

Cloud Reality Check 2015

The business case for apps in the real world cloud is hybrid, bimodal, multi-platform, and difficult.

A report from NTT Communications



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FOREWORD

Not since the early 2000s have C-level executives devoted so much time and energy to digital initiatives. ICT is increasingly seen as a profit center as more and more organizations harness big data, mobile technologies, and other innovations to create new business models and transform existing processes. While many corporate ICT functions have benefited from increased funding, expectations and scrutiny have grown too. ICT decision makers are coming under increased pressure to digitally transform and innovate, and *at the same time* they must maintain and deliver an increasingly complex set of existing applications to users.

Amid the extra pressure and scrutiny, cloud computing has emerged as something of a panacea for digital transformation. The scalability, ubiquity and outsourced management of cloud services promise to make it possible for ICT to deliver new capabilities as fast as the rest of the business demands them. Applications can move from the sandbox to global production in a matter of days, rather than weeks or months. Cloud is, on the face of it, undeniably good for business.

However, at industry events, customer workshops and round-tables, we have held many discussions with customers and partners about the realities of cloud computing for their businesses. While many tell us they are indeed embracing the cloud delivery model, they also tell us significant frustrations remain – from concerns over the cloud's ability to accommodate truly business critical applications, to questions about governance and compliance issues around business data stored on cloud platforms.

Drawing on these conversations, we commissioned a poll of almost 1,600 ICT decision makers across the USA and Europe during January and February 2015. Our aim was to understand which applications appear best suited to which infrastructure and whether there is a link between application maturity and the suitability of an application for the cloud versus the corporate data center. Our analysis, the highlights of which are summarized in this report, explores the key trends by country, industry and company size.

We were expecting to receive some clear answers to these questions, but a very different picture emerged. The reality of cloud in 2015 is a complex one – potentially as complex as the on-premises world it was supposed to replace.

Our findings should prove a valuable source of insight for CIOs, IT managers, enterprise architects and business managers – backed by independently-sourced hard data – into the realities of cloud computing across Europe and the US in 2015, as they make the business case for digital transformation.

EXECUTIVE SUMMARY

Cloud Reality Check 2015 summarizes the key findings from a survey of nearly 1,600 ICT decision-makers in Benelux, France, Germany, Spain, the UK and the USA. The study goes beyond enquiring about the numbers and types of cloud platforms to explore how cloud compares with the corporate data center across different kinds of applications and their age, and across organizations of different sizes, industries and in different countries.

Our hypothesis for this study was that certain platforms are emerging as de facto locations for certain kinds of applications. The reality was far less clear-cut.

The business case for digital transformation, for migrating apps to the cloud and for reinventing digital business processes is a complicated and nuanced one. Our cloud reality checks for 2015 include:

- 1. No definitive answers for which app goes where** – instead, a range of variables is in play, including the nature of the application, its maturity, the industry sector in question and even the region the decisions are made in.
- 2. A surprising number of ICT decision makers don't believe cloud is living up to its potential** – but cloud will claim a growing share of ICT budgets over the coming years.
- 3. ICT decision makers are still unconvinced by PaaS** – while IaaS is the platform of choice for nearly half of respondents, PaaS deployment trails the rest of the market
- 4. Some 10 percent of apps will never migrate to cloud** – this appears to be particularly the case in highly regulated and industrial sectors.
- 5. Cloud rivals corporate data center** in terms of its potential to scale in line with demand, as well as its ability to integrate with other areas of the business.
- 6. Cutting through the hype around cloud is difficult** – nearly half of the ICT decision makers we polled agreed that managing cloud vendors is confusing and challenging.
- 7. Bimodal IT is hard to do** – more time is spent maintaining the current performance of applications than building functionality for the future.
- 8. Service providers need to provide smoother migration paths** and greater assistance to complex organizations making the journey to a digital business. Disillusionment has set in and the process of migrating to the cloud is still more trouble than it is worth for many ICT decision makers.
- 9. Security-sensitive apps still aren't moving to the cloud** – nearly a third of ICT decision makers voiced security, compliance and governance as reasons for not migrating to cloud

The key lesson from *Cloud Reality Check 2015* is that a different kind of planning is required for large-scale digitization and cloud adoption. Planning needs to be based on continuous improvement, rather than on ambitious plans. We believe the information in this report will be useful for ICT decision makers in helping formulate strategies that work for *their* businesses and support them when presenting strategic recommendations to C-level peers, CEOs and Boards of Directors.

Survey methodology

This report is based on a survey of 1,580 ICT decision-makers during February and March 2015. Carried out by independent consultancy Vanson Bourne, respondents were drawn from companies with more than 250 employees in the UK, USA, France, Germany, Spain and the Benelux region and from across a wide range of industries (*Business & professional services, construction & property, energy, oil/gas & utilities, financial services (including insurance), healthcare (private), IT, manufacturing & production, retail, distribution & transport and telecoms*).

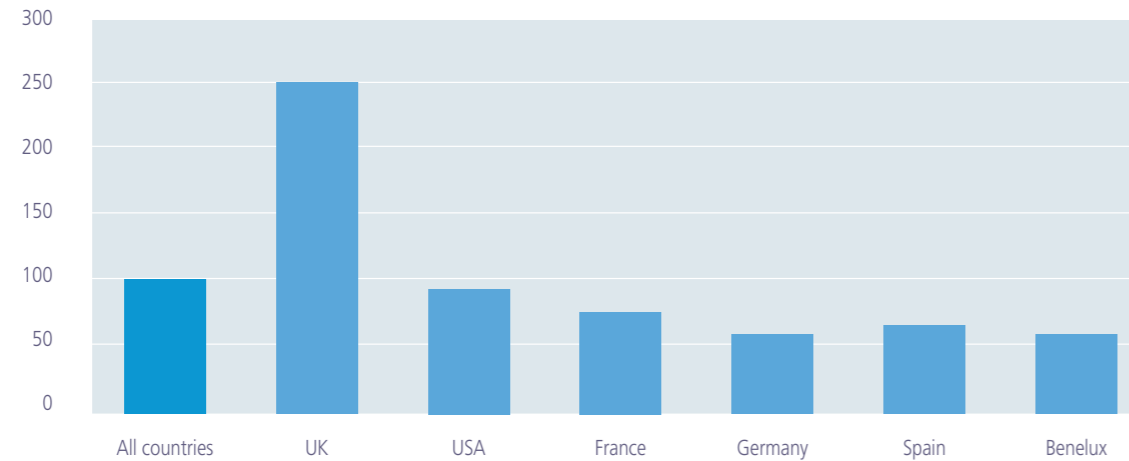


SO MANY APPS, SO MANY CLOUDS,
SO MANY TYPES OF CLOUD

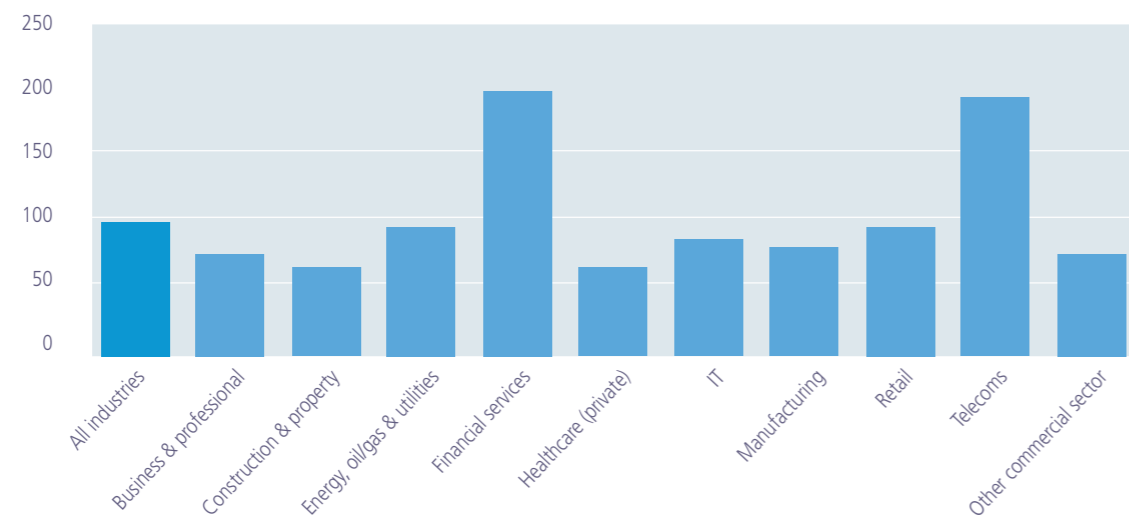
SO MANY APPS

On average, our study found respondents are running approximately 100 business applications across their organizations. In some sectors – specifically telecoms and financial services – that average almost doubles. There are also significant differences across the countries surveyed: ICT decision makers in the UK claim they have to support some 250 applications on average, compared to 100 in the US and even lower numbers across the rest of Europe. Organizations from Germany (57) and Benelux (58) are on average deploying the fewest. Of those surveyed, nearly 2% are running more than 200 applications and some respondents indicate they are managing a portfolio of over 1,000 applications.

Average number of business applications used across respondents' organizations (base = 1,580 ICT decision makers)



Average number of business applications used across respondents' organizations (base = 1,580 ICT decision makers)



SO MANY CLOUDS

On average ICT decision makers currently operate four separate cloud platforms (and one in eight reports more than seven platforms). Nearly 80% expect this to increase over the next three years, and more than a fifth (22%) characterized this increase as "significant." These increases are highest in the UK, USA, France and Spain, and lowest in Germany and Benelux. It is worth noting that only 1% of ICT decision makers in Germany expect their investment in cloud to go down (compared with 10% of respondents in Benelux).

Unsurprisingly, respondents anticipate the proportion of their budgets allocated to cloud will grow by some six percentage points to 28% by 2018. The increases will be most pronounced in Benelux and the UK. Our study also found that the proportion of ICT decision makers allocating more than \$1 in every \$5 of their ICT budget to the cloud is likely to swell from 57% in 2015 to 77% by 2018. But, our study finds that where that investment is likely to be spent is far from clear-cut.

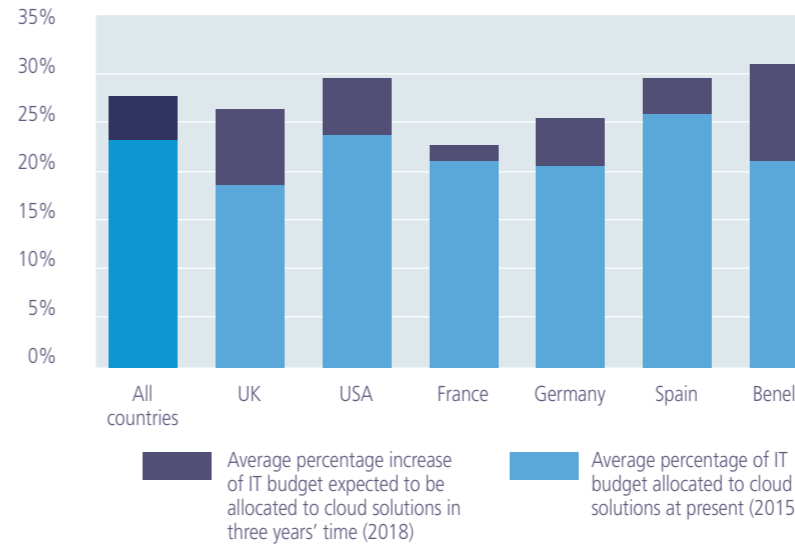
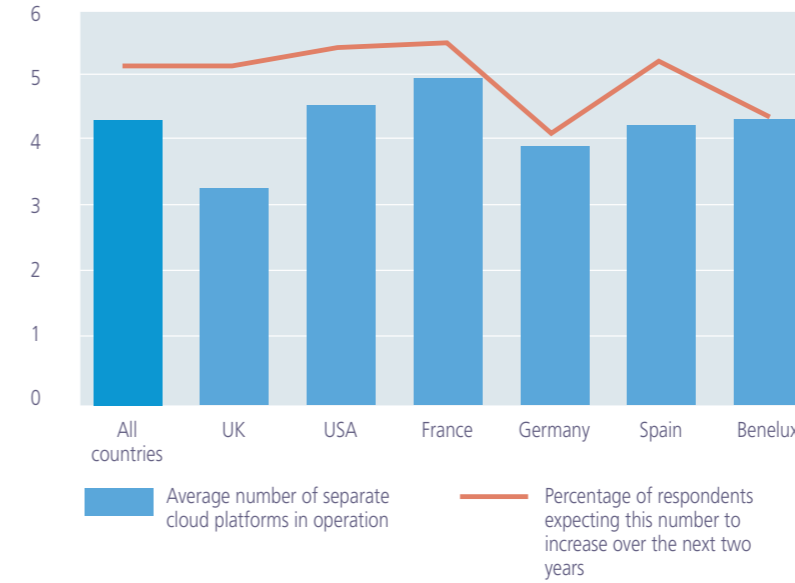
DIFFERENT TYPES OF CLOUD

Of those organizations running their most important application in the cloud, one in three (33%) respondents indicate that it mainly runs on Private Infrastructure as a Service (IaaS). There is then a distinct gap between Private IaaS and the other platforms – SaaS (19%), Managed hosting (18%), Public IaaS (15%), Platform as a Service (PaaS) (10%) and Colocation (5%).

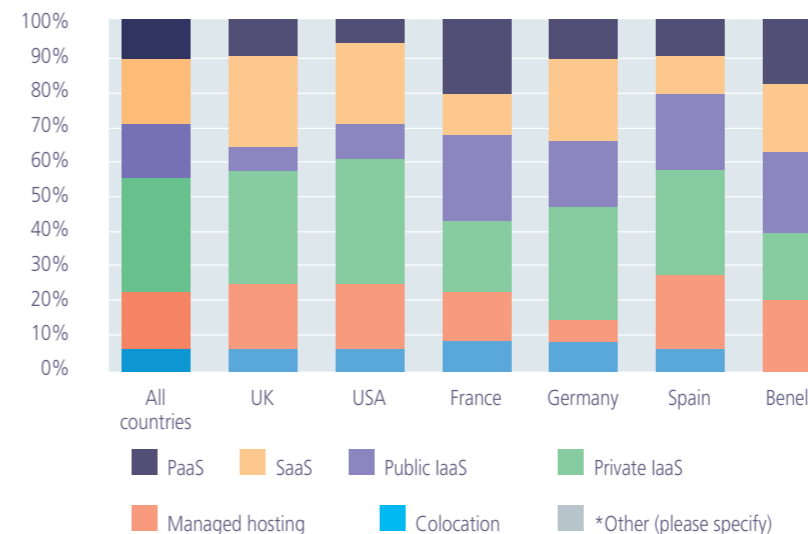
The figures don't change dramatically across each region. France (25%) and Benelux (24%), however, favour Public IaaS, which also scores highly in Germany (20%) and Spain (24%). SaaS is a popular platform for important applications in the UK (27%) and Germany (23%) and, in comparison, PaaS resonates more in France (19%) than in any other region.

While 33% is by no means a majority, when you combine Public and Private IaaS statistics, IaaS is the cloud platform of choice for nearly half (48%) of respondents.

What does this tell us? While businesses are leaning towards Private IaaS when experimenting with cloud, there is no clear winner in terms of the platform. In the next section, we consider how the types of applications, and their maturity, might affect platform choices.

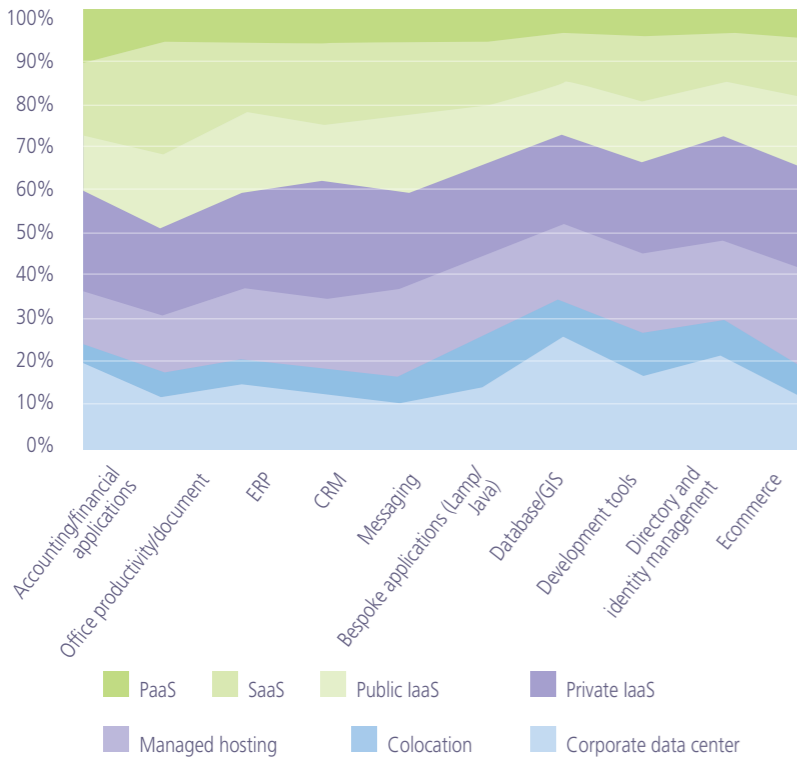


Which kind of cloud platform does your organization's most important cloud application mainly run on?



WHICH APPLICATIONS GO WHERE?

Which delivery model do you think is best suited to each of the following applications? (All countries)



NO DEFINITIVE ANSWERS

Having shed light on some of the harsh realities for the cloud for today's ICT decision makers, perhaps the original aim of our study – to uncover some definitive answers to the conundrums of which applications are best suited to which environments – was wishful thinking. In reality, our survey found little consensus over which application should go where; the results did not pinpoint applications that might be described as "cloud ready" or "data center bound." The chart on the left shows different applications across a continuum ranging from "open and ubiquitous" (in green) to "closed and private" in pale blue.

Respondents did, however, make it clear they felt comfortable deploying or migrating core business applications, such as ERP, CRM and ecommerce, to cloud infrastructures with varying forms of control and ownership. There are of course one or two exceptions including database/GIS, and directory and maintenance management, where ICT decision makers on the whole did not believe cloud to be the best option.

PASSING ON PaaS

In terms of respondents' preferred platforms, IaaS (combined Public and Private) leads the charge and represents the preferred delivery model. Indeed Private IaaS was selected as the most popular platform – nearly twice as many ICT decision makers singled out Private IaaS as their preferred delivery model for messaging, document management and ecommerce, than those who opted to run these applications in the corporate data center.

However, if IaaS is crowned the winner, then PaaS is certainly the loser. Alongside colocation, ICT decision makers do not think these models are best suited to deliver their organizations' most vital applications. While the industry has always supported the PaaS concept, our results only cement the assessment that it has failed to truly take off yet.

As the appetite for mobility and big data insights grows, the picture could change. However, at least for now, our results suggest that PaaS providers still have a long way to go to build confidence in this platform in the enterprise.

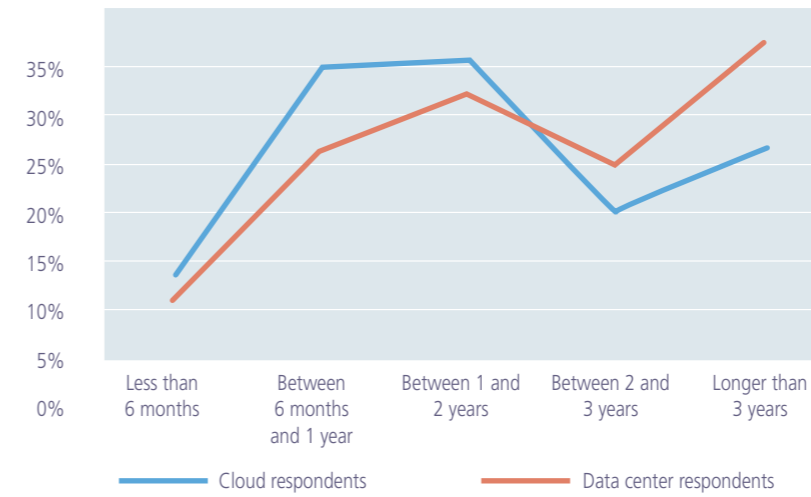
What type of applications are those that you consider the most important?

Base: all respondents (1580)	Accounting/financial	Office productivity/document management	ERP	CRM	Messaging	Bespoke applications (Lamp/Java)	Database/GIS	Development tools	Directory and identity management	Business-specific application	Ecommerce	Other
Cloud	8%	20%	13%	13%	8%	4%	11%	4%	3%	9%	5%	1%
Corporate data center	12%	9%	11%	9%	5%	5%	18%	6%	7%	12%	5%	1%

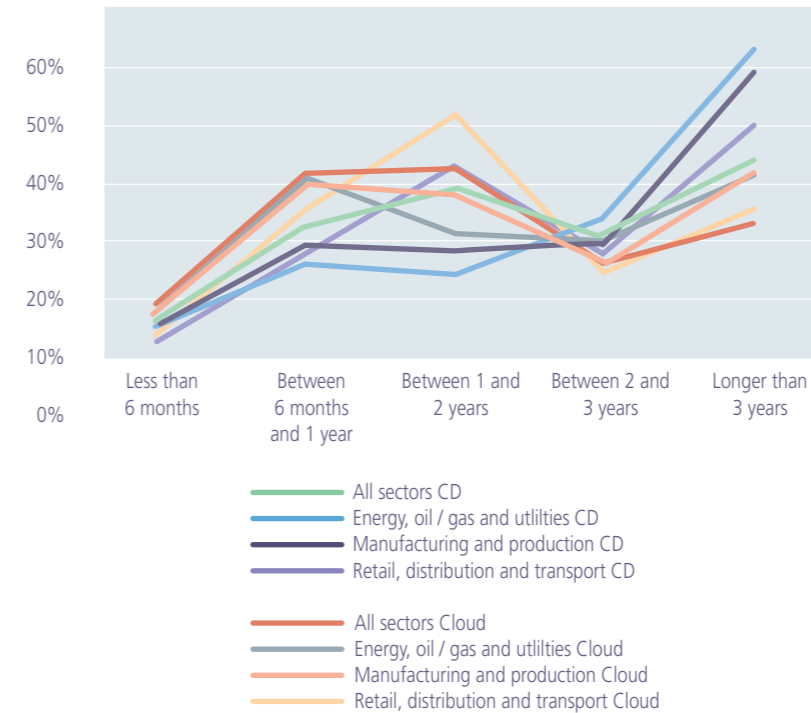
When we invited respondents to identify the most important applications in the cloud and the corporate data center, the data again showed a lack of consensus. There is no clear single home for any particular application (see chart above) - debunking the view that the corporate data center is seen as the best home for critical business applications and reinforcing the view that hybrid approaches are the go-to strategy.

Or is it possible that this could also mean organizations are adopting a diverse range of best-of-breed solutions to ensure performance and flexibility in the areas that they need it? Does this reflect your organization's approach?

How long have your most important applications across cloud and DC been in use? (All sectors)



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AGE AFTER BEAUTY

Examining the maturity of different applications sector-by-sector did yield some useful insights. Data center-based applications have an average age of 2.4 years, our study found, compared to an average of 1.9 years in the cloud.

However, some sectors – particularly manufacturing and energy - exhibit comparatively high levels of application maturity in the data center (see charts to the left). These sectors are characterized by comparatively high levels of regulatory compliance, and legacy application infrastructure which complicate any move to a cloud infrastructure and increase the length of time it takes to migrate to the cloud.

There are two further possible points to learn here. The first is that it will always take some industries longer to feel comfortable moving their applications to the cloud – their nature and the context in which they operate may demand a cautious approach. The second highlights the demands placed on IT organizations to run a bimodal IT operation to support existing infrastructure while at the same time transforming to digital business models.

MANAGING BIMODAL IT

When we looked at how long organizations spend maintaining the current performance of their applications versus developing new functionality, further evidence was found to suggest organizations are struggling to adopt and manage a bimodal strategy. Though significant numbers of respondents agree they are spending more time on maintenance than on development, the maintenance burden is clearly higher with applications still housed in the corporate data center.

Respondents agree they are spending significantly more time maintaining the current performance of both cloud (44%) and corporate data center (55%) applications. These figures are particularly pronounced in the U.S and Spain. Interestingly, UK respondents said they spend significantly less time maintaining their most important cloud applications – perhaps because they are outsourced and managed elsewhere.

The results show that maintaining legacy is systematic of an estate concentrated in the corporate data center, and while these concerns are far lighter once the application has moved to the cloud, based on our discussions with clients, we believe this is because ICT decision makers are spending time on getting cloud implementations right and struggling to run two speeds of IT.(See charts below)

Thinking about the time you spend managing your most important cloud application, how much is spent maintaining current performance compared with developing the functionality?

Base: all respondents	Total	UK	USA	France	Germany	Spain	Benelux
I spend significantly more time maintaining current performance	12%	9%	16%	11%	7%	11%	0%
I spend slightly more time maintaining current performance	32%	19%	34%	33%	30%	43%	12%
I spend an equal amount of time on maintaining current performance and developing functionality	35%	31%	33%	42%	45%	30%	36%
I spend slightly more time developing functionality	12%	12%	11%	9%	13%	11%	30%
I spend significantly more time developing functionality	5%	13%	3%	6%	4%	3%	12%
We do not manage this application in house	4%	18%	3%	1%	1%	3%	10%
Base	1580	200	780	200	200	150	50
Respondents who spend more time maintaining current performance	44%	27%	50%	44%	37%	53%	12%
Respondents who spend an equal amount of time maintaining current performance and developing functionality	35%	31%	33%	42%	45%	30%	36%
Respondents who spend more time developing functionality	17%	25%	14%	14%	17%	14%	42%
Respondents who do not manage this application in house	4%	18%	3%	1%	1%	3%	10%
Base	1580	200	780	200	200	150	50

Thinking about the time you spend managing your most important corporate data center application, how much is spent maintaining current performance compared with developing the functionality?

Base: all respondents	Total	UK	USA	France	Germany	Spain	Benelux
I spend significantly more time maintaining current performance	17%	13%	19%	20%	11%	19%	18%
I spend slightly more time maintaining current performance	37%	28%	37%	45%	35%	43%	40%
I spend an equal amount of time on maintaining current performance and developing functionality	34%	38%	34%	25%	42%	31%	32%
I spend slightly more time developing functionality	9%	16%	8%	9%	11%	7%	4%
I spend significantly more time developing functionality	2%	7%	1%	3%	2%	1%	6%
Base	1580	200	780	200	200	150	50
Respondents who spend more time maintaining current performance	55%	41%	57%	64%	46%	61%	58%
Respondents who spend an equal amount of time maintaining current performance and developing functionality	35%	31%	33%	42%	45%	30%	36%
Respondents who spend more time developing functionality	11%	22%	9%	12%	13%	8%	10%
Base	1580	200	780	200	200	150	50

FROM THEORY TO PRACTICE

CLoud MIGRATORY TRENDS

In spite of the many challenges of migrating applications to cloud-based infrastructure, ICT decision makers are determined to move to the cloud one way or another. Nearly 90% of respondents told us they expect to migrate their most important application running on their corporate data center to a wholly cloud environment at some point in the future; 60% believe this will happen within two years.

At the other end of the scale, a substantial minority – one in ten - believes it will never migrate its most important corporate data center application to the cloud. Similar to the “laggards” categorized by Geoffrey Moore in his Technology Lifecycle Curve, this grouping is very conservative and unlikely to migrate until they have to.

As for the reasons why apps will stay in the corporate data center, perhaps unsurprisingly, security, governance and compliance top the list – voiced by two thirds of respondents on average, with wide variance: 87% in Germany, but only 27% of ICT decision makers in France. In France, re-factoring legacy apps for the cloud was the biggest issue. Less than a third of respondents voiced concerns over availability / recovery and SLAs / performance (see charts below).

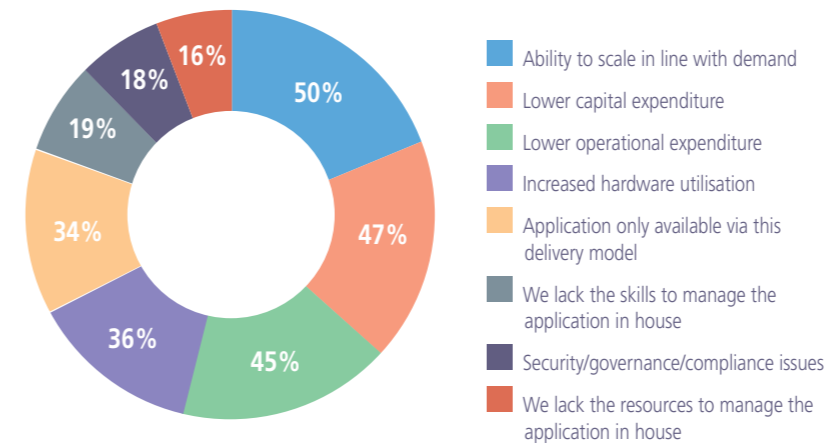
What are your plans, if any, to migrate your most important application running on your corporate data center to a wholly cloud environment?

Base: all respondents	All countries	UK	USA	France	Germany	Spain	Benelux
We expect to migrate within the next year	22%	12%	25%	16%	27%	23%	12%
We expect to migrate within 1-2 years	38%	22%	46%	35%	29%	39%	26%
We expect to migrate, but not for at least two years	18%	15%	15%	32%	22%	17%	24%
We expect to migrate but have not set a timeframe	11%	19%	8%	13%	12%	11%	14%
We do not expect to migrate this application	11%	34%	6%	6%	12%	10%	24%
Base	1580	200	780	200	200	150	50
We expect to migrate at some point	89%	67%	94%	95%	89%	90%	76%
We do not expect to migrate this application	11%	34%	6%	6%	12%	15%	24%
Base	1580	200	780	200	200	150	50

Why do you not plan to migrate your most important application running on your corporate data center to the cloud?

Base: respondents who do not plan to migrate the most important application running on their corporate data center to a wholly cloud environment (sheet 12)	All countries	UK	USA	France	Germany	Spain	Benelux
Security/governance/compliance	65%	70%	66%	27%	87%	53%	42%
Availability and recovery	29%	25%	28%	9%	48%	40%	25%
SLAs and performance	26%	36%	22%	18%	0%	27%	42%
Re-factoring	24%	28%	24%	45%	22%	0%	17%
Integrations	24%	34%	16%	36%	9%	13%	25%
Application migration	18%	27%	16%	0%	9%	13%	17%
Lack of exit plan	16%	13%	12%	27%	22%	7%	33%
Buy-in from business	14%	10%	14%	18%	9%	20%	33%
Other	2%	1%	2%	0%	0%	7%	0%
Base	178	67	50	11	23	15	12

Why did you choose to run your most important cloud application on this platform?



CLoud BENEFITS

For all the concerns over complexity, the ICT decision makers we polled were very clear on the benefits of cloud delivery models (see chart on the left). Unsurprisingly, scalability and cost benefits topped the list.

Half of all respondents cited scalability (approaching two thirds in the UK) when choosing which platform to run their most important cloud application on. Financial benefits, in the form of reduced CAPEX and OPEX also, unsurprisingly, drew a large number of votes (from 47% and 45% respectively).

It was striking to note that France, Germany, Benelux and Spain all ranked financial considerations above scalability. Also noteworthy were the fairly high numbers (34%) agreeing that their most important cloud application is only available via this platform – a point which nearly half (48%) of the respondents in France agreed with.

HEADACHES STILL REMAIN

It is very clear from our study that ICT decision makers view the cloud as a reliable platform for business-critical applications, and the vast majority expect to migrate apps from the corporate data center to some type of cloud infrastructure during the coming years.

Do they trust the market to deliver workable solutions? Here, our study yielded some significant insights. Almost half (41%) of the respondents agreed not only that they find managing cloud vendors confusing and challenging, but also that they find the process of migration more trouble than it is worth (41%). And nearly four in ten agreed that the cloud as deployed in their organization is failing to live up to its potential (see chart below). It seems clear from the survey results that for enterprises, cloud is entering what Gartner refers to on its hype-cycle as the “trough of disillusionment.”

Perhaps these views should be regarded as a response to many cloud providers’ claims to provide simple, out-of-the box solutions to what are deeply entrenched, highly complex technological, budgetary and organizational challenges for ICT decision makers.

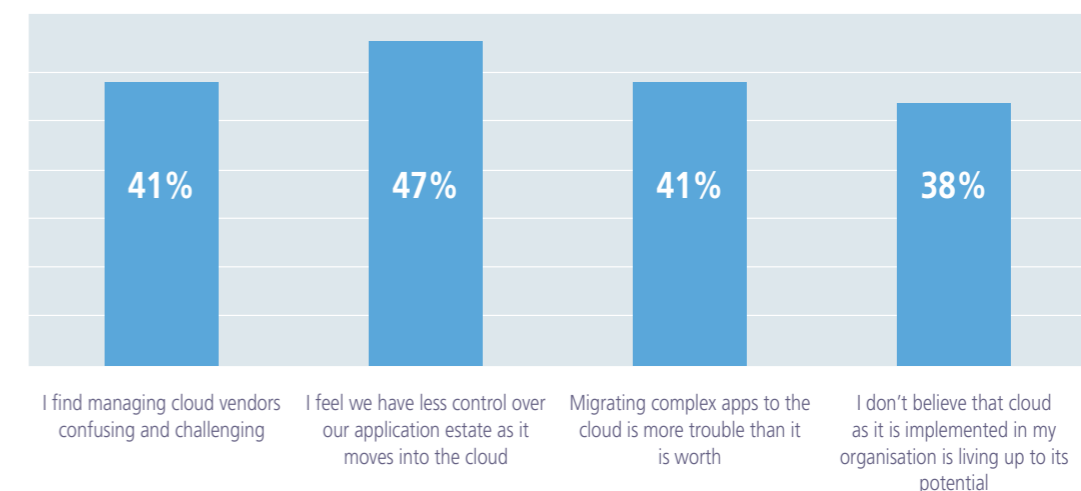
It is certainly clear that the continued march of the cloud into the enterprise will require vendors to meet ICT decision makers’ demands for cloud platforms that can cater for the diversity and complexity of their organizations.

Real-world clouds must be able to span different types of cloud and in-house infrastructure, and ensure legacy systems operate faultlessly, so ICT organizations can concentrate more on broader digitization efforts.

However, it seems unlikely that the cloud’s advance within the enterprise will come to a halt at any time soon. With executive scrutiny of the business benefits and increasingly sophisticated cloud solutions coming into the market, ICT decision makers in 2015 expect to continue evaluating and investing in new platforms, and migrating legacy applications out of the corporate data center.

The ICT decision maker in 2015 is fully aware of the huge transformative potential of every type of cloud platform – but is also fully aware that the challenge lies in harnessing that potential with the extraordinary complexity that has evolved over decades of ICT evolution in the data center.

Those agreeing with statements (base: all respondents)





TELL US WHAT YOU THINK

Does this reflect the reality of your organization's cloud experience? We hope readers will recognize many of the trends and pain points we've highlighted in this report. However, we won't pretend we have all the solutions within our grasp. That's why we're inviting everyone who reads this report to share their views with us. What is your organization's approach to cloud computing? Are there any apps you would never place in an XaaS environment? Do you see cloud as a means to devote more in-house resources to development projects?

We'd welcome any and all comments via email cloudrealitycheck@ntta.com, www.cloudrealitycheck.com or #NTTCloudReality.

We'll publish an updated version of the Cloud Reality Check 2015 which will take into account all of the contributions you send us.

All the graphs used in this report are available for download and free use in PowerPoint format on www.cloudrealitycheck.com. Please attribute the source to **Cloud Reality Check 2015: NTT Communications, March 2015**

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