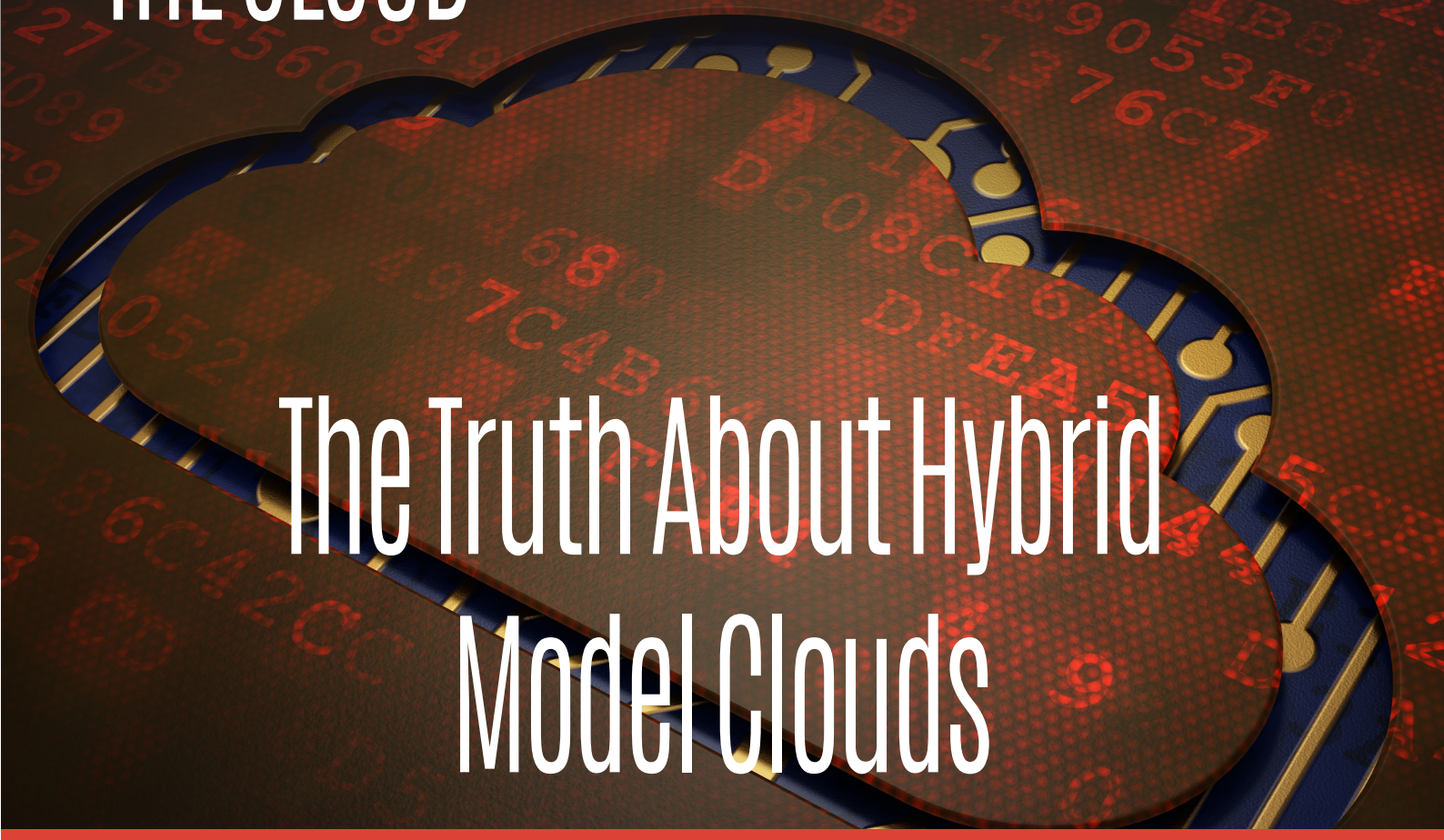
CLOUD COMPUTING WORLD

Issue 24 February/March 2017

MOVING TO THE CLOUD

Hybrid Cloud Solutions



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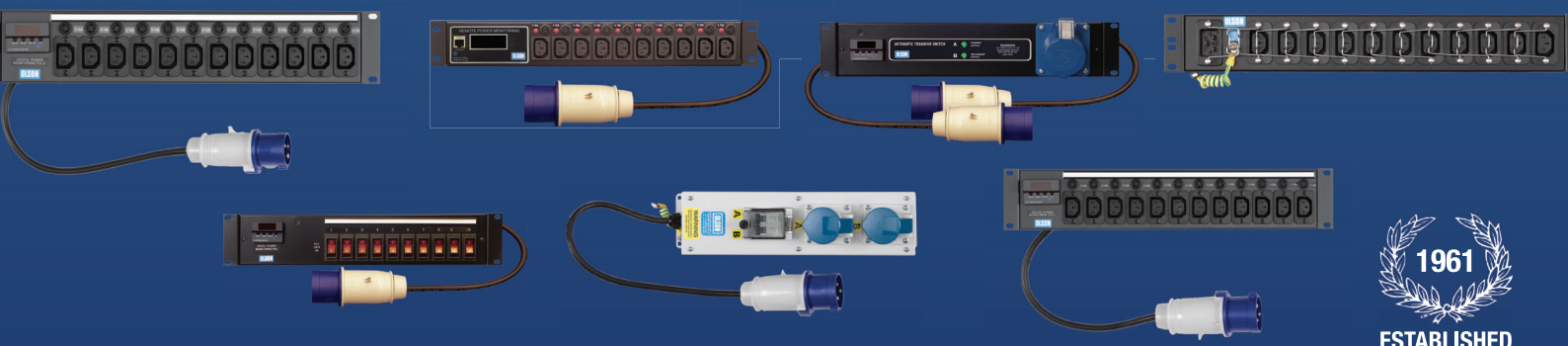

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The Perfect Platform

Often peddled as the cloud architecture of the future, the flexibility of hybrid cloud remains the key benefit. As companies become more and more data-dependent, a hybrid model increases the speed of data delivery to your business. What's more, if you're able to leverage SaaS-based applications to mobilise your workforce then you'll probably see a significant increase in productivity too. That's all very well, but will a hybrid cloud fit everyone's business model? Some would argue that it's best to get the most out of what you already have before investing in something else. Migrating applications to a public or private cloud or from one cloud to another is certainly no trivial task. Due to differences in servers, networks and storage, enterprise applications are often locked into the infrastructure environment they were originally deployed to. It requires planning and testing. Hybrid cloud security also continues to pose a barrier to enterprise cloud adoption. To truly benefit from hybrid cloud, it's key to define the level of risk that you're willing to accept. The good news is, that with a steady increase in the adoption of hybrid cloud systems, organisations and service providers have had to find a way to succesfully deploy and integrate hybrid platforms. Could it be that the search for the perfect platform, with all the advantages and none of the risks, is finally over?

Nick Wells, Editor, Cloud Computing World

CCW NEWS

All the key news in the world of cloud. Please don't forget to check out our Web site at www.cloudcomputingworld.co.uk for a regular weekly feed of relevant news for cloud professionals.

PTC and Deloitte have announced plans to accelerate Internet of Things (IoT) adoption and innovation for customers using the ThingWorx industrial IoT platform from PTC. The initial IoT solutions are designed to help transform industrial operations within manufacturing, oil and gas, and power and utilities, with the primary focus on the rapid deployment of condition-based monitoring, predictive maintenance, digital supply network, and connected factory solutions. Additional focus areas will include retail and consumer products, healthcare, life sciences, and smart cities. "Systems integrators are one of our most valued channels for introducing ThingWorx to a broad range of customers and increasing adoption," said Catherine Kniker, Chief Revenue Officer, Technology Platform Group, PTC. "With its scale and breadth of services, Deloitte is an important collaborator as we continue our focus on developing innovative IoT solutions and bringing them to market for our customers."
Deloitte Digital's industry issue-led and value-driven approach, along with its global network and service offering breadth, enable Deloitte to deliver on the promise of the IoT. "The industry-renowned ThingWorx platform from PTC enables our teams to rapidly connect machines, devices, and sensors to form insights and corresponding actions that can deliver value and ROI in weeks, not months or years," said Robert Schmid, Managing Director, Deloitte Consulting LLP and Chief IoT Technologist, Deloitte Digital. The alliance brings together Deloitte's Digital Transformation Network, Digital Agility, with the enterprise-ready IoT development tools and capabilities of ThingWorx. Digital Agility leverages IoT technologies to address business transformation for any part of an organisation.

www.deloittedigital.com

IMImobile, a cloud communications software and solutions provider that helps companies use mobile and digital technologies to engage with customers, has launched IMIbot.ai, its automated end-to-end chatbot customer engagement solution. The fully managed solution builds on the success of IMImobile's existing chatbot technology and is designed to work with multiple messaging channels such as SMS, Facebook Messenger, WhatsApp, Skype and AI engines like Amazon Alexa. IMIbot.ai can be easily used in conjunction with live agent messaging via chat and voice in Contact Centres, delivering a consistent and joined-up experience across customer channels. The announcement comes on the back of recent chatbot and interactive messaging deployments for mobile operators, banks and utility companies. Jay Patel, Chief Executive Officer, at IMImobile comments: "AI is offering an unparalleled opportunity for enterprises to automate and drive greater levels of efficiency into their Contact Centres. The secure and scalable implementation of a new chatbot service is as important as the technology itself, and the ability to integrate and orchestrate easily with existing channels. With half of the world's population now using one of the top four messaging apps, our channel-agnostic chatbot solution can help enterprises automate and transform the way they serve their customers through conversational messaging."

www.imimobile.com

CTERA Networks has announced a disaster recovery functionality for its cloud storage gateways that enables distributed enterprise to instantly and securely resolve local storage outages and ensure uninterrupted office operations and user productivity. CTERA cloud storage gateways are physical or virtual all-in-one remote office storage appliances with built-in cloud failover, hybrid backup and file sync and share acceleration. CTERA is the world-leading provider of cloud storage gateways, having shipped more than 40,000 appliances globally. IT administrators can now set CTERA gateways for continuous cloud synchronization of file system structures and permissions, and at any given time redirect users to secure direct-to-cloud access. This seamless cloud failover allows administrators to avoid the complexities associated with managing redundant storage devices, and save up to 80 per cent compared to alternative options. The new capability is made available as part of a new release of CTERA's patented cloud file system, the first of its type to extend Windows ACLs (Access Control Lists) from the office to the cloud, across any choice of file servers, mobile clients, and physical or virtual desktops. It also provides a simple transformation path for organizations seeking to modernize branch infrastructure, allowing easy migration of file shares and user access permissions from legacy servers to the cloud. "CTERA made it simple for us to migrate from our legacy Windows File Server infrastructure and enable an 'always-on' file access and disaster recovery strategy across our global offices," said Adam Chua, AVP, The Carlyle Group. "CTERA cloud storage gateways maintain the same file shares and access permissions of our legacy office environments while providing automated disaster recovery and secure and modern user productivity tools. CTERA allows our IT Operations team to focus more on delivering products and services that align with business strategy and enhance the user experience."

www.ctera.com

WIFI Metropolis has installed a Xirrus Wi-Fi network throughout St. Pancras International Station. Famous for being the home of the UK's first high speed rail link and the country's main Eurostar hub, St. Pancras has a rich history and originally opened its doors in 1868 at the height of the steam age and glamorous rail travel. A marvel of Victorian engineering and the original gateway to London, today St. Pancras International has been reimagined as a retail and cultural destination. It has a weekly footfall of up to 1 million people and more shops than any other UK railway station. In addition, the station boasts its own fresh produce market, regularly-changing arts installations and the longest Champagne Bar in Europe. WIFI Metropolis selected the Xirrus Wi-Fi solution as part of a major upgrade to improve the wireless experience for visitors and passengers. The previous Wi-Fi infrastructure could not cope with the density of usage, particularly at peak times in the evening when, between 5pm and 8pm, up to 5,000 devices could be connected to the station's Wi-Fi network. The robust connectivity offered by Xirrus Wi-Fi also helped to meet the challenge of providing a fast and reliable 5 Ghz wireless service

in a Grade One listed building dominated by 19th Century iron columns that absorb and weaken Wi-Fi signals. "The Xirrus Wi-Fi solution fitted our needs perfectly. You just can't argue with the underlying high density performance delivered by the company's multi-radio Access Points," said Gregory E Smith, CEO at WIFI Metropolis. "To put this in context, the previous Wi-Fi network could handle 200 concurrent connections, but the new Xirrus installation can support 8,000. It's even more impressive when you consider that the majority of people in the station are using Wi-Fi while on the move, rather than sat in one place - like they might be in an airport lounge or stadium. Xirrus has taken Wi-Fi at St. Pancras International to a completely different level and the solution is second to none in my opinion." "Visitors to St. Pancras International are not just standing around waiting for domestic train connections. They come to shop, dine, appreciate art and to start inter-continental journeys," said Jillian Mansolf, Chief Corporate Officer at Xirrus. "As soon as people step into the station they immediately see that it is a premium destination and they expect a superior Wi-Fi experience. Xirrus has played a key role in bringing an advanced 21st Century Wi-Fi solution to a 21st Century travel and cultural hub and we look forward to a close working partnership with WIFI Metropolis as the project expands in the coming years."

www.xirrus.com

Mitel a global leader in enterprise communications, has made public the addition of more than one million new cloud subscribers in 2016, tipping its cloud business past the three million user mark to reach another industry milestone. The company still holds the lead in business cloud communications with more than twice the number of subscribers as its nearest competitor. With increased global coverage, Mitel continues to bolster its cloud offerings, giving even more businesses and multinational companies access to the cloud communications provider one in four cloud users trusts most. A recent Gartner report also scored Mitel highest in satisfying hybrid unified communications use case requirements.For a limited-time, Mitel is offering a special promotion for Avaya users or anyone actively considering investing in an Avaya solution in 2017. Purchase a new MiCloud solution and get three months of Mitel cloud service free along with professional installation.

www.mitel.com

HYBRID CLOUD MIGRATION

Why a fashion accessories designer migrated its head office servers to vCloud

By Max Mlinaric, Managing Director, Conosco

infoburst: Conosco's migration to a hybrid cloud infrastructure supported Anya's global expansion.

Introduction

Conosco's hybrid cloud migration project with luxury fashion accessories retailer Anya Hindmarch, enabled the expansion of her business globally establishing flagship stores in New York, Tokyo, LA and London – on Sloane Street and Bond Street. It also earned Conosco a finalist spot in the UK IT Industry Awards for the category of best use of cloud services.

How?

Conosco supported Anya to expand through small shops and concessions using IT to deliver connectivity via point-of-sale devices and a customer relationship system. Anya has grown her business into a global brand with over 45 stores.

The Challenge

Anya's business grew - its popularity meant their existing IT infrastructure could not cope with the demand. It was no longer suitable.

The Solution

Conosco's migration to a hybrid cloud infrastructure supported Anya's global expansion. The implementation involved all production servers being migrated to a VMWare vCloud Air platform, while retaining on-premise servers to provide print, image deployment and Windows domain services. This involved groundbreaking works by creating a first-of-its-kind interconnect between vCloud Air platform and Anya's MPLS network - creating a direct, secure connection between all sites and hosted infrastructure without routing traffic over the public internet. All servers on the cloud platform were also fully backed-up, so in the unlikely event of something going wrong Anya's data can be restored from another cloud provider.

Conclusion

"We've worked closely with the Conosco team for 14 years," said Dan Orteu, Operations and IT Director at Anya Hindmarch. "As the business continues to grow rapidly both in the UK and abroad it has become more important to have a truly scalable business that's robust and has a solid IT infrastructure. The migration of all our head office servers to vCloud has made this possible. It has allowed us to streamline internal processes and improve file sharing and communications across our global estate of stores, warehouses and offices. Working in this way has reduced the costs of our off-site back-ups, allowing us to put in place effective business continuity and disaster recovery plans. In the course of our work we have become a key strategic partner with Conosco, we cannot imagine being without their guidance and support."

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RAGE AGAINST THE MACHINE

Howard Williams considers the negative consumer reactions to chatbots and whether the negativity against the technology is necessary.

By: Howard Williams, Parker Software

Introduction

Remember Tay? Microsoft's xenophobic, racist chatbot was a lesson in inefficient AI. The experiment, held on a dedicated Twitter account, quickly descended into chaos when the chatbot began sprouting Nazi support and offending Twitter users in various awful ways. While it remains to be seen whether chatbots are a permanent customer service fixture or a passing fad, an increasing number of brands are already putting them to work. Almost every large corporation is jumping on the bot bandwagon, with Facebook, eBay and Microsoft among the many brands experimenting with the technology. However, chatbots are not only being plugged as a novel way to communicate with customers, but as the next step in the development of human to computer interaction and – providing you trust the hype – the end of many customer service jobs.

The Fundamental Problem

As with any form of automation, the possibility of handing human responsibilities over to a machine is guaranteed to evoke a backlash. Robotics and automation have loomed over the future of labour for decades – beginning with the introduction of robotic arms to automotive production lines in the 1960s. Today, developments in artificial intelligence and chatbots are supposedly threatening the jobs of a new generation of employees. However, are chatbots really competition for the customer-agent experience? We doubt it.

By its most simple definition, the primary function of a chatbot is to provide the customer with the answer or information they request. However, any call centre or customer service professional will understand that this is just one small part of providing effective customer service. The fundamental problem with chatbots is that they are simply an automation software package – not a revolution in customer service.

The Human Touch

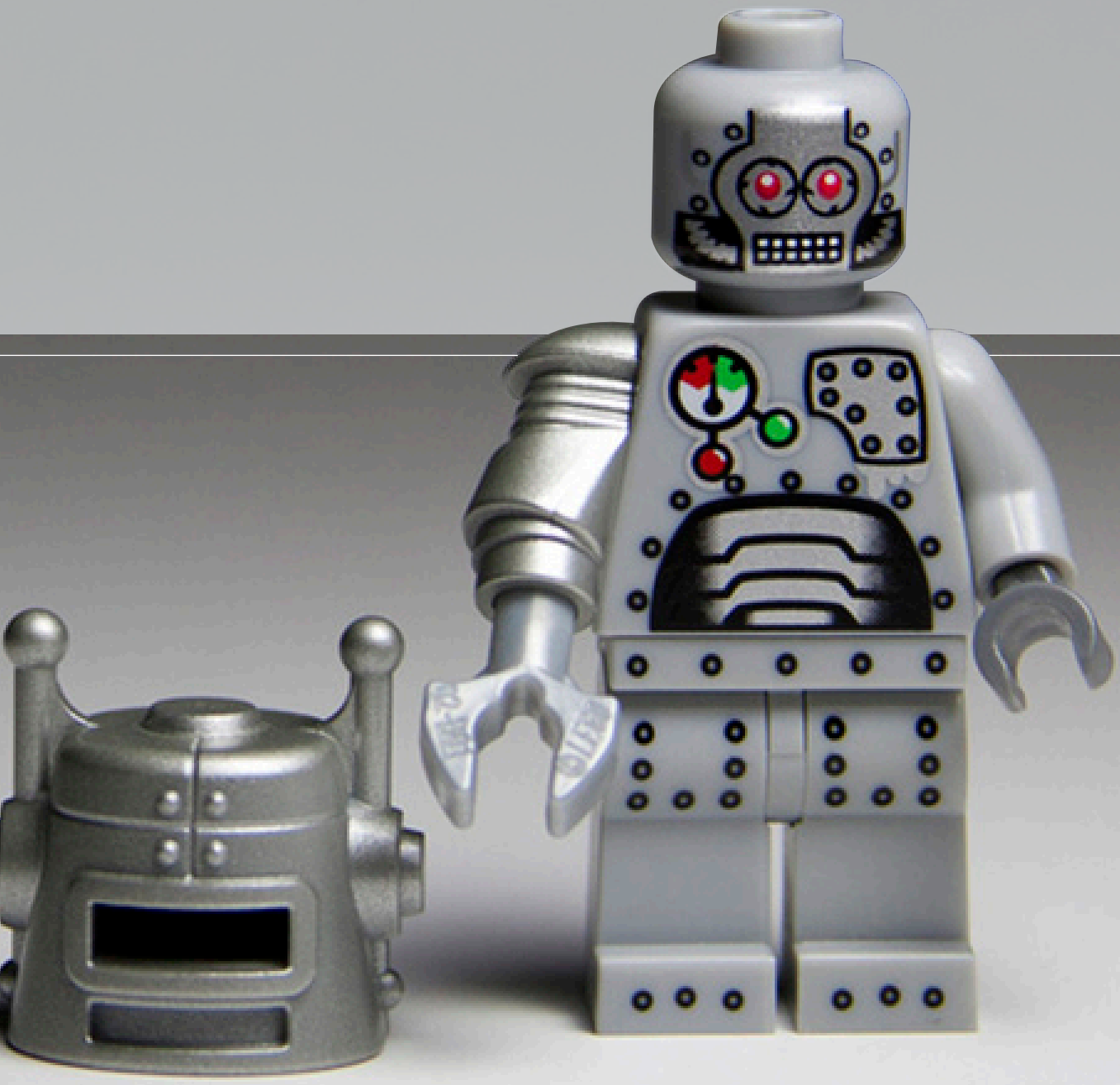
Using technology to improve customer service in the digital era is a continuous challenge, but relying solely on chatbot technology is not the answer. It's undoubtedly true that the future of customer communication will focus heavily on online chat. However, corporations should be using digital tools to increase interpersonal communication, not replace it.

Instead of automating chat itself, it is more effective to automate the processes that power communication between customers and representatives. In using live chat software for customer service, site visitors get the support they need in real time from a friendly, knowledgeable source. Put simply, relying solely on chatbots to manage customer interactions removes the key aspect of effective service: the human touch. Digital services like chat software are powerful tools for customer service, but human-to-human communication must remain at the heart of all customer-facing activity.

Conclusion

Since its disaster with Tay, Microsoft has invested in Zo, a new chatbot that will automatically engage in conversation (and hopefully not offend the humans it is interacting with). Chatbots are still in development. While marketers may be eager to embrace the technology, there is no denying that there are risks involved in being an early adopter. Customer service can be automated, but it should not be automatic.

www.parkersoftware.com



POWERING THE DIGITAL REVOLUTION

Damian Hennessey explains how sophisticated IoT solutions will soon bring about the 'digital enterprise' of the future.

By: Damian Hennessey, Commercial Director, Proto Labs

Introduction

Digital transformation enables the opportunity to be transformational within the British manufacturing industry, shaking up traditional working models and processes. Not only are technologies such as CNC machining, injection moulding and metal 3D printing improving efficiencies and speed to market, but the burgeoning Internet of Things (IoT), already transforming key sectors such as automotive, aerospace and medical industry.

Big data and predictive analytics have the potential to deliver the right information, product, process, service or action at the right time, and this new – connected – factory floor will allow engineers and managers to improve processes and offer a better service to their customers.

Take, for example, the area of quality control around production processes. Product damage can be limited, with errors flagged through a series of self-governing processes - enabled by the IoT - before they have any impact on the production line. And simply by signaling the need for replenishment of parts and materials, the IoT will ensure a smooth and efficient supply chain, as well as improving productivity.

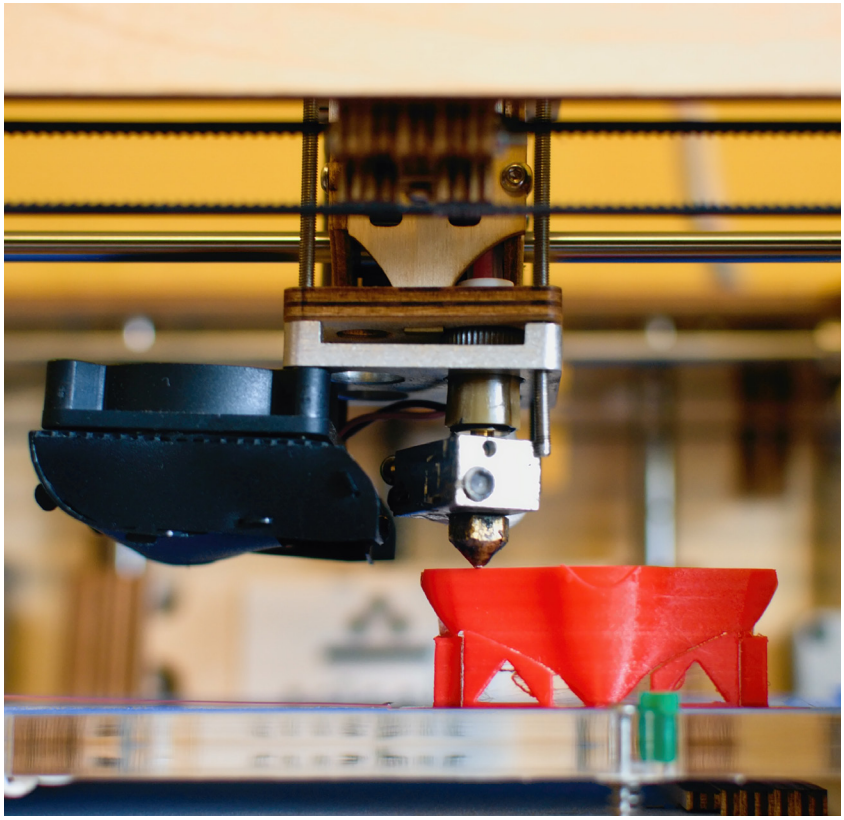
But this 'fourth industrial revolution' will require a change of mind-set for businesses in the manufacturing sector, which will mean shifting from traditional, physical workloads and processes, and recognising the need for digital integration and smart working, all enabled through the IoT.

Enhancing the Quality of Products and Processes

A recent survey carried out by TATA Consultancy suggests a convincing business case for IoT initiatives in the manufacturing industry. According to the survey, manufacturers employing IoT solutions saw an average increase in revenue of 28.5 per cent in the year between 2013 and 2014. Much of this increase came as a result of greater productivity; the improvement in operational efficiencies means that technology specialists, engineers and skilled workers are now able to spend more time on delivering innovative, quality services, rather than having to oversee mundane, time-consuming processes.

The IoT represents a constantly-growing universe of devices and smart sensors with the capability to generate and act upon vast volumes of critical information around product processes. The ability to capture and analyse

infoburst: The IoT represents a constantly-growing universe of devices with the capability to generate vast volumes of critical information.



infoburst: 3D printing is considered to be one of the technologies most likely to change the way people livein the next couple of years.

this information will also enable organisations to predict future trends and challenges that could impact operations on the factory floor.

As digital manufacturing technology becomes more sophisticated, smart machines will be able to analyse and spot errors in the production process and prevent problems before they occur, with advanced analytics providing insights into operations, and enabling more efficient ways of working. In combining these two revolutionary technologies - digital manufacturing and the big data generated by the IoT - many businesses within the industry are already enhancing the quality of their processes and products.

In the aerospace industry, for example, companies such as GE Aviation are placing sensors to collect and analyse manufacturing information to detect production problems in real time. By employing the technology in this way, the company is able to identify and optimise factors such as temperature and structural integrity that can help improve the quality of output coming from the manufacturing floor.

Opening up New Markets

3D printing is arguably the most well-known of the latest, advanced manufacturing techniques and, along with the IoT, is considered to be one of the technologies most likely to change the way people live and work in the next couple of years. Indeed, a future-gazing report by KPMG puts the two technologies among its three most disruptive, estimating the number of active, wireless-connected devices will exceed 40.9 billion by 2020. In addition, the total 3D printing market is expected to reach $20 billion by 2025 according to a report by consultancy company IDTechEx, and research published by IDC in January 2016 predicted global spending on 3D printing was set to grow at a Compound Annual Growth Rate (CAGR) of 27 per cent from $11 billion in 2015 to $26.7 billion in 2016.

It's fair to say therefore that, if we took 3D printing as being representative, advanced manufacturing technology has considerable and significant market potential. Over the next few years, rapid advancements in the technology will enable manufacturers to produce a wider range of finished goods. Research is currently underway into how different types of materials such as metals and plastics can be combined within a single build cycle, and how components such as sensors, electronics and batteries can be embedded.

Indeed, according to the organisers of the 3D Printing Electronics Conference, which took place in Eindhoven in January 2016, "combining functional elements such as electronics (sensors or switches) into a 3D-prinrted product could open up new markets and new applications of products."

With advanced manufacturing likely to be increasingly used for producing a broader and more complex range of products, it's logical that many of these products will include the electrical and optical sensors, antennas and circuitry used in the industrial IoT devices and applications themselves.

Rapid Creation of Complex Prototypes

In today's always-on 24/7 society, customers increasingly want rapidly produced parts to be made to their specific requirements, and readily available within a matter of days. The latest advanced manufacturing technology can make this possible – especially when it's supported by the IoT.

With the right data and IoT to hand, the capabilities of advanced manufacturing are amplified, allowing the rapid creation of complex prototypes, using different product mixes at all stages of the production process.

Conclusion

In short, while advanced manufacturing techniques such as metal 3D printing, CNC machining and injection moulding provide businesses with the flexibility they need to reimagine the way they design and manufacture parts, the addition of the connectivity and insight provided by the IoT can only make them even more flexible, helping them to meet the demands of today's customers.

The digital revolution, and the rise of advanced manufacturing, is offering a new generation of engineers and designers the perfect opportunity to bring their ideas to market at speeds never before imagined. These new manufacturing processes with ever-more sophisticated IoT solutions will soon bring about the 'digital enterprise' of the future.

www.protolabs.com

THE TRUTH ABOUT HYBRID MODEL CLOUDS

Jason Allaway outlines five truths about automating in a hybrid cloud environment.

By: Jason Allaway, VP of UK & Ireland, RES

infoburst: While the cloud offers significant benefits, it also presents new management challenges.

Introduction

Businesses are continuing in great numbers to embrace cloud computing. However, while the cloud offers significant benefits, it also presents new management challenges that need to be addressed. Specifically, these relate to shortcomings in IT automation practices that weren't quite as visible when a company's IT was provisioned entirely with on premise infrastructure. In order to address these, businesses, and all of their relevant stakeholders, must consider the following five truths about automating in a hybrid cloud environment.

1. Without Speed, Cloud is Pointless

Businesses embrace cloud computing because it allows them to respond faster and more adaptively to unpredictable market conditions. With cloud, you can quickly take advantage of new digital capabilities, flexibly increase and decrease capacity as needed. Well, that's the theory anyway. In reality, many factors commonly limit the speed with which cloud environments can be adapted to the changing needs of a business. If you want to put up an Ikea bookshelf and have everything you need for the job then no problem, you can have it done in less than an hour. However, if you're deciphering cryptic instructions or suddenly realise you need another pair of hands to complete the task, then you might not get it done until tomorrow.

Similarly, it may only take a few moments for an administrator to use a virtual machine based on the needs of the business. But if the request has to go through a manual process to reach the administrator, or is stuck in a queue of other requests, then it becomes irrelevant how quickly IT can utilise their cloud resources. Process latency is a huge issue for hybrid cloud ROI, and self-service and automation can help to negate this.

2. Scripting Is Not Automation

As mentioned, businesses can eliminate process latency through automation. Unfortunately, many organisations attempt to automate cloud-provisioning processes with home grown scripts written by in-house technicians. This is a bad idea for several reasons:

- Scripting is incomplete and piecemeal: Scripts almost always automate a very limited task or set of tasks. This may save time, but does not automate the complete end-to-end process. It's also virtually impossible to string multiple strings together in a sufficient manner.
- Scripting is personal and opaque: Script writers almost never document their work or explain it clearly to others. Therefore, it's only really useful to the writer – and when they leave it becomes useless or impossible to maintain.
- Scripting is brittle and ungovernable: Because scripting hard-codes a specific way of doing a specific task, it can't be easily adapted to new processes or similar tasks. This again inhibits adaptability, forcing IT staff to go back to the drawing board over and over.
- Scripting adds complexity to complexity: Because current script writers don't fully understand scripts written by previous script writers, they tend to write new "helper scripts" rather than risk breaking an existing one. The result is scripts on top of scripts, which creates ever-increasing complexity.
- This is not to say that scripting is never useful in IT. Scripting simply isn't an effective means of automating complex service provisioning processes that must continually be modified in response to changing business and technology requirements.

3. IT Is Not The Only Cloud Stakeholder

Businesses don't adopt the cloud simply to make life easier for IT; they adopt it to benefit the wider business, making it faster and more scalable. Therefore, any cloud automation needs to fulfil the needs of both IT, and non-IT stakeholders:

- Lines of Business (LOBs): Automation that depends on IT isn't really automation because it still interposes manual steps between cloud provisioning and cloud consumers in the lines of business. Cloud automation must therefore include business self-service, allowing business users and managers to activate services where it makes sense to do so. Where appropriate, LOB managers should also be given the ability to approve or reject user requests.
- HR: HR administers the hiring, promotion, transfer and termination of employees. People must be given an initial set of services

when they're hired, and today many of those are cloud based. Their service permissions must be changed when they are promoted or transferred. And when they are terminated, all service permissions/accounts must be eliminated across all internal and external servers.

- IT: IT is not the only stakeholder in cloud automation, but it's a big one. Routine tasks consume IT resources and limit its ability to move ahead with higher-impact strategic projects. Cloud automation should therefore fully meet IT's needs for functional completeness, ease of deployment and management.

4. Cloud Automation Must Travel Well

Thanks to technology development, workloads will soon be able to travel flexibly between clouds, cloud providers and datacentres. This flexibility allows businesses to freely pursue better technology, lower costs, tighter security and simplified compliance. Cloud automation should ideally support this workload portability and evolving ecosystem through several areas:

Broad platform support: IT shouldn't have to use different automation solutions for different workloads running on different platforms or transferring a workload. A good automation solution should therefore support all of IT's cloud and non-cloud platforms-of-choice.

Simplified platform transfer: In addition to supporting multiple platforms, an enterprise-class cloud automation solution will also minimise the manual work required to move a workload between platforms with automation and associated policies intact. This simplified platform-to-platform transfer of automation policies is a key factor in workload agility.

A consistent experience: Changes to vendors or cloud strategies shouldn't disrupt the ability for people to get quick access to their cloud resources. When a workload is running it should have minimal impact on workers. So by offering a familiar self-service interface that automatically leverages the appropriate cloud resource, changes to infrastructure will be seamless for people outside of IT.

5. Cloud Applications And Services Get Delivered To People

IT often thinks about cloud in terms of the application code that runs in the cloud as well as the server, storage, and network infrastructure that has to be provisioned to support that application. But you can look to use as many Amazon servers as you want. You haven't fulfilled the needs of your business until you actually deliver the right services and apps to the right people. Key aspects of that user access provisioning and configuration include:

- Accurate, granular permissioning: People need access to all applications and services appropriate for their particular role and responsibilities. They also need appropriate permissions for those applications and services and shouldn't be granted those that are not appropriate for their role. Good cloud automation fulfils these requirements with policy-based controls that are easy to configure and modify.
- Awareness of user session context: People are becoming increasingly mobile and are using a growing number of devices. To keep the business secure, cloud automation should therefore be capable of enforcing access and permission policies that take into account session attributes such as use of non-secure public WiFi, time of day, geo-fencing, etc.
- Users app/service stores: As noted above, LOB self-service is an important aspect of cloud automation. To fully realise the benefits of self-service, however, it is often advisable to implement a store-style utility that lets users browse the apps that are available to them, giving users better visibility into the cloud resource catalogue.

Conclusion

The bottom line is that hybrid cloud is a compelling model for provisioning applications. However, cloud applications and infrastructure are insufficient in themselves to get your employees the digital capabilities they need in a secure and compliant manner. To achieve this, you need highly adaptable policy-based automation of the processes that people use to access these cloud services. By using automation, your business will be nimbler, more efficient and more secure, making it far more competitive in an increasingly digital-centric marketplace.

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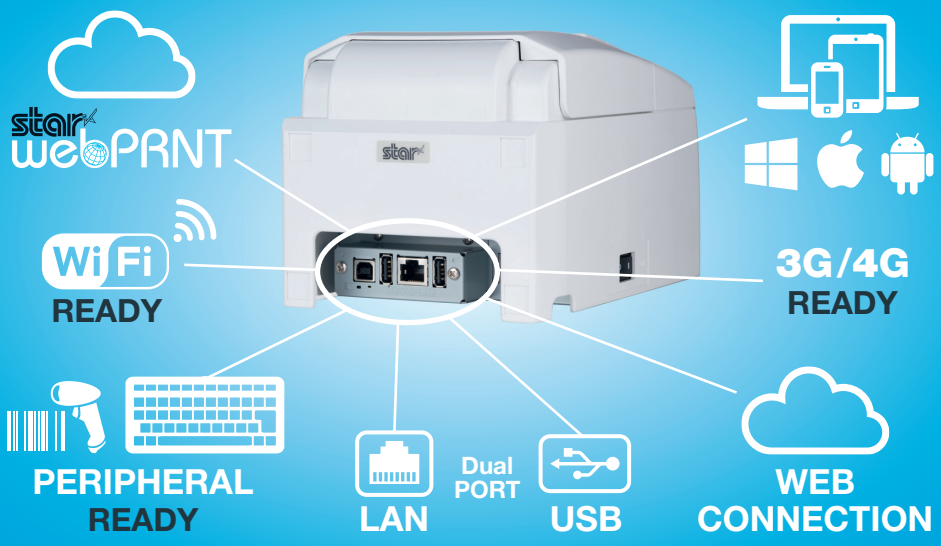

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THE PUBLIC SERVICE MARKET

What are the prospects for public sector suppliers in 2017?

By: Rob Anderson, Analyst, Public Sector Team, GlobalData (formerly Kable)

infoburst: 2017 will bring greater acceleration of cloud usage due to the arrival of UK data centres from Microsoft, Google and Amazone Web Services.

Introduction

In a post-referendum, pre-Brexit world of economic uncertainty, what are the prospects for public sector suppliers in 2017? Theresa May & Phillip Hammond may have signalled the end of the era labelled 'austerity' but the UK's budget deficit is still a millstone and control of public finances will be kept on a tight rein, yet there is definite scope for optimism.

The Cabinet Office, through its Crown Commercial Service (CCS) and Government Digital Service (GDS) arms has recently reiterated its intent to expand its business with SMEs, but has also indicated it is open to new propositions from suppliers of all shapes and size. In local government and other areas of public service delivery transformation remains a vital, if thorny, issue.

True Transformation

In addition to transformation, cloud platforms and data exploitation will be priorities. These may seem familiar to established observers of public sector ICT, but there are definite indications that the next year will see a confluence of these three strands that accelerates real adoption, resulting in a buoyant market. True transformation involves consideration of technology, processes and people – the latter necessitating culture change. What has passed for digital transformation to date has mostly been a neater user interface and digitisation of forms. To effect the required step change in efficient service delivery, public bodies must genuinely invert their thinking in redesigning end-to-end processes to reflect a citizen's needs using techniques such as customer journey mapping and robotic process automation. It's taken some time to pervade, but the message on Liam Maxwell's iPhone case exclaiming "What is the user need?" is finally coming of age, evidenced by a proliferation of job openings such as Business Management Analyst, Head of User Research, Business Change Strategy Lead, and UX Designer.

Cloud computing is now an inevitable by-product of transformation as the availability of lower cost standards-based (open or de facto) platforms and superfast broadband tips the balance against the continuation of multiple iterations of on premise infrastructure. G-Cloud has been much vaunted as the key driver in the move to the cloud, and will continue to evolve, with contract lengths likely to be extended to the delight of customers and suppliers alike.

UK Data Centres

2017 will bring greater acceleration of cloud usage due to the arrival of UK data centres from three giants of technology: Microsoft, Google and Amazon Web Services. Data sovereignty has been an oft-quoted though much-abused barrier to cloud service uptake which will disappear at a stroke. With partner eco-systems for all three delivering a plethora of as-a-service solutions to meet all manner of application requirements, the last vestiges of all-encompassing IT outsourcing arrangements will tumble as they reach their contract end dates.

Data Exploitation

The third area offering hope to IT providers is data exploitation. The government remains committed to delivering open data sets that facilitate re-use and innovation in public service delivery. Undoubtedly it faces challenges in getting necessary data sharing legislation passed by Parliament, though this is in no small part due to a lack of clarity in categorising different types of data. Of course, there will be a public backlash against citizens' personal data being openly shared and consequently be at risk of misuse. But the unfettered availability of operational data, performance data and aggregated anonymised data on individuals all offer tremendous opportunities for more timely service delivery, more and better connected services, reduced losses due to fraud and error, and ultimately a much improved user experience.

In terms of routes to market, CCS continues to strive to corral departments, agencies and authorities from all parts of the public sector to use its services and frameworks, and a healthy pipeline of market-centric frameworks is being built. Brexit will almost certainly have no immediate impact on procurement regulations, and is actually unlikely to longer term either given the UK's position in driving such legislation, so the rules of the game remain the same. Yet there is no substitute for good old-fashioned selling – getting to know your customer – either directly or through partners and building a relationship that delivers value and addresses their individual needs.

Conclusion

Opportunities abound for those organisations that clearly understand the public service market, its challenges and drivers, and can deliver agile dynamic and innovative solutions that satisfy the key needs. Furthermore, the skills gap in the public sector is well documented. Supporting clients with knowledgeable well-trained staff pays dividends. Investments in relationships will always trump investments in products.

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PRIVATE CLOUD AND OPENSTACK GO TO THE MOVIES: YOU AIN'T HEARD NOTHIN' YET

David Ogden compares new cloud data centres to the transition from silent films to those of today.

By: David Ogden, EMEA Managing Director, Mirantis

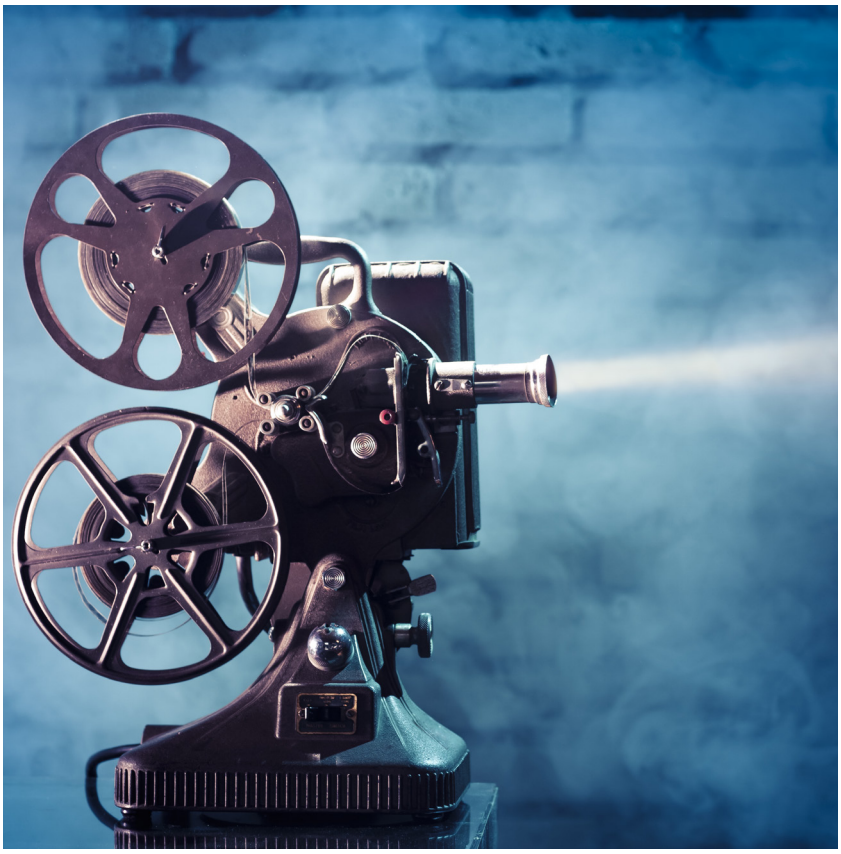
infoburst: One day there will be an entire range of OpenStack and private cloud delivery mechanisms we haven't even imagined.

Introduction

There's nothing inherently wrong with legacy infrastructure. Like a silent film, it does what it's supposed to do, but add cloud technology to the mix and it can do so much more. Imagine Star Wars without the sound. It simply wouldn't exist.

If classic data centres with racks of servers running legacy applications, or a first generation virtualised data centre running the same apps on hand-configured virtual machines, represent silent film; whereas being able to put apps into containers, scale them out, load balance them, launch them from simple dynamic templates and automate them further as clusters of apps across multiple servers – that's sound in film.

That's not to say that the transition is always easy. Sound was as much a disruptive force to film as cloud technology is to IT today and it takes time to adjust. In last year's Gartner study it was found that of the problems that affected 95 per cent of private clouds, only 6 per cent were rooted in technology and the other 95 per cent was either people or process.



Embracing OpenStack

If you are embracing OpenStack as just technology you will probably fail. Nowadays we try to tackle the people problem and the processes problem together. It's again kind of like the first talking movies. They were essentially filmed plays, talking heads with synchronized voices. Then think of fork lifting your traditional app onto a cloud based server. Yes, you're using 'cloud' but that's about it, you're not doing anything new or innovative and you're not taking advantage of what the new medium has to offer – after a while the audience gets bored.

Conclusion

Today, cloud applications are like many of the early talking films, finding their way and using the medium in the best way they can. Just as films evolved from The Jazz Singer, which is essentially a silent film until long after the movie starts, when Al Jolson says "Wait a minute, you ain't heard nothing yet!" cloud applications are still largely finding their way.

One day there will be an entire range of OpenStack and private cloud delivery mechanisms we haven't even imagined at this point, just as director Fritz Lang couldn't have imagined the sound design of today's blockbusters – much less the Dolby Digital sounds, CGI, web streaming and other technologies that have changed the face of film in the last century. What new innovations in cloud and cloud delivery will we see as talented architects, engineers and companies figure out new ways for cloud to add agility to their work? In other words, when it comes to cloud and OpenStack – you ain't heard nothing yet.

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MOVING TO THE CLOUD

Peoplevox help the SkateHut team create a strong foundation for scaling their business.

infoburst: Before moving to the cloud, SkateHut had relied on a labour intensive 'paper ad pen' system for picking and despatching products.

About Peoplevox

Peoplevox specialises in helping brands, pureplay ecommerce and multichannel retailers improve their people management, efficiency and performance of their fulfilment needs. The idea from founder Jonathan Bellwood's previous experience and frustration when implementing costly and inflexible warehouse management systems. In 2009 he subsequently formed Peoplevox to design and offer a truly fit for purpose WMS solution capable of handling the complexities and pace of e-commerce and multi-channel retailing. The easily accessible, configurable and scalable software-as-a-service (SaaS) warehouse management system (WMS) has enjoyed considerable success and is already relied on for shipping over 3 million parcels per month by more than 100 Clients in 20 countries including such well-known brands as Barbour, Intersport, Mothercare and The Range. Over 1 million items were successfully shipped using Peoplevox WMS on Black Friday 2015.

About SkateHut

SkateHut is a leading UK-based one-stop shop for everything to do with skates. The retailer started as a family business in 2007 after discovering "Heelys" roller shoes on a holiday in Florida. Nine years later they have two stores, in the West Midlands and Northamptonshire, three warehouses and over 20,000 products to choose from. These include skates, boards and roller shoes, bikes, scooters, clothing, accessories and much more. By listening to customer feedback SkateHut is continually adding new brands and products every day.

The Challenge

Before moving to the Cloud, SkateHut had relied on a manual, labour intensive 'paper and pen' system for picking and despatching products, as well for dealing with separate courier orders. Their rapid growth highlighted some key operational weaknesses including warehouse operatives mis-picking items. Lack of insight into inventory management was also leading to the selling of products that weren't in stock because they had either sold out or were awaiting delivery. "In order to manage the rising pressure we had to use buffers for stock, just to allow for overselling," explains Jamie 'Dell' Blundell, General Manager of SkateHut. "We also had to have dedicated Customer Service Advisors for contacting customers regarding out of stock items."

With their standards for customer service at risk, SkateHut knew they had reached the limits of their manual system. The inefficient processes were putting increasing pressure on the business as a whole, especially at peak times. The SkateHut team wanted to create a strong foundation for continuing to scale their business.

infoburst: Thanks to the inherent flexibility of SaaS, SkateHut was able to quickly deploy the system throughout the organisation.

The Solution

In December 2013, SkateHut contacted UK-based Peoplevox after looking for a warehouse management (WMS) system that would integrate with their Sage 200 accounting platform. However, the Sage 200 was subsequently replaced following consultation with Peoplevox, a visit to one of their Client's warehouses, and discussions with SkateHut's existing e-commerce website vendor. It was decided a direct connection between the Peoplevox WMS and their BluBolt E-Commerce Platform would be the optimum solution.

Deployed by numerous retailers in the UK and globally, Peoplevox's software as a service (SaaS) system was already well-proven. Purpose designed for handling the pace and complexities of e-commerce warehouse management, it also allowed off-the-shelf integration with popular e-commerce, ERP and shipping platforms.

Five years previously Peoplevox's founder and CEO, Jonanthan Bellwood, had come to realise the potential for using the 'no Capex' SaaS subscription model for deploying WMS software to growing e-commerce and multichannel retailer's like SkateHut. He had previously spent many years implementing warehouse and supply chain software in warehouses around the world and shared many retailers' growing frustrations with WMS systems, not least the high costs and time involved in implementing and upgrading on-premise software which had never been designed for the e-commerce age.

Thanks to the inherent flexibility and scalability of SaaS, combined with Peoplevox's easy to configure WMS software, SkateHut was able to quickly and cost-effectively deploy the system throughout the organisation. Full implementation was completed in just three months. "We were delighted with how the Peoplevox platform integrated with our other systems," added Dell Blundell. "We also feel the software is easy to use but has the intricacies for us to perform every function we need."

Business Benefits

Since going live with the SaaS-based Peoplevox WMS solution, SkateHut has achieved 30-40 per cent growth. The reasons behind this impressive performance are largely down to maximising sales opportunities and profitability by having accurate up to the second visibility of available stock for sale, along with a reduction in unforced errors and staffing costs. "Fewer personnel are needed in Customer Services and the warehouse in relation to the quantity of orders we ship," attests Dell Blundell.

SkateHut is now rated 5 stars by over 99 per cent of their customers. Having a full and 100 per cent accurate stock control has boosted customer satisfaction by eliminating the disappointment caused by selling out of stock items. Cut off for same day despatch has also moved from 3pm to 7pm for next day delivery, allowing SkateHut to create a better supported customer journey and service. Furthermore, they are the only retailer to fulfil orders on a Sunday in their area.

Improved People Management

Staff headcount and overheads have been reduced by no longer needing so many Customer Service Advisors. Fewer expert pickers are also required as all products are now barcoded. In addition, the streamlining and simplifying of warehouse processes has meant pickers can be trained in half a day. This is especially beneficial with temporary staff members who can get up and running much more quickly than before. Improving people management in the warehouse has also led to increased job satisfaction for warehouse operatives. They tend to stay on longer and are prepared to do more hours. For example, warehouse operatives are now available to work on Sundays.

Concludes Dell Blundell: "Peoplevox has transformed the business. We have the ability to despatch large quantities efficiently, especially at peak. We are able to offer excellent service due to so few errors with stock, and with our late cut off for orders. The most positive impact the Peoplevox WMS Solution has had on our business is the fact that we have been able to scale to where we are and will be able to keep growing without the need to change."

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READY FOR INVISIBLE PAYMENTS?

Ralf Ohlhausen says that invisible payments are the missing piece of the puzzle.

By: Ralf Ohlhausen, Business Development Director at PPRO Group

infoburst: Lots of new markets are opening up to e-commerce providers.

Introduction

"This is not good", I thought. It was roughly half an hour after the restaurant ordered our taxi. The wind had just begun to whip sleet into my face. It was almost midnight. We were on the very edge of town, in an area with — as far as I could see — no buses. We called the taxi company — it had no record of our having ordered a cab. The soonest it could get a car to us was 45 minutes.

I was in a strange city in a foreign country, so I'd deferred to my friends' choice of restaurant and cab company. But now I got my phone out and checked Uber. Despite having no local cash and no local knowledge — I had a car driving us home within 10 minutes. "That's amazing", said my friend's wife, who'd never used the service before. "Why didn't he ask for any money?" She's right — it is amazing. But it's just the beginning.

Mercedes Buys Into The Future

On January 16th this year, Mercedes bought the mobile-payment start-up PayCash. Initially, it plans to use its acquisition to develop a secure, invisible and instant-payment method for its car-sharing service Cars2Go and its taxi-app mytaxi.

Invisible payments? An app – on your smartphone or some other device – that monitors how and when you consume a good or service, and then bills you at an agreed rate – no credit card PIN, issuer number, or three stage checkout. You don't even have to tap. You just use the service and get a receipt in your inbox.

It's easy to see why auto-industry companies like Mercedes are some of the first investors in invisible payments. If you want to build a distributed, flexible and on-demand transport service, you need customers to be able to pay without carrying cash and without having to visit a centralised point-of-sale. Other car companies are already getting in on the act. Avis, for instance, has its Uber-clone Avis Now and Bentley has a fuel-on-demand service.

Where Adobe and Microsoft Led…

In 2013, software giants Microsoft and Adobe

changed their business models. No longer would users buy a version of their products and then, a few years later, buy a new version — or not, if they didn't feel the case for an upgrade was compelling enough. Instead, customers subscribed to the software, paying a monthly fee. New updates arrived invisibly, over the Internet.

It was a good model. For a lower upfront cost, the customer always had the latest version of his or her software. The vendors, on the other hand, got a predictable revenue stream that netted them more, over the lifetime of the product, than a single upfront purchase. The software companies were able to make this change in 2013, because broadband speeds were finally high enough to cope with the demand placed on the network by constant product updates running in the background.

At that time, other sectors could only look on in envy. But in 2017, that's starting to change. In response to the boom in e-commerce, courier companies have been rapidly expanding their capabilities, allowing them to deliver more parcels, more reliably, faster and for less. According to Accenture, since 2010 Amazon alone has spent over US$13 billion on warehousing and logistics. And carriers such as DPD, DHL, FedEx and UPS were also investing millions expanding capacity.

As a result of this investment in courier capacity — particularly in the 'final-mile' services so crucial to customer experience — it's now both feasible and economic to ship even low-value, fast-moving consumer goods in the post. All of a sudden, lots of new markets are opening up to e-commerce providers.

And that's nothing, compared to the e-growth potential that will be unlocked by the Internet of Things. When not only your car, but also your fridge, your vacuum cleaner and your coffee machine are intelligent enough to track usage, order and pay themselves when supplies are running low. The opportunities for e-commerce are huge. Suppliers of everything from milk to motor oil will be able to move consumers to a software-like subscription model.

Conclusion

But all of this only works if payment is instant, effortless, and seamless. No one wakes up in the morning thinking, "Wow, I'm really looking forward to making some Internet payments today". No one wants to have to give their fridge their credit-card number and security code every time they need a pint of milk.

Invisible payments are the missing piece of the puzzle. The companies that crack it first will be able to offer their customers an experience and a level of convenience that their competitors just won't be able to match. And consumers love convenience, almost as much as they hate being left standing in the rain without a taxi.

To get an idea of what's at stake, consider that Amazon's 1-click checkout has increased revenue by billions — and that's one-click, for one retailer, in one channel. Imagine thousands of retailers, with no-click commerce, over hundreds of devices.

If you are a retailer, start thinking how you can comfort your customers in automating their payments to you. If you are a payments company, start thinking now how you can make yourself invisible.

www.ppro.com

infoburst: Amazon's 1-click checkout has increased revenue by billions.

THE NETWORK IS THE BUSINESS

Russell Crampin explains why CSPs must harness digital transformation to remain competitive

By: Russell Crampin, UK managing director, Axians

Introduction

In today's evolving technology landscape consumers are becoming more demanding and looking for a fantastic service, in an increasing choice of communication service provider (CSPs). This is highlighted by a recent report by Ovum that reveals 82 per cent of consumers have stopped doing business with a brand following a bad experience. As a result of this fickle "loyalty", poor service and out of date offerings can quickly lead to customer churn. Quad play is increasingly becoming the norm, with many customers buying their communications services as a package, making this a problem that CSP leaders must take seriously to remain competitive.

CSPs are under constant pressure from the ever-changing relationship between customers and technology and must create brand and technology led service differentiation in such a mature and value led market. As a result of this change in consumer expectations, enhancing customer satisfaction and strengthening loyalty have become top priorities for CSPs. A focus on improving productivity through process and organisational efficiency, restructuring to concentrate more on customers and reducing costs through value-oriented customer management, has led to fundamental changes in the way that CSPs engage with customers and in turn the longevity of relationships with them.

But to get to that point decision makers face a complex journey. The crucial factors to prepare for are:

- **Service agility -** developing personalised service packages, content and self-help tools, reducing time-to-market for new offerings and increasing competitive differentiation.
- **Security -** meeting customer demands for a secure, reliable service and protecting the business and brand.
- **Innovation -** using data analytics to increase understanding of customer trends to refine services, propositions and sales effectiveness and identify new revenue streams. Innovation also comes through automation, in order to rationalise and standardise products, networks, applications, platforms and processes. This aims to remove complexity, simplify customer engagement and drive down cost in a secure way.

infoburst: CSPs are under constant pressure from the ever-changing relationship between customers and technology.

This digital transformation journey can be mapped out on a road towards three main

business outcomes. To thrive in this competitive marketplace, CSPs must strive for excellence in profitability, market share and brand reputation.

Profitability

CSP decision makers constantly need to find a balance between alleviating the pressure on revenues and margins caused by increasing standardisation of products and services, with the necessity of offering something new, exciting and different to customers in order to remain competitive.

Facing a decline in per user revenue, there's a need to increase the capability and efficiency of their network infrastructure to drive new services and meet increasing customer expectations around speed of response, mobility and flexibility. There are also greater efforts to cut costs through less human contact and the use of portals that should be simple, clear and intuitive experiences,

personalised across multiple platforms. In many ways the business focus has not changed: Attract new subscribers by offering something different and increase Average Revenue Per User (ARPU) through cross-selling and up-selling and consequently reduce churn.

- **Service agility –** an agile CSP must be capable of offering their customers a tailored service mix according to their needs. Agility also means being perceptive enough to identify changing customer demands and competitor actions and rapidly responding with a new offering. Any CSP – indeed any business – with the capability to roll out new products or services before their competitors can gain an immediate advantage. Given the modern customer's emotional need to have everything now, the agile CSP must be seen to be better than their competitors at meeting sudden changes in demand.
- **Security –** security is a crucial aspect to maintain confidence and therefore retaining customers. Customers must be reassured that their data is secure and that if something does go wrong, the CSP has the expertise to quickly address the issue at no cost to the end-user.
- **Non-compliance –** non-compliance of external security processes also increasingly runs the risk of fines or sanctions for the businesses, naturally affecting its profitability.
- **Innovation –** furthermore, digital transformation can enable the reduction of capital and operational expenditure by simplifying external and internal processes. For CSPs, this can come in the form of partly-automated self-service portals and templates to accelerate the development and refinement of designs, processes, systems etc. with an audit trail of changes

Simplifying any process lowers the opportunity for errors and increases the speed of completion. In addition, reducing this complexity allows CSPs to focus on putting the building blocks in place to scale out a network and make it easier to diagnose and resolve issues. In many cases, we have seen second and third tier CSPs disrupting the dominance of their more established competitors, simply because automation of services is built in from the ground up as opposed to implementing it into a fully formed network built over many years.

Market Share

In the age of digital transformation and with limited product differentiation, high quality service and customer self-services are central to building and maintaining brand loyalty. Long term success is gained through protecting and growing market share, in other words by offering products and services that are perceived to have greater relevance and value than competitor offerings. A personalised offering is needed with a focus on delighting customers with tangible added value. A worldwide study by the Corporate Executive Board demonstrated that speed of solution, simplicity, and efficiency correlate closely with customer loyalty – the less time a customer has to spend obtaining a solution to a problem, the greater the level of loyalty.

However, outstanding customer service is only achievable if the infrastructure can manage the constant growth in network traffic this activity

generates. If not, it can very quickly impact the customer experience.

Service agility – the agile, responsive CSP must quickly and easily create new services and test, learn, improve or drop according to market feedback. This enables them to up-sell customers, develop new revenue streams and learn about their changing needs, in turn improving market share.

Brand Reputation

Building and maintaining a positive, high profile brand reputation is vital for all successful businesses and for CSPs that means delivering on their brand proposition during every single customer interaction and experience. Attracting new customers while also promoting churn of existing customers is a difficult balancing act, akin to filling a bucket with water from the top and stopping it from leaking from the bottom at the same time.

Today, the most important means of communication between brand and customer is via the web. Online channels offer opportunities to communicate more directly and interactively than ever before with specific target groups. However, the time and effort to build and maintain brand reputation is higher because of the diversity of new channels and the increasingly selective behaviour of consumers. Ensuring the network capability is in place to deliver the new service, and give it the best chance of success, is therefore critical.

A core component of every offering is securing and protecting customer and company data. When things go wrong, the damage to the brand can be significant, so action needs to be considered in key areas.

- **Security –** security when it comes to brand reputation is two-fold – being alert and responsive to vulnerabilities and threats but also positioning the company as a secure brand that customers can trust. With threats becoming more sophisticated all the time, CSPs must use the latest technology to protect their employee and customer data. This, allied with the use of analytics, means that they can monitor company assets and resources by providing visibility of day-to-day activities and assist in early identification and resolution of security issues. Furthermore, the ability to trace the fingerprints of an attack, sometimes weeks after an initial intrusion has been made, and across several systems, will become increasingly important.
- **Innovation –** as previously mentioned, digital transformation enables the streamlining of processes, and this is no different when it comes to security. The simplification and standardisation of business and operational processes reduces the risk of potential security breaches and makes it easier to apply a consistent security approach across the organisation and network.

infoburst: In an age of digital transformation it's vital that CSPs deliver a consistent, high quality customer experience.

Vigilance and stringent internal processes encourage businesses to meet internal, national and international security standards, regulations and laws. This in turn shows that a CSP takes the protection of its customers and business data seriously. Automation is crucial in order to combat threats in real-time, but it is essential that intelligent decisions are made – for example recognising the difference between a sudden, upturn in traffic and a genuine DDoS attack.

Conclusion

The network is the business. Everything springs from it for communication service providers, be it profitability, market share or brand reputation. In an age of digital transformation, where customer expectations are higher than ever before, and competition is tight, it's vital that CSPs deliver a consistent, high quality customer experience, and if something does go wrong, the ability to reassure customers they have the expertise to quickly address the issue must be in place. Getting this service focus right is imperative as the impending impact of technologies like 5G and IOT will be upon us, creating further disruption in an already volatile market.

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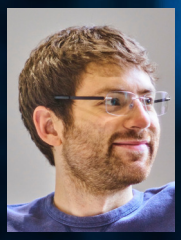

David Mytton Elaborates On The Dangers of Server Downtime

By: David Mytton, Founder and CEO of Server Density

infoburst: Agile working practices and a strong recovery plan should allow you to stop worrying about downtime and focus on your business.

Introduction

No matter how strong your business is, or how effective your IT department, everyone with a website or online service has had to deal with server downtime at one point. Even Facebook, known for their technological prowess, has experienced downtime, causing both embarrassment and financial costs in lost revenue. Server downtime costs companies millions of dollars in lost business, however despite this widespread understanding of the issue it remains difficult to quantify certain costs of downtime in precise terms. If these costs were more widely understood, then businesses would take preventative measures far more seriously, such as constant server monitoring, agile working practices, and creating a plan should an emergency come about.

Financial Loss

Financially, the cost of server downtime really depends on the size of your business. If your website experiences even 1% downtime, this means that your website will have been down for 3.65 days of the year. When put this way the financial costs to business revenues become far more clear.

Server downtime can cause big problems for small businesses in particular. The smaller the company, the less likely it is that they'll have redundancies built in. Without redundancies, there is nothing to prevent loss of service if downtime does occur. If the server goes down, the website will go with it, and small businesses with often precarious balance sheets will find this very painful indeed.

Larger businesses can afford to have redundancies built in, which is almost like buying insurance. For them, server downtime would be catastrophic, and they would prefer the cost of this insurance over the pain of having to deal with servers failing.

HumanOps

Being a developer is a difficult job, especially as on-call work responding to server issues affects work-life balance: IT workers can be called away from social occasions, or woken up in the night. In 2014, Tel Aviv University released research that explained that interrupted sleep can be worse than no sleep at all. Most workers on call never know when they'll be called upon, which comes with a huge physical and psychological toll. Stress in on-call IT is high, but this can be minimised through appropriate monitoring.

Servers often produce large amounts of noise, spamming developers with millions of irrelevant notifications. When there's a human on the other end of these alerts this causes psychological stress, as the person then has to filter through the noise to find the signal they should be paying attention to. Our own research details that once a worker has been distracted, it'll take them 23 minutes to regain focus, taking away their productivity, and reducing the impact their work can have. In December 2016, our data showed 1.5 million individual alerts were triggered across our customers' servers - imagine the lost productivity within the IT team from constantly having to switch attention between all those different alerts.

These alerts can be monitored in order to prioritise the ones that are truly relevant for customers. By reducing the alerts, on-call IT can have a smaller workload and truly focus on what is important - maintaining server uptime. In the tradition of 'devops' - trying to push overall development and operations practices towards a more agile approach, we've started the humanops community. The idea is to draw attention to these psychological stresses and inefficiencies in IT teams. Companies need to start paying more attention to these human factors, not just the systems factors if they're to maintain a happy, productive staff.

Common Issues

Obvious issues with servers are usually the ones that are most easily ignored. From our experience, one of the most common problems companies face is, surprisingly, running out of disk space. While this may seem insignificant, it is issues like these that can cause the most long term damage. Applications running on servers with low disk space can freeze, bring up strange errors, behave unpredictably, or crash completely, losing your company's important data along the way.

This is an easy problem to resolve, but there are other common issues that may strike down your servers. If you use a pay-as-you-go cloud system, it's possible that you're racking up excessive network fees through careless mistakes. Network fees can go up due to inefficiently designed applications, from simple things such as poorly optimised image and file assets through to more complex architecture decisions such as database replication and overly verbose protocols. It pays to review your cloud provider bill on a regular basis to ensure you're not spending where it's not necessary!

Bugs and malicious software, in addition to the obvious security challenges they pose, may also be slowing down your network and causing you unnecessary expenses. In order to avoid this take all the obvious steps required to secure your software against malware. It bears repeating: keep your software updated and patched promptly, review your network logs, and increase awareness with staff training. The more you take care of your servers, the less likely it is that they'll fail you and their users

Being Agile

Common issues can be avoided by implementing agile working practices and ensuring that your employees are working in a way that makes sense with newer cloud-based technologies. It›s not enough to simply migrate your legacy systems into a cloud environment. Cloud vendors can provide you with flexibility, fast product iteration, and scalable capacity, but these benefits are not just achieved by simply switching over. If you adopt a traditional mindset to working with cloud systems, frustration and increased costs are likely to occur. Adapting your processes and infrastructure through proper use of APIs and automated workflows is the right way to go.

Being an agile team is pretty important nowadays, and in order for this to happen managers need to implement devops principles. With the proliferation of SaaS-based infrastructure solutions running in the cloud, it's now possible and indeed necessary for development teams to run their own systems, with operations teams responsible for underlying platform infrastructure.

These kinds of reforms have obvious upsides: developers no longer have to 'reinvent the wheel' by creating, updating, monitoring and fixing their own infrastructure services for functions such as resource monitoring, email delivery and permanent storage. This undifferentiated heavy lifting can be taken care of by SaaS vendors, freeing up developer time to focus on managing and overseeing those systems.

Looking Forward

You may have the foresight to plan ahead and follow the advice above, but it is still likely that at some point your systems will inevitably suffer from downtime. In these cases, it's important to have a plan in place for quick recovery. You should always make regular backups, and run tests on those backups. In case your servers do malfunction, you and your team should know who to contact in case of emergency. A recent example of a company that failed to fully test its backup and restore procedures is Gitlad, which lost 300GB through human error caused by fatigue. This unfortunate incident at GitLab highlights the urgent need for businesses to review and refresh their backup and incident handling processes to ensure data loss is recoverable, and teams know how to handle the procedure.

Conclusion

Server downtime brings with it not only financial, but also psychological and physical costs to those who work in your IT department. New technologies in server monitoring, as well as common sense should allow you to lower the costs of downtime. Agile working practices, server health checks and a strong recovery plan should allow you to stop worrying about downtime, and focus on your business.

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MANAGED CLOUD

Removing the complexity of transitioning to a hybrid cloud infrastructure.

By: By Joao Crespo, Programme Director for Teradata

Introduction

As cloud has become a standard way of doing business, organisations globally are utilising it as a tool for innovation and business transformation. Those who successfully use the cloud to achieve growth will have a mature, strategic view of how best to implement and integrate it across their organisations.

All approaches to cloud have advantages. From the straightforward simplicity of public cloud services, versus the increased security and control of a private cloud, there is a cloud environment to meet every organisation's needs.

A hybrid cloud approach in which public or private clouds, or a combination of the two, are fully integrated with traditional on-premises IT and centrally managed through a single platform is becoming increasingly popular. Indeed, as cloud strategies mature and the business benefits of implementing cloud throughout the organisation become clear, hybrid cloud has emerged as the consensus choice to support business growth. Nearly half of enterprises already use some form of hybrid cloud and 72 per cent of enterprises are expected to pursue a hybrid strategy. Hybrid cloud solutions make it easy to deploy new business models and technologies like cognitive analytics, which have the power to transform businesses.

Managed Cloud

Managed cloud as part of a wider hybrid cloud strategy allows organisations to utilise cloud computing without having to employ an expert in every area. Companies that use managed cloud can focus on their core business rather than having to divert their cash reserves employing large teams IT experts, technical engineers and system administrators and other experts to manage their IT.

A managed cloud provider will offer its customers a range of expertise as well as large economies of scale as the provider's engineers manage not only the customers' computing, storage, networks, and operating systems, but also the complex tools and application stacks that run on top of that infrastructure. These can include the latest databases and ecommerce platforms, as well as automation tools. Managed cloud allows each individual customer to choose which IT functions it wishes to manage in-house, leaving all the rest to its chosen service provider.

Whether an organisation is deploying in the cloud, on-premises, or both, designing architecture to meet their application requirements can be a time-intensive activity requiring regular reviews and updates as the business grows and its needs change. With cloud providers regularly evolving their platforms, it's important to continually re-architect to best take advantage of new features and services. This may require significant investment in organisational resources in finding, hiring and retaining certified architects.

By partnering with a managed cloud provider, specialists can work with organisations to design and tailor an architecture specific to a customer's application needs. The provider will also update an organisational architecture on an ongoing basis as its requirements evolve and as new features and cloud services become available. The provider should be able to offer services across a broad range of technologies and deployment models — including dedicated hosting, private cloud platforms like OpenStack and leading public clouds like Amazon Web Services and Microsoft Azure. The combination of choice and expertise means that the provider will deliver an architecture designed to meet an organisation's application's specific performance, availability and scalability requirements while eliminating the need for them to retain costly architects in-house.

Security is Key

Ensuring an organisation's application portfolio is safe, secure and stable is vital to minimize risk and maximize business outcomes. In a world where security breaches are increasingly becoming the norm, that's easier said than done. Choosing the right managed cloud provider means that in addition to secure infrastructure, an organisation can also gain access to the guidance and on-

demand expertise that will help to ensure that their environments remain secure and stable.

In a managed cloud environment, each customer's data is securely and physically segregated from other cloud customers. The enterprise is able to undertake full test and development, sandboxing, quality assurance use-cases, along with creation of data marts and operation of disaster recovery.

Data Management

According to IDC, by 2018, cloud will become a preferred delivery mechanism for analytics, increasing public information consumption by 150 per cent and paving the way for thousands of new industry applications. New industry applications mean more data will be created and with this comes the challenges around the management of data. Data has little value if it is not available to be analysed and used to help grow the business.

Left to its own devices, it could take any organisation years to build and deploy the complex analytical environment needed with a mix of open and closed-source technologies. The reality is that given the competitive pressures in today's digital environment no company can afford to take its eye off the core business for any period of time whatsoever.

From a tactical point of view, the challenge is to set about finding the best way to ensure data is stored, managed and analysed, without incurring expensive overheads and in a scalable way to allow for rapid future growth. A managed cloud infrastructure combined with a powerful database that has the speed and flexibility to deploy complex, analytics, can address all these concerns and help an organisation quickly innovate and build new analytical applications.

In this context it is vital for organisations to be able to analyse what they want, when they want, regardless of where the data resides, enabling companies to balance surges in usage and to manage capital and operational expenditure.

Conclusion

Managed cloud services have, of course, been available for some time now. However, it is only relatively recently that some of the most mature; reliable and powerful analytical offerings are becoming available in Europe, for example, to ensure compliance with the region's data requirements. It's clearly time to start the discussions – with the knowledge that selecting the right platform is the first step to furthering business growth and success.

For enterprises operating in Europe, a mature data warehousing tradition is a critical element in realising value from business analytics, while cloud services give them a mixing bowl for new data sources that are analysed in new ways in conjunction with the data warehouse. Businesses operating at this scale stand to benefit from the ability of managed cloud services to accommodate rapid business growth and to potentially achieve higher cost efficiencies along with significant gains in the way data can be stored, analysed and put to profitable use.

Likewise telecom carriers, global service providers, networking vendors, and IT services firms are increasingly competing for a slice of the managed and cloud services market in the Asia/Pacific region. With organisations increasingly outsourcing IT-related functions, cloud and managed services have become important delivery models for them. As a result, managed and cloud services have become key areas that service providers, networking companies, and IT service firms are focusing on.

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