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Sapphire 2015: SAP reveals internet of things cloud service

SAP has announced a cloud version of its Hana in-memory, columnar database for customers to perform internet of things operations, dubbed the SAP Hana Cloud Platform, at its Sapphire 2015 conference. SAP chief technology officer Bernd Leukert announced the development in his keynote address. He said S/4 Hana is now available for the 25 industries the supplier serves.

Scottish rural payments system runs 74% over estimated cost

An IT system being developed by the Scottish government to provide payments to farmers has been branded a "significant risk right up to implementation and beyond" after exceeding its estimated budget by 74%. The project, designed to provide farmers with European Union subsidy payments, was first forecast to cost £102.5m, but estimates have increased to £178m.

C-level execs must increase cyber security literacy, study shows

C-level executives need to increase literacy in cyber security and its associated risks, a study has revealed. In a poll of 400 business executives and IT security professionals at Fortune 500 companies, only 68% of executives said they were confident that cyber security briefings to the board represent the urgency and intensity of cyber threats targeting their organisations.

TSB invests £250m in traditional and digital banking

TSB is investing £250m in both digital services and branches to support its belief that customers should not have to choose between the two. The investment programme will see the bank's digital team of workers double in size, creating 42 jobs. In February the bank said it was countering the industry trend of bank branch closures in the wake of increased digital services.



Vodafone sends network in a backpack to Nepal earthquake zone

Vodafone's charitable arm, the Vodafone Foundation, has sent a number of its Instant Network Mini packs to Nepal to assist in relief efforts following the recent earthquake. The magnitude 7.8 earthquake struck on 25 April, devastating large parts of Nepal and causing a major avalanche on the slopes of Mount Everest.

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EC launches 16 steps to put single digital market in motion

The European Commission (EC) has outlined plans for a single digital market in the European Union. Labelled the Digital Single Market Strategy, the 16 initiatives are split into three categories of targeted actions, which the EC wants delivered by the end of 2016.

Cisco CEO John Chambers to step down from role in July

After 20 years of service, long-standing Cisco CEO John Chambers has announced he is to step down from his post at the end of July to assume the role of executive chairman and chairman of the board.

Box to expand its datacentre footprint outside of the US

Cloud collaboration provider Box is set to build datacentres outside the US in the next 12 to 18 months. CEO Aaron Levie said the firm wants to make the service seamlessly global.

Airbus Defence and Space embarks on venture with Cisco

Airbus Defence and Space - the defence and space technology division of European aeronautics giant Airbus - has signed an agreement with networking company Cisco to combine their strengths around defence, security and satellite communications.

German car makers eyeing Nokia Here mapping service

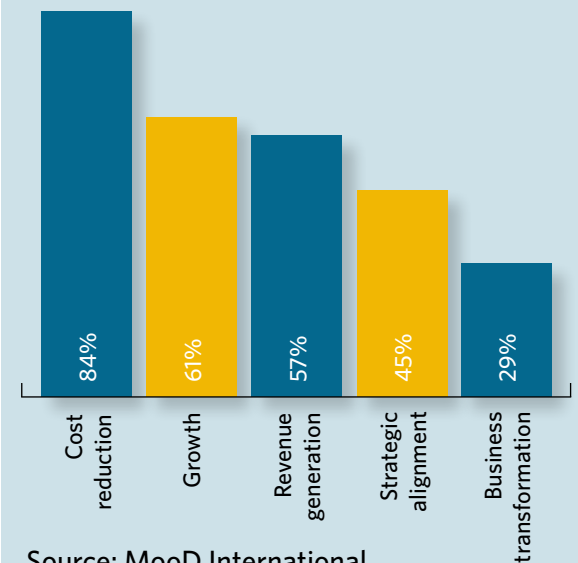
A consortium made up of German car makers Audi, BMW and Mercedes-Benz owner Daimler is considering putting forward a bid for Nokia's Here online mapping service, with assistance from Chinese search engine giant Baidu.

Public sector IT suppliers call on government to extend G-Cloud 5

Public sector IT suppliers have asked the government to extend G-Cloud 5's stay of execution, fearing the recent six-month extension will prove insufficient. ■

Cost-cutting still draining IT outsourcing budgets

Projects using outsourcing partners



- ▶ Future IAM will need to be broader, says Martin Kuppinger.
- ▶ Security pros must look out for IoT threats, says GE CISO.
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Windows 10: Why you should work around escalating PC prices

Strong US dollar a challenge to IT departments planning a PC refresh ahead of Windows 10 release. [Cliff Saran](#) reports

IT departments planning a PC refresh to tie in with [Windows 10](#) can expect to pay more due to the strong US dollar.

Rising prices of desktop PCs come at a bad time for IT departments, given that many will be considering how they migrate to Windows 10, which is expected to ship in July this year.

Many have deferred upgrading to Windows 8, preferring to stay with Windows 7 running on PCs that may be four or five years old.

In many ways, the five-year-old Windows 7 operating system (OS) has become a de facto standard for business PCs. But in January it moved from mainstream support to extended support in Microsoft's product lifecycle roadmap.

[Windows 7](#) will be supported by Microsoft until [2020](#), but now that Windows 10 is set for release, IT departments will be considering their next OS upgrade and ensuring they have the latest PC hardware.

While Windows 10 is a free upgrade for Windows 7 users, older PC hardware may not make the most of the new operating system. So IT departments need to consider how and when they upgrade, given that PC prices are rising.

CUT DOWN ON PERIPHERAL DEVICES TO REDUCE COSTS

Analyst Gartner has predicted that large businesses will extend the life of their existing PCs in 2015.

"Large organisations will look to lengthen their PC lifetimes by six months in comparison with 2014, rather than buying less expensive models or removing requirements for key features," said Gartner research director Ranjit Atwal.

He said businesses were likely to attempt to reduce cost by purchasing PCs without optical drives and optional accessories.

"While we expect large organisations to cut their PC unit purchases by 20% during 2015, due to price rises, small businesses will behave like value-driven consumers and look to purchase consumer PCs instead," Atwal said.

MOVE TO DESKTOP VIRTUALISATION

Any major PC refresh gives CIOs a chance to rethink desktop IT. Desktop virtualisation is being used by IT departments to improve desktop manageability, support bring your own device and tablet computing, and potentially reduce IT costs.

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It is not necessary to buy a thin client access device to run desktop virtualisation. Legacy PCs can be re-used, potentially saving IT departments the cost of a PC upgrade. But the real benefit is it can extend the Windows desktop computing environment in a controlled manner across multiple devices.

By 2016, Gartner expects [tablet sales to overtake sales of desktop PCs](#), which means IT departments will need to support Android tablets and iPads along with Windows devices.

Given that Windows-based PCs are not the only devices used by businesses, IT administrators need to consider how to give business users access to Windows apps across multiple devices.

One example is footwear company Dr Martens, which has used Parallels' 2X Remote Application Server to provide 650 employees with access to core business applications and data. The

configuration virtualises applications and enables IT to configure and manage service levels for users, as well as centralise data and provide secure access to internal systems.

[Desktop virtualisation](#) is also being expanded to offer a replacement for high-end engineering workstations in an attempt to show that the technology can be deployed in demanding computing application areas.

For example, Dell recently unveiled an independent software supplier-certified virtual workstation appliance, the Dell Precision Appliance for Wyse, which it claims can offer virtualised workstation-class computing.

One of the challenges for the CIOs considering introducing desktop virtualisation is that it requires collaboration across different parts of the IT department.

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In the Forrester report [Build digital workspace delivery systems to give employees the right tools for their jobs](#), analyst David Johnson warned that a server-hosted virtual desktop programme requires advanced skills with hypervisors, storage and network analysis, along with knowledge of the desktop computing environment.

"It also requires close collaboration across the technology domains and a seasoned project leader who understands the computing needs of the workforce to settle debates and ensure a successful outcome," said Johnson.

FINANCING PC UPGRADES

While no CIO would willingly spend more on PCs than has originally been budgeted for, they may not have the option to defer an upgrade. Legacy PCs that are unfit for purpose will clearly need to be updated when they eventually fail.

But CIOs also have an opportunity to show that IT can offer business users the best tools for the job, by taking advantage of Windows 10 and the new range of devices in the pipeline. Thinner, faster, lighter hybrid [Windows tablets and notebook PCs](#) come at a premium. With Windows 10, such devices offer the potential of a far richer enterprise and consumer-friendly operating environment, compared with what is available from Android or Apple.

Leasing may be an option open to the CIO, who can plan out a desktop IT strategy to take advantage of these new Windows 10 devices. According to IDC, the worldwide IT leasing and financing market is expected to reach \$148.5bn this year, representing a compound annual growth rate of 4.4% from 2010-2015.

While there are arguments for and against taking a hit on new PC upgrades, the key question for the CIO remains how to stay relevant to the business in the era of IT consumerisation, where staff often introduce superior technology into the organisation. Buying lower-specification PC devices may not be the best way to demonstrate that IT understands where the business wants to go.

"A SERVER-HOSTED VIRTUAL DESKTOP PROGRAMME REQUIRES CLOSE COLLABORATION ACROSS THE TECHNOLOGY DOMAINS AND A SEASONED PROJECT LEADER WHO UNDERSTANDS THE COMPUTING NEEDS OF THE WORKFORCE"

DAVID JOHNSON, FORRESTER

In a world where CEOs are talking about the digitisation of business, tech-savvy organisations tend to be early adopters of new gadgets. With Windows 10 and the new devices coming along, CIOs have an opportunity to show that IT truly understands the business direction. ■

› [Microsoft needs to convince businesses to adopt Windows 10](#)

Nokia and Alcatel-Lucent to forge a grand European networking alliance

Nokia's acquisition of Alcatel-Lucent will bring big changes to the European networking landscape, writes [Alex Scroxton](#)

The union of French and Finnish networking suppliers Alcatel-Lucent and Nokia in a [deal worth close to €16bn](#) will create one of the largest networking companies in the world, with combined net revenues of about €25bn and operating profit of €300m. It will reshape the networking sector for good.

In fact, according to Forrester analyst Dan Bieler, it will become the second-largest provider of carrier-grade telecoms networking equipment in the world, just behind competitor Ericsson but substantially ahead of Huawei.

Nokia will also become a clear leader in the field of long-term evolution (LTE) and fixed broadband equipment, and would be second only to Cisco in IP routing.

Bieler characterised the rapidly evolving telecoms market as the main rationale for the acquisition. In a world of consolidating telcos, network-sharing, the dawn of quad-play, ubiquitous broadband, and cloud and IP convergence users expect more, he said.

The dawn of the [internet of things \(IoT\)](#) and industrial internet also called for rapid development of next-generation networking technology and services.

“Nokia can’t cater to these emerging market demands alone,” said Bieler. “In this fast-changing world, it would be foolish and risky not to change direction as the market context shifts.”

In a blog post, Ovum’s Daryl Scholar forecast major changes in the telecoms supplier landscape as a result of the merger. Nokia’s management has been saying for some time that there is only really room for three big radio access network suppliers in the market, he said, and with this acquisition, it has made sure it will remain one of those, gaining strength in areas such as small cells and software-defined networking, as well as bolstering its position with the US mobile networks, thanks to the Lucent heritage.

A HISTORY OF DISASTER

It would be fair to say that both Nokia and Alcatel-Lucent have a terrible history when it comes to mergers and acquisitions. Nokia’s joint venture with Siemens ended unsuccessfully, its dalliance with Microsoft spelt its downfall as a mobile device business, and even now it is still trying to sell off a loss-making online mapping division.

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Alcatel-Lucent, meanwhile, is a decade-long disaster. The result of a badly thought out 2006 merger between French telecoms stalwart Alcatel and US AT&T descendant Lucent, it has limped around the market for years, losing millions and burning through CEOs as if they were going out of style.

Ovum's Scholar said it was not a great leap of the imagination to suggest that if the Nokia Siemens Networks (NSN) tie-up and Alcatel and Lucent's misadventure had gone according to plan, this latest deal would not have been on the cards.

Sheridan Nye, senior European analyst for ICT technologies at Frost & Sullivan, said: "The challenge is to convince employees

IF THE NOKIA SIEMENS NETWORKS TIE-UP AND ALCATEL AND LUCENT'S MISADVENTURE HAD GONE ACCORDING TO PLAN, THIS LATEST DEAL WOULD NOT HAVE BEEN ON THE CARDS

and shareholders that cultural integration will be more effective than at either Alcatel-Lucent or NSN, both of which suffered from fragmented governance of merged companies with strong cultures and histories."



The union of French and Finnish suppliers Alcatel-Lucent and Nokia Networks will reshape the networking landscape for good

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Forrester's Bieler added: "Nokia will need to integrate and align the portfolios and the account teams. The customer-facing nature of these areas means that any integration challenges will be noticeable by Nokia's customers directly. This is where it risks losing customers to rivals."

Bieler forecast that the toughest integration challenges would be felt in the wireless space, where Nokia generates about 88% of its sales - post-handset divestment - and Alcatel-Lucent 33%.

He agreed that both companies had learned the hard way about the challenges of integration, but Nokia had emerged stronger in the past 12 months and was well-placed to apply the tough lessons it had learned.

But the French government could pose a problem, said Bieler, warning that it would "do well not to meddle too much in Nokia's strategic direction by requesting special conditions for French operations".

Frost & Sullivan's Nye added: "Implementation will take time and money, and effective management will determine whether it succeeds or fails. Nokia also needs to convince competition regulators - notably in the US and China - to approve the deal, a process that could take several months."

MARRIAGE OF EQUALS

However, Nokia and Alcatel-Lucent appear to have created a genuinely strong marriage, said Nye, who characterised it as a merger of near-equals and said it was, on the whole, well-timed as both companies had completed the worst of their cost-cutting programmes.

It was also a defensive move to present a united front to the competition, he said. "Neither Nokia nor Alcatel-Lucent alone could realistically take significant share from market leader Ericsson, or fight off aggressive competition from Huawei," he said. "The merger creates a competitor that is stronger than the sum of its two parts."

**"THE MERGER CREATES A
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THE SUM OF ITS TWO PARTS"**
SHERIDAN NYE, FROST & SULLIVAN

Ovum's Schoolar added: "The new Nokia will become a very close and strong number two to Ericsson in the radio access network market. And, unlike the current number two - [Huawei](#) - Nokia doesn't have problems selling into the US."

He predicted more acquisitions, and said Nokia's remaining competitors could start to bulk up their portfolios in defence. He mentioned SpiderCloud as a possible target in the small cell sector.

Schoolar also said it might create problems down the line for the likes of ZTE and Samsung, pointing out that a revitalised Nokia could make it hard for them to grow their mobile business.

"Ericsson, Huawei, Samsung and ZTE should take advantage of the market uncertainty to try to grab share from both Nokia and Alcatel-Lucent," Schoolar concluded. ■

Zurich Insurance turns to augmented reality to train 10,000 managers

Insurer uses augmented reality to deliver key skills needed by its next generation of managers. Bill Goodwin reports

Zurich Insurance, the \$74bn general insurance company, is turning to augmented reality smartphone apps to help its managers improve their coaching, project management and people management skills.

The company aims to harness the capabilities of augmented reality to train 10,000 employees in 170 countries in the key skills needed by the next generation of managers in 2016.

“The project will enable [Zurich](#) to identify managers keen to advance their careers, and direct them to the training they need,” says Zurich group head of learning innovation Daniel Neubauer.

“I would expect to see an immediate return on investment,” he adds. “It is going to help identify the managers who want to develop further and those who don’t want to lead any more.”

Zurich, which is making a major investment in learning technology, is developing mobile phone apps that will track a manager’s training and direct them to materials tailored to their style of learning.

The technology is expected to come into its own in classroom-based training sessions, when managers will be able to point

their phones at a poster or a “learning card” that could take them to a video, an online training course, or a book that could offer more in-depth information.

“The challenge with training 50 people is how you direct them. [Augmented reality](#) allows people to self-direct. They can point a phone at a poster and get more information on coaching, for example,” says Neubauer.

Zurich is aiming to harness the capabilities of augmented reality to train 10,000 employees in 170 countries



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INSURANCE APP SPIN-OFFS

The technology is generating spin-offs in other parts of the Zurich Insurance business.

In one prototype application, drivers can point their phones at an SOS card on their dashboard to receive immediate help if they are involved in an accident.

The app will be able to assist them in finding a garage and a lawyer, and record details of the other party.

"If you take the SOS card, there will be a return on investment by getting claims into our systems more quickly. You can program an app to take a picture of the car accident, and immediately start the claims process. We will be much more client-focused," Neubauer says.

BUSINESS CASE FOR AUGMENTED REALITY

The learning project was partially inspired by Google, which used [data analytics](#) to answer the question on what makes a good manager and came up with a list of key skills.

Zurich Insurance then went through its own exercise to identify what eight attributes define a great manager.

Neubauer secured an initial investment of 80,000 Swiss francs (about £55,000) a year from Zurich's group communication and marketing department to kick-start the work.

But he realised he needed a wider business case if he was to persuade the company to invest seriously in augmented reality.

Neubauer set up a demonstration booth at the company's 2015 leadership conference in Rome, attended by 500 senior leaders. The exhibit showed demonstrations of how augmented reality



Neubauer: "The challenge with training 50 people is how you direct them. Augmented reality allows people to self-direct"

could be used, not just in training, but in marketing, and to help car insurance policy holders who may have been involved in an accident.

One of the demonstrations, for example, showed how consumers could point a phone at a Zurich Insurance poster and automatically be presented with a video offering more information.

The idea also attracted the attention of Zurich Insurance's IT department as a way of reducing calls to the IT help desk.

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"The IT guys came to me and said, 'When there is an error message on a computer screen, why don't we just scan it?'" says Neubauer.

The proposal would mean employees could use augmented reality technology to receive support from their mobile phones, rather than having to call the help desk.

"Now we need to figure out a strategy on how to use it," Neubauer adds.

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ENGAGEMENT GO UP"**
DANIEL NEUBAUER, ZURICH

DEPLOYING AUGMENTED REALITY COMPANY-WIDE

Zurich carried out a small-scale trial with 80 licences from [Aurasma](#), a company which develops augmented reality applications for mobile phones.

The insurer plans to roll the technology out company-wide over the summer, starting with internal applications before moving on to develop augmented reality applications for consumers.

It is evaluating five potential suppliers for a learning management system that will link to Zurich's Salesforce platform, to provide learning resources across the company.

The system will offer a combination of traditional learning through books, videos and classrooms, as well as digital learning through [social media platforms such as Yammer](#), says Neubauer.

Deploying augmented reality technology across Zurich, which has operations in 170 countries and has to meet a wide range of financial compliance regulations, was not straightforward, Neubauer reveals.

"You have all the IT regulations, and the cloud approvals. I needed 22 people just for compliance, plus the digital app guys and the tech guys," he says.

EMPLOYEE AND BUSINESS BENEFITS

The system, which is due to go live in October 2015, will provide a rapid payback, says Neubauer.

Internal feedback shows that between 30% and 40% of managers do not believe they have received the right training for their role.

"I expect all 10,000 managers will find the immediate training they need, and next year we will see if all managers reach the standard we are expecting. We hope to see employee engagement go up," he says. ■

› *Mini drivers may get augmented reality glasses to help them with navigation*

Smartmeter pioneer First Utility uses cloud to challenge big six energy suppliers

CIO Bill Wilkins tells [Caroline Donnelly](#) about using cloud and smartmeters to disrupt dominance of energy giants

While the “big six” energy firms still largely dominate the utilities market, a smattering of independent suppliers have emerged in recent years that have started to challenge the status quo.

Figures released by analyst house Cornwall Energy in September 2014 revealed a steady decline in the percentage of market share held by the big six – [British Gas](#), EDF, E.ON, Npower, Scottish Power and SSE – from 99.8% five years ago to around 92.4% today.

Around the time this data was released, First Utility became the first energy supplier outside of the big six to have accrued one million customers, meaning it could legitimately lay claim to wresting at least 2% of market share away from them.

It has achieved this by pioneering the use of [smartmeters](#) to measure in-house energy use since 2008 as a means of differentiating itself from its competitors, says First Utility CIO Bill Wilkins.

“People tend to forget that everyone was receiving estimated bills on an annual basis back in 2008, and there was no transparency around tariffs or how much people were paying,” he says.



Wilkins: “The key attraction of joining First Utility was the CIO had a position on the board”

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"The customers that came to us at that point were there because they were interested in getting that extra information the smartmeter provides, and they knew they were being billed against their actual consumption rather than a supplier's estimate," says Wilkins.

The take-up of the company's energy tariffs has also been buoyed by [government efforts to make the energy market more transparent](#) and competitive over the past couple of years, along with growing consumer awareness of the benefits smartmeters can provide, he claims.

**“MOST OF MY SYSTEMS ARE
PROVIDED BY THE PUBLIC CLOUD.
WE USE GOOGLE FOR ALL OF OUR
INTERNAL WORKFORCE AUTOMATION
TOOLS AND SALESFORCE.COM FOR
OUR CRM SOLUTIONS”
BILL WILKINS, FIRST UTILITY**

For these reasons, the company's user base started to seriously ramp up in size from 2012 onwards, and has continued to grow.

"Between 2012 and 2013 we went from 70,000 to 170,000 customers, which was pretty good growth. Last year we went

from 280,000 to more than 700,000. That rate of increase has become the norm for us over the past few years," he says.

THE POWER OF CLOUD

This pace of growth may have presented the company with scalability problems if it hadn't made the move to cloud some years ago. But, on joining the company in 2010, Wilkins made reducing the company's use of on-premise technologies a priority.

"When I joined two years into the company's growth, it had a lot of in-house solutions and its own datacentre, but was already struggling with issues of scale and complexity," he says.

Rather than get bogged down in the day-to-day management of those resources, Wilkins decided the company needed to [move off-premise](#). It did so over a period of 18 months, setting the scene for First Utility to ditch its datacentre completely.

"We didn't have as much legacy infrastructure as some of our competitors, which made the shift easier, but one of the things I'm most proud of is that we don't have our own datacentre any more," he says.

"Most of my systems are provided by the public cloud. We use Google for all our internal workforce automation tools and Salesforce.com for our CRM [customer relationship management] solutions. Even our telephony systems are hosted in the cloud these days."

As the company's customer base has grown, so has the number of staff it employs. Moving to the cloud has made it easier to bring on board new starters, says Wilkins, without taking up too much of the IT department's time.

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To emphasise this point, Wilkins explains how the company coped when faced with having to triple the size of its customer service team last year to handle the increase in calls to its help lines following the fast growth of its user base.

“Attempting that with on-premise PBX [private branch exchange] and an on-premise CRM system would have resulted in a lot of distractions for our tech teams but, because we’re in the cloud, that process was fairly straightforward,” he says.

The company also calls on [Amazon Web Services](#) to host the data generated by its fleet of smartmeters, but, despite the firm’s “all-in” approach to the cloud, Wilkins says he’d never rule out a move back to on-premise in the future.

“There is a very hard-nose economic evaluation we regularly do into how our business is run, and we know at what points in the future we may want to look at using in-house solutions again because of the economics involved,” he says.

“But, at the same time, we know the economics of using a technology like Amazon are changing all the time and our cloud platforms are delivering a very good ROI [return on investment] for us at the moment.”

BUSINESS-TECHNOLOGY PARTNERSHIPS

As well as promoting the use of [cloud technologies](#), Wilkins went to great lengths on joining the firm to position the IT department as a help, rather than a hindrance, to business growth, which is, he claims, one of the firm’s founding principles.

“The key attraction of joining First Utility was the CIO had a position on the board,” he says.

“The way it works here is that there is a true partnership between technology and the business, meaning it’s rare for a business stakeholder to come to us and say they need a certain technology requirement fulfilled as that dialogue will have already been going on.”

“THE WAY IT WORKS HERE IS THAT THERE IS A TRUE PARTNERSHIP BETWEEN TECHNOLOGY AND THE BUSINESS”

BILL WILKINS, FIRST UTILITY

That’s not to say there isn’t the odd disagreement between the business and technology sides of the company, but the firm has processes in place to mitigate this.

“I’m not going to lie to you, there are natural challenges, but if you let that ‘head-butting’ go on between the two and don’t have organisational processes in place to deal with it, top down, it can create a negative dynamic. And that’s why a partnership approach is really key,” he says.

BUSINESS INNOVATION

All business divisions at First Utility are encouraged to take an interest in technology innovation through a scheme that lets

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staff members devote one day a month to a project that could have a positive impact on the way the organisation operates.

Wilkins says the scheme has been a great success to date, proving particularly popular with the firm's engineering team.

"One initiative to come off the back of this is that we've started using Natural Language Processing [NLP] techniques to serve our customers better, after one of our team took the time to learn about it and how we could leverage an open-source technology stack to make use of it," he says.

NLP is a form of linguistics focused on the way humans and computers interact to ensure the latter understands what the former is asking of them.

**“WE WANT TO BE THE CONSUMER’S
PARTNER AND SHOW THEM HOW
THEY CAN SAVE MONEY THROUGH
THE USE OF TECHNOLOGY”
BILL WILKINS, FIRST UTILITY**

In the case of First Utility, the technology stack is used to auto-respond to electronic customer queries – such as emails or social media requests – but if the computer can't or doesn't

know how to respond, the question will be passed on to a human member of staff to answer.

"This approach has reduced the in-bound electronic contact rates to our callcentres by around 50%," he says, "and is a good example of how an innovative, individually inspired project can transform the economics of running a customer contact centre."

BUILDING TRUST THROUGH TECHNOLOGY

The company is hoping to foster customer trust by building on its background in promoting the use of smartmeters to help customers cut their heating bills through the use of newer [thermostat technologies](#).

To deliver on this, it has recently partnered with Cosy, a Cambridge-based firm specialising in the development of smart heating systems, to roll out this technology to its existing customers with the aim of helping them shave between 5% and 20% from the cost of their heating bills.

The deployment is still in the pilot stage at the moment, with 2,500 of the devices in use, but Wilkins says the company's aim is to be in a position to offer the technology to all its customers by the end of the year.

"We can capture the heating information from a customer's house and tell them how they're heating their homes compared to others and what optimisations they can make to save money.

"At the end of the day, we want to be the consumer's partner and show them how they can save money through the use of technology," he adds. ■

IT recruitment gets board-level boost

IT professionals find themselves in a fortunate position. Put aside the economy and politics and the election-dominated news, regardless of what's going on elsewhere there's a clear resurgence in IT jobs across the UK.

Multiple surveys recently have highlighted IT as one of the fastest growing areas for recruitment demand – a welcome return after the tens of thousands of jobs lost during the downturn. According to one study by KPMG, this demand is being led from the boardroom, with IT rating the highest of any profession for executive recruitment.

We must hope that this is down to the long-awaited and much-promised boardroom realisation that technology is going to be the number one driving force for customer engagement and corporate efficiency in the coming years.

For IT professionals, there are also signs of a salary boom starting as demand outstrips supply – a nice short-term bonus, but in the longer term not such a positive trend. If IT departments become too expensive to fill, many of those jobs will inevitably go offshore.

Other research has suggested, by contrast, that IT spending growth has slowed – can we hope that this is also a reflection that employers want to bring back more skills in-house, and are reducing their dependence on external suppliers? Perhaps that's too early to call.

We already have more than a million people in the UK working in IT – and as that demand increases you can be sure there will be a return to headlines about skills shortages. It's an old chestnut that IT employers have never really tackled – more than ever, recruiters need to find IT staff from different backgrounds and non-conventional profiles.

That means encouraging people from other professions to bring their business knowledge into the technology team, and investing in training to develop multi-skilled employees. In particular, it means finding ways to convince more women to work in IT – the fact that only 16% of the UK IT workforce is female is a continuing shame to the sector.

But as we digest the results and implications of the general election, IT professionals can at least take confidence that their skills are more needed than ever. ■

Bryan Glick, editor in chief

**KPMG STUDY RATES IT AS
THE HIGHEST OF ANY PROFESSION
FOR EXECUTIVE RECRUITMENT**

BENCHMARKING SOCIAL BUSINESS AND COLLABORATION TOOLS

*Putting in place a complete social business strategy requires more than publishing social media guidelines for employees. CIOs need to rethink the enterprise as a social ecosystem, says **Nigel Fenwick***



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Although document and social collaboration tools are widely deployed for desktop environments – though not necessarily widely adopted – the ability to collaborate on mobile devices is absent for the majority of organisations. As mobile devices and smartphones become an important vehicle for communications, companies must extend [collaboration services to the mobile app world](#).

The proliferation of incompatible collaboration tools across enterprises creates a major barrier to adoption and effective collaboration. With just 6% of enterprise respondents reporting they have no plans for standardisation, it's clear this is already on the radar of IT managers. But with so many [workers accessing collaboration networks](#) remotely, there is still a major gap between the in-office employee's experience and that of the remote worker. Some 47% of enterprises do not currently provide equal quality of collaboration to both groups.

On top of this, 25% of enterprise companies have no plans to give their employees access to external social tools. Yet the likelihood of employees accessing external social tools on a personal smartphone is increasing. The resulting barrier prevents employees from connecting external networks to internal networks. But organisations can strengthen their ecosystem by building connections between internal and external social networks.

Collaboration tools in most enterprises primarily facilitate interactions among employees internally. To improve the flow of information between employees and customers, organisations must extend the perimeter of their collaboration boundary to

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encompass customers. Microsoft's [Skype for Business](#) video connection and systems from Google or Vidyo support direct customer video-conferencing. And implementing a cloud collaboration platform from a supplier such as Box, Egnyte or Dropbox brings document collaboration out of the murky waters of email attachments into the full light of the cloud.

Almost all (82%) of the enterprises (firms with 1,000 or more employees) surveyed have put social technology usage policies in place for their employees or are planning to do so (12%). But just having a basic policy document is not enough. Like Coca-Cola, Ford Motor and IBM, all firms need a comprehensive guidelines covering both internal and external use of social media by all employees.

A COLLABORATION ECOSYSTEM

[Social business strategy](#) combines internal, employee-oriented social strategies with external, customer-facing strategies to form an enterprise ecosystem. The eventual success of the ecosystem to sustain business transformation requires the entire organisation to develop a high degree of maturity in the application of social technologies to achieve business goals. For the IT department to be effective in supporting a successful social business strategy, CIOs must evolve their team's social and digital

SOCIAL BUSINESS STRATEGY COMBINES INTERNAL, EMPLOYEE-ORIENTED SOCIAL STRATEGIES WITH EXTERNAL, CUSTOMER-FACING STRATEGIES TO FORM AN ENTERPRISE ECOSYSTEM

technology skills at the appropriate level for the ecosystem maturity of the enterprise.

CIOs in emergent organisations should experiment: Characterised by executives who consider social technology to be a passing fad, pre-emergent organisations lack the leadership and business interest to experiment with social technologies. CIOs in emergent organisa-

tions can start by experimenting with social technologies that increase their own team's productivity or efficiency, while seeking opportunities for business-driven pilots across the organisation. For example, introducing Yammer as a means for employees to request tech support will allow the IT management team to experiment with social technology while also spreading social experience into the enterprise.

Those CIOs with mature customer ecosystems need to partner with human resources: Many early pilots with social technologies focus on driving increased customer engagement and brand awareness. For example, [Starbucks](#) engages its customers through an "ideation" platform, inviting input from customers on how to improve the Starbucks brand. Organisations with strong customer social ecosystems are typically characterised by a lack of IT management involvement in marketing-led social initiatives. CIOs in these organisations should support marketing while partnering with human resources to develop employee-focused

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collaboration. Over time, opportunities to engage employees with customers will emerge, most likely through customer service and customer relationship management.

CIOs with mature employee ecosystems should help pilot customer-facing initiatives: Early pilots of social technologies in organisations, such as UBM's enterprise wiki, focus on improving employee communications.

Some organisations, such as Intuit, use social network platforms to support their innovation process. Organisations with employee ecosystem maturity are characterised by a lack of [customer-facing social initiatives](#). CIOs in these organisations must work with marketing and sales to explore how the employee ecosystem might also support customer-focused goals such as improved customer service or increased brand awareness. For example, empowering staff to use blogs or Twitter to engage with customers can help develop external maturity.

In organisations with established enterprise ecosystems CIOs need to focus on optimising the customer experience: Organisations that successfully integrate customer and employee social networks develop enterprise social ecosystem maturity. In these companies, customer-facing strategies empower employees to collaborate and to solve customers' challenges.

At Sun Life Assurance, for example, technology management and marketing collaborate closely to direct employee social collaboration around innovation. The IT and marketing departments also support customer-focused social strategies

» *Workers use collaboration tools in their personal life. It's time for IT to play catch-up and implement effective social platforms in the enterprise.*

that have transformed the ways in which the company engages with customers. Sun Life Assurance now invites customers to evaluate financial advisors through an app that is similar to a date-matching tool.

MEASURING SUCCESS

The real business impact of social business and collaboration is, without doubt, the hardest metric to measure. Indeed, one social media professional advises never to try to sell social media tools based on return on investment, adding that the same goes for email and phone. For this reason, many companies go no further than measuring adoption.

There is growing evidence, however, that there is a road to measuring social business and collaboration success. The journey is marked by a series of small wins that, taken together, represent discrete business value. The research points to sales, customer service and the supply chain as initial destinations where social business and collaboration add measurable business value. Once organisations reach these initial destinations, they seek out broad adoption to build on this early success. Still, 40% of respondents who are responsible for social business collaboration initiatives are at least attempting to make the connection of the results of social business initiatives to a tangible business benefit. ■

This article is an extract from the Forrester report "Benchmark the use of your social business and collaboration systems (February 2015)" by [Nigel Fenwick](#), vice-president and principal analyst at Forrester Research.

WI-FI IN THE SKY: THE GOOD, THE BAD AND THE UGLY

With in-flight internet options spreading around the world, which services should discerning business travellers try, and which should they avoid? John Walton reports



HONGLI/ISTOCK

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Three months before 11 September 2001, at a time when mobile phones were greyscale and keyboards were T9, high-speed, in-flight satellite internet took off. It was years ahead of its time, and the service - Connexion by Boeing, using Ku-band satellites - folded in 2006, a year before the iPhone was released.

A decade and a half later, it might feel like in-flight connectivity has developed slowly to the tech world, but for airlines and safety regulators, it's been a remarkably swift journey. Just as [touchscreen technology](#) took five years to pass safety checks - particularly the "forehead meeting screen at speed" bits - enabling you to check Facebook on a metal and composite tube hurtling through the sky at the best part of the speed of sound requires certification by hard-nosed authorities.

In particular, the industry spent the best part of a year in 2013-2014 doubling down on the testing of satellite radomes on top of aircraft, after US regulator the Federal Aviation Administration decided it would increase scrutiny of whether the humps containing antennae were sufficiently protected against the risk of damage to the plane if it hit birds.

Demand can also be affected by the systems that have been first to market. Finnair, for example, notes that the passenger response to its own Wi-Fi trials using an L-band product were lukewarm. Part of that is down to the slow speed of L-band, but part of it is that both willingness to pay and satisfaction with speeds were significantly reduced by competitor Norwegian Air offering faster Ku-band connectivity for free.

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Yet with the past year seeing satellite installations in earnest, the new problem for travellers – even those who understand the differences between latency and lag or [bandwidth](#) and speed – is that the technologies behind the products on offer are rarely advertised when flying.

And it's the technologies that will determine whether your in-flight internet is the speed of dial-up or fibre.

AIR-TO-GROUND OR AIR-TO-SATELLITE

In-flight connectivity comes in two flavours: air-to-ground (ATG), which is essentially a 3G dish pointed up to the sky rather than down to the ground; and air-to-satellite, which works in a similar, if more challenging, way to rural satellite broadband five miles below it.

ATG antennae are the size of a small teacup saucer, attached by a tail-shaped fairing to the underside of the aircraft, whereas satellite antennae are contained in larger radomes on top of the fuselage.

Currently, ATG is available only within 100-200 miles of the continental US and southern Canada, with some coverage reaching Alaska. First-generation ATG maxes out at just over 3Mbps – shared between you and more than 100 of your closest friends aboard an

› *Scandinavian Airlines has deployed a Wi-Fi aggregator product from iPass across its mobile estate, providing flight crews with 15 million hotspots.*

aircraft. If you've ever tried sharing a pocket Wi-Fi device with more than a couple of people, you'll know just how productive that can be.

Second-generation ATG-4, meanwhile, can reach nearly 10Mbps – better, but once you start dividing it by that bloke reading Facebook in row 12, the woman working on her presentation by the window and the Instagramming grandmother in

the exit row, it's less than impressive.

The verdict: ATG is firmly in the "better than nothing" camp. Larger, newer aircraft within the domestic fleets of American, [Delta](#), Alaska, Virgin America and Air Canada (plus United's flights to California from New York's JFK airport) are more likely to have faster ATG-4 provision. If you wince at the price – one of the few levers aero-communications service provider Gogo has to pull to reduce demand and improve onboard performance – then others are likely to be dissuaded too, and you're more likely to have a good experience once you spend the cash.

Much has been written about home-baked air-to-ground systems elsewhere in the world, with various telcos getting into, and out of, the game of intending to use 3G, 4G or 5G cellular towers pointed skywards. As yet, none of these has actually produced real-world tests, let alone won customers. For the future, it seems airlines will be looking to the sky, not the ground, for their internet.

**FOR THE FUTURE, IT SEEMS
AIRLINES WILL BE LOOKING TO
THE SKY, NOT THE GROUND,
FOR THEIR INTERNET**

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Satellite antennae are contained in radomes on top of an aircraft's fuselage



ATG antennae are the size of a small teacup saucer, attached by a tail-shaped fairing on the underside of an aircraft

STATE OF THE MARKET

Satellite connectivity for passengers currently comes in three types - L-band, Ku-band and Ka-band, in order of slowest to fastest - and for birdstrike certification delay reasons, the slower technologies are generally more widely installed.

At the lowest end is OnAir's L-band SwiftBroadband product, which has, oddly, not fallen foul of trade description claims, since it's not swift and it's not broadband. Initially maxing out at 432kbps down per channel, with the possibility of a dual-channel bond to 864kbps, the problem is very much one of bandwidth.

Even the 2013-era high data rate upgrade only boosted maximum speeds to 850kbps down per channel and 1.75Mbps dual, and that's split between proportionally larger international aircraft, such as the Airbus A380 or Boeing 777, which can

seat hundreds of Twitter-hungry passengers competing for the connection.

The only positive is that L-band is practically global, so even if you have to stick to the very slowest uses of the mobile web - reading your email on your phone might just work - you can do it from Murmansk to Melbourne to Montevideo to Montreal, not just over certain regions of the world. But in terms of modern device use, if you couldn't do it on a 2012 BlackBerry, you probably won't be able to over L-band.

Next up, the "actually, this isn't bad at all" Ku-band, widely available and offered by two key players: [Panasonic Avionics](#), the success story of the business formerly known as Matsushita; and Global Eagle, which is the new name for Row44 and not a military drone, as you might imagine from its name. Global

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Eagle's main customer is Southwest Airlines, and reports from the sky tend to be deeply underwhelming, with complaints of unusability abounding from a quick Twitter search for "Southwest" and "Wi-Fi". One to skip.

Gogo, meanwhile, is a new entrant to satellite Ku-band with its double Ku-band system called, appropriately enough, 2Ku, which will boost speeds to a claimed 70Mbps. Many of US airline Delta's long-haul flights are due to have 2Ku installed in due course.

Panasonic's current Ku-band offering, meanwhile, is remarkably usable. Theoretical maxima hit 25-50Mbps depending on whether the aircraft is in a wide-beam or spot-beam area, but real-world speeds tend to be in the range of 2-5Mbps down, still better than many rural Britons can hope for from their home connection.

Expect, however, to pay by the megabyte. While some airlines, such as Emirates, Etihad and other carriers where profit is perhaps not the only motivator, offer day passes for just over £10, the trend is firmly towards per-megabyte packages, with 120MB for £10-15, depending on the airline and its home currency.

Since airlines do not advertise whether they have L-band or Ku-band Wi-Fi, finding that information when booking is remarkably difficult. Many have both, and on the same type of plane. The differing pricing policies by airline also mean that

SINCE AIRLINES DO NOT ADVERTISE WHETHER THEY HAVE L-BAND OR KU-BAND WI-FI, FINDING THAT INFORMATION WHEN BOOKING IS REMARKABLY DIFFICULT

performance can differ widely, even when using the same systems.

The best bet for a detailed answer is a flight search site called Routehappy (disclosure: the author used to work there and developed its Wi-Fi rating system) that maps the myriad varieties of aircraft to flight numbers and suggests whether your plane will have the good, better or best kind of Wi-Fi.

A few hidden gems to find faster Ku-band, though, include American's flights on the Boeing 777-300ER; most of Etihad's flights, although not the smaller A320s; Boeing 777-300ERs on Emirates and Singapore; and most Boeing 787 Dreamliners. In the US, United has either Ku-band or the faster Ka-band, except on California flights from JFK.

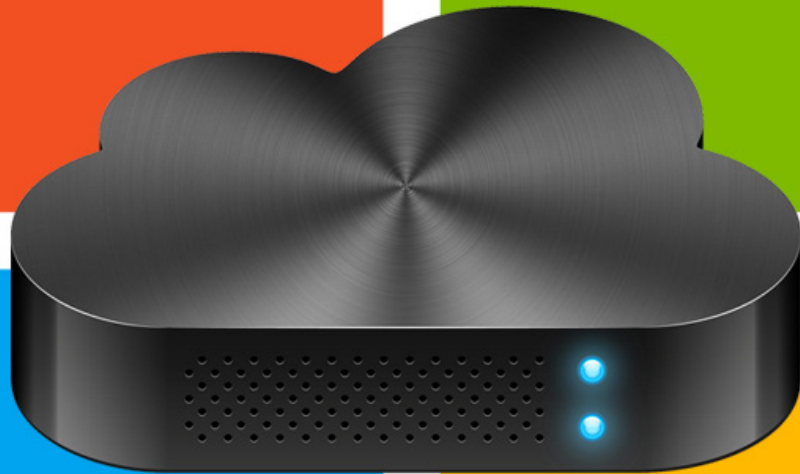
Ka-band is the newest, significantly faster option that can max out at more than 40Mbps per device. Even a planeload of aviation journalists trying to make the system fall over on its launch day couldn't break ViaSat's robust provisioning. Launch customer [jetBlue](#) has more than 70% of its domestic A320 fleet and all its A321s outfitted.

Although Ka-band is currently limited to North America, a new ViaSat satellite will launch in mid-2016 to extend coverage to the North Atlantic, Caribbean and Central America. ■

[John Walton](#) is a specialist aviation journalist.

MICROSOFT'S NANO SERVER: WHAT TO EXPECT FROM THIS LEANER, MEANER WINDOWS SERVER

With Microsoft recently announcing a stripped-back version of Windows Server, *Janakiram MSV* looks at what IT leaders can look forward to



Linux and Microsoft Windows are the operating systems of choice in most datacentres and cloud infrastructures, with the former usually favoured by web-scale startups, while enterprises tend to use the latter to run their workloads.

However, some recent trends have forced Linux suppliers to revisit their architecture. The two popular Linux distributions - [Red Hat Enterprise Linux](#) and [Ubuntu](#) - have undergone enormous transformations to become lightweight operating systems optimised to run web-scale workloads.

And Microsoft appears to have followed suit by building a stripped-down version of Windows Server called Nano Server, news of which emerged at the start of March, when a leaked slide deck from a Microsoft presentation appeared online.

This billed it as a headless deployment option for Windows Server, as well as the “nucleus of next-gen cloud infrastructure and applications”.

The document suggested it could make its debut when the 2016 release of Windows Server drops, while members of the Microsoft Technology Adopters programme look set to get their hands on it during the first half of this year.

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WHY NOW WITH NANO SERVER?

If the reports about Nano Server's functionality prove true, it's not difficult to figure out why Microsoft has decided to introduce it – and that's because Windows Server remains a bulky operating system (OS) to run web-scale applications.

Compared with Linux virtual machines (VMs), Windows Server-based ones take longer to boot.

As traffic increases, administrators will want to launch additional VMs with shorter boot times, but Windows Server isn't the best OS for [elastic workloads](#).

It also undergoes frequent reboots, usually in response to a new software patch or security update, which has a knock-on effect on the uptime of applications.

With the addition of components and services that are not core to the applications, Windows' footprint has increased over time, bringing with it a larger attack surface for malware and viruses.

Furthermore, the large VM image size hogs network bandwidth during provisioning, which should go some way to further explaining why Microsoft is looking to introduce a pared-back version of Windows Server.

LOOKING BACK

[CoreOS](#), a fork of Chrome OS, started the phenomenon of leaner operating systems and was created

› *Support for Windows Server 2003 will end in July, but careful planning can ease operating system migration.*

to run containerised applications with minimal dependencies on software they're designed to run on. It also supports transactional updates that make it easy to roll back changes after each upgrade or a patch.

[Running CoreOS on bare metal](#) delivers better performance than running it in VMs, and with applications moving to containers, CoreOS and

Docker have become a hit with cloud providers.

For example, the likes of Rackspace and Joyent have built new offerings based on this technology.

Red Hat has started Project Atomic with the intention of turning Red Hat Enterprise Linux, CentOS and Fedora into lightweight operating systems.

It recently made Red Hat Enterprise Linux 7 Atomic Host beta available for download. The company claims the new operating system is more secure, easily manageable and optimised to run containers.

Canonical has also announced a stripped-down version of Ubuntu called Snappy Ubuntu Core. Highly inspired by the Ubuntu Mobile OS, Snappy is lightweight and secure. It supports atomic updates to the operating systems, frameworks and applications.

Snappy will become available not just on cloud and hypervisors but

IT'S NOT DIFFICULT TO FIGURE OUT WHY MICROSOFT MAY HAVE DECIDED TO INTRODUCE NANO SERVER – WINDOWS SERVER REMAINS A BULKY OS TO RUN WEB-SCALE APPLICATIONS

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also on internet of things platforms such as the Raspberry Pi 2 and BeagleBone.

But what's all this got to do with Microsoft's Nano Server? Well, it heavily borrows design ideas from CoreOS, Red Hat Enterprise Linux Atomic Host and Snappy.

It supports headless deployment options that make provisioning and managing large clusters easy, and is designed to run cloud-native applications that require elasticity.

It ships with the baseline version of .Net called [CoreCLR, which Microsoft recently made open source](#). The OS does not contain the binaries or metadata that typically increase the footprint and developers are expected to package applications along with dependencies in a single unit of deployment.

Core PowerShell, a minimalistic version of PowerShell refactored to run on CoreCLR, provides remote management capabilities and Nano Server can be installed on physical hardware or virtualised infrastructure.

When Windows Server starts supporting Docker, Nano Server stands to become the preferred OS to run containers.

THE RISE OF MICROSERVICES

The other important aspect that is influencing Microsoft is the [evolution of microservices](#). Slowly but surely, developers are

moving towards building applications composed of modular, autonomous, lightweight, self-contained components.

Docker and containers enable developers to build microservices. Platform-as-a-service (PaaS) suppliers, such as Red Hat and Pivotal, have embraced the technology, encouraging developers to use their platform to run them too.

Though Microsoft has been investing more in infrastructure as a service and analytics, it is revamping the original Azure PaaS layer to support emerging trends such as microservices and containers.

The launch of ASP.Net 5.0 is a move in that direction. With .Net becoming open source, it will run on multiple distributions of Linux. There will be Docker images for CoreCLR and ASP.Net

that developers will deploy on Linux. Without substantial support for a lightweight Windows Server to run containers, Linux may eventually become the best server OS to run containerised .Net applications.

With Nano Server, Microsoft stands a fighting chance of keeping Windows relevant in the era of containers and microservices. ■

Janakiram MSV is principal analyst at Janakiram & Associates.

WITH NANO SERVER, MICROSOFT STANDS A FIGHTING CHANCE OF KEEPING WINDOWS RELEVANT IN THE ERA OF CONTAINERS AND MICROSERVICES

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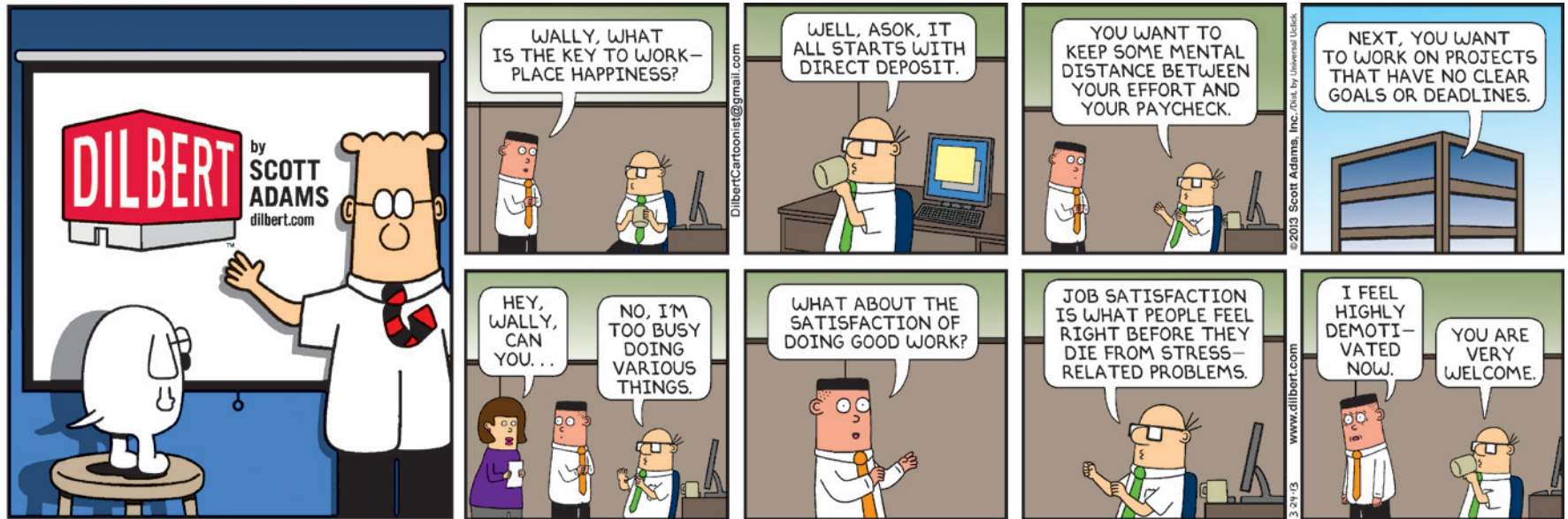
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The day dogs won the internet's vote

Everyone knows the internet was invented for cats. You can't go anywhere online without the furry critters popping up, whether it be on social media or in professional emails.

But on the day of the UK general election, the blasé attitude of cats saw man's best friend, the dog, take over the internet, with canines heading to polling stations across the country.



On Twitter, #DogsAtPollingStations was trending all day, as eager pups followed their electorates to the polling stations and waited proudly while the votes were cast.

The cats tried to fight back later with the hashtag #CatsNotAtPollingStations, but it was too late - the dogs had claimed their 15 minutes of fame.

It's not as if we all had more important things to do, like deciding the fate of the country. ■

[Read more on the Downtime blog](#)