The CIO in 2017
Challenges and opportunities of cloud migration
Introduction

Cloud computing has now been on the CIO’s radar for over a decade. During that time, it has helped countless organisations across the globe to become more agile, productive and cost efficient. But now the technology is maturing to accelerate adoption even faster, according to Forrester Consulting. Increasing numbers of enterprises will see the cloud as a viable option for even business-critical apps, the analyst claims. That’s why 38% of North American and European IT infrastructure leaders are currently building private clouds, 32% are buying public cloud services and the remainder plan to do so in the next 12 months.

But migrating apps to the cloud is far from simple. It can generate unexpected costs, security challenges and interoperability issues – all of which need careful consideration. In fact, a Trustmarque report (The IT Complexity Challenge) from last year revealed that two-thirds of UK CIOs and senior IT decision makers regard cloud computing as the biggest contributor to IT complexity.

This report is the second in a three-part series on The CIO in 2017; it follows the first report, released January 2017, which investigated the financial and operational barriers associated with cloud migration. This new report will reveal just why so many enterprises are planning to migrate their apps to the cloud. It will also uncover the main challenges and barriers to doing so, in a bid to better prepare enterprise CIOs for the potential pitfalls that might lie ahead.

Some organisational challenges are not so acute this year, while others have increased. But one thing remains true – cloud app migration is not something to enter into lightly. For all the undoubted benefits to the IT function and the wider business, it remains a resource-intensive task requiring highly skilled practitioners. These factors make it increasingly important to seek out a trusted third party to help with the process and provide that all-important subject-matter expertise.

*The research was undertaken by independent market research company, Vanson Bourne; the total sample size was 200 UK CIOs and senior IT decision makers from large enterprises with over 1,000 employees.*
Cloud migration is happening now – on a massive scale

Be in no doubt. The vast majority of UK CIOs and IT decision makers (91%) are looking to migrate their on-premise apps to either IaaS, PaaS or SaaS clouds in the next 3-5 years. On average, they’re planning to move around half (48%) of them. However, this figure is significantly more for the public sector (55%), while the financial services industry (40%) lags behind the average.

What percentage of your on-premise business applications do you plan to migrate to the cloud, utilising IaaS, PaaS and/or SaaS in the next 3-5 years?

- Approximately 100%: 6%
- Approximately 80%: 16%
- Approximately 60%: 23%
- Approximately 40%: 35%
- Approximately 20%: 12%
- 0%, we have already migrated all apps: 5%
- 0%, we do not plan to migrate any: 3%

Average percentage of on-premise business applications planned for migration: 48%
Why are these organisations migrating their applications? Because the cloud promises a raft of benefits over on-premise deployments. The cloud can chip away significantly at total cost of ownership (TCO) because organisations are able to reduce outlay on things like hardware and infrastructure; personnel and training; software maintenance; power consumption and software updates. Indeed, the research found that cost savings are the biggest driver for 61% of CIOs.

What are your drivers for migrating your business applications to the cloud?

- **IT cost savings**: 61%
- **Scalability**: 60%
- **Ability to deliver projects quicker**: 51%
- **Retiring existing infrastructure**: 49%
- **Add new features and make updates frequently**: 48%
- **Resolve capacity or reliability issues**: 38%
- **Drive business growth**: 32%
- **Drive business efficiencies**: 32%

Scalability is another commonly accepted advantage of the cloud and was a motivator for 60% of CIOs. Its pay-as-you-go, utility-style billing model means if you want to scale up, simply pay more and extra cloud resources will be made immediately available. When demand tails off, all you need to do is scale back down to the original set-up.

This feeds into the next biggest driver, for 51% of CIOs – the ability to deliver projects and meet new business requirements quicker. As much as they try to anticipate trends and changing requirements, sometimes businesses simply can’t predict what might be around the next corner. So it pays to have IT infrastructure which can react quickly, enabling the roll-out of new services or, in times of austerity, possibly scaling back in some areas. That’s what the cloud offers.
CIOs need greater clarity around migration and impact on licensing

Applications are the most popular part of the CIO’s domain to migrate over to the cloud: a significant 87% of CIOs plan to migrate apps to the cloud in the next 3-5 years. This was followed by almost three quarters (73%) of IT leaders that plan to migrate databases and infrastructure. It’s no surprise why. Doing so can reap some of the same benefits that make app migration so attractive such as: TCO savings; flexibility; scalability; adding new updates; and retiring existing infrastructure.

What do you see your organisation migrating to the cloud in the next 3 to 5 years?

- **Applications**: 87%
- **Database**: 73%
- **Infrastructure**: 61%
Yet, the research also found that a significant number of CIOs (35%) believe their vendors aren’t doing enough to explain the migration path to the cloud for applications, databases and infrastructure, and the impact this has on licensing agreements.

Do you think legacy software vendors with a SaaS option; database vendors and virtualisation vendors do enough to explain migration to the cloud?

35% of CIOs think their vendors aren’t doing enough to explain the migration path to the cloud.

Software licensing can be a tremendously complex process, and it’s no different in the cloud. The balance between non-compliance and under-usage can be a tricky one to get right. The chances are CIOs have a multitude of different software licensing agreements with different vendors, which vary in duration and renewal dates. Then there’s the problem of shadow IT – that is, individual business units buying software and services without the knowledge of the CIO or IT department.

All of this can make it extremely challenging to migrate to the cloud effectively. That’s why 76% of CIOs told us last year that licensing complexity is delaying their move to the cloud. The answer is to first gain complete visibility over your existing software through asset management tools. And then look at providers which offer real-time discovery and monitoring of all cloud usage, so that licensing is up to date, legal, compliant and as cost-efficient as possible.
**Major barriers to cloud adoption persist**

More than half (56%) of CIOs still claim the complexity of their current IT infrastructure is slowing their migration to the cloud. That number has fallen from the 66% who said so last year, but remains significant. The problem is that the vast majority of organisations are running IT infrastructure and services that have grown and evolved over time. Some of it may have been developed in-house. Other parts may have been bought in or introduced through acquisition.

Is the complexity of your existing IT infrastructure and services a barrier to moving to the cloud?

56% of CIOs claim the complexity of their current IT infrastructure is slowing their migration.

This makes for complex and heterogeneous environments which are comprised of multiple moving and interdependent parts, introducing significant challenges in migrating to the cloud. An audit of the entire IT infrastructure is therefore a vital first step to gain the necessary visibility to proceed with cloud projects.

Do you feel your organisation has sufficient skills in-house to modernise your application environment?

65% of CIOs think cloud has changed IT skills required.

Over a third (37%) of CIOs don’t feel they have enough in-house skills to make their application environment “fit for the cloud” at the speed the business is demanding – a figure that has grown from 30% in previous research.
Furthermore, nearly three-quarters (71%) see the process of modernising these apps as slowing their journey to the cloud – again, this finding is an increase on the previous year (68%).

Assessing and re-architecting apps is vital before they can be migrated. That’s because a large number of the applications currently used in organisations have not been built with the cloud in mind. Even if firms have the in-house skills needed to do this vital work, their IT teams are frequently tied up dealing with more operational tasks. This can lead to de facto skills shortages which require the help of outside experts to alleviate.
Legal and compliance issues inevitably rise whenever organisations consider migrating parts of their IT infrastructure to the cloud. Indeed, the research found that nearly three quarters (73%) of CIOs are concerned about data sovereignty when migrating certain applications to the cloud.

That’s in part a result of the borderless nature of the Cloud. A cloud provider may have datacentres all over the world. But for companies in some sectors this can create problems if there are requirements to store data inside the UK. It’s no coincidence that those in heavily regulated industries – the public sector (44%) and financial services (46%) – are most concerned.
These challenges have recently exploded with the tearing up of the Safe Harbour agreement between the EU and US on cross-border data transfers, and its replacement with Privacy Shield. To add extra complexity, there are now the twin issues of the forthcoming European General Data Protection Regulation (GDPR) and Brexit to consider. The GDPR will levy strict requirements on all global firms storing and processing EU citizens’ data. These include a 72-hour mandatory data breach notification window, and strict penalties of up to 4% of global annual turnover for any serious infractions.

For any UK CIO hoping that Brexit will excuse them of compliance with the new regulation, the reverse is actually true. The government and the UK’s privacy watchdog, the Information Commissioner’s Office (ICO), has already confirmed that it will be enforcing the GDPR. Even after Brexit is finally achieved, it’s likely that the UK will seek to harmonise its laws in this area as much as possible with Europe, to ensure there are no barriers to the country’s robust digital economy.

That means IT leaders must do their due diligence on any cloud provider they’re migrating apps and data to. Security and compliance are essential elements of any modern business and it pays to ensure both are given the necessary time and resources they deserve. Ultimately, knowing where your data is stored and how it is used at all times is a first key step towards ensuring compliance.
Conclusion

It’s clear from the data that the next 3-5 years are likely to see a major increase in cloud app migration projects. As many as half of the average UK organisation’s applications could reside in public and private clouds by the end of this period, along with other parts of the IT infrastructure.

The public sector will be leading the way with this push, perhaps aware that it is most in need of the compelling benefits promised by the cloud. These include major TCO savings, scalability and flexibility on project delivery. CIOs also recognise the cloud’s ability to make feature updates quicker and easier, and the fact that it enables them to finally retire costly and inflexible legacy infrastructure.

We can’t overstate the benefits of migrating apps to the cloud. But CIOs must also be aware of the potential challenges they may face in doing so – these can be expensive, resource-intensive projects. The complexity of existing infrastructure can slow adoption and visibility. This is a major problem for many organisations, and apps may need re-architecting to make them “cloud-ready”. Moreover, there are growing concerns over data sovereignty, driven by Brexit, forthcoming EU data protection legislation, and question marks over data sharing agreements between the EU and US. All this is made even more challenging when information from the vendor community lacks the details demanded by organisations.

With this in mind, some CIOs may find it helpful to seek expert advice from a trusted third party. Trustmarque offers a range of services designed to guide organisations through the minefield that can be cloud migration, and put control back in the hands of the CIO. The Trustmarque Cloud-ESP platform for the procurement and management of cloud services offers that all-important visibility that IT leaders need to stay compliant and keep costs down.

It’s time to embrace the cloud, but let’s do it right.
About Trustmarque

Trustmarque (part of Capita PLC), is a leading provider of end-to-end IT services to the UK public and private sectors, including cloud, professional and managed services, and software solutions. At Trustmarque we give honest, simple and independent advice that helps customers navigate an increasingly complex world of IT.

We simplify business, through a flexible and cost-effective approach that empowers organisations and their people. With almost 30 years’ experience at the heart of the rapidly evolving IT market, Trustmarque has established a position as a leading technology provider to high profile clients from the private sector, UK government and healthcare organisations.

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