It's time to get serious about endpoint security

With billions of devices joining corporate networks every year, securing the endpoint has never been a more pressing challenge to IT security professionals.
Microsoft to cut 18,000 jobs by mid-2015
Microsoft is to cut 18,000 jobs next year, with the acquired Nokia business bearing the brunt of its strategy to change. A total of 12,500 cuts will be made in professional and factory positions eliminated through the alignment of the Nokia business with Microsoft’s main operations. The company said staff affected will be notified over the next six months, with the cuts completed by the end of June 2015.

NAO criticises GDS IT savings method
The National Audit Office (NAO) has criticised the Government Digital Service (GDS) over its approach to calculating IT savings made by the current government. The NAO report looked at savings methods made by the government’s Efficiency and Reform Group (ERG) between 2013 and 2014. It pointed to GDS as an area where the ERG could improve.

Shropshire primary school claims first all-802.11ac Wi-Fi network
A Telford primary school has become the first educational establishment in the UK to deploy a full 802.11ac Wi-Fi network to support its mobile classroom strategy. Windmill Primary plumped for the all-802.11ac system – supplied by Xirrus via local partner TechLab – to prepare for a major deployment of mobile devices among 360 pupils aged four to 11.

BRAZIL’S WORLD CUP HUMILIATION SOFTENED BY TWITTER SUCCESS
Despite being outclassed in the semi-final by eventual World Cup winners Germany, host nation Brazil can take some solace in the fact that its team was the most tweeted about in the finals, according to a data analysis app from Tata Consultancy Services. A total of 19% of World Cup tweets mentioned Brazil, while winning nation Germany accounted for only 7% of the action on Twitter.
Data privacy
Drip data law a serious expansion of surveillance, say experts
The emergency surveillance legislation being rushed through UK Parliament could be in breach of European law, 15 technology law experts have warned. The controversial Data Retention and Investigatory Powers (Drip) bill is “a serious expansion” of the surveillance state, the group of UK academics said in an open letter to Parliament.

Public sector IT
Labour asks suppliers to share their thoughts on public sector IT
As part of the Labour Party’s review into digital government, suppliers have been asked to share their top public sector technology priorities. Labour’s ongoing Digital Government Review has published the submissions, providing an insight into what suppliers, large and small, would like to see in the event of a Labour government next year.

Data analytics
Imperial College and KPMG join forces with £20m business analytics centre
KPMG and Imperial College London have joined forces on a £20m KPMG Centre for Advanced Business Analytics. The project is to focus on business capital, growth opportunities, people, operations and resilience. The centre will also develop analytical methods and tools for exploiting big data.

Appointments
Ed Vaizey lands digital industries role
Culture minister Ed Vaizey has been handed a new brief following a reshuffle of prime minister David Cameron’s Cabinet. Vaizey’s appointment as minister for digital industries was confirmed by a tweet from Cameron’s official account. The newly created role will be split across the Department for Culture, Media and Sport and the Department for Business Innovation and Skills.

Green IT
Microsoft signs 20-year wind energy deal to power datacentres
Microsoft has signed a 20-year power purchase agreement (PPA) for wind energy with EDF Renewable Energy – its “largest wind investment to date”. From 2015, Microsoft will purchase up to 675,000MWh of renewable energy each year to power its IT facilities.

IT suppliers
HP staff vote to refuse to co-operate in relocation knowledge transfer
HP staff working on contracts with the Department of Work and Pensions and the Ministry of Justice will refuse to co-operate with a knowledge transfer as 400 jobs are moved from bases in north-west England. HP is centralising work in north-east England and Erskine in Scotland as part of a cost-cutting plan.

79% of businesses consider cloud in IT strategies
Response to the question: Does your company include consideration for cloud services within its wider IT strategy?

Yes 79%
No 21%

Source: Cloud Industry Forum
Apple crashes enterprise party with IBM services and software hook-up

An enterprise mobility partnership between Apple and IBM based on iOS offers big advantages for both – and for IT departments too. Cliff Saran reports

Apple has gained a major enterprise boost through a partnership that will see IBM provide services and software for Apple’s iOS operating system. Supporting Apple devices such as iPads and iPhones in the enterprise is a challenge for IT departments. Custom support from Apple is costly, and enterprises have to rely on specialist resellers if they wish to integrate iOS with existing enterprise IT.

Through the partnership, IBM will introduce MobileFirst Supply and Management, an IT service that offers device supply, activation and management services for iPhone and iPad. The service will also enable organisations to lease the devices, software and services.

IBM is also developing a product called MobileFirst Platform for iOS, which will deliver the services required for an end-to-end enterprise capability, from analytics, workflow and cloud storage, to fleet-scale device management, security and integration.

The platform will offer mobile management, a private apps catalogue, and data and transaction security services. IBM will also develop a productivity suite for iOS. The products and services will be available on IBM’s development platform – Bluemix – and the IBM Cloud Marketplace.

**Big data meets consumerised IT**

Ginni Rometty, IBM chairman, president and CEO, said: “This alliance with Apple will build on our momentum in bringing these innovations to our clients globally, and leverages IBM’s leadership in analytics, cloud, software and services.”

Apple CEO Tim Cook said: “For the first time ever, we’re putting IBM’s renowned big data analytics at iOS users’ fingertips, which opens up a large market opportunity for Apple. This is a radical step for enterprise and is something that only Apple and IBM can deliver.”

Apple has been making steady inroads into business IT due to the popularity of iOS among employees. “When people talk about consumerisation in the enterprise, it is the use of Apple devices,” said Rob Bamforth.

“Apple has great devices, but doesn’t have an enterprise story and is not good at stitching technology together, which is what IBM is good at. When you can integrate mobile technology tightly, it can power business transformation, which is the type of services IBM offers already.”

**Apple’s business credentials**

Speaking to Computer Weekly prior to the alliance, Dale Vile, founder of analyst Freeform Dynamics, said Apple had resisted...
the idea of being a business player for a few years, so it got away with a lot in terms of supporting the IT department. “This meant Apple was appalling at providing IT support compared with other players, such as Microsoft and Oracle, and companies that provided businesses with technical information available to IT departments or bug reports and fixes,” he said.

But the partnership with IBM changes Apple’s credentials in the enterprise.

Commenting on the alliance, Forrester analyst Frank Gillett said: “Apple has been dragged into the enterprise by individuals who want the same mobile convenience at work as in their personal lives, but it has resisted servicing enterprises for fear of losing its famed focus on top-quality user experience.

“But the rise of the mobile mind shift – the expectation of solving problems on the go from a mobile device – has compelled Apple to partner with IBM to address enterprise needs fully.

“The Apple/IBM partnership is a landmark agreement. Given IBM’s market strength and coverage, this partnership gives Apple enterprise capabilities and credibility at one stroke, and gives IBM a premium advantage in the race for mobile enterprise leadership. Look for Google and leading enterprise suppliers to seek partnerships that offer a credible alternative.”

### One-stop shop for enterprise iOS

Until now, organisations needed to purchase mobile device management (MDM) software from companies such as MobileIron and AirWatch. For instance, Great Ormond Street Hospital is using iPads with MobileIron to deploy policies and standards to enforce security and block apps that might be a security or governance risk.

The IBM/Apple partnership will offer enterprise IT a powerful alternative to third-party MDM software and enable IBM to offer its analytics tools on iPads and iPhones. It is the biggest deal between the two firms since 1995, when IBM fell out with Microsoft and started working with Apple on the Common Hardware Reference Platform (CHRP) for PowerPCs.

The current deal looks good for both parties. IBM brings enterprise systems while Apple brings a formidable platform in the iPad and iPhone. However, enterprise mobility is more than just the device.

Bola Rotibi, research director at Creative Intellect Consulting, said the Apple deal fits alongside a number of acquisitions that IBM has made, including Fiberlink and Trusteer, which gave it device management, anti-fraud and security as a service.

“Capex covered

The cost of deploying Apple devices on a large scale can easily overstretch some organisations, so the finance option is a smart move for IBM, because Apple devices are expensive, especially when you include MDM software and services, she said.

“This will take the financial pressure off enterprises. Businesses appreciate the ability to offset upfront costs,” Rotibi added.

The deal could also be good news for IT departments struggling to support the growing number of iOS devices being used in the workplace. It could potentially drive the adoption of industry-specific applications developed for iPads and iPhones.

However, the two companies are culturally very different. And the challenge for IBM and Apple is making it all work together.

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**“This gives Apple enterprise capabilities and credibility at one stroke, and IBM a premium advantage in the race for mobile enterprise leadership”**

Frank Gillett, Forrester
Financial technology startups launch outside London to avoid higher costs

When a man is tired of London, he is tired of life, but this may not be the case for fintech startups thriving outside the city, say experts. Caroline Baldwin reports

London’s booming financial services sector is the biggest in the world. It is what makes the city such an attractive place for financial technology (fintech) suppliers to set up business. Throw in the culture and job opportunities, and London is the first place a startup supplier would think of setting up shop.

Gordon Innes, CEO of London & Partners, told the 2014 UK Fintech Industry Summit that people compare London with multiple US cities combined. “In America, you may have to visit New York for media companies, Washington for regulators and Chicago for services, but you can do that in one day with a single Tube ride in London,” he said.

Leaving London

But when it comes to the costs of setting up a business, London dwarfs the rest of the country. Some companies even prefer basing themselves outside the capital to benefit from much lower costs.

Barclays is another bank aware of the need to innovate using smaller fintech companies. It recently launched its own accelerator programme in the heart of east London, which is known for its startups.
Andrea Leadsom, MP and economic secretary to the Treasury, told the summit the fintech industry needs to be UK-wide, not just London-based, to encourage economic recovery: “Don’t just think about London – think about the north, the west, the Midlands, the south west.”

But Nektarios Liolios, managing director of London-based Startupbootcamp, was not so sure. He said startups need support and a community in which to thrive, along with access to customers and investors in London.

“In the US, the exciting early fintech firms don’t come out of the Valley, but New York and Boston,” he said. “In the UK you don’t have pockets of financial activity elsewhere. If you want to make it big in the UK, you might start more regionally, but you will have to come to London eventually.”

However, Eric van der Kleij, head of Level39 in Canary Wharf, said it does not matter where fintech startups are based. He highlighted Manchester, Scotland and Northern Ireland as locations that have been strong for fintech companies.

“Across the UK we have talent pools, but most tend to use London as a springboard to make it easier to connect with people flying in from abroad,” said van der Kleij.

Connections with London
Van der Kleij wants the fintech sector to be UK-wide. His startup accelerator, Level39, is one of three fintech-focused incubators in the UK, all based in London. Given that the UK’s financial services and technology sector account for 14% of the country’s GDP, he thinks this is ridiculous. “Let’s start another tech sector elsewhere in the UK and connect them,” he suggested.

Cleary highlighted Northern Ireland as a fintech cluster, with Citi Group and the New York Stock Exchange setting up offices there, while fintech firm First Derivatives has created 484 jobs in County Down.

But he said communications with London are key for the success of clusters outside the capital.

“We’re big advocates of the potential of high-speed rail line HS2,” he said. “But it’s about access to markets in general. Your client may not be in London, they may be anywhere around the world, so it’s about having access to international airport hubs.”

Russ Shaw, founder of Tech London Advocates, also hopes HS2 will lead to a better connected UK. Plans to extend the rail network with an HS3 connection, between Manchester and Leeds, could also lead to a fintech hub emerging in the north over the next decade.

Shaw said Leeds has a history of banking and credit agencies and he is noticing several fintech companies growing in the area. He said areas such as Leeds, with existing talent pools, will produce the best home for these fintech startups.

“Those cities will have people with the talent and skills who understand financial services really well,” he said. “Because those experts are on the ground, the companies will follow where the talent is going.”

But Shaw does not expect Leeds to become as big or as vibrant as London. “I don’t think Leeds will replicate London, but if the two cities are connected, that’s a good thing.”

UK FINTECH FIRMS AND SCOTTISH INDEPENDENCE
Experts at the UK Fintech Industry Summit said financial technology (fintech) firms could thrive in Edinburgh and Glasgow, but warned that Scottish independence may change this.

Mark Boleat, chairman of the policy and resources committee for the City of London Corporation, said the UK also faces uncertainty over its future as part of the European Union.

He said these two political minefields will become a factor in corporate location decisions: “At present that’s having a minimal effect. People aren’t packing their bags and leaving, but people thinking of expanding to the UK or Scotland have to factor that in.”

Uncertainty is a consideration, said Boleat, but that uncertainty is currently trounced by the benefits of living in the UK.
Port facilities company exploits ERP to diversify into a services colossus

As traditional markets shrunk, facilities firm PD Ports used ERP to expand into a services company striding all aspects of the business, writes Lindsay Clark

Industrial decline had beset north-east England for more than half a century but, in 2010, the UK government announced £75bn investment in offshore wind energy in the North Sea. Suddenly, for companies supporting industry in the area, there was an opportunity to reverse the slide.

For cargo-handling company PD Ports – which runs ports in Teeside, Hartlepool, Hull, Immingham and Felixstowe – capitalising on such opportunities means getting an integrated view of the business. “The IT function was segregated into a different division: every local business had its own IT solution,” says Marco van den Bremer-Hornsby, IT director at PD Ports. “We did not really have a proper ERP system.”

PD Ports boasts £129m annual turnover, but saw its traditional markets in chemicals and heavy industry dwindling. As a countermeasure, the business diversified to support the retail sector and renewable energy with a range of services, including port facilities, road transport and warehousing.

IT tools to grow the business
But to realise its ambitions and grow the business, it needed enterprise resource planning (ERP) to integrate the different functions, says van den Bremer-Hornsby.

PD Ports opted for IFS, middleware from Aurea (technology formerly offered by Progress Software) and Microsoft, and a best-of-breed warehouse management software system, JDA Dispatcher, formerly known as Red Prairie Dispatcher. The combination was selected because of IFS’s strengths in asset management and projects management, says van den Bremer-Hornsby.

But a big-bang implementation, using an external service provider, would not improve organisational capability as the software went live, says van den Bremer-Hornsby.

Instead, he opted for a module-by-module, department-by-department approach, using external help on a piecemeal basis.

He says it was vital the business units understood the importance of the project – and their own processes – to the whole organisation. “Previously, every function bought systems for their use only. Nobody spoke across borders,” he says.

“We never really understood the concept of process thinking. We were a very physical organisation: things happened outside, on the docks and trucks.

“Administrative processes demand you look at them with different procedures from the physical – and we needed other techniques for that.”
Success starts with failure

Introducing the first module to HR, van den Bremer-Hornsby was happy to see this effort fail – to learn a valuable lesson.

“It demonstrated that, by treating this as IT – and implemented as maintenance – it would not deliver any value to human resources,” says van den Bremer-Hornsby.

“That gave the understanding that we needed to treat these as business projects, not as IT projects. Then the business bought into process mapping. Now they are doing projects where they restructure their departments because of these exercises, without talking about IT.”

Now all departments have modules supporting HR, finance, procurement and engineering maintenance, where the business teams own functionality and are responsible for data quality and business intelligence.

“We can bump up all the services through the chain so no-one is waiting. There are fewer wasted resources and assets.”

Marco van den Bremer-Hornsby

Integrated ERP stops wasting assets

Having completed these back-office functions, the company is developing the integrated system to manage sales orders across ports, transport and warehousing.

Meanwhile, central visibility of sales supports a resource schedule for each order, from arrival at a port terminal to transport to a warehouse. These activities had previously been locally optimised, but now work together with a group-wide system, says van den Bremer-Hornsby.

“If a ship comes in late, we can reschedule the workforce for the terminal and also trucks, drivers and the warehouse,” says Bremer-Hornsby. “We can bump up all the services through the chain so no-one is waiting. There are fewer wasted resources and assets.”

The goal is to integrate back-office and sales systems with the best-of-breed systems that run ports, warehouses and transportation, using messaging and an enterprise service bus.

Expanding capacity at no extra cost

Engineering and warehouse systems can work together to optimise the use and maintenance of equipment, so each plant achieves higher availability and engineers have the capacity to service more equipment at no extra cost as the business grows.

Van den Bremer-Hornsby expects the sales system to be in use by the end of the year. Back- and front-office IFS systems will be integrated with specialist systems around the same time.

The project has doubled IT’s external expenditure and is costing several million pounds each year, although van den Bremer-Hornsby does not offer an exact figure. It includes new infrastructure, SANs and a datacentre. Now around 15 business services staff in the 30-strong IT department are dedicated to the project.

It is a colossal effort for a small IT team, but, for Van den Bremer-Hornsby, the investment is essential to allow PD Ports to work more efficiently and reach beyond its traditional, shrinking markets.
The Caravan Club enhances its IT to explore new areas of travel industry

IT chief Simon Hill talks about his responsibilities at The Caravan Club and how the business is outsourcing parts of IT to the private cloud. Karl Flinders reports

What do the corporate giants Shell, BP and Guinness Brewing Worldwide have in common with The Caravan Club? The answer is that Simon Hill, The Caravan Club’s IT chief, has worked in the IT department of all four.

He has also worked in IT for large UK public sector organisations, such as Surrey Council, and directed the Metropolitan Police’s Solution Centre for seven years, providing back-office systems to around 30,000 employees.

Hill joined Guinness on a graduate programme after gaining a degree in procurement and logistics. While there, he received hands-on experience implementing the SAP enterprise resource suite, something that has recurred throughout his career. He spent six years at Accenture working on SAP projects and became SAP programme manager at Surrey Council.

Moving to datacentres

Today he is in charge of IT at The Caravan Club as it embarks on plans to expand into new areas of the travel and leisure industry. The club, which has 360,000 members, runs leisure sites across the UK and offers insurance and other travel services. Its IT operation operates from a single room in the club’s office and a small space in a warehouse. But it is moving to dedicated servers in third-party datacentres.

Hill is responsible for all technology at the club, including head office and more than 160 sites across the UK. When he joined the company two years ago he inherited 14 direct reports and a department focused on supply.

“Recognising the need for change, I secured board-level support for my vision for the department and set up demand management, service delivery and project management teams,” he says.

“This means we are now more closely involved in value creation for the business, and I have been given the opportunity to help shape The Caravan Club’s growth strategy.”

He says the IT department is now more consultative. Rather than building what the business asks for, department staff discuss goals with managers before recommending IT systems that can support them.

“The IT department now discusses goals with managers”
The IT operation is split in three. One team manages the pipeline of demand for change, developing pre-project documentation, such as business cases. Another team is responsible for developing and delivering all non-property-related change, from small change requests through to multimillion-pound projects. And the third team ensures ongoing provision of IT services while looking to reduce cost and improve quality. The Caravan Club’s growth strategy is a major challenge, and Hill and the IT department are heavily involved.

“Through providing an initial drive by establishing and facilitating a number of strategic workshops with the club’s directors, I have been able to help define the key long-term themes for the club and ensure the IT department will be in a much better position to proactively anticipate business requirements earlier,” says Hill.

This year the organisation will outsource parts of its IT to T-Systems, in a move to private cloud, and support the expansion of the business. “Our ability to meet business demands is limited by the physical space available in our server rooms,” says Hill.

“When the migration to the T-Systems private cloud is complete, the future reliability and consistency of our infrastructure will be well beyond what would have traditionally been possible for an organisation of our size and budget.”

**Future projects**

Next year, Hill plans to focus on digital because there are several areas where business process, organisation and approach holds the club back from making the most of its digital assets. “This includes increasing efficiencies in content management, a customer-centric web experience and adapting to a mobile world,” says Hill. Because digital affects the entire organisation, Hill aims to ensure work on digital marketing, channel management and the product areas are joined up with a technical foundation, rather than worked on in isolation.

“Recently, I set up monthly innovation workshops to find opportunities to digitise and improve the experience of interacting with the club,” Hill says.

“Once areas across the organisation have contributed ideas, we can take steps in helping the business use digital.

“CIOs need to decide whether the focus should be on providing the traditional operational service or one of transformation – essentially whether IT stays clearly as a back-office support function or starts to move into and influence the front office,” says Hill.

Inevitable digitisation will be a challenge for CIOs, and they must be proactive in moving forward, he says. “A strong IT leader will want to position IT in a proactive role, leading, facilitating and enabling this transformation rather than waiting for different areas of the business to go in different directions.”

He set up the demand team in the IT department to change the business’s view of IT from a department that provides technology to one that understands the business strategically.

Hill thinks CIOs will also have to react to the increasing demands from the business to give it the IT it wants. “As the business expectation around speed of response and reliability of technology increases, together with cost-efficiency requirements, the CIO will need to provide as lightweight a governance framework for technology as possible,” he says.

This, Hill says, will help the business see IT as a key business enabler rather than an obstacle that seeks to slow change down so it can maintain control of the technical landscape and the security of customer and other sensitive data.
Demand for cloud and mobile reshaping supplier landscape

Sometimes events coincide fortuitously in a way that highlights the significance of major trends transforming the IT landscape – and we had a big one last week.

First, Apple and IBM announced a partnership that will see the biggest name in corporate IT developing enterprise-focused tools to support the customers of the biggest name in consumer technology.

The very next day, Microsoft announced plans to lay off 18,000 people as a result of its acquisition of Nokia.

The historical resonances stretch back 30 years, to when IBM and Microsoft jointly created the IBM PC and desktop computing transformed the IT world. The big loser from that deal? Apple – then an emerging player in personal computing that subsequently fell on hard times.

Now Apple is on the offensive – making its first tie-up with one of the traditional giants of corporate IT, helping IBM to offer mobile and cloud-based IT products and services based on the most popular smartphone and tablet technologies used in businesses today.

Microsoft, meanwhile, is struggling to protect its position in mobile, with a new CEO starting to preach a “cloud-first, mobile-first” strategy that it hopes will reverse its declining influence on end-user computing.

You could equally argue that IBM needs Apple a lot more than Microsoft needed Nokia. IBM has been late to the party on cloud, while Azure has established itself as the second biggest cloud service – although well behind market leader Amazon Web Services.

Both suppliers realise that users – both consumer and professional – want to use mobile devices connected to cloud services as the primary way to access personal and corporate applications.

IT leaders will have to assess which offering – Apple devices plus IBM cloud, or Microsoft cloud plus Nokia devices – is best suited to their corporate environment.

Old partnerships are being re-written. There will be some very big losers. The biggest winners will be the IT leaders who make the most of these dramatically shifting sands.

Bryan Glick
Editor in chief
The march of outside-in business IT

As users decide their own IT to the beat of cloud and consumerisation, CIOs risk losing their place in steering the organisation’s success, writes Kirt Mead

Traditionally, enterprise IT controlled the choice and supply of data technology in the firm and CIOs deployed business relationship managers (BRMs) as a sales force to understand users’ requirements and define their IT solutions.

The astute BRM aspired to be a full member of the business management team, participating in discussions about strategy and business change, not just IT. While enterprise IT provided various systems and services, the BRM promoted new technologies and partnered business colleagues, defining and implementing change.

Today, with cloud computing and consumerisation, the IT department is losing control of technology in the firm. Many support functions once served by enterprise IT – such as HR, email and travel – can now be supported more effectively from the cloud.

Core functions – such as sales, marketing, engineering and product development – are developing and owning their own technology, which they often see as more critical than enterprise IT’s back-office support.

Employees now expect to use technologies they are familiar with – hence the trend to “bring your own technology” (BYOT).

Advanced firms are now working more with outside partners, not just for technical and support functions, but also to acquire high-value intellectual property (IP) which they choose not to develop in-house.

Outside-in

These developments, which we collectively refer to as “outside-in”, affect every aspect of the business. And enterprise IT – whose traditional focus on complex, back-office systems and infrastructure usually makes it the most “inside-out” part of the firm – risks being pushed to the sidelines.

If enterprise IT is to retain a central role, its BRMs must raise their game and learn to operate effectively in an outside-in world.

They have to get out of the office and work closely with the entire business ecosystem – suppliers, partners, customers, regulators and others. They must shift from being relationship managers to digital leaders.

If they embrace outside-in, BRMs can help enterprise IT shift from simply building and commissioning systems to leveraging external resources such cloud computing, software as a service, BYOT, apps and open communities. This will require a host of new hard and soft skills, as well more expertise in security, governance and risk management.

Examples of outside-in IT

So how can enterprise IT add value?

Research suggests an opportunity in working with product and service development. BRMs in a market-leading train manufacturer established shared development platforms across the enterprise to ensure that on-board systems could work with cost management systems, allowing the firm to price its trains as a service, by seat/kilometre. BRMs in a European electric utility worked with marketing and service management to develop web-enabled services to assist customers in managing their electricity consumption.

Elsewhere, BRMs in a leading consumer goods manufacturer have developed a world-class business intelligence (BI) capability, working with outside partners and communities. They sell this service both to their own business units and to major customers, in return for a larger shelf-space allocation in the customer’s stores.
With organisations using a multitude of devices to connect staff and customers to a wide range of interlinking systems, securing the endpoint has never been a more pressing challenge to IT executives responsible for security. Personal computing devices, as well as specialist devices such as smart meters, are connected to corporate networks and chief information security officers (CISOs) face the challenge of ensuring each complies with the organisation's security policy.

It’s a big task. At the CW500 Security Club event in March, Neil Cassidy, deputy director of operations at CERT-UK, said 100 billion things with computing power could be connected to the internet by 2020. For the moment, IT strategies such as bring your own device (BYOD) programmes are enough to put endpoint security high on the CISO’s agenda.
The CW500 meeting of IT security leaders was convened to discuss the issue of securing the endpoint in a changing technology landscape. Nick Coleman, a fellow of the BCS, the Chartered Institute for IT, said the technology market was in flux, making the endpoint matter more than ever. “The IT landscape is changing, with a number of new suppliers you will not have worked with before,” he said. “This is a challenge, because you have to assure new devices and applications coming into the enterprise.”

Coleman said senior IT security leaders must develop new approaches to assure products that are appearing rapidly from suppliers that organisations have not worked with before. “The speed of the technology cycle is changing and we have to assure new versions that are coming quicker,” he said.

At the same time, more devices are connecting to the corporate network as part of the business process, said Coleman. “CISOs and IT departments have to deal with more and more things being plugged in and more and more apps trying to talk to them.”

He said a good example is smart meters, which are connecting to various apps, ranging from those used by utility firms to banking apps for payments. The government’s GB Smart Meter Implementation Programme aims to have more than 50 million smart meters installed in homes and businesses across the UK. The project’s aim is to enable gas and electricity consumption to be monitored, providing information to help consumers and businesses use energy more efficiently.

**MORE SECURITY ALERTS**

Coleman said changing business models, which increasingly rely on multiple devices and applications, will create more data and lead to more security alerts. These will, in turn, make it harder to spot malicious attacks. The main challenge will be to wade through the millions of alerts picked up by sensors to focus on, and prevent, the harmful ones.

“As we start to get more and more devices connected, security alerts will grow. From that we have to spot the real targeted sophisticated attacks that are going to cause us damage,” he said.

Security intelligence is moving to the endpoint, which is both the main vector for attacks and the vehicle helping an attack to move round an organisation. Coleman said CISOs must focus on security hygiene to disrupt incidents and security intelligence to spot significant risks: “In endpoint security, we must move on from just hygiene to hygiene and intelligence.”

He said there are security intelligence products coming to market backed by venture capitalists, which suggests the security supplies sector is moving in that direction. But he warned that picking up threats is useful only if informed decisions can be made. “When looking at products, dig a little deeper and look at how the security intelligence is presented,” he said.

David Prince, delivery director of cyber security at law firm Schillings, said BYOD and enterprise mobility is driving down business cost while improving business efficiency and effectiveness but, without proper planning, it also represents a threat.

**CONTROVERSIAL DATA**

He told the story of an unnamed customer that faced a crisis when a journalist called, claiming to have some controversial data about the company that could have been very damaging if revealed. Schillings investigated how the information could have got into the journalist’s hands and established that it probably got out through a worker having confidential data about the business on a personal device.
As is often the case, the crisis prompted the company’s top executives to address security, in this case the BYOD issue. “This caught the attention of the general counsel, the CEO and the board,” said Prince.

It was at this point that the executives realised the need for a strategy to manage endpoints, especially given the number of devices on the network and the overall lack of governance. Schillings began helping the company to put a proper strategy in place.

**BYOD strategy**

This project involved creating a BYOD strategy to address risk management, funding, deliverables and timescales. This informed the business policy on technology investment needs and staff education.

Prince said: “The overall strategy must be broken down into smaller tactical, measurable and achievable steps. Without this, you will not succeed when implementing a security strategy.” He said the company ran into problems partly because “it sat on the fence when it came to BYOD”. It is important for organisations to decide whether to do BYOD and then stick to their decision, he said. “In this case they were indecisive, so people exploited this and did it on their own.”

Ray Cabrera, security and compliance manager at mobile network provider Lebara Mobile, described the steps that should be taken to secure endpoints. He said companies often do not have a formal BYOD strategy in place with policy, technology and education.

“BYOD is a winning factor. There are a growing number of people asking IT, ‘can you connect my device to email?’” Because this gives access to confidential data, the security needs to be in place. He said IT plays an important role in mobile devices but the department is not always fully aware of the risks of BYOD. He said that, as a result, IT departments might organise the devices and connections, but might not get the policy right – or might not have a policy at all, if the department does not fully understand the risks and their consequences.

**Managing endpoint security on a budget**

Cabrera, like Prince, said companies have to make a choice whether to embrace BYOD or lock down. “We decided to embrace it,” said Cabrera. Once the decision was made, the company began securing endpoint devices.

The starting point is to inform staff that they have to look after their device and review what is being accessed. It is then that you should consult with senior leadership and start formulating policy and strategy.

“We then approached mobile device management (MDM) suppliers, some of which were very highly recognised by Gartner, like Airwatch and MobileIron. What we found with MDM suppliers is that they are a very practical, powerful way to manage emails on mobile devices, but they can be expensive and – when you are spending someone else’s budget – the benefits can be hard to get through.”

The additional costs are starting to make businesses look closely at the software it already owns to try and create a solution to meet its mobile device management needs. On closer inspection, many companies are starting to see they already have a lot of MDM capability through Microsoft Exchange and ActiveSync software.
As processor speeds increase, so the need to reduce latency between the CPU and data becomes ever more pressing. The answer to that need has seen the rise of local flash storage and PCIe flash systems. But if the boost in performance from flash is not enough, there is always the option of placing data directly into system memory. Keeping the data in random-access memory (RAM) – the system memory – delivers the fastest possible database performance, and is the premise of the in-memory database (IMDB).

What is an in-memory database?
In-memory databases put the working set of data into system memory, either completely – as in the case of systems such as SAP Hana – or partially, based on the identification of tables that will benefit most from dynamic random-access memory (DRAM) speed.

There is an obvious performance benefit in the reduced latency that in-memory databases bring. They even outperform heavily cached systems, which can only optimise database read requests. Yet in-memory databases are subtler than this. They provide an opportunity to optimise the way data is managed compared with traditional databases on disk-based media.

When all data is kept in memory, the need to deal with issues arising from the use of traditional spinning disks disappears. This means, for example, there is no need to maintain
additional cache copies of data and manage synchronisation between them. Data can also be compressed and decompressed in memory more easily, generating an opportunity for space savings over the equivalent disk copy.

So why not simply create a RAM disk in memory and move the database to this virtual volume to achieve similar results? While this could be done, the internal algorithms of the database would still manage data as if it were on disk and so perform tasks such as pre-fetching, caching and lazy writes. And that would be less than optimal in terms of performance and use more processor time.

Instead, in-memory databases have a logic that is specifically adapted to work with data in DRAM.

However, system memory is volatile, which means in-memory databases conform to only three of the four database characteristics laid down by the Acid model – atomic, consistent, isolated and durable. Durability cannot directly be served by in-memory database systems because data is lost in the event of power being removed from the server.

**Overcoming volatile memory shortcomings**
But there are ways of overcoming the problem. These include keeping additional copies of data in clustered and scale-out databases that allow systems to keep running by replicating updates to one or more standby systems.

Some database systems also periodically perform commits-to-disk to maintain state to a point from which recovery can be made in the case of a server crash. Here, there is a trade-off between the time between commits (and subsequent recovery) and the overhead the commit process imposes on performance.

Because of the perceived greater risk posed by in-memory databases over traditional online transaction processing (OLTP) databases, a degree of caution has been evident in the types of applications they are used for. As a result, in-memory database technology has largely been avoided for general OLTP applications, and targeted instead at specific data types or...
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Meeting the need for digital speed

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analytics requirements (including batch reporting) where it is easy to re-run transactions. This also makes sense from a budget perspective as DRAM is still more expensive than disk, or even flash, which can provide the I/O performance required without compromising data durability.

Having said that, IMDBs are set to move into the OLTP world as the acceptance and adoption of the technology continues, and businesses have started to use SAP Hana for OLTP workloads.

In addition, the release of Microsoft SQL Server 2014 promises to offer in-memory capability with the use of “memory-optimised tables” that allow portions of a database to be placed into system memory. Meanwhile, database giant Oracle has announced an in-memory option for its main database platform which promises high levels of performance without application changes.

Storage for in-memory databases

Although in-memory databases perform their operations in system memory, there is a need for permanent storage media.

There are two main in-memory database storage requirements: first, permanent media to store committed transactions, thereby maintaining durability and for recovery purposes if a database needs to be reloaded into memory; second, permanent storage to hold a copy or backup of the database in its entirety.

When commits are being processed, disk I/O performance is the biggest bottleneck and minimising I/O overhead is critical. This suggests that the best possible storage media is flash. Moving flash closer to the processor reduces latency, so PCIe SSD or the recently released range of non-volatile dual in-line memory module (NVDIMM) memory channel storage devices provides the lowest possible latency.

Memory channel storage puts flash on hardware that uses the DIMM and plugs directly into the server motherboard, providing solid-state storage on the DRAM bus. This results in extremely low latency I/O but requires Bios changes and operating system (OS) drivers to allow the OS to identify the memory as non-volatile. Bios amendments are required to prevent the server failing the memory on post-boot-time checks.

IBM is the first server supplier to release NVDIMM technology with its X6 products, using the brand name eXflash. Both X6 server and eXflash technology have been combined with IBM’s DB2 database to create an in-memory option called BLU Acceleration. IBM claims speed improvements of almost 100 times over previous deployments of DB2.

In-memory database performance can be improved by having only a small amount of non-volatile local storage, so we can expect to see more adoption of memory channel storage for databases as suppliers adapt and optimise their products. For the faster database reloading requirement, flash is also a benefit. Reading an entire database into memory from flash will always be much faster than from spinning disk.

The issue, of course, is one of cost, with flash being significantly more expensive than disk and, in the case of in-memory database use, accessed very infrequently. However, in clustered environments the investment in a shared flash-based system may be a wise one.

In-memory databases promise great leaps in performance, but they still need some traditional storage to operate, irrespective of where the main processing occurs.

Chris Evans is an independent consultant with Langton Blue.
Maybe it is time to scrap annual employee performance reviews. After all, few business leaders welcome their results, which often include stress, resentment and annoyance. In a survey of 2,500 employees, published by the Chartered Institute of Personnel and Development (CIPD) in May 2014, 30% of staff said their employer’s performance management process is unfair. One in five said the way their line managers communicate goals and objectives is ineffective, and 32% feel career progression in their organisation is unachievable.

So much for performance reviews fostering employee engagement and motivation. Their impact elsewhere in the organisation is often just as negative, says Donna Ronayne, vice-president of marketing and business development at Halogen Software, the talent-management specialist that sponsored CIPD’s research.
Managers resent the time taken up by reviews, so they don’t always give them the highest priority and, for HR leaders, trying to get participants to submit information and feedback on time is like herding cats,” says Ronayne.

But eliminating performance reviews is an action few, if any, business leaders are willing to take, says Andy Campbell, human capital management strategy director at software giant Oracle. “Customers tell me there is value to be had from appraisals,” he says. “But, in practice, much of the value is lost in overly bureaucratic processes that drain company time and resources. And employees often feel they haven’t had a fair hearing, so the hunt is on to find better ways to assess the workforce.”

Bosses need to know how their workforce is performing. Most will say it is so they can identify high-flyers and reward them with pay rises, extra training and promotion. But it is also helpful in spotting struggling staff members and building a watertight case for letting them go. What they do not want is for the process to take months of paper shuffling and resentment, only to yield contentious results.

**A better way to appraise**

This is where technology can help and where the IT department has a role to play in helping HR teams achieve the efficiencies and insight they crave. In recent years, these goals have driven a healthy market for talent management software, a category in which performance management applications play a starring role. They are where most companies start on their talent management journey.

In 2013, analysts at IT market research firm Gartner estimated that, of those organisations that had implemented talent management products, more than half started with performance management modules, while 30% started with recruitment and just one in 10 with learning. These investments aim to make the performance review process simpler, easier to track, more goal- and action-oriented, and more transparent, according to James Reid, general manager for the UK and Ireland at talent-management specialist SuccessFactors, a subsidiary of software giant SAP.

This means the software automates certain processes, prompting employees, by email, to complete online appraisal forms, for example, before routing their contributions to managers for approval. More importantly, it provides managers with a trustworthy repository of performance-related information and data, including a record of achievement for each employee. It also shows how goals set for individual employees tie into wider business objectives, and imposes a fair and consistent system for performance scoring that applies to every member of the workforce.

“The goal of most of our customers is to allow the system to handle the heavy lifting,” says Reid.

Quality of conversation is a theme HR professionals return to repeatedly, alongside the frequency and regularity of conversation. These, they say, are what distinguishes a positive, productive performance management process from the more onerous, quarrelsome norm.

**Real-life examples**

At UK motorway service station and hotel operator Welcome Break, director of people Karl Jolly agrees that frequent updates are vital to keeping the company’s 4,500-strong workforce on track. Earlier this year, the company rolled out SuccessFactors’ performance management applications to tie in with the start of the company’s financial year.
“For the first time, everyone knows what’s expected of them. From employees on the frontline team right up to the chief executive, everyone’s goals are now in the system and updated monthly,” says Jolly.

“Regular, five-minute conversations about the direction an employee is moving in, what they enjoy, what they’re good at, their personal ambitions – these are invaluable,” says Ingrid Waterfield, a performance, reward and employee engagement specialist at management consultancy firm KPMG. “A quick chat once a week or every fortnight between an employee and their manager beats the traditional, once-a-year form-filling exercise hands down, which is why many employers are trying to move away from annual or half-yearly appraisals to a process of ongoing discussions, feedback and recognition.”

It is also fairer to employees, allowing them to address issues their employer has with their work before the problems become insurmountable.

It encourages them to do more of what gets them praise and recognition, says Stevan Rolls, head of HR at management consultancy firm Deloitte. “A day-to-day, week-to-week, month-to-month process is a source of continuous feedback on which employees can act, giving them a better chance of managing their own performance in line with what’s expected of them.”

**Performance management goes social**

At its heart, a conversation is a social exercise and, according to many performance-management suppliers, social technologies are an increasingly important aspect of the applications they sell.

A recent report from Oracle sums up the supplier’s own strategy: “Whether done periodically as focal reviews or as ongoing conversations, performance management about not just improving the ‘what’ but also the ‘how’ in the achievement of goals successfully, is inherently a social experience.

“The development of competencies in support of performance is, in particular, a coaching exercise between manager and employee.”

With that in mind, the report says the Oracle Social Network Conversations tool for social networking will increasingly be embedded in its performance management applications, among others. More socially enabled performance management processes could enable a wider cross-section of colleagues to offer their input into an individual employee’s strengths and weaknesses, says Oracle’s Andy Campbell.

Many companies have already incorporated “360-degree feedback” into appraisals, where employees receive feedback from the people who work with and around them, he says, “But that can get complicated if people need to be chased for their contributions, so social technologies have huge potential to make collecting this information on a regular basis a lot easier”.

In fact, by 2018, around one-quarter of large organisations will incorporate social employee recognition and rewards into their performance management processes, according to analysts at Gartner. That trend fits well with the way employees now prefer to work, says Gartner analyst Yvette Cameron.

“Today’s workers, particularly those in knowledge and service-based firms, seek social engagement, personal reputation development, peer recognition, meaningful rewards and continuous feedback against purposeful work,” she says.

Already, she adds, the market for social performance management is “moving to an adolescence phase”, but within two to five years it will “reach early mainstream”.

The employee performance review is here to stay, but many of its more negative effects, for everyone involved, may soon be on their way out. ■
There's not an app for that

A hashtag has been created for a campaign to draw attention to the things in life that are not available on the app store, because “there isn’t an app for everything”.

#Notavailableontheappstore encourages people to place modified App Store stickers on things in the real world that aren’t available digitally. Downtime took part by sharing tweets of morning treats and shoebox care parcels about to be posted out to the British Forces.

The campaign was created by Hyper Island, an educational body that hopes to shake things up in the digital and tech world. Hyper Island says it immerses students in digital and data strategy, as well as art direction, e-commerce, self-leadership and problem solving.

Both post-grad and mature students are given real briefs from major brands so they can experience learning on the job. Nine out of 10 students get a job within six months of graduating.

Microsoft aims to reprogram buggy developers

By tracking eye movement, researchers at Microsoft claim they can identify whether a developer has accidentally introduced a bug in the software they are creating.

“If software developers are writing the code and causing the bugs, we should measure attributes of the developers themselves,” said Microsoft researcher Andrew Begel. “If we can figure out what cognitive or emotional issues lead to buggy code or lowered productivity, we can try to intervene and stop them making mistakes in the first place.”

Alternatively, Downtime recommends inventing a way to zap the offending developer.