



Cloud: it's a journey not a destination

The question is no longer whether
to adopt, but how to make it work



A study of cloud migration in the
UK by Zen Internet and IDG



Introduction

We've come a long way from the founding myth of a developer swiping a credit card and willing new infrastructure into life with a few keystrokes.

Infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS) have been a presence in Europe for well over a decade, ever since AWS launched its first data centre on the continent in 2007. Today, the big three cloud platforms operate 67 data centres in the region. European governments and corporations spend more than \$20bn annually on cloud infrastructure services. Revenue growth is somewhere in the region of 38% annually.

These are big numbers and they show no sign of stalling. Quite the opposite: in 2020, Covid-19 increased the impetus behind adoption. In 2021, four out of 10 respondents (39%) tell us that they expect a significant increase in expenditure on IaaS, PaaS or software-as-a-service (SaaS). From here onwards, expenditure will continue to climb. By 2023, the proportion of organisations expecting to see significant increases in expenditure rises to 48.5%.

Cloud migration, we have always been told, is a process rather than an event; a journey, rather than a destination. If this is the case, how far have organisations travelled? What comes next after the initial success of deployment? How are enterprises integrating IaaS and PaaS with the other elements of an increasingly hybrid approach to enterprise IT? To what extent are organisations achieving the goals they set for deployment?

These are some of the questions we set out to ask in this study. In general, the responses are not the stuff of fairy tales. Behind the numbers, as you'd expect, sits a lengthy narrative of trial and error, success and failure. The data also suggests that we may be turning a corner. Decisions about adoption continue to matter, but for many organisations, the key question today is how to maximise the value of cloud infrastructure in the context of mainstream enterprise use case scenarios.

FOOTNOTES:

¹ Synergy Research Group (May 2020)
<https://www.srgresearch.com/articles/amazon-microsoft-lead-cloud-market-all-major-european-countries>

² The main focus of this report is IaaS and PaaS. Unless otherwise indicated, this report uses the term "public cloud" to refer to IaaS, PaaS and SaaS in combination. We use the term "cloud infrastructure" to describe IaaS and PaaS.





A very hybrid world?

We asked respondents which of five different infrastructure types they use for significant production workloads: IaaS/PaaS, SaaS, private cloud hosted on-premise, private cloud hosted externally or traditional on-premise compute.

The results suggest a very diverse approach to corporate computing. Overall, eight out of 10 respondents (83%) told us their organisation used two or more types of infrastructure.

On-premise computing remains a significant presence. Half of respondents (49%) told us their organisations are still running traditional on-premise servers and/or data centres. Yet of these on-premise users, six out of 10 (59%) told us that they also run significant workloads on IaaS or PaaS.

We then looked more closely at each group of respondents, specifically at the other types of infrastructure they are using to run significant workloads. The responses suggest a diverse mosaic of ecosystems, with a notable tendency for public cloud to be identified as a secondary infrastructure type.

There is one clear exception to this rule: organisations using externally hosted private clouds. These organisations are more likely to also depend on on-premise technologies, rather than public cloud.

It's also worth noting that 69% of SaaS users and 37% of IaaS/PaaS users also rely on traditional on-premise servers or data centres to run significant workloads. As yet, the number of organisations that have entirely migrated workloads to the public cloud is relatively small.

Overall, many of these organisations also spend money in a way that looks hybrid. Only one-fifth (20%) told us their organisations mostly or entirely invest in opex-driven cloud services. One-third (32%) mostly or entirely invest in on-premise technology requiring upfront capital expenditure (capex). The largest single group of respondents (49%) mix on-prem and cloud services investments as required.





Traditional on-premise users

Top alternative infrastructures

59%
of these organisations also use SaaS applications

58%
of these organisations also use IaaS or PaaS



Private cloud users (hosted on-premise)

Top alternative infrastructures

65%
of these organisations also use IaaS or PaaS

64%
of these organisations also use SaaS applications



Private cloud users (externally hosted)

Top alternative infrastructures

63%
of these organisations also use on-premise servers or data centre

48%
of these organisations also use private cloud hosted on-premise



SaaS users

Top alternative infrastructures

77%
of these organisations also use IaaS or PaaS

69%
of these organisations also use on-premise servers or data centre



IaaS/PaaS users

Top alternative infrastructures

41%
of these organisations also use SaaS

37%
also use on-premise servers or data centre

(49%) told us their organisations are still running traditional on-premise servers and/or data centres. Yet of these on-premise users, six out of 10 (59%) told us that they also run significant workloads on IaaS or PaaS.



IaaS, PaaS & hybrid IT: no-one said it would be easy

Hybrid IT is an operating model in which data is processed where it makes most sense, by legacy or cloud-native applications, on public or private clouds or traditional on-premise infrastructure. It pre-supposes a progressive shift away from legacy software towards cloud-native services, underwritten by continuous integration and deployment. In an ideal world, this diverse ecosystem is secured on an end-to-end basis and managed from a single screen.

Many organisations are still evolving towards this operating model. For example, only four out of 10 organisations running significant workloads on IaaS or PaaS (39%) say they are very confident about deploying cloud-native applications. Less than half (48%) are very confident about shifting workloads between different pools of infrastructure. Over one-third say they are not very confident in their organisation's ability to run mission-critical applications on cloud infrastructure.

How many respondents are running significant workloads on IaaS? Only 31% of our respondents told us that their organisations are doing so. The numbers running major workloads on private cloud, traditional on-premise and SaaS are all significantly higher.

Narrowing the focus still further, we asked respondents about 10 arguably mission-critical application categories, including business applications, databases and customer-facing software such as e-commerce and point-of-sale applications.

In the case of seven application types, the software is far more likely to be running on traditional on-premise infrastructure or a private cloud (either hosted or on-premise). In two cases (databases and customer-facing services), software is most likely to be running as a SaaS application.

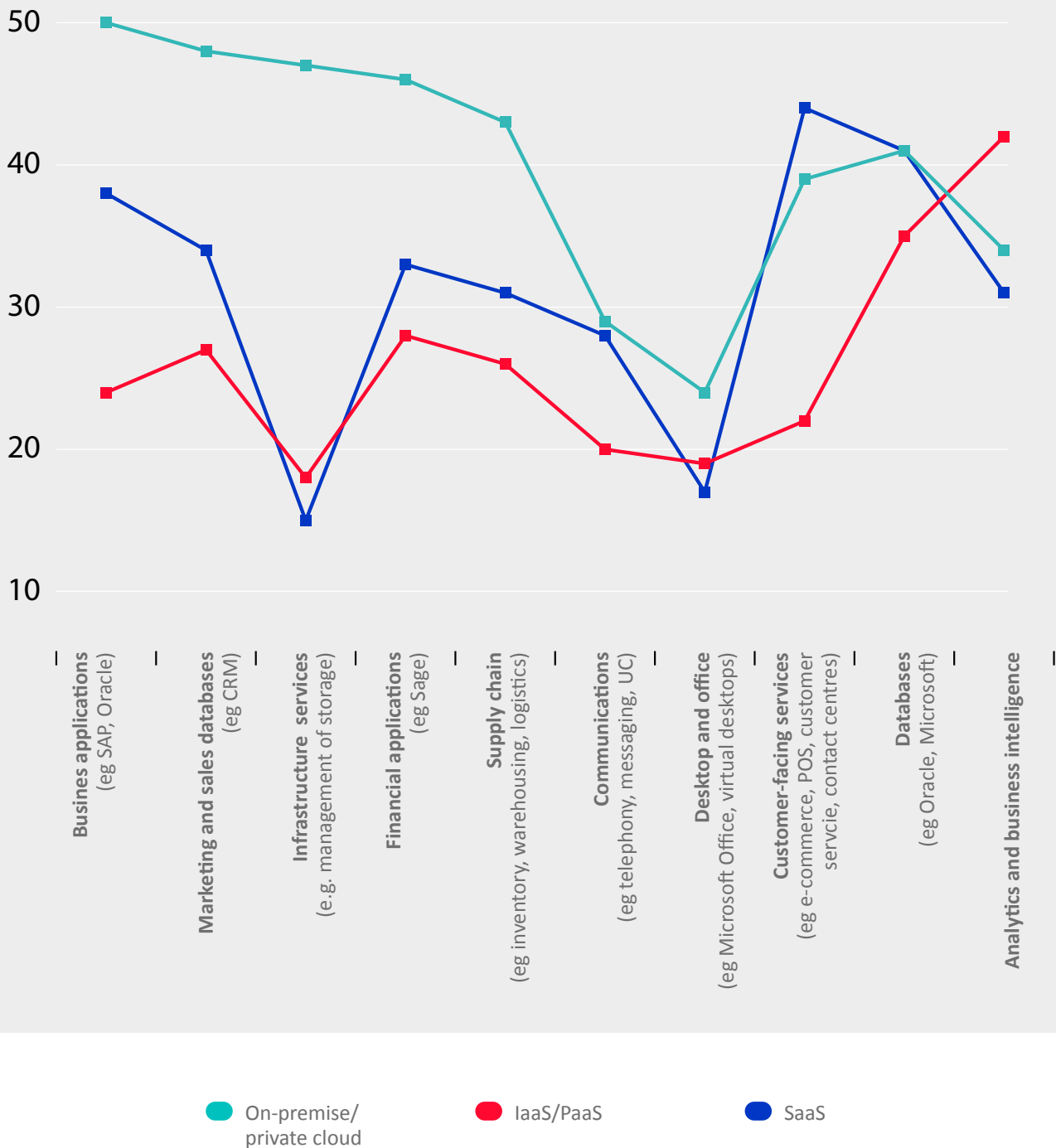
IaaS/PaaS proves the most popular choice in only one category: analytics and business intelligence. (We can assume that the other traditional use cases of IaaS persist: running complex web sites, data storage and recovery, software development and testing.)

To what extent will deployment deepen on IaaS and PaaS? The potential certainly exists: 45% of respondents tell us that the pace of digital modernisation has accelerated significantly in their organisation during the pandemic. And 39% expect their organisation's expenditure on IaaS and PaaS to rise significantly during 2021. Where this increased sense of urgency takes us remains to be seen.





Where are organisations running mission-critical applications





Challenges of adoption 1: budgets and cloud-native software

The barriers to adoption of IaaS and PaaS are diffuse, yet significant. The three most frequently identified are lack of budget, compliance and regulatory concerns and the risk and cost of re-writing legacy code to become cloud-native.

What we might call the money question looks like the biggest single inhibitor of migration. That's because lack of budget points us in multiple directions, including the cost of skills. Clearly, this is a cumulative issue for organisations running multiple infrastructure platforms. Neither are anxieties about the public cloud's potential to generate runaway costs entirely dead.

Budgets become problematic when the underlying calculations are exposed as unrealistic. Among all respondents, 24% told us that their organisations failed to build a business case because it was too difficult to identify cost drivers, business benefits and opportunity costs. Separately, 25% told us that even after evaluating all of these inputs, they still couldn't make a business case for IaaS/PaaS. (A very similar proportion of respondents from organisations using IaaS or PaaS told us that they had experienced this challenge, too.)

Budget anxieties are a significant concern for the smallest organisations in this study. But the largest organisations (5,000-9,999) also encounter challenges with developing a business case. Notably, as we'll see, these are the same organisations that tend to achieve fewest of the goals they set for migration to IaaS/PaaS.

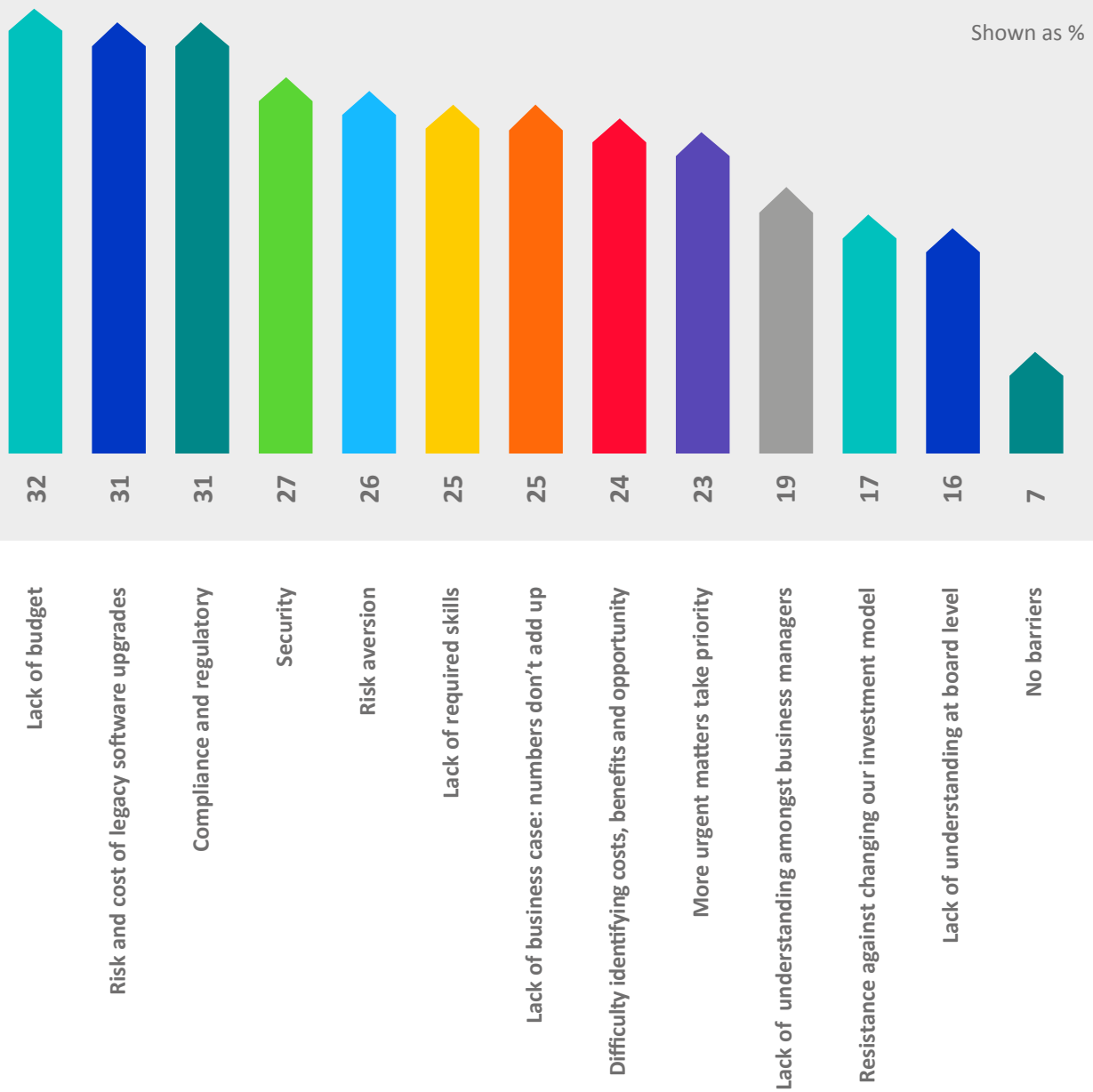
The cost and risk of re-writing in-house software in cloud-native formats are identified as a barrier by 31% of all respondents and 32% of respondents working with ecosystems that include IaaS and/or PaaS. (Re-writing, of course, is shorthand for a range of options, including refactoring code.)

This explains why many migration projects still involve lifting and shifting legacy code on to IaaS. However, this preference for lift-and-shift is clearly connected with perceived financial challenges and an inability to reap the full rewards of migration.





In your experience, which of the following barriers has been most significant in slowing or halting of IaaS and/or PaaS in your organisation?





Challenges of adoption 2: security & regulatory compliance

In a question separate to the one about barriers to IaaS/PaaS adoption, we asked respondents to tell us which platform they considered to be more secure, all other things being equal: a traditional on-premise data centre or one of the major public cloud platforms.

On one level, this is an absurd question, because security clearly depends upon many other things besides your choice of infrastructure. But we were interested in perceptions, rather than rationality. We wanted to try to understand the starting point from which respondents jump off into any discussion about public cloud security.

Views on security correlate with organisation size to some extent. Perceptions of public cloud security are weakest among smallest organisations (100-499) and strongest among slightly larger organisations (500-999). By contrast, perceptions of on-prem security are lowest among the very largest organisations (5,000-9,999). Interestingly, CIOs/CTOs are significantly more likely to perceive traditional on-premise data centres as more secure than public cloud.

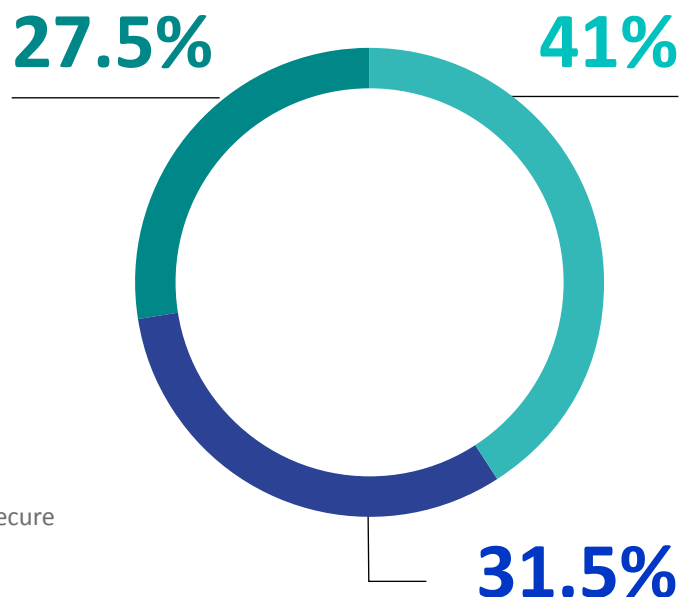
We can say a few things with confidence:

- The logic of on-premise control is profoundly strong and informs concerns about both compliance and security. The idea that an organisation generating data is best-placed to safeguard that data has not gone away.
- Inside many organisations, debate continues. In fact, it's not unusual for IT decision-makers to believe that their organisation's IT buying strategy (whether mostly opex or mostly capex) is ill-advised from a security viewpoint. For example, representatives of nearly one-quarter (23%) of the organisations using traditional on-premise hardware told us they believe that public cloud is more secure than on-premise computing.

The debate about the security of the cloud was once perceived as the primary barrier to adoption. The intensity of this debate may have declined, and today, advocates of public cloud certainly have more and better arguments to put forward. But the debate is far from settled.

In your experience, which is more secure: a traditional on-premise data centre or one of the major public cloud platforms offering IaaS and PaaS?

- Public cloud platform is more secure
- Traditional on-premise data centre is more secure
- About the same





Decision-making: who decides?

Decisions about digital modernisation and cloud migration often involve a wide range of executives. As we'll be discussing in a forthcoming webinar, the decision-making process becomes nuanced, involving different perspectives and political motivations.

Respondents clearly regard the core decision-makers as the CEO and the CIO or IT director. Both are more likely to be described as very influential, rather than simply influential.

A second tier of executives are more likely to be described as influential rather than very influential. At the top of this list sits the CFO (very influential in the eyes of 37% of respondents, but simply influential for 50%).

Other participants in the debate about migration include line of business managers, described as very influential by 32% and as influential by 42%. Sales and marketing executives often wield a considerable amount of second-level power. Only 23% rated their role as very influential. But over one-third described their input as influential. It seems likely that these executives wield more influence over decisions to deploy SaaS than they do over decisions to deploy IaaS or PaaS.

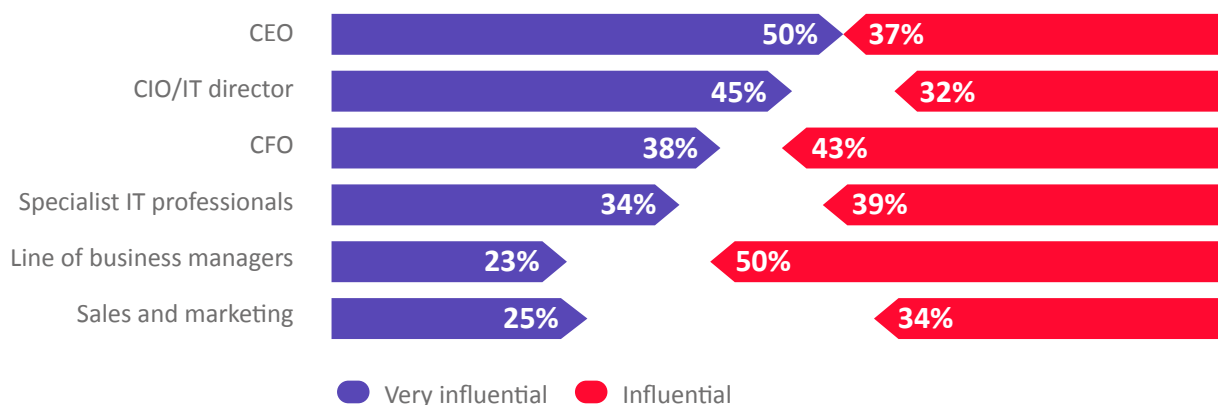
Specialist IT professionals are typically seen as second-tier influencers. However, their influence is often greater than that of business managers. The number of respondents rating IT specialists as very influential (36%) is only slightly less than the number describing CFOs this way (37%).

Within organisations already committed to IaaS/PaaS, the influence that IT specialists exert is often substantially greater than it is elsewhere (rated as "very influential" by 48%). The same dynamic applies to CIOs. In organisations that have already committed to significant investment in the cloud, respondents tend to rate CIOs as more influential than CEOs when it comes to cloud decision-making.

Perhaps migration enhances the perception that CIOs and IT specialists are very influential. Or quite possibly perceptions are moulded by entrepreneurial CIOs and IT professionals who understand the intricacies of cloud migration.

In any event, nature always abhors a vacuum. In organisations where fewer respondents rate the CIO as very influential, there's a tendency for the CFO's influence to be more highly rated. Organisations of this kind tend to have low expectations for cloud investment over the next three years.

In your organisation, how much influence do the following people have on decisions about cloud computing?





“It’s no longer about cloud adoption, so much as making the cloud work.”





How satisfied are you with the way in which investments in IaaS and PaaS have performed against expectation?

Over the years, failure rates for IT projects have been debated at length. Calculations like these involve a lot of variables. How many times were the objectives recalibrated on the way to implementation? What is the CIO's definition of success? What is the CEO's definition of failure? How should we quantify the grey area in between?

We do know that a significant minority of projects fail to deliver the desired objectives, wholly or partially. Despite its revolutionary potential, public cloud is no different.

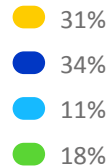
We asked respondents about the extent to which their investments in IaaS and PaaS achieved their goals in a number of areas, including speed to market, agility, cost efficiencies, service levels and security.

First, the good news: 65% of organisations that have adopted IaaS and PaaS say they have achieved many or all of their goals in these areas.

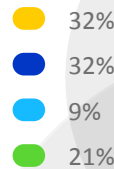
The bad news is that 35% only achieved some of the goals, or didn't achieve any. Depending on the goals involved, the proportion suggesting they have not achieved any of their goals can run as low as 9% or as high as 33%.

It will strike some as counter-intuitive that the largest organisations we surveyed, those with between 5,000 and 9,999 employees, seem to have the smallest chance of achieving all or many of their goals. Notably, larger organisations tended to be frustrated by their inability to improve service levels and accelerate time-to-market. Both may well be linked to lift-and-shift migration strategies.

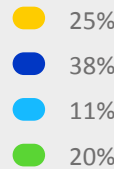
Public cloud remains a transformational technology. The question for those on the sell side of the technology industry is this: is it time to further shift the focus toward making the cloud work for those who deploy it? For organisations thinking about migrating to cloud, the question is, how to use strategic insight and the right technical skills to minimise the risks and maximise the gains.



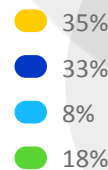
Increased speed to market



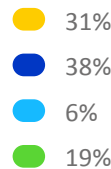
Made business more agile, smarter, faster



Improved service levels



Compared IT cost efficiencies



Improved security

Key ● Achieved all goals ● Achieved many goals ● Achieved some goals ● Not achieved any goals
In each case, the remaining 6% have not deployed IaaS or PaaS so the question is not applicable



Conclusion

For companies and organisations adopting public cloud today, what matters most – as it always does in the enterprise – is the depth and sophistication of the software ecosystem around the new technology paradigm.

The ecosystem surrounding public cloud still has room to grow, certainly by comparison with the decades-old alternative of on-premise. As a result, long-established barriers to cloud migration can feel surprisingly resilient. This helps to explain why nearly half of the organisations we surveyed are running mission-critical workloads like financial applications and supply chain software in traditional on-premise data centres or private clouds.

The requirements of enterprises are easily stated because historically, they've always been the same: robust strategies for addressing barriers to adoption, demonstrable use case scenarios and proven software solutions. This is what people mean when they say: "It's no longer about cloud adoption, so much as making the cloud work".

To the extent that the cloud industry can provide what enterprises need, adoption of IaaS and PaaS won't just accelerate, it will also continue to deepen.

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About Zen Internet

Zen Internet is the largest B Corp certified telecommunications and technology service provider in the UK. Providing business broadband, Ethernet and data services for a wide range of large and corporate businesses. Zen's close partnerships with AWS, Microsoft and Cisco enable first class delivery of tailored cloud, networking and communications solutions. A multi-time Which? recommended provider Zen is renowned for delivering excellent customer service and technical support. This is reflected in the many awards it has achieved, including; PC Pro's Best Internet Service Provider for 17 consecutive years, the UK IT Industry Award for Services Company of the Year and a UK Customer Experience Silver Award for Technology & Telecoms. Zen has offices in Rochdale and Leeds and employs over 550 people. The organisation puts great emphasis on maintaining a people-centric business and was once again named a Sunday Times 100 Best Companies To Work For in February 2020.

About this survey

On behalf of Zen Internet, IDG Connect surveyed 101 IT and business decision-makers based in the UK during April 2021. Respondents worked for organisations in a range of vertical sectors, including construction, manufacturing, advertising, media, automotive and e-commerce/internet. 79% of respondents said they were primarily aligned with the IT organisation. 21% described themselves as being primarily aligned with one of their organisation's business units. Respondents worked for a range of differently-sized organisations, including 100-499 employees (11.5%), 500-999 employees (24.5%), 1,000-4,000 employees (34%) and 5,000-9,999 employees (30%).



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