of data through the addition of nodes, which typically equate to servers.

IBM's second route to objects is SoftLayer's object storage-as-a-service offering. SoftLayer was acquired by IBM in 2013 for its cloud-scale technology. Charged on a gigabytes-per-month basis and scalable as required, the service is aimed as those that want to store static data such as virtual machine (VM) images, media and email archives.

SoftLayer claims every facet of its platform can be automated and controlled by a single management system with its own API. It can be managed and controlled using a number of access technologies. Developer access is via a Rest API; customer access is via a web portal or mobile application.

The API provides more than 2,200 documented methods across 180 discrete services, and supports, among others, SOAP and XML-RPC interfaces, which SoftLayer says provides full customer access to all the services available to the service provider. The search service allows requests to search an entire account, a particular container or a specified path, based on the URL entered at the time of search.

Higher-level management is provided through a customer web portal that enables server and storage control, performance metrics and account management. A mobile application supports ticket creation, basic server management and bandwidth monitoring.

For security, SoftLayer offers a multi-layered approach, with IPS and IDS for the network and servers, and detailed scanning and logging capabilities. Security services include Citrix NetScaler's ICSA-certified Layer 7 attack signature detection, McAfee anti-virus, endpoint protection, data encryption and malware detection, and Nessus Vulnerability Scanner.

NetApp: In 2010, NetApp acquired Bycast, a developer of object-based storage software whose technology is now the basis of NetApp StorageGrid. NetApp combines the StorageGrid software as a VMware-based virtual appliance with NetApp E-Series storage systems to offer an object storage appliance.

The system provides a distributed global namespace with automated, policy-driven data lifecycle management, and is aimed at organisations that need to store and manage archived data, especially large datasets. Hardware support is offered for NetApp's E2600 Series controllers, DE1600 and DE6600 shelves with 2TB or 3TB NL-SAS drives, and 500-plus tape drive, robotic library and autoloader products.

Features include versioning, rules-based AES-256 or SHA-256 encryption, compression, and provision for multi-tenant gateway deployments. It provides a notification feed for third-party application billing and QoS monitoring, along with an audit feed for chargeback, search integration, security diagnosis, compliance events and customised reporting.

Access is provided both via traditional protocols such as NFS and CIFS, as well as native object command sets over an HTTP API. ■

SOFTLAYER CLAIMS EVERY FACET OF ITS PLATFORM CAN BE AUTOMATED AND CONTROLLED BY A SINGLE MANAGEMENT SYSTEM

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SUCCESSFACTORS IS REWRITING HUMAN CAPITAL MANAGEMENT

SuccessFactors was bought by SAP in 2011 and, since then, it has been pushed into a new league. Jamie Lawrence reports on the company's rise to success

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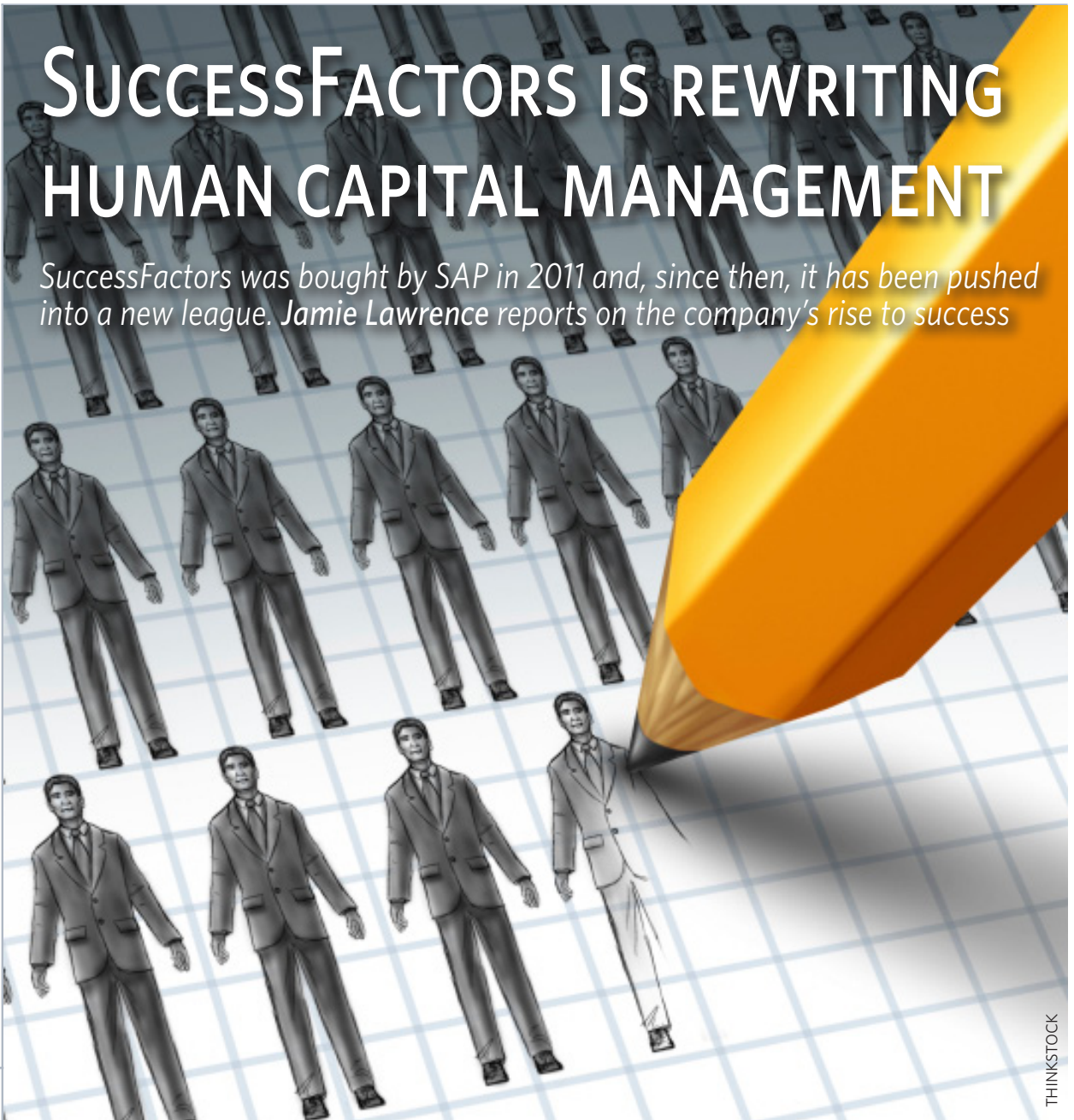
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 **THREE SUCCESSFACTORS SOFTWARE DEPLOYMENT MODELS**

 **EXTENSIBLE SUCCESSFACTORS HCM SUITE SHINES ON USABILITY**



THINKSTOCK

Little more than a decade after it was set up, human capital management (HCM) software company SuccessFactors was bought by German computer giant SAP in December 2011. Lars Dalgaard and Aaron Au founded SuccessFactors in California in 2001. In 2007, the company went public and was rebranded in 2009 as a provider of business execution software so it could appeal to a broader market.

SuccessFactors became the first triple-listed technology company when it moved to the New York Stock Exchange, NYSE Euronext and the Frankfurt Stock Exchange in July 2011. But SAP's acquisition of the company pushed it into a new league. Founded by two ex-IBM employees, SAP is one of the largest software companies in the world. It made its name in mainframes before the enterprise shifted towards client-server technologies and the internet.

"SAP has proven, over 40 years, the ability to embrace and deal with change," says Thomas Otter, vice-president of product management at SuccessFactors. "SAP has bought companies, such as Ariba and SuccessFactors, because they bring in new sets of ideas and people to challenge how we're doing things, and that's important."

With SuccessFactors, SAP had to adapt to the demands of a new market – the cloud. Response to the acquisition was mixed. Many people, including analysts at Standard & Poor's, thought SAP had overpaid – the \$3.4bn selling price of SuccessFactors represented

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a 52% premium on the share price, or 10 times the company's revenue in 2011. Others wondered what SAP would do to SuccessFactors' culture of innovation and fast growth.

GLOBALISATION

More than three years later, it is clear the acquisition has helped SuccessFactors. The company added functionality for 10 new countries to its February 2014 update, which would not have been possible without SAP's decades of intellectual property and local-level experience. SAP also has a globalisation services department that discovers the effects of legislative changes on the compliance environment.

The acquisition has also been good for SAP. SuccessFactors had previously bought fledgling social platforms Jambok and Cubetree and reworked them into Jam, its own social layer. This functionality now runs through the SAP product portfolio.

"When I heard SAP had bought SuccessFactors during the project period I was concerned," says Mark Martin, who implemented SuccessFactors as a learning management system during his role as HR director at Direct Line Group.

"I believe SAP has played this acquisition well. It has provided support where requested and given SuccessFactors the freedom to continue its evolution. I hope this continues and SAP does not give in to the temptation to integrate or kill off SuccessFactors, and try to pretend it has transformed into the 'new age' business that SuccessFactors was. So far, so good."

**"SAP HAS GIVEN
SUCCESSFACTORS
THE FREEDOM TO
CONTINUE ITS
EVOLUTION"**

**MARK MARTIN,
DIRECT LINE GROUP**

INCORPORATING SUCCESSFACTORS INTO THE BUSINESS

Mark Banbury is global CIO of children's charity Plan International, which operates on a big scale, working in 58,000 communities with more than 600,000 volunteers.

"Oracle was never an option for us - we have no Oracle expertise in-house," says Banbury. "We evaluated Workday, alongside an SAP and SuccessFactors hybrid system. Overall, the SAP and SuccessFactors system provided more functionality. It closely met our business needs and could be configured to work in the variety of countries we operate in."

Banbury says one of the other deciding factors came down to performance management. Workday brought a partner to the table but it would not front a single contract for one system, unlike SAP and SuccessFactors.

"We already run an SAP financial system for our finance, grants, and projects, and we wanted to provide future integration, including an aligned authorisation and organisational hierarchy tree that could be more easily accomplished with SAP and SuccessFactors," says Banbury.

He adopted the agile approach to configuration and roll-out, which helped engage the business owners. Showing them standard system features during the initial project phases helped with overall buy-in.

"The SuccessFactors consultants we spoke to were keen to understand any unique needs we had as an organisation and, during each of the three design and configuration iterations, were able to discuss and agree the best options for the company," says Banbury.

"It went smoothly. First, we implemented a particular module at our international headquarters, where we could test it on 200 employees, before rolling out each module to the full 10,000 employees. Our approach was to configure, not customise, and SuccessFactors lent itself to that approach. It included built-in best-in-breed processes, and we adapted our business to these processes."

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TECHNOLOGY PROFILE

SuccessFactors is a cloud-based, multi-tenant system that serves an isolated application instance for each customer, which improves security and helps prevent customer data from mixing. The product is built on a hybrid database approach designed to enable configurability and scalability – at least two of SuccessFactors' customers have more than a million employees.

While all customers use an identical database schema, customer data is segmented at the database level, which allows configuration by redefining the relationship between different schema objects using a combination of XML objects and the Meta Data Framework.

PRODUCT DEVELOPMENT

The company is customer-centric and market-sensitive. "We must find a balance between listening to customers and understanding their needs and deriving from those needs what we need to build to be ahead of the market," says SuccessFactors' Otter.

That culture also drives product development. SuccessFactors' engineering team remains relatively unchanged since its acquisition by SAP.

"A couple of years ago, customers weren't asking for iPads. This was driven by the thought of an engineer, not necessarily customer feedback," says Otter.

"As a product manager you need to be listening intently to your major customers, synthesising their messages while looking and questioning whether there is a better method of working. You need to get that mix from listening to customers and beating your own innovation path."

FINANCIAL PERFORMANCE

Before its acquisition, SuccessFactors had a revenue of \$324m but was not profitable, which is partly why SAP was criticised for overpaying. Since the acquisition, SAP has not published separate financial data for the SuccessFactors portfolio. According to SAP's first quarter of 2014 earnings statement, the company earned \$219m from cloud subscriptions and support, a 60% year-on-year increase. This figure includes revenue from all SAP's cloud-based products, not just SuccessFactors. The bulk of revenues from cloud models come from long-term subscriptions, so companies offering software as a service should see greater returns further down the line than those selling software as a product.

FUTURE CHALLENGES

Customer Mark Banbury, global CIO at children's charity Plan International, says SuccessFactors must work towards a more robust core HR module. Plan International chose SAP's on-premise Rapid Deployment Solutions (RDS), rather than SuccessFactors' Employee Central, for its core HR activities, including organisational management, and time and absence management.

"Employee Central was not strong enough in the areas of time and absence, compared with SAP RDS," says Banbury. "Integration needs to occur between the two systems and the cost of maintaining the two

separate systems is something we would like to eliminate in future. SAP and SuccessFactors need to integrate the functionality of what has been on-premise into the cloud-based Employee Central as SAP follows its strategy of moving core apps to the cloud.

"We suspect that, within 18 months, Employee Central will be capable of replacing the core SAP human resource management system module, which we host." ■

THE BULK OF SAP'S REVENUES FROM CLOUD MODELS COME FROM LONG-TERM SUBSCRIPTIONS



- > FIVE SUCCESSFACTORS EMPLOYEE CENTRAL MYTHS BUSTED
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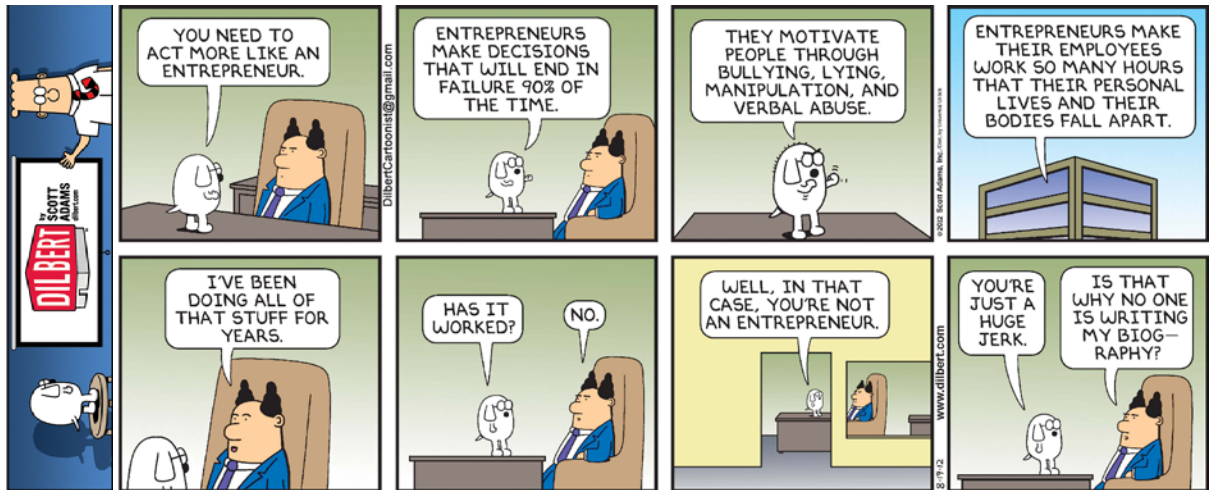
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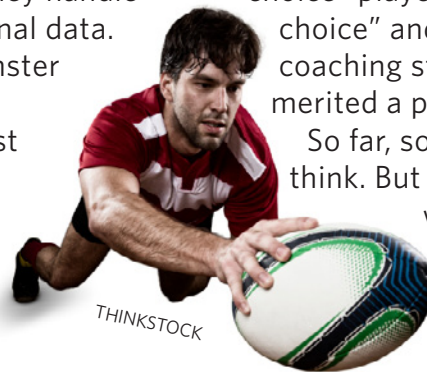
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Rugby team in colossal email balls-up

When Computer Weekly reports data breach stories there is an implicit presumption that the breach is a bad thing, but an example from the world of rugby union could give HR departments pause for thought in how they handle employees' sensitive personal data.

Players for IRFU club Munster Rugby opened their weekly schedule email as usual, just days before the first game of the Guinness PRO12 season, to find some distinctly unusual content. Instead of the administrative arrangements intended for the squad, the team's management had mistakenly sent a confidential player review document, featuring coaches' unvarnished appraisals of their players' performances.

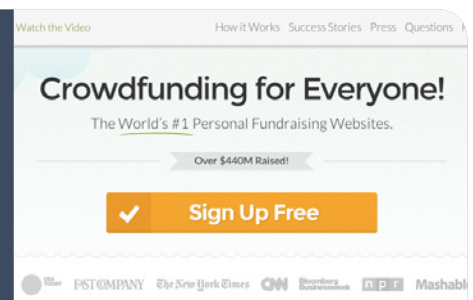


One senior player was purportedly described as being "on the gravy train", another considered "mentally weak", while a third was described as having a "sloppy lifestyle". The document revealed members of the squad considered "first choice" players, those deemed "second choice" and discussions among coaching staff over whether one player merited a place on the squad at all.

So far, so disastrous, you might think. But just two days later, Munster went on to trounce London Irish 17-5 in a pre-season friendly, leading one pundit to observe that - far from destroying team morale - the leaked document and its candid observations appeared to have hardened the team's resolve, spurring it to begin the season with an unprecedented hunger for achievement. ■

CROWDFUNDING TERMINATION

The crowdfunding site GoFundMe has landed itself in hot water numerous times in recent months. In August, it allowed a fundraiser on the site to continue, which was raising money for Darren Wilson, the police officer who shot an unarmed black teenager in Ferguson, Missouri, leading to days of public unrest. The site has also permitted drug users to keep fundraisers funding their addictions. But last week, when a "broke" 23-year-old woman set up a page requesting \$2,500 (£1,550) for an abortion, the site bowed to complaints and removed the entry, saying it did not want to be associated with the campaign. In light of the, er, aborted fundraiser, the company may want to add an appendage to its erroneous slogan, "Crowdfunding for everyone!", explaining that appeals should abide by the demands of America's pro-life lobby.



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