

RESEARCH PAPER

Cloud in 2015: why Azure and AWS are taking a back seat to a more personal service

A discussion of how your business could benefit from a personalised hybrid-cloud solution versus off-the-shelf cloud providers

March 2015

Sponsored by

CONTENTS

Executive summary	p3
The hybrid cloud comes of age	p3
The state of play in cloud computing	p4
Data sovereignty	p7
Auditing the cloud	p8
Comparing the hybrid cloud with Amazon Web Services and Microsoft Azure	p9
Costs and value for money	p10
Conclusion	p11
About the sponsor, NaviSite	p12

Executive summary

The cloud computing sector is flourishing but is it delivering what companies need? The provision of cloud services is dominated by two big brands – Microsoft Azure and Amazon Web Services – who offer the same one-size-fits-all packages to everyone. Hybrid cloud systems have developed in response, with some functions in the cloud while others remain under the auspices of a company's IT manager. These hybrid cloud systems have been driven by the organic growth and the specific needs of businesses for whom a traditional public cloud solution simply doesn't cut the mustard.

Computing undertook a comprehensive research programme during the first quarter of 2015 amongst IT managers at all levels, in companies of varying sizes from 100 to over 5,000 employees, working in a variety of fields including manufacturing, financial, education, retail and telecoms. The aim of the research was to record and understand customer requirements in terms of the balance between public/private and on-premises cloud solutions.

This paper discusses the differences between customisable hybrid cloud services and one-size fits-all public cloud offerings, relative to the needs of the companies as revealed by the research programme.

The hybrid cloud comes of age

The benefits of cloud computing are numerous and increasing all the time. While most companies understand the concept of a technology that allows you to access on-demand computing power, ready-made platform and elastic storage, many are unaware of the different solutions available and the benefits of each.

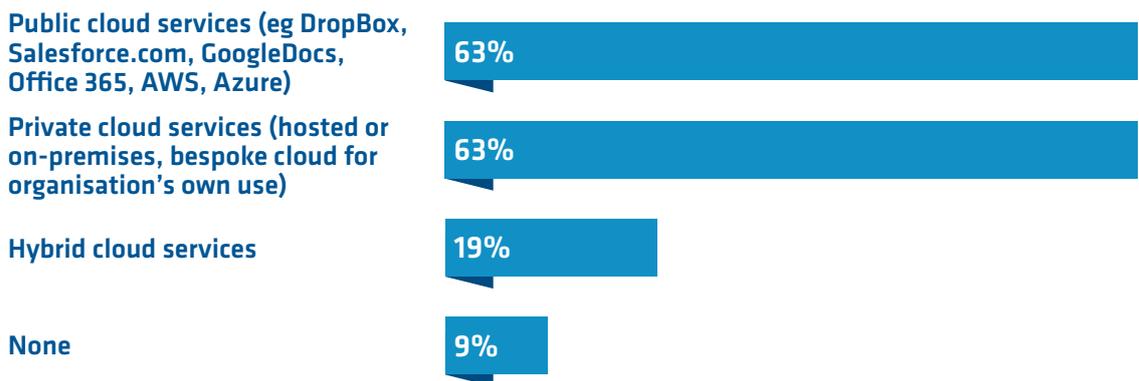
As always with an emerging technology, people cling to familiarity, opting for services from respected and well-known brands like Microsoft Azure and Amazon Web Services. But customers need to know more. They're asking themselves how secure the public cloud is and whether they can be sure their data will remain under required jurisdictions – even if the Ts&Cs say it will. Should they opt for a service that charges by resources provisioned upfront or by consumption? And what's stopping them from moving everything to the cloud?

This paper will investigate what customers want and value in a cloud computing service. It will explore the benefits of hybrid cloud solutions, which can provide flexibility and functionality that fit better with a business's requirements. In addition, it will assess the costs and value for money of hybrid solutions in comparison to one-size fits-all cloud offerings from the likes of Microsoft Azure and Amazon Web Services.

The state of play in cloud computing

The march towards cloud-based computing seems unstoppable. As the sector booms, it seems like everyone is moving everything into the cloud. But is that true, or just a reflection of the marketing might of the big cloud firms?

Fig. 1 : Do you use any of the following types of cloud-based services?



* Respondents could select multiple answers.

As Figure 1 shows there is an equal uptake of both private and public cloud services (63%). Hybrid cloud infrastructure (where there is a mix of physical hosted infrastructure and cloud environments), the subject of this white paper, is used by almost a fifth of participants (19%).

Perhaps the most significant figure is the last one: only nine percent of respondents use no form of cloud-based services at all. Certainly, this all backs up the argument that the explosion in cloud computing services is here to stay.

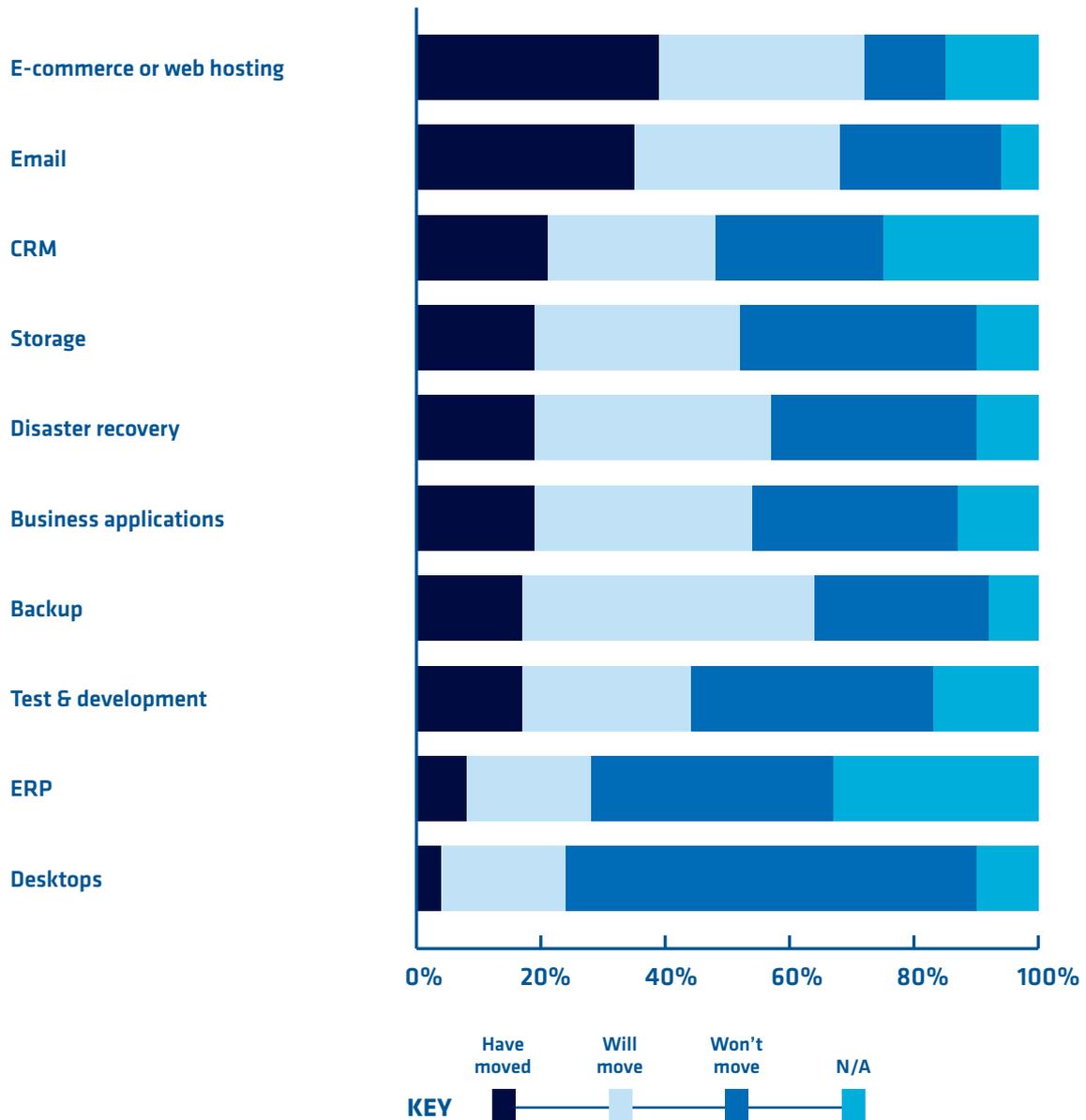
Now let us turn our attention to the areas in which companies are currently using the cloud, and what they are planning in the future (Fig. 2, see next page).

Unsurprisingly, ecommerce/web hosting (39%) and email (35%) lead the way amongst services already moved to the cloud. These areas were the trailblazers of cloud computing and are the ones we would expect to see heading the tables.

CRM, storage, disaster recovery, business applications, testing and development, and backups are all at a similar level, with approximately a fifth of companies already using cloud services for these functions.

Looking at stated intentions, we can see that for many applications the cloud platform is set to become the norm. Thirty-three percent of companies are planning to migrate their ecommerce/web hosting to the cloud, which would make a combined figure of 72 percent. There are similar figures for email, CRM, storage, and business applications. However, topping the list of areas to move to the cloud in the future are backup (45%) and disaster recovery (38%); two crucial areas where the choice of cloud infrastructure – and data sovereignty concerns – should play a large part in any decision.

Fig. 2 : What are your plans for the following areas? Which have you / will you move to the cloud?



On the flip side of the coin, 38 percent of respondents say they will not move their storage to the cloud in the future. A not insignificant number of participants plan to keep disaster recovery (33%), business applications (33%), backup (28%) and email (26%) in-house.

Overall, despite the vast majority of companies using cloud computing of one sort or another, there are significant numbers planning to retain core functions outside what is normally thought of as the cloud. Whether these are for compliance, data sovereignty, data security or other reasons, it's clear these companies will miss out on the benefits of cloud computing in these areas.

A hybrid cloud infrastructure could connect these in-house functions with the benefits of the public cloud, while leaving ownership and full control of the core areas with the business.

UNDERSTANDING THE HYBRID CLOUD

The hybrid cloud is an increasingly used term but like many new concepts there are arguments as to its exact definition.

What is your understanding of the term 'hybrid cloud'?

A combination of public cloud and on-premises private cloud services that are interconnected	44%
Any combination of public cloud (eg Office 365, Dropbox) and private cloud services	41%
A combination of public cloud services and hosted private cloud services that are interconnected	40%
A combination of public cloud services and hosted private cloud services	29%
A combination of co-located infrastructure and hosted private cloud services that are interconnected	24%
A combination of co-located infrastructure and hosted private cloud services	20%
None / don't know	9%

Given the multiple possible interpretations of the term, we will define it as follows for the purposes of this white paper.

“A hybrid cloud is the bringing together of physical hosted and cloud capabilities in an interconnected fashion”

This is a straightforward definition one that sits well in practice; a great part of the attraction of a hybrid cloud solution lies in its ability to be tailored for specific business requirements, rather than a one-size-fits-all approach.

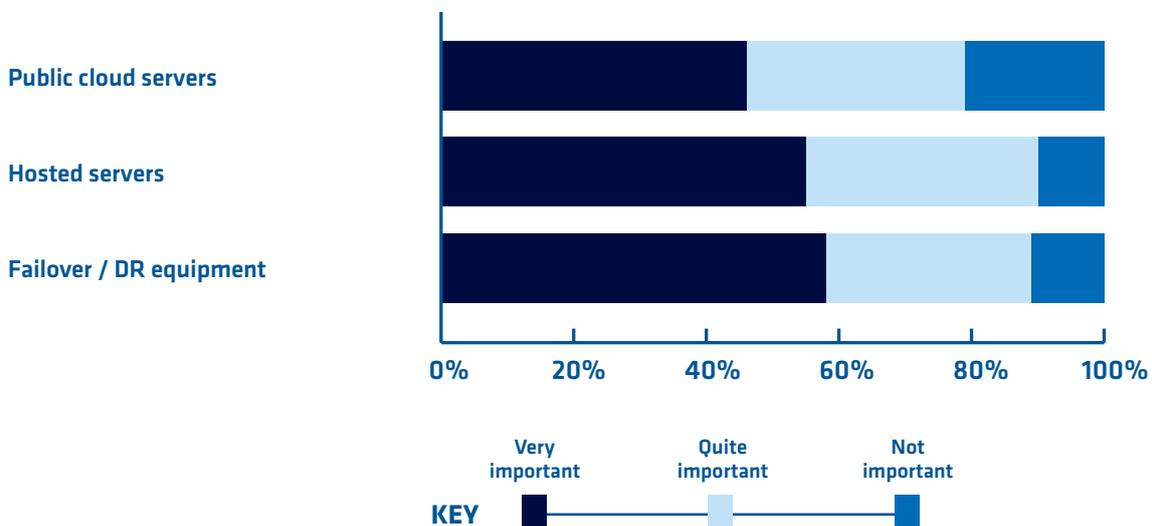
Data sovereignty

Data sovereignty is an issue with many subtle complexities. While the definition is clear (see box, page 8), the ramifications of storing data under different legislative authorities can be hard to predict in advance.

If your company is bound by regulations to keep certain types of data within country or EU boundaries, it is vital to know where your data is stored. Further, it is important to remember that cloud data is rarely restricted to one physical data centre. Data may be mirrored in other locations for perfectly legitimate backup reasons, with failover/disaster recovery equipment also sited elsewhere. Data sovereignty applies to any location where the data is stored, so it is important to have transparency over the locations of any servers or other equipment. While the big public cloud providers may have a tick-box to restrict the movement of data, there may not always be sufficient audit capabilities offered to customers to ensure this stipulation is being followed.

With this in mind, data sovereignty is clearly a concern amongst cloud computing users. 80 percent of participants in our survey indicated it was either very important or important that public cloud servers be sited within their company's country boundaries. This increases to 89 percent for failover or disaster recovery equipment and 90 percent for hosted servers (Fig. 3).

Fig. 3 : How important is it to you that the public cloud servers, the hosted environment servers, and any failover and disaster recovery equipment are sited within country boundaries?



The ability to physically visit the data centre does not appear to be as crucial, although the numbers are still significant, with 42 percent of respondents saying it is very important or important to their business. When it comes to having co-located infrastructure and private cloud in the same data centre, nearly a third (32%) consider it very important or important, with 42 percent neutral on the issue.

WHAT IS DATA SOVEREIGNTY?

Your data may be “in the cloud” but it is not in the ether. Cloud data lives on the servers and hardware of the cloud provider. Data sovereignty refers to whose laws and legal jurisdiction the data comes under.

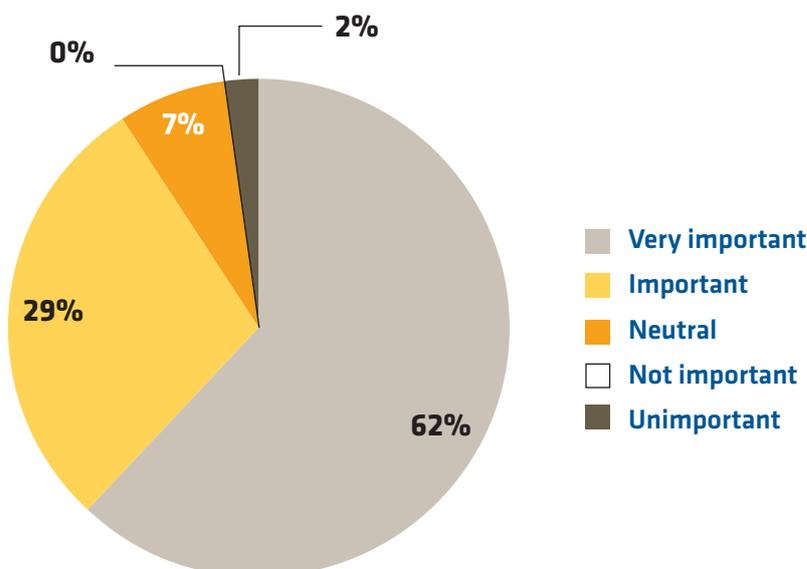
For example, if you have a contract with a cloud services provider in the UK you may assume your data is under the UK government’s jurisdiction. However, if the company uses a data centre in India to physically store your cloud data, it will in fact fall under the Indian jurisdiction and legal system.

For some organisations in particular, such as public sector bodies or finance, this may break the data protection rules with which they must comply.

Auditing the cloud

Away from the hype, the cloud – any cloud – is merely someone else’s computer. But it begs a larger question: how do you know you can trust that provider? Issues of audit and compliance are hugely important to all smart businesses, and the traditional public cloud can be a murky world when, in fact, transparency should be paramount.

Fig. 4 : How important is it to be able to audit your cloud services to ensure you are compliant with data protection and sovereignty regulations?



We asked survey respondents a number of questions regarding data storage regulations and compliance. In total, 91% of participants state that it is either very important or important to be able to audit their cloud services (Fig 4).

Unfortunately, big brand cloud services providers such as Amazon Web Services and Microsoft Azure offer off-the-shelf solutions that may not fit with the specific audit or compliance needs of a business. One of the key benefits of a hybrid cloud solution is that it can be tailored to deliver exactly what the customer requires in terms of audit, compliance and reporting.

Comparing the hybrid cloud with Amazon Web Services and Microsoft Azure

There's no denying that the two big names are what most people come up with if you ask them to name cloud computing providers. Of course, that doesn't mean their off-the-shelf offerings are necessarily the best solution for a specific business.

Companies with data centres that host a private cloud infrastructure, provide physical hosting options and state-of-the-art connectivity to public cloud providers can offer a hybrid cloud solution that is individually fitted to each company – no two hybrid clouds need be the same.

Such a cloud hosting company that is both big enough to be financially stable and small enough to care, providing a tailored service for each customer is a compelling option for companies looking to the hybrid cloud option, as so many are.

The biggest complaint about cloud computing providers by participants in our survey was that of support and assistance. Almost a quarter (23%) cited it as a problem area.

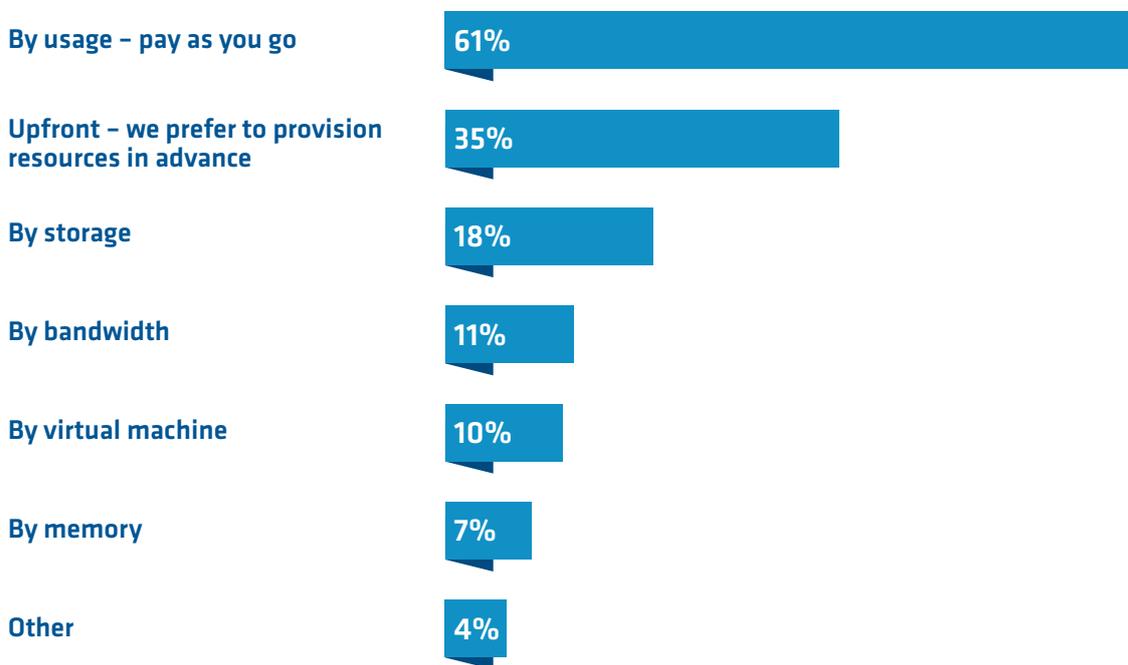
Smaller, more localised companies can offer project management and post-sales support by an expert team – something that is impossible with the big public cloud providers. They may also allow customers to deploy their own auditors, as well as offering custom data set-ups. For instance, the customer could choose to mirror data to the United States for disaster recovery purposes, or maintain it within the boundaries of the UK, with the ability to audit this closely. This is a huge boon when it comes to issues of compliance and data sovereignty.

Almost a fifth of respondents (23%) in our survey complained about availability and responsiveness problems with their current cloud computing providers. Microsoft and Amazon Web Services offer 99.9 percent availability, whereas a specialist provider such as NaviSite may guarantee 99.999 percent. Those two extra nines make a lot of difference. 99.9 uptime percent equates to downtime of over eight hours in a year – that's a full working day. With "five-nines" availability that figure drops to just over five minutes.

Costs and value for money

Comparing costs for cloud computing services is almost as difficult as finding the best mobile phone deal. There are so many different ways of charging used by cloud providers that it makes a comparison tortuous at best. The costs of services from providers such as Microsoft Azure and Amazon Web Services may look tempting initially but it is important to evaluate charges on a level playing field.

Fig. 5 : How would you most like to pay for public cloud services (discounting any free services)?



* Respondents could select multiple answers.

We asked the survey participants how they would prefer to pay for cloud services (Fig 5). The result is a clear vote in favour of pay-as-you-go by usage with 61 percent of respondents choosing this option. The second most popular option, at 33 percent, is to pay upfront, with payment by storage (18%), bandwidth (11%) and virtual machine (10%) all lagging behind.

Paying by usage is the favoured method by which to compare the pricing of different companies. While other methods may seem tempting – for instance, storage and bandwidth – they can result in unexpectedly large costs if the activity scales beyond expectations.

A white paper by Rick Blaisdell, the cloud computing expert from rickscloud.com, ran duplicate tests on Amazon Web Services, Rackspace and two NaviSite products. He concluded that a company would need to spend 25 percent extra on Rackspace and 67 percent extra on Amazon Web Services in order to achieve performance equal to NaviCloud and NaviCloud Director.

When comparing Microsoft Azure and Amazon Web Services with hybrid cloud providers such as NaviSite, it makes sense to use the paying by use basis on which to make a comparison. It's important also to consider whether the provider continues to charge if you make a service inactive. The other key factor to check before you make a decision is whether you are locked into any services, tiers or plans. Ensure that you do not plump for a provider that starts cheap, which then becomes poor value for money as your requirements grow, while having to wait a year to see out the lockdown agreement.

Conclusion

It is clear that issues of regulatory compliance, data sovereignty and the geophysical locations of data centres play a large part in the thinking of companies when making decisions about cloud services. Add to that the complexity of making a true price comparison between different cloud computing providers and it's no wonder that the majority of companies are taking their time in moving to the cloud.

For companies where a wholesale move to the public cloud is not practicable, for whatever reasons, a hybrid cloud is ideal. In short, creating an interconnected infrastructure with both public cloud and physical hosted infrastructure using a hybrid cloud provider that can tailor the systems to your exact requirements.

Rather than seeing this as a watered down version of the cloud, a hybrid cloud is in fact the best solution that can be created using today's technologies, giving the best of both worlds – the benefits of the cloud and the tailored reporting, compliance and audit capabilities that many businesses demand.

About the sponsor, NaviSite

NaviSite Europe Limited is a wholly owned subsidiary of NaviSite, Inc., a Time Warner Cable company, is a leading international provider of enterprise-class, cloud-enabled hosting, managed applications and services. NaviSite provides a full suite of reliable and scalable managed services, including Application Services, industry-leading Enterprise Hosting, and Managed Cloud Services for organisations looking to outsource IT infrastructures and lower their capital and operational costs. Enterprise customers depend on NaviSite for customised solutions, delivered through a global footprint of state-of-the-art datacentres.

For more information: www.navisite.co.uk

