CRN
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April 2017

George's marvellous medicine

NetApp CEO claims three-point plan has returned storage giant to rude health **16**

CLOUD PROVIDERS FACE OFF IN US VERSUS UK DEBATE **10** WHY THE IT DIRECTOR STILL RULES THE BUDGET **13** SURPRISING RESULTS FROM CRN'S RESEARCH INTO NHS IT SPENDING **18**

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Tensions run high when it comes to cloud location

It was a real pleasure to chair a video roundtable debate about the cloud at *CRN*'s offices last month — and it was feisty, to say the least. In recent months, as Microsoft and Amazon — and many other tech giants —launched their own UK facilities, many local cloud providers have spoken out, claiming that the US-owned firms are not good for UK customers. The debate has rumbled on for a while, but our roundtable appeared to be the first time people from either side battled it out face to face.

It did not take long for our panellists — two representatives from UK cloud providers, and two Microsoft partners — to lay into each other, and sparks really did fly. The fiery debate touched on a wide range of topics including trust, government interference, green credentials, price and performance. You can read a write-up of the event on p10, or you can watch the whole thing for yourself at: *http://bit.ly/2nz30sK*.

> **"What was really refreshing about the debate was how honest and open our panellists were, and it was clear they passionately believed in what they were talking about"**

What was really refreshing about the whole thing was how honest and open our panellists were, and it was clear that they passionately believed in what they were talking about — so a big thank you to them all for taking part.

Security was one of the areas which was discussed in the big cloud debate, and — perhaps unsurprisingly — it has hit the headlines elsewhere again in recent weeks. On p26, as part of our Emerging Technologies project, Tom Wright explores the intricacies of the dark web, as a security expert talks him through just how simple it is to create and distribute ransomware — something he claims can be done in less than an hour, which is as fascinating as it is concerning.

Elsewhere in the issue, on p22, Doug Woodburn runs through some of the industry's most infamous acquisitions — the M&A U-turns which have burned the channel. And for the data junkies among you, we've published some of the results of our exclusive Healthcare IT Report on p18, which is the culmination of the responses to more than 100 Freedom of Information requests we obtained and analysed, revealing some surprising insights into IT spending among Trusts.

As ever, please get in touch and give us your feedback via the usual channels: via ChannelWeb.co.uk, or on Twitter @CRN_UK.

■ *Hannah Breeze is deputy editor of CRN.*

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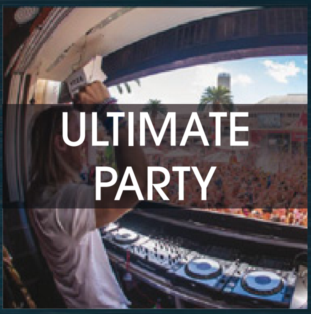

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Five things we've learned this month

1. MISCO RUMOURS ARE FINALLY PUT TO BED AFTER SALE ANNOUNCED

Rumours about the future of Misco have been swirling around the channel for a long time, with industry onlookers keen to weigh in with their views on how to turn around the UK arm of US reseller Systemax. But speculation finally stopped at the end of March, when its parent firm announced plans to sell off the EMEA Technology Products Group – excluding the profitable Misco France business – to Hilco Capital. The distressed-business specialist, which has snapped up the likes of HMV and Staples, bought the firm for an undisclosed amount.

Following the announcement of Misco's fate, Systemax shares jumped 37 per cent, and have since climbed further.

Systemax's CEO Larry Reinhold said: "We believe that we have found a good home for our former colleagues in Europe. We thank them for their efforts and wish them the best of luck in their future endeavours. With a simplified and focused operating footprint and a strong cash position, we are well positioned to continue executing on our strategic plan and drive the performance and value of our businesses for our shareholders."

2. THE 'WOMEN IN IT' CAUSE IS GROWING

Many "women in IT" projects exist throughout the industry, but few of them attract many men who want to champion the cause and speak out. VMware's European boss David Parry-Jones looked to break that cycle, and spoke out himself on the issue.

He and colleagues had recently attended a training course about "male privilege", where men were asked to read out statements about the preferential treatment many believe they have. The powerful statements resonated with him so much, he decided to post one a day to his LinkedIn account for 50 days in order to raise awareness of them.

The posts earned multiple likes and shares among his community of followers, who praised his move.

3. SOFTCAT IS THINKING ABOUT EXPANDING

The UK's third-largest reseller has expanded rapidly throughout the UK in recent years, with regional offices popping up in Scotland, Leeds and Bristol. But on a recent earnings call, CEO Marin Hellawell told *CRN* that the firm has tentatively considered expanding internationally, pointing to Ireland as its possible first stop.

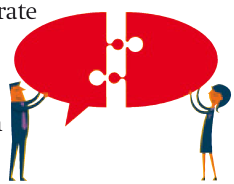
"We have no plans but the one I'm quite open about is that I'd love to have a crack at Ireland," he said. "We need to understand a bit more about that market and look into it more deeply. More importantly, I need a team of people from Softcat who are ready and the right people to set up an Irish office, who I don't have today. That would be a baby step towards the international front. We're doing more international business with our international partners, and that's going really well."

4. AVNET TS HAS SETTLED IN WITH AZLAN

'Bigger is better' appears to be the mantra at Tech Data, after it told *CRN* that the Avnet Technology Solutions acquisition has found a home in its Azlan unit – adding that the combined might of the two means the £1.5bn VAD is now 50 per cent bigger than its nearest rival.

Rob Tomlin, who will oversee the newly formed business, said: "We double in people, we double in revenue pretty much, and our goal is to take the one plus one and make sure it gives our partners, our vendors and our people a real benefit.

"Right now we're working on a model of 'business as usual'. We're keeping the firms separate in how we service the market, how we service the vendors and customers, but we're working to bring that together as soon as we can in a very sensible, structured way."

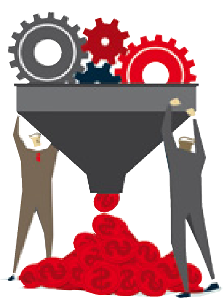


5. WICK HILL AND ZYCKO BRANDS ARE OUT

Wick Hill celebrated its 40th birthday in recent years, but now the brand name has been retired, along with Zycko and SIPHON – fellow firms snapped up by Rigby Private Equity. Instead, from 1 April, the trio took on the Nuvias name, which has run alongside the trio for the past year or so.

Nuvias – which is the new distribution arm of RPE – operates in 18 countries, sells into 30, and has around 430 staff. Its revenues are in the region of \$400m (£321m) and Riverbed is its largest vendor.

Wick Hill and Zycko were acquired by RPE in July 2015 and December 2015 respectively, and SIPHON joined the stable a year later in October 2016.



Facts and figures

6 years

Time the boss of now-defunct Oracle reseller 1st Milestone Mario Santivale has been banned from being a company director after failing to pay enough VAT

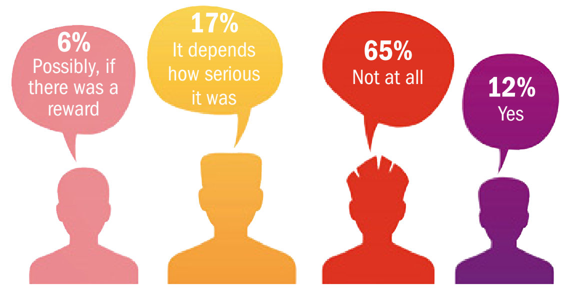
£15m

Minimum amount of cash NCI Technologies boss Andy Trish wants to raise to save ex-warship HMS Hermes from scrap. He served on the vessel in the Falklands War.

150 days

Time SonicWall CEO Bill Conner said it took for the firm to go from losing money to making money since splitting from Dell

POLL: If a customer came to you for help with licensing and you discovered they were not compliant, would you report them?



The Federation Against Software Theft (FAST) sparked a heated debate this month after it launched a campaign encouraging software-asset-management (SAM) professionals to report any customers who fall short on licensing compliance. It is the first time the organisation has directly targeted SAM workers, and many independent practitioners in the space objected, insisting that this would damage customer trust. FAST defended itself and said some end users are deliberately flouting rules. Most people who responded to our poll (65 per cent) said they would never report a customer, but 17 per cent said they might, depending on how seriously non-compliant they were. Only 12 per cent said they would definitely shop a customer, and six per cent said they would, but only if there was something in it for them financially.

Tweet of the month:

"With its market position it should do so much better. It may be the UK's biggest but it is not the best!!"

Kelway founder Phil Doye (@phildoye) took a swipe at Computacenter, commenting on its most recent results. For the 12 months ending 31 December 2016 the overall Computacenter group saw adjusted revenue grow 6.3 per cent year on year to £3.2bn, while adjusted profit before tax fell 0.6 per cent to £86.4m. Revenue in the UK fell 1.1 per cent to just under £1.4bn. Following the results, the firm announced plans to snap up TeamUltra – a Gold-level ServiceNow partner.

NOTABLE AND QUOTABLE: Sarah Shields, Dell EMC

"They are not the biggest and they are not the smallest. But that is irrelevant. What is relevant is that we take this really seriously. We will reward handsomely partners which engage in a true partnership with us and we will take action where needed so that this is the best programme we can offer.

"Zero tolerance means zero tolerance. To err is human and mistakes do happen and we're not oblivious to a one-off mistake – in both directions. There is a degree of reasonableness which has to be implemented. But you can't make that same error X number of times. It's very much the case that we look at intent."

Dell EMC's UK partner boss Sarah Shields took a tough stance on partners that break deal-registration rules, exclusively telling *CRN* that two partners which did so have been booted off, just a month into the new channel regime. Shields said the pair – whom she wouldn't name – flouted deal reg rules. One was found to be fuelling grey market activity, while the second, she said, was "registering a deal reg for customer A and repeatedly selling to customer B, knowing they weren't able to get B a deal reg". She insisted other partners welcomed the move, because it removes rivals who are gaining an unfair advantage.

Head to head

*US cloud giants have been making their mark in the UK recently, with many opening local datacentres, much to the irritation of some local providers. The debate has been simmering for a while, but came to a head at a recent CRN roundtable, hosted by **Hannah Breeze***

When groups of people have fiercely opposing views, conventional wisdom might suggest it is a good idea to keep them apart. But in a recent video roundtable, *CRN* did just the opposite, bringing together business leaders on both sides of the cloud war — those from UK datacentre providers, and those from partners of the US giants.

The *CRN* Big Cloud Debate: UK vs US saw Team UK — UKFast's CEO Lawrence Jones, and UKCloud's commercial director Nicky Stewart — battle it out against partners of Microsoft: RedPixie's chief digital officer Mitchell Feldman, and founder of New Signature UK Dan Scarfe.

The full video can be viewed at *http://bit.ly/2nz30sK*, and we have rounded up highlights of the debate below.

Microsoft and AWS were invited to partake in the event, but nobody was available and no further comment was supplied.

Name: Mitchell Feldman
Position: Chief digital officer, RedPixie
Key quote: "We've done bake-offs between private hosters, Google and Amazon and Microsoft and we have mathematically proven the performance."

Name: Dan Scarfe
Position: Founder, New Signature UK
Key quote: "I'm sure the US government would love unfettered access to data on servers stored by US firms. But there's a little thing called the Fourth Amendment."

Name: Nicky Stuart
Position: Commercial director, UKCloud
Key quote: "Fundamentally this is about trust – consumer trust. It's really important that we create trust in data in order to boost the UK's digital economy."

Name: Lawrence Jones
Position: CEO, UKFast
Key quote: "I am a patriot and I think we should be looking inwardly and buying British whenever we can. There are many people providing these services – better ones, in many cases."

TRUST

To kick off the debate, panellists gave their views on why customers can trust what they offer – and things quickly escalated into a heated debate about the impact of US law on UK customers.

NS: "Fundamentally this is about trust — consumer trust. It's really important that we create trust in data in order to boost the UK's digital economy. The government recently said it wants the UK to be the safest place to do business online. Do we have trust today? There are a lot of moving parts which undermine that."

LJ: "The big concern at the moment is the way the American legislators have a broad brush and feel they can access anyone's data whenever they want if it's a US-owned company. That doesn't sit well with Europeans. I am a patriot and I think we should be looking inwardly and buying British whenever we can. There are many people providing these services — better ones, in many cases."

DS: "The other two panellists have hit the nail on the head about trust and what the US government would like to do. But I would like to pick you up on that point. I'm sure the US government would love unfettered access to data on servers stored by US companies. But there is a little thing called the Fourth Amendment of the US Constitution which actually prohibits them from doing so. I am sure I don't have to tell you about the big case going on at the moment between Microsoft and the Department of Justice around access to data stored on Dublin-based servers. It's going right the way up to the Second Circuit Court of Appeals. As much as they might like this data, at the moment, they've not been given access to that data."

SECURITY

Mitchell Feldman steered the debate towards security, claiming UK customers are best protected by US giants because of their mammoth investments in security. But the UK hosters soon bit back.

MF: "The encryption piece is an interesting debate. There are compelling reasons to invest in the public cloud. When I set up my own business, we had a choice between setting up our own datacentre or going with a public cloud provider. The driver for that was that on economies of scale and research and development, there's no way I could build out a datacentre with all the investment I could get [and match] the benefits of Microsoft and Amazon which invest in [security] and look for patterns and behaviours in intrusion. I just couldn't get that [on my own]. I simply do not think I would get the assurance from any provider other than the big guys that they would have the know-how to protect the integrity of my data."

NS: "I completely disagree!"

LJ: "We've got 50 ethical hackers who work for us directly and we've also got big security teams and huge efforts and energy go into protecting our networks. It's a nonsense that it couldn't be done by a company which isn't one of those big providers."

DS: "Microsoft spends on security alone $1bn a year."

NS: "OK well let's look at that relative to the size of Microsoft and the size of the UK providers. That doesn't sound particularly impressive. At UKCloud, security is our entire USP because in the old days when you had pan-government accreditation, our platform was accredited to take platforms [to high levels]. We've recently been reaccredited with one large government department. I think, Mitchell, it's a spurious argument."

SCALE AND PRICING

In a similar vein, British providers argued that it's not just security where they can beat US firms, claiming they can aggressively compete on scale and price – which prompted a fiery exchange with the Microsoft partners.

LJ: "UKCloud is pretty comparable anyway on pricing and if you do a litmus test for us, [we would be too]. We don't charge for CPU, we don't charge for bandwidth. If you've got a really big e-commerce site, it becomes cost prohibitive [to work with US giants]. We've seen that with customers who have moved away from us and then back again."

DS: "I disagree. We've seen that with ASOS, for instance. They moved away from co-location providers to Azure, and they did that for a number of reasons. Performance was one of them. They're getting phenomenal performance."

LJ: "I would argue that you can't beat us on price."

NS: "Moving from co-lo into the cloud is a different proposition. Just to support Lawrence — we have been around since 2012 and we have dropped our prices 10 consecutive times and in addition to having hugely secure platforms, our customers get a level of support and service you wouldn't get with global cloud providers."

MF: "I don't want to focus on the money — the money is overwritten by the quality of service and the overall benefits. How are small providers able to sustain keeping up with that?"

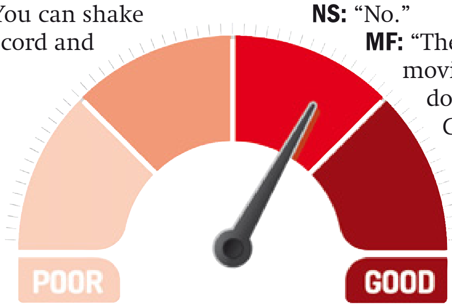
PERFORMANCE

The issue of how British firms can compete on performance was perhaps one of the most heated parts of the debate, with the UK companies fiercely protesting claims that they do not measure up.

MF: "But you haven't answered the question — how can you keep up with the development cycle of the hyperscale providers?"

LJ: "In some cases, we are ahead of it. You can shake your head, but Amazon have a track record and they aren't ahead of everything."

DS: "We're not one-size-fits-all at all — there are 500 services available on the Azure platform. Microsoft has a road map too, Microsoft listens to their customers, and Microsoft gives us tools as developers to build these next-generation application platforms. In the nicest possible way, you can't compete. You don't have anywhere near the level of capability in terms of the different services you might need to build these new generation of applications."



NS: "I am going to fundamentally disagree. We are competing and we do. In the UK public sector, UKCloud has 34 per cent of the infrastructure market, and we're competing against Azure."

MF: "Isn't IaaS a dying market?"

NS: "No."

MF: "The world we're seeing, people are rapidly moving away from IaaS to PaaS."…"We've done bake-offs between private hosters, Google and Amazon and Microsoft and we have mathematically proven the performance."

LJ: "Well you must have been looking at the wrong ones. I will put you to a challenge — I will beat anything you put in front of me. Anything!"

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Keeping in with the IT crowd

*CMOs and other business leaders are being hailed as the new power centre of IT decision making. But recent CRN/Computing research suggests that IT directors should remain the focal point for VARs and other technology suppliers, finds **Doug Woodburn***

The IT manager is cutting an increasingly marginal figure in the technology buying cycle, if recent headlines are to be believed.

Cloud applications and services are now so easy to procure and consume that line-of-business executives have started to regularly purchase technology on their own, with or without the IT department's consent.

Meanwhile, with technology regarded by many organisations as critical to their very survival in the digital era, IT is now a sphere where the CMO or CEO increasingly wants a say. Understandably, many VARs and other IT suppliers are rushing to train their sales staff to speak the language of the CMO or business leader to take advantage of these trends.

Looking at the market data, it's easy to see why business executives – rather than the CIO or CTO – are seen as the new power centre whom IT suppliers must influence.

According to Gartner, for instance, CMOs will spend more on IT than CIOs will this year.

But while it's certainly true that there is no longer just one IT buying centre in most organisations, IT suppliers will underestimate the power and influence still wielded by the CIO and IT department at their peril.

The IT director's enduring influence

Recent research conducted by *CRN* and sister publication *Computing* suggested that, contrary to perceptions in some quarters, IT directors and managers still exercise the greatest influence over decisions.

Non-IT decision makers have become more important in the early stages of the procurement cycle but become less so as it progresses, the research found (*see graph, top left, p14*). In contrast, the IT director/head of IT has the greatest overall involvement throughout the life cycle of a purchase and remains as important in the final stages as they are at the beginning.

While line-of-business heads exert influence at the start of the process, and financial directors towards the end, IT directors and managers are integral throughout each step.

Put simply, anyone who wants to sell technology needs to have them on board.

Arguably, the IT department has regained some influence in recent times as organisations correct mistakes they have made around shadow IT or entrusting too much responsibility to lines of business.

Indeed, one education CIO interviewed in the *CRN/Computing* research had experienced just this:

"We've been through a journey where years ago all the departments chose their own systems [and] they [didn't] work together. So now we've gone the other way and IT has control of it and we have to veto any particular procurement choice that they wish to make. Ultimately, you end up with multiple systems that have to plug together and I call that plugging together the glue. But no-one in the organisation owns the glue apart from IT, and so it's IT's responsibility to make sure that the glue holds the different pieces together."

Wise sellers will have lines of communications into the relevant departments as well as IT. CRM suppliers, for instance, should be appealing to sales directors; accounting suppliers to finance teams; and marketing automation to marketers, and so on. But all this should be in addition to IT →

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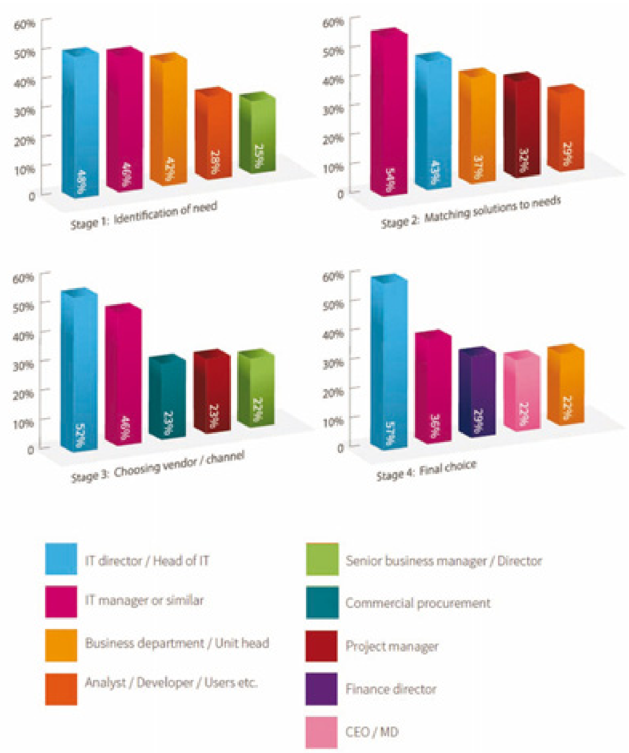
Who was involved at each stage of the process?



personnel, who will ultimately be delivering, supporting and integrating it with the existing technology stack.

That's just one of a number of key findings of the research, which looked at how buying and selling enterprise technology in the era of cloud and digital transformation has changed. Among the other key findings of the research, which surveyed 275 end users and nearly 150 IT channel firms, were that:

- Fifty-five per cent of buyers expect their tech spending to rise in the next three years, with just 10 per cent expecting a fall.
- The fixed, standalone budget is history. Only 21 per cent of buyers still have this budgetary structure in place.
- Decision-making speed is increasing. Seventy-eight per cent of buyers expect the average length of a tendering process to last less than three months in three years' time, up from 54 per cent three years ago.

The need for speed

On that final bullet point, long sales processes are a notorious margin-sapper for VARs, especially if the project in question ends up being shelved or — worse still — awarded to a competitor that has snuck in at the eleventh hour.

But the research found that the tendering process is actually set to speed up over the coming years, and fairly dramatically too.

Respondents were asked about the average current length of tendering for an important business technology purchase. They were then asked what it was three years ago, and what they expect it to be in three years' time.

The results will make pleasant reading for resellers used to regularly expending up to a year's worth of effort in the pre-sales process.

Where three years ago, 24 per cent of end users took over six months to complete an important purchase, only 14 per cent take that long today. What's more, that figure is expected to fall to just nine per cent in three years' time.

Currently, just two per cent of respondents said they take an average of less than one week to complete an important purchase. But eight per cent expect that it will take less than a week in three years' time (*see graph below*).

Digital divide

Digital transformation appears to be the reason for this acceleration.

Digital firms make faster decisions, the research concluded, based on a number of interviews carried out with suppliers and end users.

One CIO of a utilities firm questioned said the introduction of more agile methods had sped up the process on deals under £350,000 from nine to three months over the last five years. Deals over £350,000 now take six months, down from 18 months, the CIO said. "It will go faster in the future. It will be, 'there's an app, download it'," they added.

Meanwhile, an IT director of a media firm questioned said: "I think it's quite fast moving in the digital age, so requirements are changing quite quickly, so I guess that makes it more of a fluid process."

The research clearly suggests resellers can accelerate their sales cycles if they engage with digital businesses.

And yet the vast majority aren't.

In the research, 34 per cent of buyers questioned said they worked for a digital organisation, 58 per cent for those moving from traditional to digital, and only eight per cent for a traditional organisation.

But in contrast, 21 per cent of channel partners said they target traditional organisations, while only three per cent said they target digital organisations and 19 per cent those that are moving from traditional to digital. Some 57 per cent did not target organisations on the basis of how much they had taken digital to the hearts of their businesses.

The changing length of the decision-making process

The Big Interview: NetApp's George Kurian

*NetApp's chief executive talks exclusively to **Hannah Breeze** about his role in the firm's upturn in fortunes, and how his focus is always on what the customer wants*

Two years ago, in the summer of 2015, big changes happened at NetApp. For its financial year ending 25 April, the firm's sales and net profits had slumped annually, its share price was falling, and its then-UK boss admitted that the company needs to become more assertive in the increasingly competitive market. Against this backdrop, a new CEO took over, in the form of George Kurian, who had previously been its vice president of product operations, after joining in 2011. Fast-forward almost two years to today, and things are different: NetApp shares trade for around \$43 each – up from \$34 when he first took over – and its most recent financials, for the third quarter ending 27 January, show that the company is growing again year on year.

Speaking exclusively to *CRN*, Kurian opened up about his time so far as CEO, and where he sees the company going from here.

"We see Dell and EMC's merger as a complete opportunity for NetApp. We're gaining share at their expense because of the innovative portfolio that we have, as well as our focus and execution in the market"

When you first took over as CEO, what struck you most about the firm? What were its strengths and the main weaknesses you wanted to address?

I first spent time with our customers and partners and investors, in addition to the employees of the company – interviewing many stakeholders about the state of the union. I immediately got a sense of the real positives and the deep loyalty that we had in our customer base, the commitment of the partners, and the genuine affection for the company.

I also felt the urgency needed to steer a different course for the business, so we outlined a transformation programme that encompassed three things: the first was [to do with] the technology portfolio – to accelerate the technology portfolio towards the faster-growing parts of the market. The second was to adjust our cost structure to be in line with the expectations of the business; and the third was to bring on a new leadership team to drive the business to the next chapter of its evolution.

To what extent do you believe you've made progress on these aims so far, and what else is there to do?

I feel really good about all those things we laid out. We communicated a plan to the investors and we are ahead of that plan. We returned the company to growth after three years; we accelerated our number-one position in several parts of the storage market. We are the fastest-growing all-flash-array vendor, the fastest-growing SAN vendor – and that's the first time in the history of the company that a CEO of NetApp can say that. We have the first number-one share in the storage and device-management market. So we feel very good about our progress in those dimensions.

In terms of the cost structure, I think the financial metrics continue to speak for themselves. The leadership team has really gelled – we have lots of new talent which has come to NetApp because they have confidence in our position to take an institution that is beloved by customers for doing right by them to the next chapter of our history.

The storage market has undergone significant changes in the near two years you have been CEO. How do you view the market today?

We have a phenomenal flash portfolio. I think we are the only vendor in the storage market which grew market share year on year last quarter, even though it was not our fourth quarter, which is traditionally our strongest. In the strongest quarter for our competitors, we grew share against them, which is why some of them had to buy assets to try to compete with us. We feel very good.

Are you referring to HPE and Nimble? What do you make of that acquisition?
It's part of the road map they have laid out for themselves. I don't comment on others' acquisition strategies.

Dell EMC has been extremely vocal about its new-look channel programme and strategy. Is this a threat to NetApp?
We see Dell and EMC's merger as a complete opportunity for NetApp. We're gaining share at their expense because of the innovative portfolio we have, as well as our focus and execution in the market. I think they have several phases of rationalisation to take on and those partners who choose to work with us are going to continue to see success in the market, because we keep winning in the market.

NetApp is the biggest independent storage company out there now. What does this mean for you and your partners?
The place we have in the industry is unique and we intend to exploit it to our advantage. It allows us to build compelling solutions for customers that span not only the traditional datacentre environments but also the new cloud and hybrid cloud architectures. I think being the world's largest company that is focused on data management gives us that unique opportunity to take our customers where no-one else can take them.

There is a lot of commentary about NetApp's long-term future, with speculation that the firm could be acquired by another larger player. Is this kind of talk distracting, and where do you see the long-term future of the firm?
We're going to continue to focus on our customers and the innovations they are looking for. I think the results speak for themselves. There is always commentary and my view is that it is most important to concentrate on what the customer wants so we are going to stay focused on that.

There is a lot of talk about digital transformation in the industry at the moment. Do you believe this is a real opportunity, or is it an overused buzzword?
Digital transformation is a term used quite widely. When we talk about it, we mean the use of digital technology to transform processes. It's using technology to serve your customers better and to automate and make your business processes more efficient. It is about using digital technology to integrate the communication of a business so you can have a full 360-degree experience for the customer. We are specific about what it means and in all those contexts I mentioned, if you think about it carefully, data is the most strategic asset to enable that digital transformation.

You're over in the UK now talking to partners. What are they telling you and what do they want from NetApp?
We are seeing a general turnaround in the NetApp business and there is real excitement and confidence in the NetApp portfolio. Our unique position in the industry, and the changes in the industry are a positive for NetApp. That's reflected not just in our customers, but in our own teams and in our partners. I have met with all of them over the course of this week and I think they are in general seeing the same thing: customers, partners and NetApp teams feel much more confident today than they did a year ago.

You used the word turnaround – when you became NetApp CEO, did you view your job as a turnaround mission?
When I use the word turnaround, what I mean is, we were not delivering to the fullest expectation and aspirations that we could deliver and I see plenty of opportunity to accelerate that progress. We have made a lot of progress over the last year and a half – our stock price is clearly reflective of that. We think we've got even bigger and much bolder aspirations to take the lead in this industry.

How do you think your technical and product background shapes how you are as a CEO? Many CEOs come from sales backgrounds, so do you think having this technical know-how is a significant advantage?
As a CEO you have to understand all the functions of the company and I think every CEO comes from a background from one of those functions. In a technology company, they either come from a technology background or a sales background predominantly. But you have to understand all the functions and I am cognisant of not relying on spending all my time thinking about technology. In fact, I have over-rotated to spend more of my time on other things to make sure I am balanced across all the stakeholders of the company. Technology is an enabler and I think, as a business, leadership and people leadership is core to being a CEO.

A healthy opportunity

The NHS may be strapped for cash, but Trusts are investing heavily in new technology equipment and services, according to exclusive CRN research. ***Hannah Breeze*** *reports*

When considering the vertical markets that may be spending big on technology, you might be forgiven for glossing over the NHS, believing its tight budgets and the huge pressure placed upon it would rule it out from splashing the cash.

But exclusive research carried out by *CRN* suggests that, in fact, the opposite is the case – with spending appearing to grow annually in the financial year ending in 2016. The wide-spanning research quizzed NHS Trusts about their spending on IT, their PC estate and the operating systems on which they run, and their usage of cloud services.

CRN sent Freedom of Information (FoI) requests in December to all 161 NHS Trusts in England, and of those, 102 replied, revealing information about their annual spending for the financial years ending in March 2016 and March 2015.

Of the 102 Trusts that responded to our FoI requests, a total of £448.13m was spent by Trusts on IT in FY15/16, a figure which rose 7.4 per cent on the year before. Although the jump seems high – especially against a backdrop of NHS spending cuts – some Trusts completed large one-off upgrades or signed multi-year outsourcing deals during the period, skewing the figures upwards.

0.71% of total IT spending among Trusts went on cloud services

There was an annual increase in IT spending of **7.4%** among the Trusts that replied

One NHS Trust is running **76%** of its PC estate on XP

Spending surge

The public sector across the board has faced harsh spending conditions in recent years, and the NHS is no exception, with the British Medical Association describing the health service as being "at breaking point". The body claims that by the 2020/21 financial year, there will be a £30bn funding mismatch between resources in the NHS and patient needs in England alone. Furthermore, it claims NHS Trusts are facing a £2.45bn deficit.

With this in mind, the way Trusts spend their precious budget is under even more pressure – and it may seem an unpopular decision to deprive front-line services in the name of improving IT.

But despite this, many NHS IT experts are not surprised by the increase in spending revealed by our FoI request responses. Many claim that IT departments have had to hold off on buying new IT for so long since the coalition's spending review in 2010, that eventually, they have to cough up for new kit.

25% of NHS Trusts are using cloud services in some way

Mark Hall, public sector director at Redcentric, said the attitude towards buying IT in the NHS has changed in the past year to 18 months.

"There's a lot of change at the moment," he said. "The NHS is trying to reorganise itself from top to bottom, make itself more efficient, cut spend and deliver better technology [and] innovate – but I'd put this in inverted commas, because that means more than cutting spend.

"We're seeing a rationalisation on technology. By which I mean if you look back about 10 or 15 years, we've seen a nice, steady flow of ICT spend in the sector. It has been OK – modest – and just a few spikes; nothing that is going to rock your world. But fast-forward to that last 12 to 18 months, we've been seeing – I wouldn't say explosive – but a marked increase in NHS Trusts coming to us saying 'we've got this challenge because we have old equipment and we haven't got the right staff, can you help us?'. We've seen a lot of uptake on that. And it's not just in traditional stuff – a bit of SaaS, or application hosting – although that is massively important.

Trusts spent **£448.13m** on IT in FY15/16

"We're seeing things such as VDI – for example, 1,000 XP machines: to upgrade the hardware there or to do the software licensing, or just to upgrade, it's a massive amount of cost. So we're seeing some large Trusts come to us and say 'how can we virtualise our desktops while maintaining these assets?'. By doing that, they get a better user experience, it builds in disaster recovery, and it helps them take advantage of new applications."

■ *A free report of all CRN's research findings can be downloaded at: https://tinyurl.com/laetevo*

More than eXPected

Almost five per cent of devices in NHS Trusts are running on Windows XP – a higher percentage than Windows 8 and Windows 10 combined, according to *CRN*'s research, despite support for the OS having ended in 2014. Of the Trusts responding to *CRN*'s FoIs, 51 per cent run Windows XP in some form, ranging from just a few PCs to almost three quarters of their estate.

In total, 18,604 PCs (laptop-type machines, desktops and tablets) run Windows XP among the Trusts that provided these details, comprising 4.7 per cent of the total. By comparison, Windows 10 was running on just 1.8 per cent of PCs, and Windows 8 was on 2.4 per cent – 4.2 per cent combined.

Windows 7 is the most popular OS among NHS Trusts by far, running on 82.9 per cent of all devices.

Windows XP was launched in 2001, and support for the popular OS ended in 2014. Microsoft and the government struck a deal for extended support for the OS, as many public bodies had failed to upgrade in time. But this extended support was for a limited period.

Most of the NHS Trusts still running Windows XP in some form had only a few machines on it, mostly less than five per cent of their estate. But some still run a more significant amount of machines on the OS: 10 Trusts had between six per cent and 50 per cent of their estate on XP. Furthermore, two trusts had 50 per cent and 53 per cent of their estates on XP respectively, and one ran 76 per cent of its IT estate on the operating system.

Security experts told *CRN* that running Windows XP in any form, be it one machine or thousands, is a risky business.

Chris Mayers, chief security architect at Citrix, said he was not surprised by *CRN*'s findings because they chime with what his company's research found in a survey last year.

"There is a significant amount of XP still installed there," he said. "We regard this as being a significant cybersecurity issue. One of the top four mitigations against cybersecurity issues is the ability to patch an operating system. These top four mitigations prevent 85 per cent of attacks. But if you can't patch the system because it's out of support, that's one of your main props being pushed away.

"We know some organisations have paid for extended support, but this is an expensive business. Frankly, the longer the time goes on, the more expensive extended support costs. Therefore, if you've got XP as part of your estate, it may be more cost effective to replace those machines anyway.

"The other big trend in the last couple of years is ransomware and these target precisely the sorts of problems you can't patch. That's a significant risk. We have seen NHS Trusts themselves be affected by ransomware."

Exertis: it's time people knew just how big we are

*MD Paul Bryan opens up to **Doug Woodburn** over the £2bn-distributor's growth plans, the likelihood of distressed acquisitions, and shedding its tag as a broadliner*

Exertis may be tussling with Tech Data for pole position in the UK distribution market, but most resellers don't realise just how big it has become, nor the full range of products and services it now offers, its managing director has admitted.

The Exertis brand was formally born in September 2014 but revenues last year reached £2.44bn, with 72 per cent – or around £1.76bn – of that total drawn from the UK.

Since its rebrand two and a half years ago, the Anglo-Irish distributor has boosted its scale and repertoire through an acquisition spree that has taken in Cohort, Computers Unlimited, Siracom, Hammer and Medium.

Trading up: Exertis' new national distribution centre in Burnley, which it will open later this year, is the size of five football pitches

Exertis managing director Paul Bryan (*pictured*) told *CRN* that it is time the DCC-owned distributor had a "louder voice" in the market.

"We've stayed under the radar accidentally on purpose, because we were seen as a bit of a speed-boat to go around some of the bigger boats and take advantage of the market," he said.

"But our scale now is right up there at number one or two. Avnet has obviously taken Tech Data to a different scale, but before that we would have been number one. I don't think a lot of customers realise that and understand the breadth of the products and specialisms we've got, so it's time to change that."

Even split

Exertis' UK business is historically biased towards consumer, but its recent blockbuster acquisitions of enterprise storage VAD Hammer and audiovisual specialist Medium mean the consumer-B2B split is now a more even 60-40.

The distributor recently appointed former HP and Fujitsu executive Kevin Matthews to spearhead its enterprise business, one of three units on the B2B side alongside volume IT and audiovisual.

"We are working to more of a 50-50 balance, and that's by concentrating on enterprise and scaling that up further," Bryan said. "In audiovisual, we are absolutely challenging to be number one and in normal IT volume, on most categories we are either number one or two in the market."

Medium is currently in the process of being integrated, Bryan said, and although an 'Exertis-Medium' moniker will be used in the mid-term, ultimately it will be known as Exertis AV.

Hammer, however, will be kept as a standalone entity.

"Hammer's systems have not been integrated and it has its own warehouse, but of course we are looking at customers and products to make sure we get the best out of cross-sell," Bryan said. "They've both got service elements that we are pulling together. We have a 24/7 NOC which we white-label on behalf of resellers to manage security threats and do training, install, break-fix, configuration, so there's a whole manner of services there and, again, some of them are best-kept secrets."

Broadline brush-off

Although Exertis has a footprint in almost all parts of the IT and comms market – offering everything from home routers and TVs to hyper-converged storage – Bryan rejected the tag of being a broadliner.

"That breadth of product – I always get a bit paranoid that we will be called a broadliner," he said. "Yes, we have a vast portfolio, but we would absolutely want to be considered a specialist because we spend a lot of investment and time making sure we have people faced into those products and services in a particular market. What I would consider to be a broadliner – 'it's on a shelf; come and pick it up' — we are trying to be a lot more specialist than that."

Bryan said Exertis has had nearly 1,000 pre-registrations for Plug-In to Exertis, a first-of-its-kind event the distributor is holding at Twickenham stadium in May to showcase its wares.

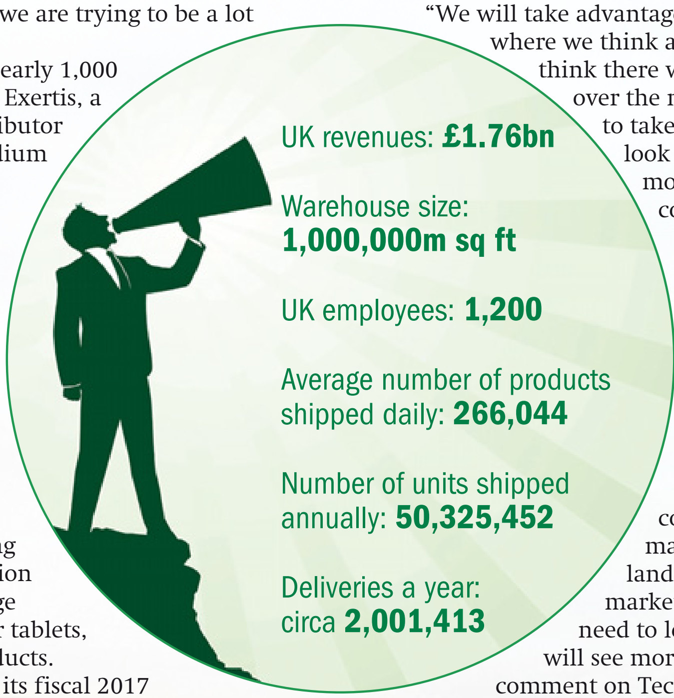
"We are very conscious that Exertis — prior to this point — was a collection of Micro-P, Gem, Computers Unlimited, Siracom etc," he explained. "We've become this Exertis brand and we need to get out into the market and set out our stall to make sure people know what we do."

Exertis suffered a "very difficult" fiscal 2016, with like-for-like UK revenues falling seven per cent due to a reduction in sales from an unnamed large supplier and weak demand for tablets, smartphones and gaming products.

However, in the first half of its fiscal 2017 ending 31 March, Exertis' revenues rose 5.1 per cent, with the UK business delivering "strong growth".

Bryan claimed that Exertis is enjoying a strong finish to its fiscal year.

"The devices market isn't particularly lighting up; we're not going to see double-digit growth in tablets, phones and computers," he said. "It's still a really important part of our business, but other areas are starting to see better growth, which we are focused in on, one of those being audiovisual, another being the enterprise piece, not just storage and server, but also wireless and security. We are pretty happy with the performance."



Distressed acquisitions

Bryan claimed that the currency fluctuations caused by the Brexit referendum result had caused "choppy waters" for distribution, and predicted that Exertis could pick up some of the smaller distributors struggling to stay afloat.

"There will be consolidation as I think those smaller players will find the choppy waters tough," he said.

"We will take advantage of anything that appears where we think a cash injection is needed; I think there will be some distressed buys over the next year. But if we were able to take our pick, we would definitely look at the areas where there's more of a service wrap, not your commodity products."

Tech Data, whose UK business reported revenues of £1.95bn for its fiscal year ending 31 January 2016, completed its acquisition of Avnet TS last month and Bryan predicted that distributor M&A will only accelerate.

"We are seeing further consolidation in both the manufacturer and distributor landscape," he said. "It's a tough market out there and people just need to leverage better, and I think we will see more consolidation happen. My comment on Tech Data is, 'good luck'.

"Globally, it's huge in terms of the scale they are taking on and I would like to think that while they are busy integrating it and distracted, we can take full advantage. But we will see more of it, and I dare say we will be back in here doing an interview about another acquisition we've done because that's just the way the market is going.

"But as distributors get bigger, the onus is on staying specialist. That's the most important thing, which is why we are trying to put the customer at the centre of it. We are delivering what they need rather than just saying 'we've made ourselves bigger — oh look, there's more on the shelf'. That's not what the market wants. Distributors have to become more service-enabled, so that's definitely where we are going."

"I always get a bit paranoid that we will be called a broadliner. Yes, we have a vast portfolio, but we would absolutely want to be considered a specialist because we spend a lot of investment and time making sure we have people faced into those products and services in a particular market"

Up in flames

SonicWall's executives have opened up about the struggles the firewall vendor and its partners endured during its brief ownership by Dell. Innovation had 'stagnated', and by the end of Dell's ownership of the firm, partners had lost the ability to make money from its portfolio, they told CRN last month. But it isn't the first time the channel has been burned as a result of a large vendor buying – then promptly selling on – a specialist brand, as ***Doug Woodburn*** *reports*

Brocade and Ruckus Wireless

All too often, a specialist brand that has set the market alight is acquired, but then left to fester rather than flourish under its new owner. Brocade's brief and confusing tenure in charge of Ruckus caused the wireless vendor's market value to plummet, and also sparked disruption and uncertainty for its partners.

Murray Pearce, UK managing director of Ruckus distributor Infinigate, told *CRN* in February that he was "cautiously optimistic" at the identity of Ruckus' new owner, consumer comms firm Arris, which intends to run Ruckus as a separate unit. It bought Ruckus and Brocade's wider network edge business for a knock-down price of $800m after Brocade's new owner, Broadcom, rejected it.

"What people don't like is uncertainty," Pearce said at the time. **PAIN RATING: 6/10**

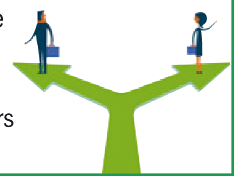
Intel and McAfee

Having acquired McAfee in 2010 for $7.7bn, Intel announced in September that it had agreed to sell a 51 per cent stake in the business to private equity house TPG for $3.1bn.

The chip giant's six-year stab at being a security vendor is an episode many of McAfee's partners would prefer to forget.

"Let's face it, they have had the technology for a few years and have done no integration into the rest of the Intel equipment," David Lannin, director of technology at Intel Security Gold partner Sapphire, said at the time rumours of a sell-off first emerged.

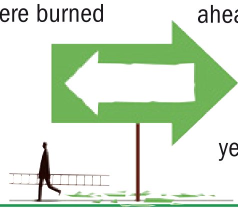
"If anything, they've fractured the old McAfee story in a bad way for both resellers and customers." **PAIN RATING: 7/10**



Symantec and Veritas

Symantec might have taken a decade to decide its $13.5bn acquisition of Veritas was a mistake, but partners were burned nevertheless as a result of its slow-motion U-turn.

Having argued that security and storage are best delivered together when it acquired Veritas in 2005, Symantec had evidently changed its mind by 2015, when it announced it was offloading the information management brand for $8bn.



A further $1bn was knocked off the price by Carlyle Group ahead of the deal closing last February.

At the time of its 2015 partner conference, Brett Shirk, Veritas' executive vice president for worldwide sales, described the process as "disentangling 10 years of entanglement with Symantec" and apologised to partners for the disruption caused. **PAIN RATING: 7/10**

HP and Autonomy

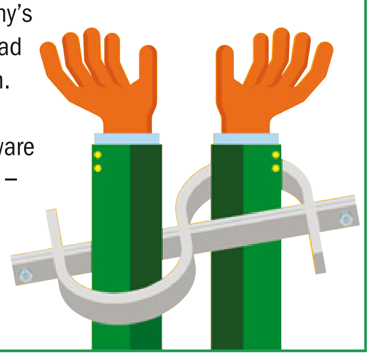
HP's $11.7bn acquisition of UK software firm Autonomy in 2012 is generally considered to be one of the worst of all time.

It all started off so well, with Autonomy founder Mike Lynch paraded as the star attraction at HP's 2012 partner conference. Then came the bombshell in November 2012 that HP had called in the US SEC and the UK's Serious Fraud Office after taking a $5bn charge relating to alleged "serious accounting improprieties" it claimed it had uncovered in Autonomy's finances. Lynch denied the allegations and a bitter legal and PR battle, which is still being fought today, ensued.

Inevitably, the channel was caught up in the furore. Two US resellers were reportedly implicated in the fraud HP alleged took place. Despite launching a channel scheme encouraging partners to invest in Autonomy's technology, HP couldn't offload the sullied brand fast enough.

HPE eventually reached a deal to sell its non-core software assets – including Autonomy – to UK software firm Micro Focus in September for a relatively paltry $8.8bn.

PAIN RATING: 10/10



Four's a crowd

With three quarters of the world's biggest distributors locked in M&A machinations, Arrow ECS' EMEA leadership tell* Sam Trendall *about the company's growth plans

Less than six months ago, Arrow was one part of the so-called big four: a quartet of US-headquartered broadline heavyweights that has long been established as the dominant force in the global distribution landscape.

But following Ingram's $6bn sale to Chinese conglomerate Tianjin Tianhai in December, and Tech Data's $2.6bn buyout of Avnet Technology Solutions in February, the big four is no more. For a start, the four has clearly become a three – in the value space at least. And the US no longer has the monopoly on global distribution ownership, with the world's largest distributor now in Chinese hands.

Amid all this upheaval, Arrow ECS has continued serenely on its way. As two of its three major rivals face the herculean job of merging with one another, the third is adjusting to life under a new regime. Meanwhile, the Colorado-headquartered security, storage, and software distributor is coming off a year in which global sales, profit, and margins all rose. And, in the fourth quarter, Arrow CEO Michael Long proclaimed that the firm had swiped $350m in annual business away from rivals, the benefits of which will be seen in its results this year.

With the market dynamics of the distribution landscape facing a year of perhaps unprecedented change, Arrow ECS EMEA president Eric Nowak (*pictured below left*) and vice president for northwest Europe and APAC Jesper Trolle (*pictured below right*) spoke to *Channelnomics Europe* about the broadliner's plans for the coming months.

Arrow ECS in EMEA

Stocks products from more than **85** vendors

Annual sales of **$2.69bn** in 2016

Offices in **26** countries

Delivers shared services across the region from centres in **Morocco**, **Israel**, **Poland**, **Denmark**, and **Austria**

Arrow has made big investments in building its cloud proposition; how big a part of your business is it now?

Eric Nowak: At the moment we are 60 per cent software, 30 per cent hardware, and 10 per cent services. But we are doubling our cloud revenue every year. It has become a significant part of our business already, and we see a huge acceleration in the shift of traditional hardware and software sales to the cloud.

All the major distributors – and plenty of smaller ones – have a cloud business these days. What does Arrow see as its differentiator?

Jesper Trolle: We started with the marketplace, ArrowSphere. But today, any distributor would say it has a marketplace. We have developed assessment tools which allow our customers to demonstrate where a customer can take advantage of cloud. We have developed support services which allow our partners to offer support across all the cloud services, [similar] to what we do in our traditional business. The last piece of the puzzle is Arrow Capital solutions where we are working with our partners to transition more easily from an upfront to a pay-as-you-go model. These are our key differentiators.

How much has the business model of distributors changed and evolved in recent years and where will it go from here?

Eric Nowak: We are already a services distributor, not a product distributor anymore. Distributing products is just one of the services we offer. We also have financing services, ArrowSphere cloud services, support services, training services, and global delivery services. The distribution of product and software will continue to be a big part of our activity – but it is not enough, otherwise you will turn into a volume distributor, and that is not what we want. We want to provide the channel with what it wants, and what it wants is services.

Who do see as your competition these days?

Jesper Trolle: The landscape is changing – Ingram has been acquired, and Tech Data and Avnet will merge. We believe that we are now the only global value-added distributor. We have a unique portfolio. We will continue to compete with those guys on some parts of our portfolio, with the EMEA specialist guys like Exclusive Networks, and in countries with small, local distributors – there are a lot of countries where we compete with those guys. The way we compete is always on value. We compete with Ingram and Tech Data on value, as we would with any of the other guys.

As the rest of the big four are involved in M&A and integration, does Arrow have an opportunity to capitalise while its big rivals might be distracted?

Eric Nowak: When we made our earnings call last month we mentioned a lot of partners that are switching to us already. We believe this will continue. Tech Data and Avnet together will be different – we do not believe that they will bring more value. We believe that we can continue to differentiate and provide for partners the value that they really need.

■ *Visit www.channelnomics.eu for daily analysis of the IT channel across Europe*

Krakow shared services centre up and running

Arrow ECS has lifted the lid on its new shared services centre in Poland. The facility is currently offering quoting and configuration services to its UK operations, with more countries to be added in due course.

Rumours first surfaced seven months ago that Arrow was looking to move to Poland some back-office functions previously fulfilled in the UK. Northwest Europe and APAC chief Jesper Trolle revealed that a centre in Poland's second-largest city, Krakow (*pictured*), is now up and running. The UK is the first country for which the Polish facility is providing services, but other nations in western Europe and beyond will likely be added in the months to come.

"For a few quarters we have been building quoting and configuration capabilities in eastern Europe, in Poland," said Trolle. "It gives us the ability to free up our salespeople to go and meet and talk to customers."

Both Trolle and EMEA boss Eric Nowak stressed that Arrow ECS has used shared services for many years. The distributor has a number of centres across EMEA providing various functions for their surrounding regions, including locations in Denmark, Austria, Morocco, and Israel.

"We have experience with shared services centres since 2006. We have regional shared services centres [offering services such as] admin, finance functions, and sales and quote configuration. We have shared services in most of the regions," said Nowak.

"But when it comes to the customer-facing [operations], it is always local."

Arrow readies IoT scheme

Arrow has big plans for the Internet of Things (IoT) space and will launch a partner programme to address the sector this year.

Nowak told *Channelnomics Europe* that the distributor will, over the coming months, develop IoT into its own business unit. Alongside this will be a formalised framework for working with vendors and resellers of IoT technology.

"We want to provide every single piece of an IoT platform, and the ECS part will be about managing the channel. Of course, we are [currently] much more advanced on the components side than on the ECS side. But we will launch in Q3 in Europe our IoT partner programme, and will be on-boarding IoT VARs and providing specific SLAs," he said. "The same way we already have, in all the countries, a cloud, a datacentre, and a security business unit [among others], IoT will be its own business unit."

Nowak predicted that Arrow's components business and the value-focused ECS arm would come to have a tighter working relationship, as IoT brings the worlds of IT and operational technology together.

"The Arrow strategy in terms of IoT is being able to provide every kind of service in terms of IoT. The value part of that is cloud and analytics, and to bring the IoT solutions to market. We need to on-board IoT VARs, MSPs, ISVs, and CSPs. Probably some customers of the components business will become part of Arrow ECS' [portfolio] and vice versa," he said.

"We will be closer to the other businesses of Arrow; the siloed services organisations that we had will continue for pure [value] activities or component distribution; but, on IoT, we will work closer together — and we are already doing so."

Ransomware for dummies

*With ransomware arguably the number-one cyber threat to businesses of all sizes, Ignition Technology's CTO Paul Risk set out to discover just how easy it is to profit from the notorious malware. **Tom Wright** reports*

It is not uncommon for a security reseller or managed service provider to be approached by a business after a ransomware attack, asking what it can do to help the firm out of a sticky situation.

The answer, more often than not, is nothing. While a number of solutions can be deployed and monitored in the hope that an attack can be prevented, once the cybercriminal has struck you are generally left with a dilemma – pay or bust. After all, you'll see countless vendors advertising a solution that claims to stop ransomware, but you'll be pushed to find one boasting that it can reverse ransomware.

Ransomware protection is now more important than ever, but there is a growing feeling among cybersecurity specialists that businesses do not truly appreciate the threat; believing it to be overhyped by the media.

To test this theory, Paul Risk, CTO at UK security distributor Ignition Technology, set out to create his own piece of ransomware and establish whether or not end users need to be as scared of the technology as some people say they should.

The result of his experiment was that he was able to locate a ransomware provider, create the ransomware and download it, all in less than an hour.

"It's pretty shocking," he said.

"I've been in security for quite a long time and we've been selling these tools to protect people. Sometimes when you do a proof of concept for a cybersecurity product you're sort of hoping that something happens, something is flagged up, to help close the deal – but a lot of the time it doesn't work like that.

"You do sometimes wonder if this is all just scaremongering, is it actually real? To know that I've created a piece of ransomware from start to finish in one evening is scary."

Risk chronicled the process, taking screenshots along the way.

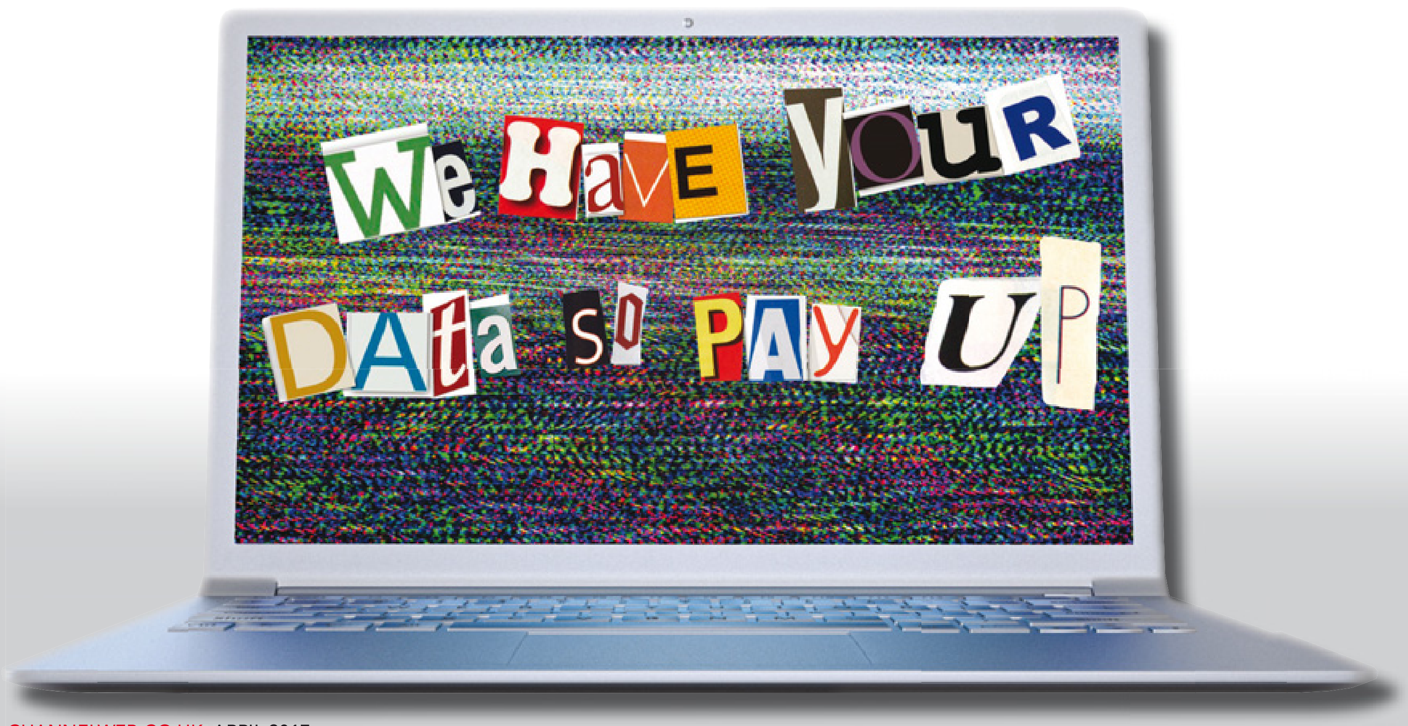
■ 10:05pm: Locate a VPN service

Connecting to a virtual private network, from which you can navigate to anywhere on the internet without it being linked to your IP address, makes your actions untraceable. There is no point going through the process of creating ransomware, distributing it and collecting your earnings if a digital paper trail is going to lead right to your laptop.

By 10:44, all these steps had been completed and Risk now set about accessing the dark web.

■ 10:58pm: Find and connect to the Satan website on the dark web

Satan came to prominence at the start of this year when



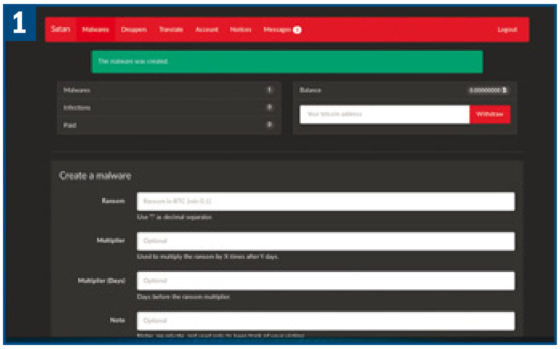
malware research firm Xylitol reported that the ransomware creator was now offering ransomware-as-a-service functionality on the dark web.

The dark web comprises content that sits on overlay networks built on the World Wide Web's infrastructure, but can only be accessed using specific software. Virtually all sites on the dark web hide their identity using services such as Tor, and require the user to use the same encryption tools to access their content. The Tor web browser is commonly used for browsing the dark web, where the Satan ransomware site can be discovered.

On its website, Satan offers a brief description of itself: "Apart from the mythological creature, Satan is a ransomware — a malicious software that once opened in a Windows system encrypts all the files and demands a ransom for the encryption tool.

"Once you've signed up, you'll have to log in to your account, create a new virus and download it. Once you've downloaded your newly created virus you're ready to start infecting people."

It took Risk less than 15 minutes to find the Satan site on the dark web.



■ **11:01: Ransomware created *(Fig 1)***

The process of actually making the ransomware took just three minutes. Absolutely no coding or programming skill is required. An online form asks for a malware name, the amount you want to charge, and the rate at which you want the ransom to increase over a period of time.

Once the malware is created you can view a dashboard, showing how many malwares you have created, how many people have been infected, and how much has been paid.

"What's interesting is at this point I haven't had to part with any money whatsoever," Risk said.

"I signed up on the website and didn't even need an email address. The company takes a 30 per cent cut and I get 70 per cent. I don't think that's too bad, and if I didn't like it I'd just charge more for my ransomware!

"I can even see how many people have been infected by the ransomware and if I want to take the money out I just pop in my Bitcoin address and press the withdraw button. It couldn't be any easier."

Interestingly, Satan states on its website that the commission it charges will reduce depending on the number of infections and payments a user generates, encouraging users to attack more targets.

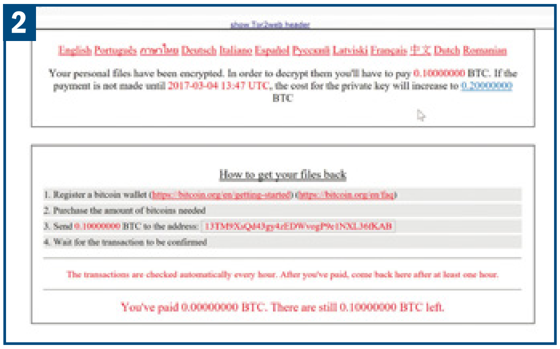
Does it work?

Just three minutes later, at 11:04, Risk had downloaded the ransomware as an executable file, ready to be shared around potential victims.

While not knowing whether the ransomware would work, Risk checked the file on Google-owned malware scan engine VirusTotal, which had no record of this particular type of ransomware — meaning it is likely that Satan had generated a completely new strand of ransomware unknown to cybersecurity vendors.

"You can test malware on sites such as virusTotal," Risk said.

"You can open the ransomware file, look at the properties and copy the SHA-1 hash, which is the unique identifier and in theory these should be unique.



"If I take that hash and search it in VirusTotal I should see if anyone has seen this piece of ransomware before. It came back and said 'file not found' which means that they haven't seen it before, from any of the 56 vendors that use VirusTotal's pool of malware."

The test

Opening the ransomware on your own machine would be equivalent to cyber suicide, so Risk sacrificed an old laptop and opened the executable file.

Once the file was run, all files on the machine had their names changed to random combinations of letters, and when opened all documents and images had been translated into symbols and codes.

"There was a constant load on the CPU which normally with ransomware suggests that it's going through and encrypting all your files," Risk said.

"After that I got a message, and my documents had changed names — they looked like gobbledygook — then the browser window popped open and it told me what had happened to my files. They'd all been encrypted.

"I then followed the link to see what happens and it tells you that you have to pay specifically what I had set up — 0.1 bitcoins (approximately £96) to that particular address — and it even tells me that if I don't do this within 24 hours it will increase the ransom." (*Fig 2*)

At this stage, the full ransomware life cycle is complete — all that is required now is for the cyber criminal to distribute the file through email, the internet, on a USB or a number of other methods. Once the file is open, the user has to face that dreaded dilemma — pay or bust.

"It is really, ridiculously simple," Risk said.

"It took me one hour from start to finish. Even if this took you a week, it wouldn't take any time to go and do this stuff.

"I did a bit more research after this and I found another 34 ransomware-as-a-service sites. It is just another world, so this is very real."

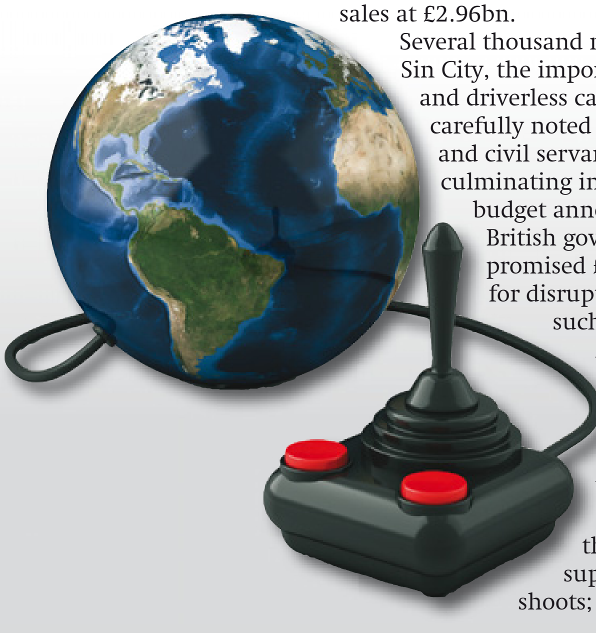
How PC gaming is driving AI, cars, and the UK's tech policy

*Context's **Jonathan Wagstaff** on the the future of technological development*

Jonathan Wagstaff Business analyst, PC gaming and virtual reality, Context

At CES 2017 in January, Jen-Hsun Huang, CEO of Nvidia, announced that "GPU-powered deep learning is driving the ability for computers to perceive the world… But one day, AI [artificial intelligence] researchers met the GPU and the big bang of AI occurred."

Until recently, when most ICT analysts thought of Nvidia, the first thing to come to mind would have been gaming, and for a good reason. The core of Nvidia's business is still PC gaming, where it continues to dominate the GFX hardware market. Huang went on to explain that the "GPU had the benefit of being fuelled by the largest entertainment industry in the world: video games". Indeed, PC gaming is one of the most processing-intensive activities a PC can be asked to perform, and that industry has gone from strength to strength over the past few years. Huang was right to tout the success of PC gaming: Context's data shows that sales of high-end virtual reality-ready PCs shot up 1,057 per cent in terms of revenue year on year for the top six EU economies in Q4 2016, and figures from the Entertainment Retailers Association put gaming as contributing more to the UK economy in 2016 than either music or video sales at £2.96bn.



Several thousand miles away from Sin City, the importance of AI and driverless cars was being carefully noted by strategists and civil servants in Whitehall, culminating in the most recent budget announcement. The British government has promised £270m in funding for disruptive technologies such as driverless cars, AI, and robotics. Given the current hard-Brexit policies being pursued by Teresa May's administration they are wise to support such green shoots; Context's figures for professional GPUs back both this decision and Huang's assertion. Sales of professional GPUs in the UK reversed a previous decline in Q3 2016, with Nvidia's own Quadro series of GFX cards enjoying 25 per cent year-on-year growth in revenue. More GPUs are being purchased to power deep learning and AI for large datacentres, rather than in their more traditional roles for 3D modelling and computer-aided design.

It's not uncommon for devices to be developed with one purpose in mind, then very successfully appropriated for another. Even Atari's failed Jaguar gaming console ended up being cannibalised and used in dental equipment.

The GPU is also the critical lynchpin of another emerging technology: VR. In one profound statement, Huang declared that "all gaming [was] virtual reality" and in many cases this rings true where a player inhabits a virtual world. It might not seem immediately obvious, but components built for PC gaming now power both AI and VR. As a result, Nvidia's share price has soared in recent months, finishing 2016 up 224 per cent from the previous year, and promising to continue to rise as its partnerships and new ventures bear fruit, with professional visualisation growing 11 per cent, datacentre at 144 per cent and automotive up 52 per cent for Q4 2016.

This success eventually caused Nvidia's shares to drop in February when the Q4 results were released as investors weighed up the risks of long-term returns (as driverless cars are still many years away from being commonplace), versus selling stock at an apex.

To some extent, the UK government is taking a gamble on driverless cars becoming the norm, and this might reflect the modest £270m sum compared with much higher investment promised by other governments. Academic commentators have also welcomed this news due to the environmental benefits promised by AI-driven vehicles. The immediate future of AI and its importance to the UK economy is very encouraging, but much like Brexit, the longer-term outlook is beyond the most complex algorithm to accurately portend.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Hayley Roberts, Distology

How does the managing director of this emerging tech distributor spend her day?

How do you typically start a working day?

My alarm goes off at 5.30am. After looking through emails that come in overnight, I start my day by walking my dog Ted. I love this time of day, when the air is fresh, my head is clear and I can think through my day ahead. Once back, I do a quick HIIT session then rally my three children up and out of bed, give them breakfast and drop them off early at school before heading to the office.

What is your attitude to flexible working at your firm?

Distology represents a growing base of vendors from across the world, so we need to be available and respond quickly – for that, flexibility in the team is essential. Most of the team are in before me, ready for the day, and depending on the contracts they are managing, they may need to work late, especially end of month and quarter. Although we often Skype with customers or suppliers, as we are a growing team, you can't beat face time in the office. It helps us be tight, and not miss any opportunity.

"I don't think it's fair to leave people in the dark and it is rude not to acknowledge receipt of an email at the very least"

What would your colleagues say is your worst habit?

Probably being over excited about *everything* in the business, from deals in, to the new coffee machine we have just bought. I am a very positive person and see that as a motivator, but I know it does wind them up if they need a good moan now and again.

The Distology team is made up of young graduates and they do like their takeaway foods. I, however like to eat healthily and the team get annoyed when I don't partake in their junk fest. They ridicule me for being too healthy, which I know is boring but I do eat a lot of cheese and drink wine on the weekend, they just don't see it!

If you could change one thing about your business, what would it be?

I am very impatient. We are growing fast and have an exciting business plan, but I want to be two years ahead of where we are today now. I can't wait another 730 days to get there.

What do you do for the bulk of a typical day?

I am very hands on with the team, our vendors and the resellers we work with. Most of the day is usually helping the sales guys look at how they can do things differently or better to gain greater successes. Every day is a school day in this industry. We have a good deal of resellers and vendors coming in to see the team and hotdesk. We are seen as the vendor channel team, so streamlined working is crucial.

I also spend time horizon gazing with my tech manager, spotting what new security challenges organisations face and what emerging technologies look exciting that could be brought to UK. There are so many new security vendors and while it is exciting times, it is also getting harder to spot the 'next big thing', so dedicating time to research is critical for us.

How do you unwind at the end of the day?

I spend the majority of the day on the phone, so not having to talk on my drive home is a little slice of peace for me, when I can reflect on the day. Then it's straight to my second job, as a taxi driver, ferrying my children to lacrosse, hockey and netball. My husband and I both run businesses, so we tag team these activities. I usually manage to catch the news headlines before I collapse at night.

Phone call, email, or face-to-face meeting?

I prefer a face-to-face meeting. You can't beat seeing the whites of people's eyes and getting to know them individually. Emails are great, but never as a cold introduction.

How good are you at replying to emails?

I aim to reply ASAP to all my emails. Not only is this encouraged in the team, it is essential in our business. I don't think it's fair to leave people in the dark and it is rude not to acknowledge receipt of an email at the very least.

Do you ever have a proper day or week off with no contact with the office?

In my own business? Not a chance! And I wouldn't have it any other way!

What's the quotation that best sums up your approach to business?

The most basic one I run with is 'Put nothing in, expect nothing out'. It perfectly sums up the hardworking and driven culture we have at Distology.

How many hours do you typically work?

I work at least 50 hours each week and when I'm travelling I regularly work 12-hour days. But if I'm honest, I never really switch off!

Bad vibes

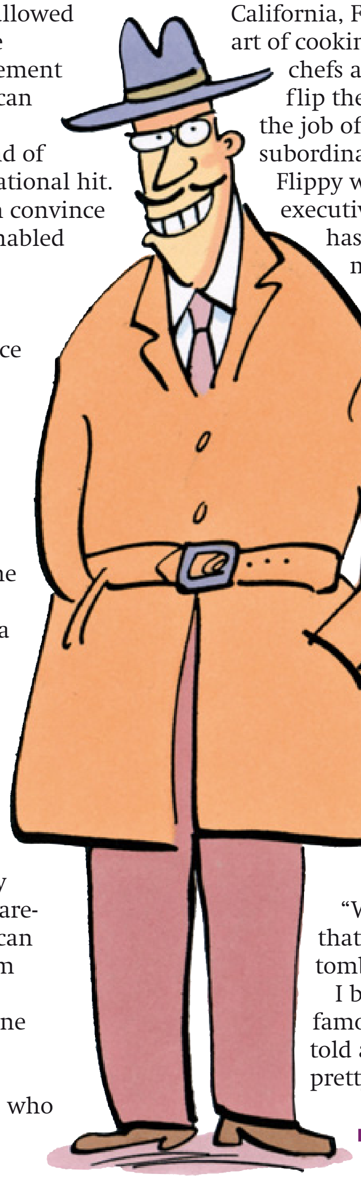
Bedroom aids go bad, TP goes techy, bots go beefy, and the biblical King of Israel goes in for some new WiFi

The interweb of things has been in the news for the wrong reasons again this month after Canadian sex toy manufacturer Standard Innovation was handed a $3.75m compensation bill after one of its smart devices was found to be tracking customers' usage habits.

The We-Vibe vibrator and its accompanying app were found to be collecting information on when owners were using the device, as well as which settings they preferred — and even the temperature of their nether regions. (Or wherever they saw fit to apply the toy.)

Even more worryingly, a number of security flaws were found in the app which could have allowed someone to hack and remotely control the pulsating plaything. After agreeing a settlement in an Illinois federal court, affected users can claim up to $10,000 in compensation.

On top of which, the market for this kind of smart device is sure to take a severe reputational hit. I knew I should never have let our Gordon convince me to sign a partnership with that WiFi-enabled codpiece vendor...



Bog standard

I've sat through enough channel conference presentations over the years to know that modern technology can do some pretty amazing things.

IT, analytics, and robotics are at the forefront of elemental changes in the way in which humanity interacts with one another and the world around us. Technology could just as much solve all the globe's problems in an instant, as it could destroy the Earth and everything on it, at a stroke.

But, in other news: computers and stuff can also be used to make sure Joe Public doesn't take too much bog roll from the khazis in the local park.

The Temple of Heaven park in Beijing previously had problems with people taking advantage of the free toilet paper on offer. This has been countered by the installation of facial recognition software-equipped machines which, after a quick scan of a user's visage, will dispense about 60cm to 70cm of tissue. After which the system will prevent visitors obtaining more for nine minutes.

But a park spokesman assured local newspaper *Beijing Wanbao* that, for "guests who have diarrhoea or any other situation in which they urgently require toilet paper", employees will be at hand to help.

A bit too close at hand, from the sound of it. He explained: "Staff on the ground will directly provide the toilet paper."

Bot's burgers

The last couple of years have seen robots developed in the fields of surgery, policing and firefighting. So it was only a matter of time before those roboboffins got to the really important jobs — such as making a decent burger.

Newly installed at the CaliBurger fast-food chain in California, Flippy the robot has reportedly mastered the art of cooking the perfect patty, and has replaced human chefs at the restaurant's grills. The little chap can even flip the finished article onto the bun — but leaves the job of applying condiments and salad to a fleshy subordinate.

Flippy was developed by Miso Robotics, and chief executive David Zito claimed that, although the robot has begun his working life as a cook, his software means he could be adapted to undertake any "dull, dirty, or dangerous task".

Sounds like a great development for fast-food outlet owners. But an extremely worrying one for Dave Jr's career prospects…

Blessing in disguise

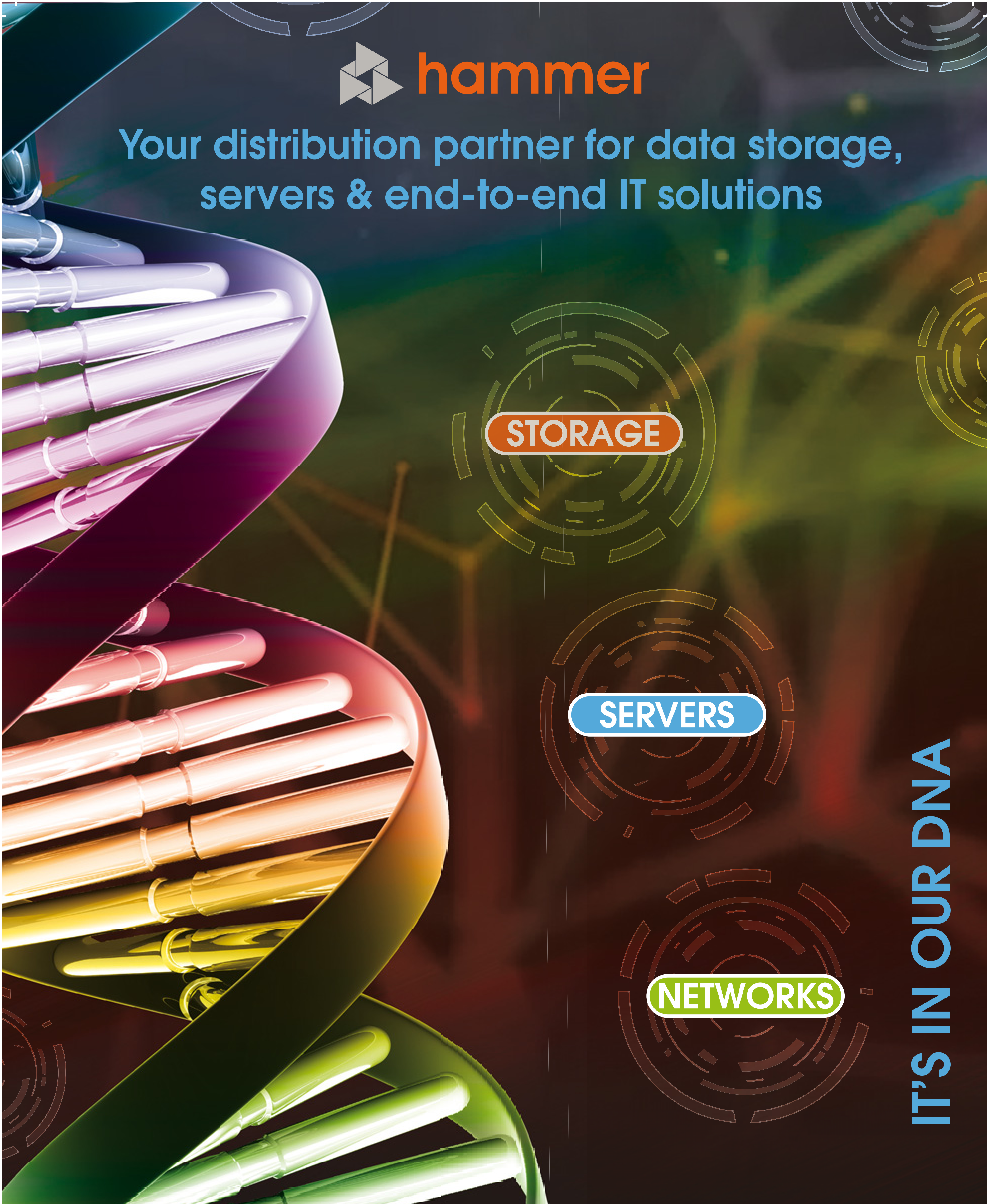
Anyone who remembers with bizarre fondness receiving an e-card for their birthday during the few months of the late 90s when this was remotely acceptable behaviour will be delighted to hear that the long-forgotten practice has been given a sanctified new twist.

King David's Tomb in Jerusalem was recently fitted with new WiFi, courtesy of vendors Ruckus and Purple, and reseller Boot Net Ltd. Visitors to the burial place of the former king of Israel — and reported site of Jesus' last supper — can provide their details to get online, after which they will be provided with a "real-time e-blessing".

"When I set up the company I never dreamed that we would be distributing e-blessings within the tomb of David," said Purple CEO Gavin Wheeldon.

I bet if, during his 40-year reign and numerous famous military conquests, King David had been told about this future development he'd have been pretty surprised too.

■ Dave Diamond-Geezer, director of Digital Online Deals and Global Integration (Dodgi) of Dagenham Ltd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