Assessing the journey to software defined cloud
NEIL EKE

Re-inventing the role of core IT
PAUL CASEY

It’s all about the business case
COLIN WILLIAMS

Which cloud path will you take?
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To our Insight Guide on Software Defined Networks and Hybrid Cloud

The world of enterprise IT is changing rapidly. Today's CIO must look in new directions and consider new delivery models to meet escalating demands for immediacy and customer intimacy. Virtualisation, automation and orchestration are part of the new IT mix, while greater visibility and control is achieved through abstraction of the software layer.

What does this mean for the CIO tasked with enabling business transformation through IT? This Insight Guide brings together four Computacenter experts in networking, cloud and operations architecture to look at the decisions that lie ahead for the CIO, offer practical steps for transitioning to software defined cloud services, and discuss both the technology and cultural changes on the transformation journey.
A survey last year found that 88 per cent of businesses are using public cloud technology and 63 per cent are using private cloud. With cloud clearly integral to modern IT, we are increasingly being asked by CIOs and their IT teams to help them address new operational and management challenges associated with the move to software defined and cloud services.

In this context, the growth of shadow IT is a growing trend that has the potential to damage the relevance of corporate IT if not carefully managed. As the business seeks out external service providers, how can the CIO turn this to best advantage – if at all? Our Insight Guide offers a thought provoking perspective on shadow IT and how software defined and cloud services are taking central IT in a new direction.

When and how you embark on your software defined journey is another important decision being faced by many of our customers – and one that we at Computacenter have had to take ourselves. When is the right time? We argue that while SDN will become the norm, it’s the business case that will define the timeframe. Don’t just change for change’s sake, urges one of our experts.

And what of the cultural transformation needed on the SDN and cloud journey? SDN marks a turning point for traditional enterprise IT, one that has to be carefully managed as existing roles change, new ones emerge and old operating models are torn up. Are there champions within your business who can lead the way, nurturing reluctant employees and evangelising on the benefits of cloud and SDN?

Of course, unless the potential consumers of your hybrid cloud services actually ‘use’ them, there’s little value added by their introduction. Thus the key is to ensure that what you are providing is what users want. What are the likely use cases? Without this insight, how can you align the services in your service catalogue with your business needs?

There’s no doubt that software defined and cloud-based delivery offers exciting potential for enabling an agile and quick response to market changes. But making the transition also requires a number of organisational and process optimisation steps and it won’t happen overnight.

We’ve recommended some of the steps on this journey, which I hope you find both informative and useful.

Neil Eke
Solutions Sales Director,
Computacenter
“You can’t just view shadow IT as a problem that needs solving; you must also view it as an indicator of the services people need to do their jobs,” argues Paul Casey, Chief Technologist for Cloud Automation & Compute at Computacenter UK. He’s discussing the changing role of IT – both the function itself and the technology.

“Business users are tired of asking IT to support the challenges they face, so where they don’t get the services they need from IT, they go outside to cloud and SaaS-based providers,” he says. “This is leaving central IT asking what it needs to do to remain relevant. Can it re-invent itself with an as-a-Service model?”

Paul believes this represents a fundamental shift that’s forcing a change in the skillsets of internal IT teams. “Any IT organisation making the transition to support cloud and as-a-Service delivery models will have to think more about delivering a service and less about delivering technology. This can be an uncomfortable process to go through, but it’s the only way IT will stay relevant. It involves redefining the IT organisation, functions, roles, skills and IT process, so it’s not a simple transition.

“This is, of course, driven by the consumer,” Paul continues. “Enterprise IT users want to use mobile platforms; they expect a social presence and the ability to order, collaborate and live online as part of a modern working style. The developers expect IT resources to be available on tap, and to seamlessly integrate with their development approach and tools.”

This brings us back to the insight to be gained by observing shadow IT proliferating across the enterprise.

Paul explains: “Typically, those going outside the organisation are not being malicious; they simply want to get their hands on the tools they need to do their work efficiently and productively. So we’re seeing different lines of business reaching out for file sharing, collaboration and customer relationship management solutions – the list goes on. These are often customer facing lines of business and they’re acutely aware that these new digital tools are vital business enablers.”

So where does this leave the central IT function? How much of this enabling technology should it source from external providers and what can it retain or develop in house to ensure it remains relevant? Paul says: “Let’s not forget that in the main the changes we’re talking about are with systems of engagement. The core engines and systems of record that are the mainstay of the enterprise are still the responsibility of the IT function.

“Nonetheless, the growing adoption of software defined and cloud services shows us that the ability to predefine how applications are delivered, scaled and act is taking central IT in a new direction: one that is all about understanding and being equipped to respond to changing demands from the business, evolving the perception of IT from business inhibitor to business enabler.

“While this is resulting in a fast, consistent and agile delivery of services via cloud providers, it also poses a challenge for the CIO and IT team. They must become the ultimate service to the business. And this means working with new technologies that break the boundaries of how IT supports the business.”

Paul continues: “Software defined and cloud fuse the delivery of network, applications, storage, compute and security as one entity. It’s a big technology change, converging previously separate components and responsibilities. Culturally, it will mean a level of control is removed as previously isolated teams work as one. This is about the service and everyone has to give up something. That's what I mean by IT re-inventing itself.”
“There are areas of technology infrastructure where it does make sense, but this is really about the business case. If you operate in an environment that would benefit from automation, dynamic programming, orchestration, etc, where you want to deliver network change ‘on the fly’ and in sync with the rapid release of applications, then SDN is right for you, right now.”

Colin says that, as an example, these might be e-trading companies or other highly agile enterprises requiring a massively reduced time to market with hundreds, rather than handfuls, of application releases. “The doorway to SDN is opened at the business requirements phase that signposts the pilot use case,” he continues. “How will the enterprise benefit from SDN-style change as these digital companies would? That’s the starting point for SDN introduction, not the technology itself.”

On the flip side, the endless discussion of networking leveraging software can move the focus away from a key point: SDNs cannot function without networking hardware. It might be recalibrated for a new software-defined world, but you’ll still have it. This forces the CIO to ask whether there is a need to shut down old ways of working to benefit from a transition to SDN now, or whether they should wait and see what happens.

Colin’s advice to CIOs and their networking teams is to ignore the market and vendor hype. “My point is that the decision should be driven by your business, not by the promise of the technology, either today or in five years,” he says. “If your network is never going to be automated, programmed, or won’t need the dynamism offered by SDN, then maybe this upheaval isn’t necessary. I’ve been having conversation after conversation with customers on this subject. They’re in a state of flux and unsure what to do. My response is always to ask them to tell me about how their business operates now and how it may change in the future. Only then can the decision be made about when – or even if – the time is right to transition to SDN.”

Colin Williams
Chief Technologist, Networking, Security and Digital Collaboration, Computacenter
The Technology Is Easy – It’s the Cultural Change That’s Hard

As a Chief Technologist, Colin Williams might well be expected to focus on selling the merits of new infrastructure and networking solutions. But it’s the people he’s most concerned about. He says that to be successful, any transition to software-driven cloud networking solutions must first focus on the cultural change. “Of course, the change wouldn’t be taking place without the technology – or the use case for that technology – but SDN represents a significant change for traditional enterprise IT and has to be managed carefully,” he says.

“The roles of people in IT Operations, Technical Architecture and Application Development will all change. The challenge for the CIO is how to take these people forward with clearly defined roles to a new software defined environment. It’s a far more collaborative world that isn’t constrained by old release cycles. This is a massive cultural shock before they even think about software defined technology. In fact, the tech is the straightforward bit; it’s managing the people transformation that’s hard.”

Colin says that he knows some CIOs will simply view the change like a bus: you either jump on board, or you miss it. But for others, it will be a gradual, evolutionary change. This is the approach he espouses. “I’d buy the most productised SDN that I can, then evolve slowly, keeping the best of the old and tapping into the new in a way that is acceptable and works for your organisation.”

Does this mean open source SDN approaches should be ignored? “Absolutely not,” asserts Colin. “The open networking community, many of which benefit from extensive skills and code investment from the existing leading vendors in the commercial world, has an equally valid part to play on the enterprise SDN journey. However, the over investment in SDN currently underway from many of the largest and most powerful networking vendors in the industry may greatly accelerate the time to customer value (albeit at a price).”

Colin adds that there are some great examples of innovations that have come about as a result of ‘skunk work’ projects, where a team has been freed up to think dynamically and unlock new avenues of innovation with new products or services. “The same applies to the introduction of SDN. It doesn’t give you anything unless you can change how you work and how you think about the way you work.”

For these reasons Colin is a firm advocate of finding change beacons within the business: people in Operations, Technical Architecture, Development & Programming and Management layers prepared to work on small projects, almost like SWAT teams. “They can prove that this dynamic, collaborative approach delivers faster than the old ways,” he says. “And as SDN champions, they will bring the old guard on board. Because while SDN is not a must have, if you want to think and act like Amazon, Google, eBay and other e-business success stories, you need to bring these disparate teams together as a seamless entity.”
Digital strategies driving front-end business models with an increased range of engagement methods demand a different form of IT support. “This is creating demand for cloud service models, for which Software Defined Networking offers a technical delivery roadmap,” says Nick Henry, Head of Transformation and Cloud Services at Computacenter.

“Businesses want to develop apps faster. They want to scale them in a way where costs have a linear relationship with the scaling up and scaling down of apps. For example, a retailer might expect more capacity in November and December during the year’s peak trading periods. For the IT function, the expectation is that it will align its delivery model to meet these needs.”

Cloud services are a way to achieve this. Nick says that the National Institute of Standards and Technology (NIST) in the US identifies five essential characteristics of cloud computing that the IT function must take on board:

• On-demand self-service of computing capabilities as needed: provided automatically without human interaction with each service provider;

• Broad network access via multiple devices: mobile phones, tablets, laptops, and workstations;

• Resource pooling of computing resources to serve multiple consumers;

• Rapid elasticity of capabilities so that they can be provisioned and released, in some cases automatically, in line with demand;

• Measured service so that resource use can be automatically controlled and optimised, monitored and reported.

All of this implies a very different way of operating IT services. “That’s absolutely the case,” continues Nick. “While the technology components are relatively straightforward if you’ve got the right systems and tools to manage your compute, systems, network etc. in a cloud model, the operational change is significant.

“IT operational models have been established, growing and morphing for 20 years or more. Now, however, with a move to cloud services, these models are largely being ripped up. There will be resistance. After all, we’re talking about new processes, re-skilling, and even a fear of job loss.

“Computacenter’s customers are tackling the change in two distinct ways,” he says. “The first is a greenfield approach. This sees the existing IT operation being left to run as before, while a new cloud-based service IT operation sits alongside it: it’s the concept of two-speed, or bi-modal, IT.

“Over time, key business applications are migrated from the old to the new, such as critical front-end applications. The character of this migration is determined by the criticality of the apps or workloads. For example, a customer billing system that must not fall down and doesn’t require the agility for frequent code changes can easily stay in the legacy set-up. On the other hand, a business need to continually improve a specific app or service as quickly as possible is ideally suited to the cloud.”

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Nick continues: “The other route some customers are considering is to take an existing IT operation and incrementally transition it in its entirety into a cloud service model. So, for example, one of our large enterprise customers has chosen to improve its IT monitoring across the entire server estate, ignoring apps altogether at this stage to focus purely on the servers. Transforming in this way will take several years and it’s clear that some aspects can’t wait that long in today’s consumer-driven world. As such, I can see a transition path that incorporates elements of each of these approaches.”

Nick adds that those organisations moving more aggressively to cloud and SDN will have a lower proportion of their business dependent on old legacy systems. He explains: “They’re likely to have grown up in the past 15 years, such as e-gaming companies.

“There is also a different speed depending on the sector, regardless of whether the business is a new market entrant or established player. For example, Financial Services is an increasingly digital industry, but escalating amounts of regulation around data privacy and storage have meant caution about how and when to adopt cloud. Indeed, UK regulator the Finance Conduct Authority has recently issued guidelines for the use of cloud-based ICT solutions.

“What’s clear to me, however, in a competitive marketplace, those organisations that move slowly will lose their differentiation in terms of cost optimisation and service capability.”

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Dean Hogan, Operations Architect, says that the proponents of Open Source have got it right. They recognise a fundamental requirement to understand what the user community wants. “It’s why Open Source is so successful among DevOps,” says Dean.

But what has this got to do with our software defined and hybrid cloud story? Everything, according to Dean. “Delivering cloud as a service is very different to traditional IT service delivery. And it begins with a thorough knowledge of what your consumers – those people using the services – are really looking for.”

He continues: “IT has to consider all the points of engagement and view the services needed at each point as a product. While the CIO and IT directors have got to grips with cloud technology itself, this productisation of IT services is something new. Traditional IT has not looked at IT as a set of service products aligned with shared consumer demand. And, like any product being developed, it has to be something that gives value to the consumer.”

Dean Hogan
Operations Architect,
Computacenter
Organisational and process optimisation are integral to the transformation journey to a software defined hybrid cloud platform. As an example, organisational optimisation must begin with an understanding of your current services management. Dean Hogan explains: “Typically there is no established service product owner within IT. Nobody has accountability for the service catalogue; no one person is looking at what products you’ve got that are aligned to the every-day real IT needs of the end user. Thus a key step in transitioning to a cloud-as-a-service model is to establish a Service Product Owner.”

This is just one of a number of practical steps Dean recommends to ensure that IT’s transition to this delivery model really does reap the promised rewards, such as self-service provisioning; scalability to meet demand; and a service driven and transparent pay-as-you-use business model.

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STEP 1
Organisational: Appoint Service Product Owners. It is their role to ensure there is a good foundation for a product both to come through development and have a wide appeal so that it has a good ROI. This has good line of business interaction but is a relatively agnostic position.

STEP 2
Organisational Optimisation: Scrutinise your Service Operations Team and how it both defines and manages the portfolio and engages with the Lines of Business to ensure that all services (products) are fit for purpose and of value. Dean says: “Many companies think they’ve got a ready-made team in their existing set-up, but there are often gaps in the capabilities needed to evolve an optimised service catalogue and deliver agile working. These can be complemented in the short term by a project partner, but ultimately IT will have to upskill.”

STEP 3
Organisational Optimisation: Ensure someone has responsibility to manage the new toolset. As above, this may be an external project partner initially until the internal team has upskilled in new tools. It will need to be a cross skilled team, with expertise in the cloud management platform, automation, service catalogue, development and release of orchestrated workflows, and repositories. Service management tools might also include how IT monitors security events and service performance. Dean says: “Anything needed by way of cloud technology activities to develop and deliver the service in a cloud platform has to be brought into the new team.”

STEP 4
Process Optimisation: Identify what processes you need to get your new delivery model off the ground and prioritise them, such as processes for establishing a roadmap for new cloud services and the agile methods used to develop and release them – Computacenter identifies some 40+ processes or sub process key to operating in the product/service delivery life-cycle, but recommends just working with 10 or 12 initially. A key element of this step is to take a serious look at how you enable the cloud skilled team to collaborate with consumers, product owners and tech peers – and how they rapidly model, develop and test new products. If done right, the business’ appetite for new service and catalogue items will be demanding.

STEP 5
Process Optimisation: Identify where there is a maturity gap – what do you currently ‘not’ do that might allow you to establish a new service and include it in the above process priorities.

STEP 6
Process Optimisation: Define the services. You may have an idea of what these are, but you need a process to define them, for example who do you engage with to define them; what are the SLAs; do you have a description for the wider service for the catalogue?

Dean adds that while cloud is reasonably well understood, the operational capabilities needed to ensure success are still not wholly clear for many IT teams. Bringing together the right level of operational and process optimisation at the start of a hybrid cloud implementation project will ultimately make a notable difference in how your development team replicates what the consumer wants. He says: “It will enable the team to turn round prototypes in days and weeks, not months. This speed to launch new products is one of the critical benefits of a software defined hybrid cloud platform.”
Firstly, it’s important to point out that some companies don’t need to transform in this way because they were born in this agile world of IT,” says Paul Casey. “But of those who have, I’d say the media industry is a lot further down the line in its adoption of software defined and cloud. As an example, although one of our media customers still operates its legacy systems, the company is looking at the next 3-4 years of requirements and building cloud services for the future. It is already using a cloud-based data storage system.”

The Hut Group is a multi-website online retailer entirely reliant on computer systems to provide a web presence and to transact orders. It has invested in a Data Recovery (DR) as a service cloud-based solution from VMware to ensure it is able to get back up running at pace if it experiences an issue. Using VMware vCloud Air has ensured that The Hut Group has a flexible and scalable infrastructure – giving the IT team the ability to get more capacity during peak periods and to reduce it down during quieter periods. It’s a hybrid cloud solution that is very much part of the company’s growth strategy.

Visa Europe has made great strides in its cloud adoption,” says Nick Henry, “and this is giving the business a competitive edge”. Visa Europe is using Computacenter’s Next Generation Service Desk, encouraging users to embrace digital channels and self-service options. “The company is a good example of how cloud adoption isn’t an overnight sensation. Visa Europe is still mid-stream on its cloud journey.”

Who has successfully transitioned to a software defined cloud service platform?
Organisations transitioning to software defined cloud services want more than just the technology itself; they want a digital services partner who offers solutions aligned with their highly specific needs. I believe that’s one of Computacenter’s key strengths. Our technology affinity with our customers stems from our vendor independence. It means we’re able to assess each customer’s individual transformation journeys, operations and processes, and define a technology solution to fit, rather than giving them pre-defined vendor solutions. This sets us apart.

**BIO**

Dean is a consultant and architect within Computacenter’s Datacenter Professional Services practice. Providing thought leadership, he is responsible for driving and assisting in the development of Computacenter hybrid cloud service offerings.

He is also an active part of the front line consulting services teams helping Computacenter’s customers transform their IT operations and maximise the benefits of hybrid cloud IT.

One of the critical challenges with future cloud service models is managing the complexity and risk of transition from legacy operations and platforms. Computacenter has real heritage in helping customers optimise their legacy environments and transform to new IT models. We have credentials and expertise across both sides of two-speed IT, so are perfectly placed to help manage the migration.

**BIO**

Nick joined Computacenter in 2014 to lead the delivery of its Cloud & Datacenter Transformation Services Strategy. He manages the development, sales and implementation of the portfolio of consulting and professional services designed to transform IT into a relevant and critical business enabler across our customers.
The transformation journey that today’s IT systems and operations must undertake will be groundbreaking when compared to previous evolutions. The endlessly changing market drivers that stimulate the use of emerging and maturing concepts, including software defined and cloud solutions, can be straightforward to absorb but challenging to fully determine the impact. To understand the market effectively, Computacenter places itself in the shoes of a customer seeking a “business outcome” rather than an interesting education. It is this “customer first” consulting persona that ensures all Computacenter activities deliver value through the eyes of the customer. And that’s what makes us different.

BIO
With 20 plus years in IT solutions and leadership roles in organisations such as Compaq, Action, BT, Morse and Hewlett Packard, Colin has established a reputation as an innovative technology strategist. He utilises a unique perspective on the market, vendors and strategy to deliver thought provoking blogs, strategic consulting and market insight.

At Computacenter he focuses on strategy, demand creation, solution governance and customer enablement. He is tasked with creating differentiated propositions to accelerate Computacenter’s professional services and solutions growth. He analyses the market, the aims and desires of customers (both now and in the future) and formulates strategies to ensure our solutions leverage the most optimum vendor technologies, delivered via Computacenter services teams, to allow customers to realise their business outcomes.

One of our strengths is an ability to look back as well as forward. So we continue to help our customers run and sustain their core legacy platforms, whilst supporting their software defined and cloud journeys with new technologies and process change. Our focus on security is also incredibly relevant on this journey. We recognise that security has to be built as part of your platform from day one, not added on as an afterthought. It’s the only way to move forward securely and we’re seen as a safe partner in this respect because we’ve been there before.

BIO
Paul joined Computacenter in 1999 as a consultant and has held various roles within the Professional Services and Solutions business, including Technology Leader and Practice Leader for Virtualisation and Automation technologies.

Paul’s current role includes responsibility for cloud computing, supporting the datacenter line of business and heading up the Practice Leader community within the UK Solutions business.
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To discover more about how Computacenter can support your end-to-end cloud computing transformation from the core to the edge, please contact your Computacenter Account Manager.

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Enabling users and their business

Computacenter is Europe’s leading independent provider of IT infrastructure services, enabling users and their business. We advise organisations on IT strategy, implement the most appropriate technology, optimise its performance, and manage our customers’ infrastructures. In doing this we help CIOs and IT departments in enterprise and corporate organisations maximise productivity and the business value of IT for internal and external users.