Growing pains in the cloud

300 CIOs express their views about barriers to cloud adoption
FOREWORD

Cloud computing has reached a crossroads in Europe. To use the language from Gartner’s Hype Cycle models for technology, the cloud has passed the ‘peak of inflated expectations’ and is heading into the ‘trough of disillusionment’. But, a study of CIOs and IT directors we have just completed has found, adoption of cloud services is largely tactical in nature. IT leaders are wary about placing their strategic ICT platforms – the business engine, if you will – into the cloud.

Why is this? Complexity is a major concern – but not the complexity of commercial cloud services. The research study discussed in this paper shows that the complexity of businesses’ own ICT platforms is holding up adoption. Legacy ICT comprises a substantial proportion of most organisations’ ICT environments, and three in five IT leaders are concerned that cloud providers do not appreciate the complexity of their legacy ICT estate and fear migration may not be successful.

The simple fact is CIOs are looking for cloud solutions suitable for the ‘real world’. These solutions need to marry old, existing, legacy systems with new applications, and feed data through the business in a variety of different ways.

Organisations that can do this stand to benefit from greater agility – in terms of being able to launch new applications more quickly than competitors – and higher productivity: 46% of the IT leaders we polled for this study agree that cloud is a great enabler of ‘bring your own device’ and flexible working, through enabling remote access to data and applications.

I hope you enjoy reading this paper and find the action points we identify at the end valuable. If you would like to discuss our conclusions at greater length, please do contact myself or my team.

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http://www.gartner.com/technology/research/methodologies/hype-cycle.jsp
EXECUTIVE SUMMARY

Has the cloud really moved out of the hype and into the fundamental fabric of today’s businesses? This study, based on a survey of 300 CIOs and senior IT decision makers suggests IT leaders are aware of the cloud’s potential for their business, and are keen to implement it, but have yet to do so in a meaningful way. Over half (56%) of IT leaders view the complexity of their own ICT environments as the biggest barrier to their organisations’ large-scale adoption of the cloud.

A major contributing factor is the relatively high proportion of legacy ICT within many companies. Legacy systems, generally reliant on application specific hardware deployed on end users’ premises, sit uneasily with the on-demand, commodity platforms most cloud providers offer. IT leaders are also suspicious of vendors over-stating the simplicity of their platforms.

This is not to say IT leaders are giving up on the cloud as an ICT platform – far from it. The majority of organisations have only started making use of the cloud in the past two years, and the number of discrete cloud platforms in use is relatively low. However, the ambition is there. IT leaders understand how the cloud can help them address their organisations’ key business and ICT challenges – from ‘bring your own device’ strategies to launching new applications.

The self-service cloud platforms which characterise much of the cloud marketplace do not offer the breadth or depth CIOs need to adopt the cloud as the strategic platform for their business engine – the systems that make up the beating heart of the business. They are looking for ‘real world’ clouds, which enable them to marry existing legacy systems alongside new applications that can enhance the business strategy. Each business has its own complexities and the results illustrate that ICT outsourcers need to recognise that each organisation may benefit from a bespoke solution tailored to their core business suite.

The survey took place during April and May 2013, and was carried out by independent consultancy Vanson Bourne who polled 300 CIOs, IT Directors and senior IT decision makers, of companies with more than 250 employees.
Though cloud computing has been part of the technology lexicon for over a decade, its large-scale adoption is a relatively recent phenomenon. With a peppering of private, public and hybrid solutions being used as part of the existing ICT infrastructure, the cloud has a presence in over two thirds (77%) of organisations cited in this report, but no sector has made the move across the board.

Interestingly, the media and retail sector leads the way: nearly nine in ten (87%) media and retail CIOs are currently operating at least one platform as part of their ICT environment, marginally ahead of the sector arguably assumed to be driving cloud adoption, ICT and telecoms, with 84% usage. Whilst media and retail CIOs clearly have the highest rate of current cloud usage, nearly a third (32%) of Public Sector CIOs are the most sceptical about using the cloud as part of their ICT infrastructure.

**Q:** Are you currently using the cloud as part of your ICT infrastructure?

The time CIOs have been using the cloud also varies. According to CIOs that use the cloud, two thirds (68%) have had cloud platforms for two years or less.

**Q:** For how long have you been using a cloud solution?
Q: How many separate cloud platforms do you operate within your organisation?

(Based on the 231 CIOs who used cloud)

The data suggests that whilst adoption is high across all sectors, relatively few individual platforms are actually being used. One interpretation of the data is that whilst the cloud is considered a mainstream force within business ICT, given the quantity of cloud solutions in use, coupled with the fairly short time each sector has been using it (an average of two years), adoption is more tactical rather than as a strategic platform for the business.

JUST 6% OF CIOs SAY NO TO THE CLOUD

Virtually all CIOs not currently using a cloud solution do clearly feel there is inevitability around adoption. Nearly two thirds (65%) of them highlight their plans to make the move within the next 1-3 years, and a further one in five (22%) intend to move at some point in the future.

Our study shows the vast majority of CIOs appreciate the potential of the cloud to their organisations only 6% of the respondents overall confirmed their intention to never adopt cloud as part of their ICT infrastructure. These cloud ‘have nots’ were prevalent in business and professional services, construction and engineering and surprisingly, given their levels of overall sector adoption, also in the media and retail sectors, evidencing the variety of approaches within the vertical markets.
THE BIG PROBLEM – COMPLEXITY

Over half (58%) of CIOs said the complexity of their existing ICT estate was their main barrier to adopting the cloud. Within the public sector this spiked to nearly three quarters (70%) which, based on experience, could be due to the prevalence of disparate legacy systems. Neither is it surprising that financial services CIOs also expressed major concerns, given financial institutions led the first wave of computerisation in the 1960s and 1970s, and have undergone extensive consolidation since then.

More than a quarter (28%) of the CIOs surveyed stated their legacy systems were too expensive (or valuable) to abandon altogether. The implication is they expect enterprise clouds today to be able to handle the complexity of their business engine, meet internal and external compliance requirements, and reduce the management burden on in-house IT staff.

The four sectors highlighted as having a slightly higher proportion of legacy ICT than average were, unsurprisingly, those that also showed strongest CIO opposition to cloud adoption. The sectors with the highest average proportions of legacy ICT were:

- Financial services 30%
- Media and retail 31%
- Transport and logistics 31%
- Public sector 30%

To further cement their perspective, four in five (81 percent) CIOs and IT leaders agreed that a complexity in moving to the cloud is existing architecture. In other words, the primary challenge of rolling out enterprise clouds is chiefly down to the complex interdependency of the systems involved, rather than skills or geography.

CONCERNS OVER SECURITY

Although the overall focus of CIO feedback was around complexity, security was also flagged as a key reservation, with nearly nine in ten (89%) public sector CIOs, labelling it their primary concern. Equally, both transport and logistics (83%) and financial services (69%) cited this, no doubt a reflection of the strict regulatory requirements governing data within these sectors. Similarly the secure storage of data is a hot topic across Europe, with many countries being part of the EU data protection directive of 1995 stating that businesses holding data about third parties are legally responsible for that data.

Whilst CIOs understand the benefits of cloud to most areas of business computing, they will not move their ‘business engine’ – the bundles of applications and data which sit at the heart of most businesses – into the cloud, until the issues around complexity and security are resolved.

Understanding the business engine

The ‘business engine’ describes the core functions held at the heart of an organisation that enable growth and the achievement of strategic objectives. These components will include HR services, finance systems, CRM, ERP, operations and logistics, and are likely to have been built up inevitably in a highly centralised fashion to fit around existing business processes. Some have proven very difficult to redeploy in the cloud owing to their complexity, the differing levels of security needed, and the wide variety of hardware needed to support them.
Lacking Confidence in the Cloud

CIOs acknowledge their own business engines are extremely complicated and almost always include combinations of legacy and more up-to-date ICT. The challenge comes when the level of expectation and the understanding of ICT estate complexity are not aligned. Within the study, two thirds (64%) of CIOs said cloud providers tended to underestimate the complexity of migrating estates to the cloud.

Support and expertise from cloud providers is another concern. 46% of the CIOs cite customer support as a main reservation when thinking about cloud adoption. This issue has particular importance to the Media and Retail sector where an above average 60% cite support as a key requirement. The Media and Retail sector is regularly cited within the report as a key cloud adopter so the levels of support expected would be high, as online is often part of the main offering within their business. Support must be aligned to the business needs and requirements, not delivered as a ‘one size fits all’ package that can be applied to any organisation.

Worryingly Little Concern for Cloud Vendor R&D

Only a sixth (17%) of CIOs surveyed said R&D was a key concern. This could be explained by the fact that R&D is seen by many as a long-term investment that offers benefits but usually at a cost and the cloud is, at present, viewed as quite a tactical solution. Equally, another interpretation might be that CIOs presume that R&D is a given part of any agreement with a cloud provider and not something they should have to consider as a standalone request.

Cloud as a Strategic Business Asset

IT leaders are resolute in their approach to align business and ICT strategies. Nearly three in five CIOs (59%) highlight this as their top priority. What is more, over half (52%) want businesses to have a better understanding of what ICT brings to the business, beyond simply hardware and software. Many readers will recognise these concerns as perennial issues for IT leaders; the implication of our study is that current models of ICT service delivery are still falling short of their potential. Enterprise clouds may succeed to cut through the IT clutter where ‘conventional’ ICT has not.

The study shows CIOs have an overwhelming ambition to better support the business using capabilities the cloud is known to enable. Over half (53%) of the respondents said launching new services and applications more quickly is a key request. In the transport and logistics sector four fifths (80%) of CIOs confirmed this as their most important business focus. Meanwhile enabling ‘bring your own device’ (BYOD) programmes was the second most quoted capability with 46% of CIOs expressing their desire to integrate this into their business fabric.

Sophisticated organisations are also now harnessing data from across their businesses to help unlock new insights into customers – and are using it to develop new product offerings, too. Harnessing data in this way is tricky within in-house environments, but far easier in the cloud. More forward looking organisations are developing the CIO role into a Chief Digital Officer (CDO) position. Indeed the introduction of the CDO to interpret analytics, mobile and social technologies will fundamentally change business planning. The CDOs ability to manipulate applications and data depends on having a cloud model for ICT.

How can this strategic shift happen? It is clear that the cloud is used by many businesses for immediate, tactical requirements. CIOs must feel they trust cloud providers to deliver real world ICT that benefits their working practices, that does justice to their systems, and supports the foundation of the organisation they are working for.
The research clearly demonstrates CIOs recognise the value that the cloud can bring to businesses. Having seen cloud prove its worth at a very tactical level, CIOs are keen to replicate this success placing their ‘business engines’ in the cloud. Indeed, they view the shift from on-premises ICT into the cloud as inevitable – only by doing so can they unlock the hidden potential of their business data. This, in turn, is likely to drive new phases of business growth driven by data.

To address these concerns and provide a future pathway for better cloud working NTT Europe has summarised a series of takeaway points:

### CONCLUSION: ENABLING NEW PHASES OF BUSINESS GROWTH IN THE CLOUD

- Cloud doesn’t have to mean ditching legacy ICT – legacy and cloud infrastructures can be, and most frequently are, complementary and need to be managed together as part of a real world cloud.

- Work application by application to identify which are suitable to reap the benefits of a move to the cloud.

- Work with your service provider to identify:
  - Your readiness for the cloud
  - The opportunities and risks associated with legacy ICT infrastructure replacement
  - Associated risks to prevent issues arising
  - The best implementation sequence and project approach for legacy modernisation, to facilitate change management and minimise disruption.

- Articulate measurable business outcomes and ensure that service levels are designed to align with the requirements of your business rather than selecting closest matching service packages off-the-shelf. Set bespoke SLAs that reflect organisational need.

- Risk and security management must support organisational policies and procedures, alongside any regulatory and compliance requirements and national security statutes:
  - Risk management built into the service
  - Understand your data
  - Involve governance and risk teams
  - Understand the target environment
  - Consider alignment with on-premises policies
  - Make an informed risk-based decision

- Moving to cloud is not something that most IT organisations can do in one step. Depending on the amount of legacy applications and infrastructure, it can take many months or years. Be sure to work with a partner that can not only fill in the infrastructure gaps, but help you as you upgrade and rebuild your information architecture.

- Make sure that the designed solution enables visibility, allowing you to monitor and measure any controls that might be divested to the service provider.

- Hybrid architecture works best if different parts (cloud, service provider data center, corporate data center) are managed and secured in the same way. Look for connectivity and management models that allow this. Combining remote infrastructure management with cloud computing can create a much simpler environment, both in terms of technology and SLAs.

### Methodology

The research for the Growing Pains in the Cloud report was based around quantitative data provided by Vanson Bourne (2013). This study was conducted by online questionnaire and investigated CIOs and Senior IT leaders attitudes to the cloud and challenges faced in the cloud adoption process. 300 interviews were conducted during April and May 2013 with CIOs and Senior IT leaders, based in UK public and private organisations with 250+ employees.