

TREND STUDY

Where is Hybrid Heading?

Views on exploiting multi-modal IT



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Where is Hybrid Heading? Views on exploiting multi-modal IT

Simon Abrahams – Senior Analyst, PAC (teknowlogy Group)
February 2019

INTRODUCTION

It is well-known in IT circles, and increasingly within the Board Room, that cloud technologies are blurring the boundaries of what is possible with today's systems and software. Public and private cloud products and services have already transformed the way organizations choose to buy and use IT, with flexible, consumption-based charging and remote delivery models gaining huge traction. Cloud-enabled solutions are critical enablers of the current wave of digital transformation, providing the platform for disruptive technologies such as Internet of Things (IoT), Machine Learning (ML) and Big Data. Cloud has become an accepted part of the "new normal" of modern IT, and while take-up was initially strongest among younger organizations, it is now going from, strength to strength in the enterprise. For many IT departments, cloud is seen as a way to create real competitive advantage, fostering flexibility, enabling innovation and paving the way to a more agile enterprise.

"The right mix of cloud and traditional IT has made life easier and more efficient. That mix looks different for every business, but ultimately it optimizes systems according to their unique requirements."
- Hybrid IT user

At the same time, it is not cost effective, and in some cases not even possible, to move all existing systems and data to cloud platforms. So for organizations with existing IT investments (i.e. the great majority), cloud is being adopted in addition to existing IT, resulting in "hybrid IT" environments, which in this survey we defined as:

systems and services that combine traditional IT (dedicated, inelastic, often delivered from an organization's own facilities) with cloud-based IT (elastic, on-demand, and often delivered remotely by a service provider from a shared platform)

More and more organizations are enthusiastically embracing cloud solutions, and fusing them with their existing IT, and in doing so, they are making hybrid a central plank of their IT strategy. As hybrid IT systems become more critical and more interconnected, they combine traditional IT, cloud-hosted IT, born-in-the-cloud IT, and IoT systems delivered from the network edge.

At the same time, other organizations are concerned at the complexity of managing multiple cloud infrastructures, and by the tight interconnections needed at an application level. Yet the "do nothing" option is a high-risk gamble – for most enterprises, multi-cloud is critical to embracing the pace of change needed to survive in today's business environment.

This study is intended to provide invaluable guidance to help organizations succeed with their hybrid IT plans, ensuring they do so fully armed with the lessons learnt by already successful hybrid IT users.



KEY FINDINGS

-  **Hybrid IT is already mainstream, and growth continues to accelerate**
Hybrid IT seems set to grow and grow, driven forward by significant market momentum. Well over half the participants in our survey deliver the majority of their IT on cloud services and platforms, whether public, private or increasingly both.
-  **Flexibility has most impact on driving hybrid IT – cost is no longer the top priority**
The top driver for hybrid IT is user demand for flexibility and agility, often leading to increasingly multi-cloud hybrid IT combinations. Cost reduction is no longer a top motivation – higher priorities are now business agility, commercial flexibility together with cyber security.
-  **Hybrid IT really does enable agile responses**
This is more than just industry hype: almost 80% of current users see the ability to respond rapidly as an important driver of hybrid IT, and 40% see this as business critical. Historically IT has been a brake on rapid change, and greater flexibility is a powerful driver behind the irresistible growth seen in hybrid IT solutions.
-  **Experienced hybrid IT users see security as a demand-driver, and an opportunity**
Security has been a top concern for almost all types of cloud or hybrid IT infrastructure from day one. A new finding is that existing hybrid IT users believe that these solutions deliver better security than in-house IT, and see this as a reason to do more IT in hybrid environments, not less.
-  **Integrating cloud and traditional IT is the top headache**
Integration and orchestration are the biggest challenges for organizations adopting hybrid IT. The interdependencies between traditional applications and infrastructures have evolved over many years - as parts move to cloud, managing this can be extremely complex.
-  **Compliance and License worries persist**
Concerns around regulatory and licensing issues are still very much front-of-mind to current hybrid IT users. This highlights the reality that these are complex issues, and the fear that getting it wrong can be seriously career-limiting for individuals responsible.
-  **Modest application tweaks greatly improve a move to cloud**
The most popular approach to moving applications into a hybrid IT environment involves making relatively minor changes to existing applications. This enables the application workloads to benefit from the flexibility, scalability and automation capabilities of the new agile platform.
-  **Huge expansion expected in private cloud**
Current hybrid IT users expect fastest growth in their private (single-client) clouds, rather than on public (multi-client) clouds. As users gain experience and confidence, there is now much greater acceptance that steady workloads and mission-critical systems/data can be moved to cloud, and private environments may be the best fit for this.
-  **Multi-cloud is becoming real, and users are picking winners**
Organizations planning to increase their use of cloud technologies expect to run multiple different clouds for different purposes. Many users understand that and pick a cloud that is best fit for each requirement (by technology, data/application sensitivity, application or geography) and then stick with that choice, world-wide.



PROFILE OF HYBRID IT USERS

To provide context to our findings, this section provides a short analysis of the population of current hybrid IT users addressed in this research study, and the pathways they followed to embrace hybrid solutions.

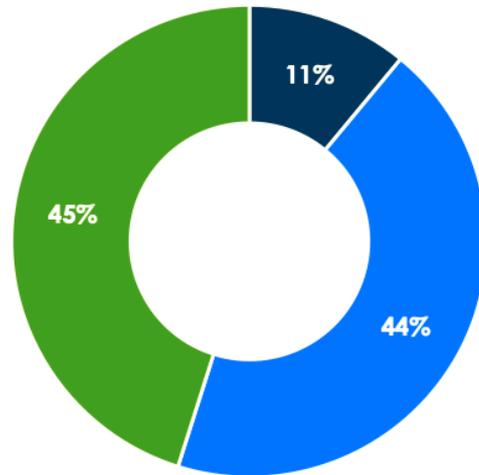
The goal of the research was to understand the experience of current users of hybrid IT. Therefore, respondents were pre-selected to **only** work within organizations already using combinations of both traditional and cloud IT.

To focus more specifically on more significant users of hybrid IT, we excluded organizations whose cloud use was limited to test and development environments. We also excluded organizations whose cloud environments were still in pilot or proof-of-concept phases, since these responses would not reflect the true voice of experience.

Since the study aims to share the experiences of organizations that are **succeeding** with hybrid IT, we excluded respondents that plan to terminate their future use of hybrid within 12-24 months. Only 6.5% of users had plans to discontinue the use of hybrid IT over the next two years – indicating that recent reports on so-called cloud repatriation are more of an echo-chamber than indicative of major trends.

Only a modest
6.5%
of current hybrid IT users plan to return to fully traditional IT within the next 12-24 months

CLOUD LEADS THE WAY IN HYBRID IT ENVIRONMENTS



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Today...

- ...our IT is completely or almost completely cloud
- ...we use a mix of both traditional IT and cloud IT, but our IT is mostly cloud
- ...we use a mix of both traditional IT and cloud IT, but our IT is mostly traditional

The strong momentum behind the rise of hybrid IT has been felt throughout the market, and it is no surprise that much of the hybrid market is focused on cloud technologies for future growth. Already nearly half of all hybrid IT users are delivering most of their IT using some mix of public and private clouds. On top of this, over 10% of hybrid IT users are now almost entirely cloud-delivered.

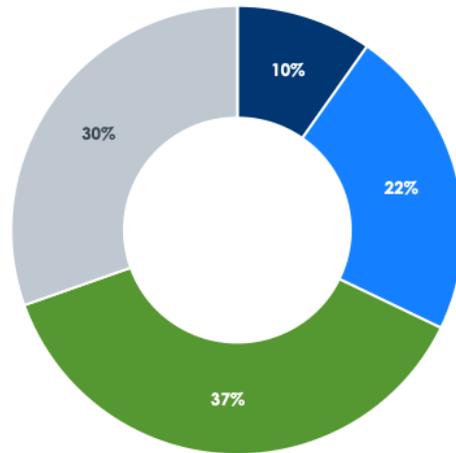
There is some regional variation here:

- UK hybrid IT users are most aggressively pro-cloud – almost three quarters of hybrid IT users in UK are mostly or completely using cloud.
- Spain is the least cloud-centric country studied within the scope of this survey: two-thirds of hybrid IT users in Spain are still mostly using traditional IT.

This aligns with known patterns of technology acceptance in Europe: users in the UK are typically among the first to mainstream a newer technology, while users in Southern Europe are often much more conservative in their adoption habits.

Most hybrid IT users already make more use of cloud IT than traditional IT

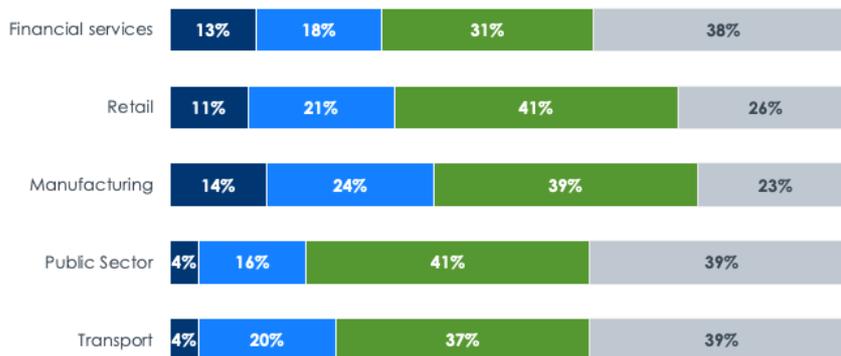
CLOUD USE IS MATURING – MOST USERS HAVE OVER A YEAR’S EXPERIENCE



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We have been using cloud IT...

- ...for more than 5 years
- ...for 3-5 years
- ...for 1-2 years
- ...for less than a year



n = 401

Most current hybrid IT users are relatively experienced and confident with cloud:

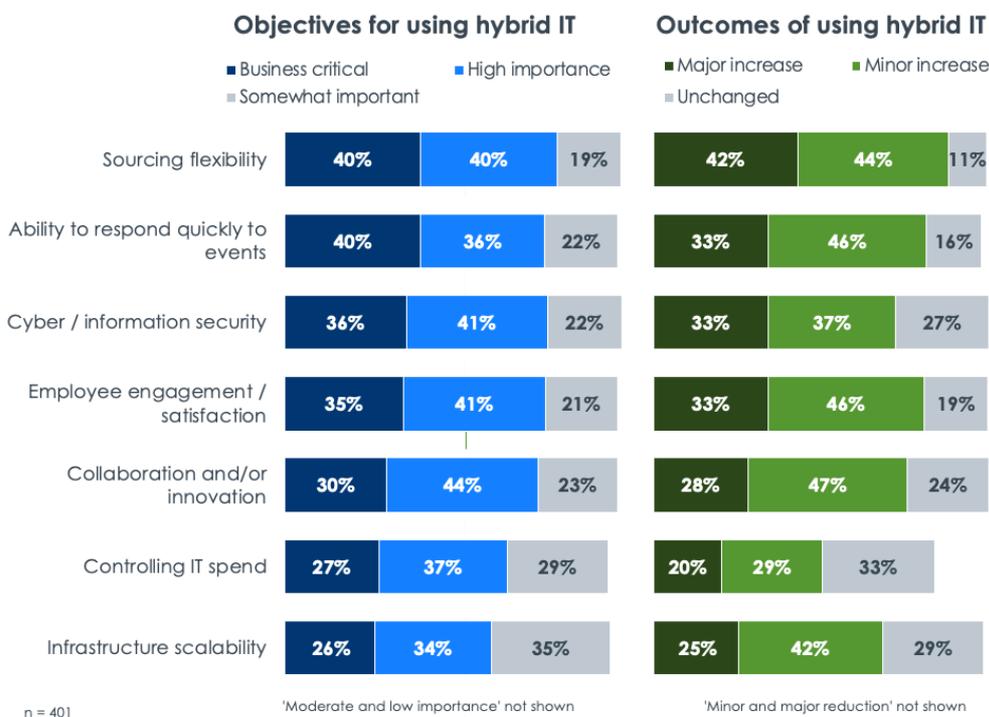
- Two thirds of hybrid IT users have more than a year's experience of cloud.
- The Finance, Retail and Manufacturing sectors have the most users with at least three years' cloud experience.
- Retail and Manufacturing sectors have the fewest users with less than a year of cloud experience. This suggests that these sectors embraced cloud enthusiastically in 2016-17 - perhaps driven by pressure to reduce costs and increase agility - so that more recently the cohort of potential new cloud users was rather modest.



GOALS AND OUTCOMES DRIVING THE RAPID RISE OF HYBRID IT

This section investigates what organizations are seeking to achieve when they implement a hybrid IT solution, and which are the most common goals. At the same time, we explore the extent to which hybrid IT has delivered against original targets.

FLEXIBILITY AND SECURITY ARE DRIVING THE CONTINUED GROWTH OF HYBRID IT



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The survey shows user demand for flexibility is the key driver of the constantly-growing use of hybrid IT. We see this in two separate ways: **sourcing flexibility** (the ability to quickly use different suppliers based on differences in quality, performance, security etc.) and in **business flexibility** (the ability to respond quickly to events).

Sourcing flexibility is a key driver for most hybrid users (Business Critical or of High Importance to 80% of respondents). This suggests that users are continuing to grow their use of hybrid IT because of the speed and convenience of hybrid services. As the hybrid IT landscape becomes increasingly multi-cloud, the benefits of being able to choose the “best tool for the job” and provision IT resources automatically have become uncontested. This is also the area where respondents saw the biggest impact from hybrid IT: **42% saw a major increase** in sourcing flexibility, while 44% reported minor improvements.

The ability to respond quickly to events was almost as important to respondents, and PAC has observed that the need to accommodate an increased pace of business change is largely behind the inexorable growth of hybrid IT. Organizations increasingly find themselves under competitive pressure to move quicker, and cannot allow their systems to hold them back. This is increasingly driving users to embrace hybrid IT solutions, with attention often focused on those systems and software that are most time-consuming to change.

The goals of most hybrid IT projects are business- rather than IT-focused.

The big wins are improved **flexibility** and **cyber security**

“There is a misconception that the risk of security involved in cloud IT is huge, but the fact is our cloud services are secured in a safe environment with security as their top priority.”
- Hybrid IT user

Cyber security is also a major driver for greater investment in hybrid IT. This is significant as many users have cited security as the primary reason for refusing to use hybrid IT solutions, for many years. This finding shows a shift in thinking, with many users now believing that hybrid IT can deliver an improved level of security when compared with in-house IT.

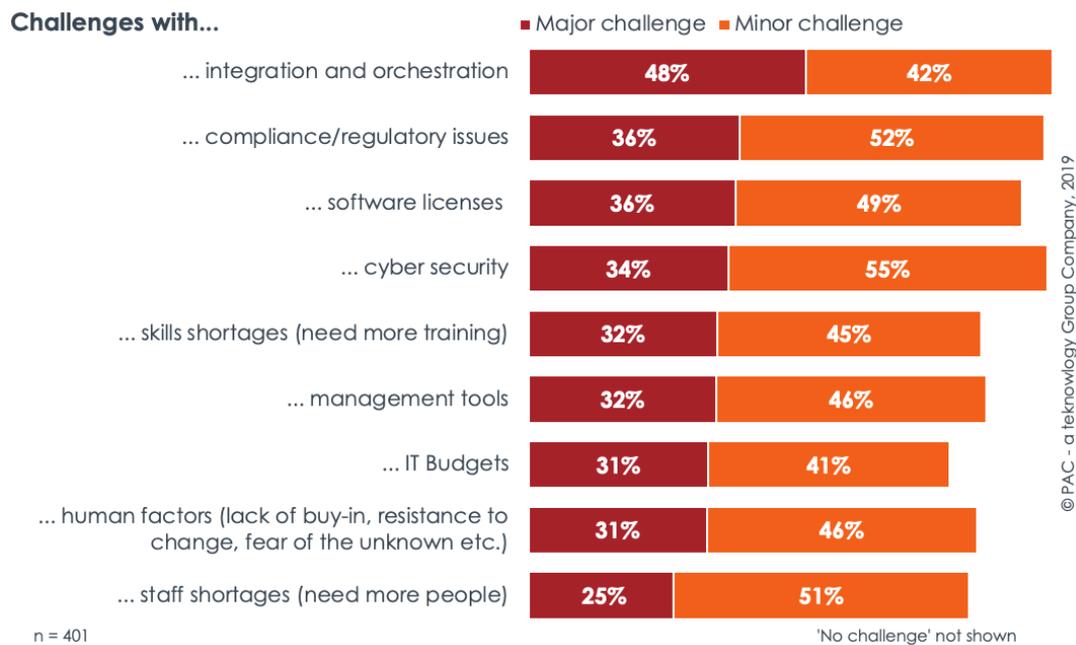
When asked which outcomes had most impact on their organization, opinions were split very clearly along job lines:

- business decision-makers see flexibility (in sourcing, and also in ability to respond to external events) as most impactful.
- IT decision-makers, with a very different set of responsibilities and priorities, see the greatest impact of hybrid IT in cyber security.

It is also interesting to note that in [this](#) study, **controlling IT spend was a lower priority** driver than in previous years. While controlling cost is always going to be important to any business or organization, this study highlights that the strong growth in hybrid IT is no longer primarily driven by cost reduction. Instead the study shows hybrid IT users are more driven by the need to respond to the rapid pace of business change – both the need to respond and innovate in response to growing customer demands, and also the need to adapt to a rapidly changing external opportunities and threats.

INTEGRATION AND ORCHESTRATION ARE BY FAR THE BIGGEST CHALLENGES

Hybrid IT is by definition based on heterogenous combinations of dissimilar infrastructures. While integration between the different platforms is possible, it is also complex and time-consuming, which means that integration should only proceed where this makes economic sense. Many hybrid IT users that gained their first cloud experience with Infrastructure-as-a-service, have now embraced platform-as-a-service as well. As organizations continue to seek integrations of their databases, Customer Relationship Management (CRM), Enterprise Resource Planning (ERP), Human resource systems, etc., the complexity of managing the integrated hybrid platform grows exponentially.



This is borne out by the survey, which shows that **Integration and orchestration is the major problem area for hybrid IT** – almost half of the users we spoke to highlighted this as a major challenge. **Only 10% of respondents reported no problems** with integration and orchestration. In response, organizations are increasingly looking for ways to reduce the scale of their integration and orchestration challenges, through external support (consulting engagements, managed services) and/or systems and tools designed to simplify this task.

Regulatory and compliance issues are another very common area of concern affecting almost 90% of the hybrid IT users PAC surveyed, presenting **a significant difficulty to more than a third** of them. This really highlights the uncertainty around what is really needed to stay on the right side of regulations: the General Data Protection Regulation (GDPR) of course, but also regulation within finance, healthcare, pharmaceuticals and e-commerce.

Almost equally challenging to users is **the need to manage software licenses correctly** as applications are moved into hybrid IT environments. Many user organizations are aware of the risk of significant incremental license fees that may be triggered when moving to a virtualized and/or multi-tenant environment, and getting it right is a major worry.

Finally, **cyber security is still very demanding** – showing what a complex issue cloud security really is. Hybrid IT users regard cloud solutions as more secure than DIY, and recognize that cloud security is difficult. PAC broadly endorses this view, which says much about the growing maturity and sophistication of the hybrid / cloud IT markets.



TRANSFORMING TO HYBRID IT

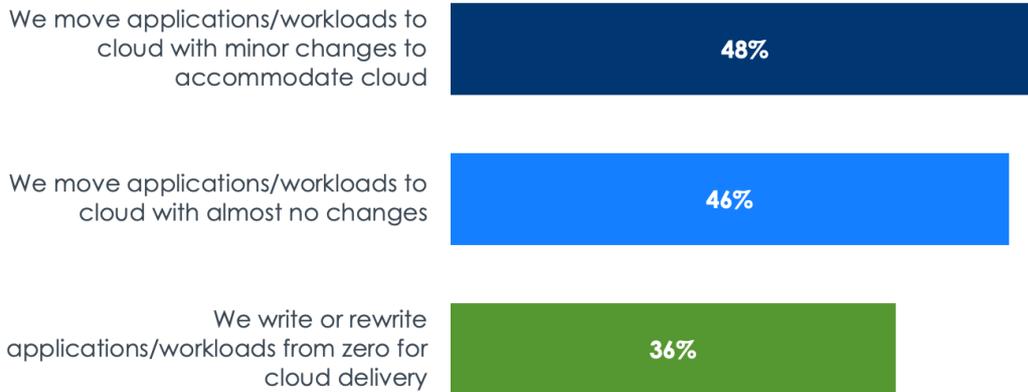
This section looks at how organizations choose to address application transformation as they continue to invest into their hybrid IT environments. For most organizations, the process of transforming to hybrid IT is very much a journey. Typically there will be some systems or data that organizations prefer to keep on traditional infrastructures, whether for reasons of policy, security or performance. Outside of these systems, organizations usually decide app-by-app how and when to invest into modernizing their infrastructure and application environments:

- The zero-effort option is to remain on traditional IT. While this incurs no transformation costs, the management and operational costs of traditional IT are non-trivial.
- The next easiest solution is to move the application almost unchanged into a cloud environment. Such "cloud hosted" solutions eliminate the cost and effort of running in-house data centers, but do not on their own make the applications more agile.
- The most effort and benefit from cloud deployment occurs when an application is written (or re-written) for cloud. These "cloud-native" or born-in the-cloud applications are able to take full advantage of the flexibility of the underlying infrastructure.

Our sample of experienced users provide valuable guidance that a mixed approach is likely to work best, transforming to a dynamic mix of different infrastructure environments:

THERE IS NO SINGLE "BEST WAY" TO DEPLOY HYBRID IT

Which approaches have you taken to cloud adoption?



n = 401

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Across all sectors, the most popular method of moving applications to hybrid IT environments is to make minor changes only – a nuanced approach.

This process of replatforming ensures that when existing applications are moved to a hybrid infrastructure, they are actually able to make use of the new platform's agile capabilities. While this inevitably involves some cost / resource commitment, it does unlock the benefits of flexibility, scalability, and automation that are the goals of hybrid IT in the first place.

The next most popular approach is the pure "lift and shift" approach, making almost no changes to the application. This re-hosting process is most typical when either the organization does not have the time, resources or expertise needed for a fuller software re-write or the application is not critical enough to warrant any greater effort on optimization. While this is seen as a short-cut to cloud, the reduced time and effort has a cost in terms of reduced agility and automation in the resulting solution.

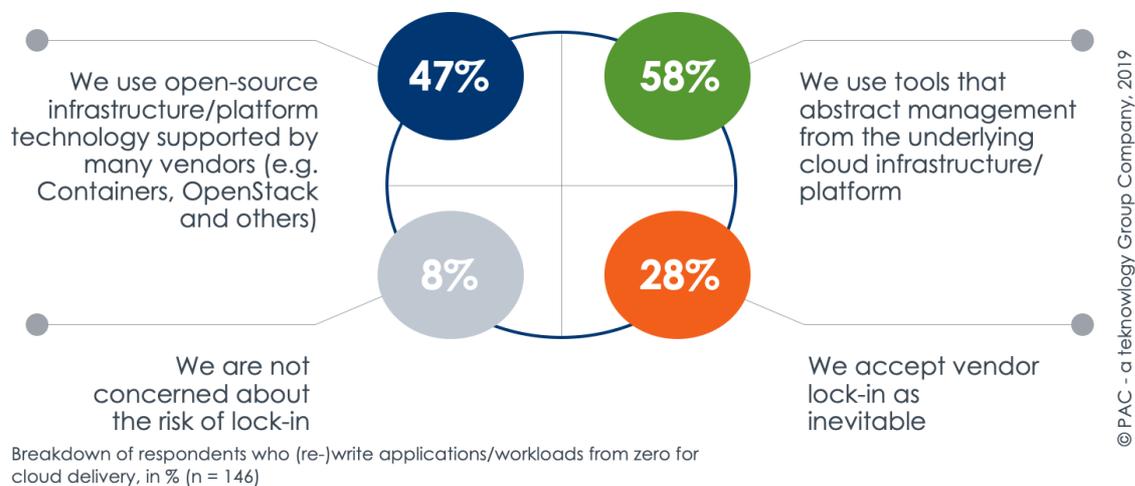
The least popular approach is to engage in a complete application rewrite. Replatforming and refactoring allows an application to be optimized as far as possible for the target cloud/hybrid environment, therefore delivering the fullest benefits of cloud. However, our survey shows that most organizations seek to avoid this level of cost, time and effort.

It is important to note that these three approaches are not mutually exclusive – and in fact many organizations will use all three, depending on the application.

TECHNOLOGY LOCK-IN IS A RISK THAT MUST BE MANAGED LIKE ANY OTHER

Writing an application for a specific hybrid IT environment makes best use of the specific benefits of the associated cloud(s). At the same time, writing for a specific environment inevitably creates technology lock-in, since the application is closely tied to the single target platform. We asked organizations that write / re-write some applications from zero how they go about mitigating this risk of lock-in.

The most common solution (reported by well over half of respondents) is to use tools that abstract management away from the underlying infrastructure, even though this is usually incompatible with full access to the entire set of platform features and functions.



The alternative approach used by almost half the organizations that refactor applications is to adopt technologies that are widely used across multiple cloud vendors, often based in open source. Users and vendors are increasingly embracing the use of containers (usually Docker), delivered using a container management framework (usually Kubernetes) as a way of improving application portability. This delivers the modernized application as a set of small, self-contained software modules, which are quicker and more efficient to operate than monolithic applications. This results in highly flexible software, which is as far as possible segregated from its environment, meaning that it is as portable as possible between infrastructures.

In summary, the survey shows that notwithstanding legitimate concerns around technology lock-in, there are two separate approaches that are widely used today to mitigate these risks. As with any technology (even open source) there is always a risk that once heavily invested in a platform, it will be difficult to change if/when needed. Ultimately this is a classical skills and resourcing risk, and should be proactively managed alongside other risks to minimize the probability of negative impact on the user organization.

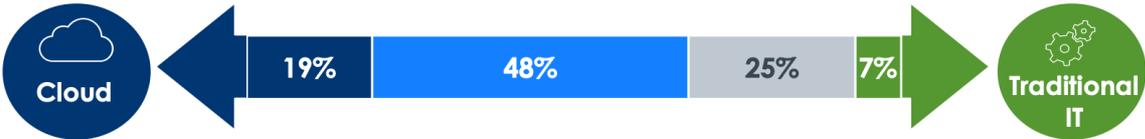


PLANS FOR THE FUTURE

This section explores the future plans of today's hybrid IT market, testing whether the experience of using hybrid IT is driving users towards a more cloud-enabled future, and how quickly change is being driven forward for different types of solution.

The graph below shows **that most organizations plan to embed cloud much more deeply** over the next three years:

- We plan to eliminate almost all traditional IT
- We plan to keep a mix of cloud and traditional IT, and move more of our IT to the cloud
- No changes: We plan to keep our IT as it is
- We plan to keep a mix of cloud and traditional IT, but reduce the amount in the cloud



n = 401

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When it comes to future plans, our population of hybrid IT user organizations was very pro-cloud:

- Almost **70% plan to change the mix of their hybrid environment , to reduce the proportion of traditional IT**, and 20% plan to eliminate almost all traditional IT over the next three years.
- A quarter expects no change, and **only 7% expect to do less with cloud**.

This is typical of how the cloud market is evolving: the current appetite for cloud continues to gain momentum, and notwithstanding the very high levels of hybrid IT penetration, growth looks set to further accelerate.

ROCKETING GROWTH IN PRIVATE CLOUD

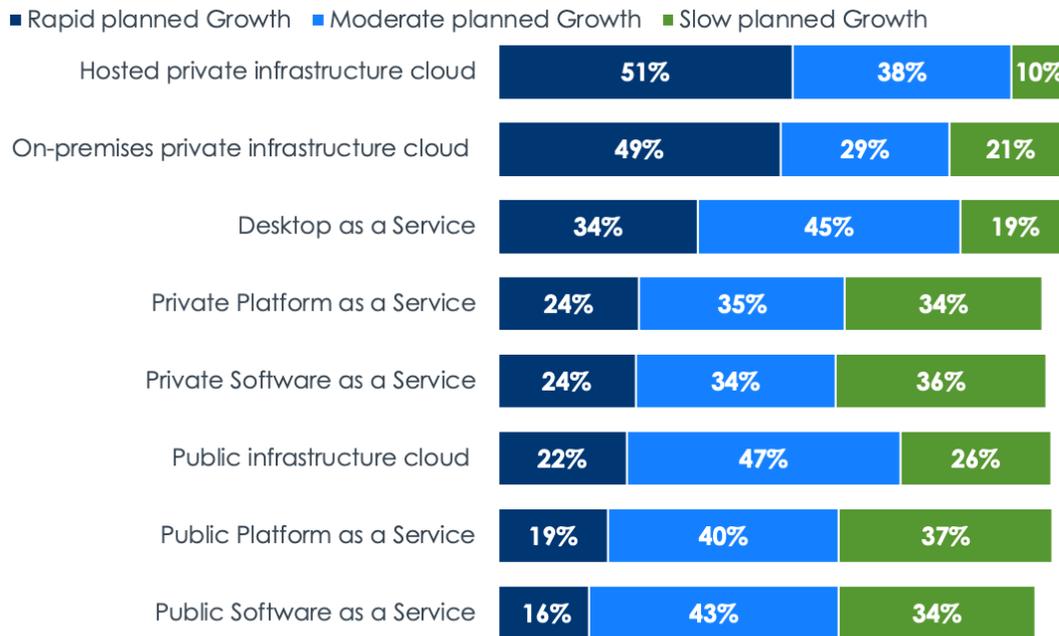
To drill down into planned areas of growth, we probed the plans of organizations aiming to evolve their hybrid IT towards increasingly flexible solutions, asking what types of solution they depend on to deliver their future growth.

The responses show that IT users now expect to focus their fastest expansion of cloud use in private cloud solutions. PAC believes this suggests many organizations initially embraced cloud on public platforms, since these offer the lowest risk and minimum commitment opportunity to experiment and build confidence.

These organizations now appear ready and keen to "cloudify" their more core IT assets, beginning in a lower-risk way with private cloud solutions, then moving on to cloud desktop solutions.

Most hybrid IT users that are trying to reduce their use of traditional IT are focused on rapid growth of a specific solution:

Private Infrastructure Cloud



Breakdown of respondents who want to move more of their IT to the cloud or eliminate almost all traditional IT, in % (n = 271)

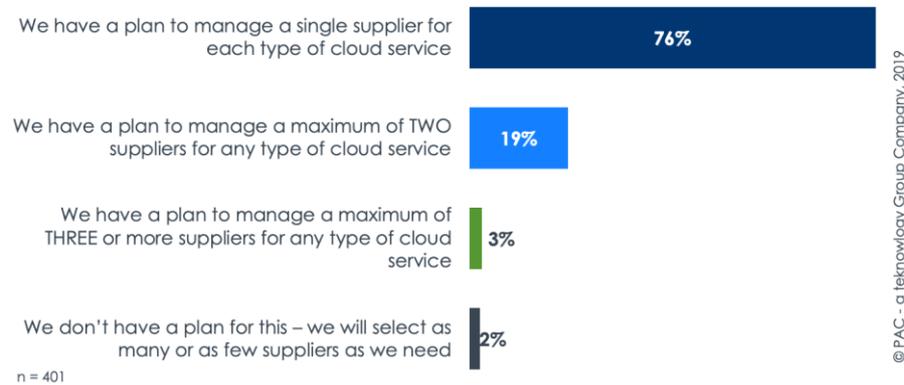
'No planned growth' not shown

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The next biggest area of focus is in **Desktop-as-a-Service (Daas)**. Even though these services have a generally low level of visibility, this is an area of rapid growth for a full one third of respondents planning to do more with cloud. This focus is likely due to the compelling economics of current Desktop services, combined with the much faster and more reliable Internet connectivity that is now generally available, the convenience of mobile access to desktop apps, and finally the fact that Desktop-as-a-Service functionality has improved greatly in the last five years.

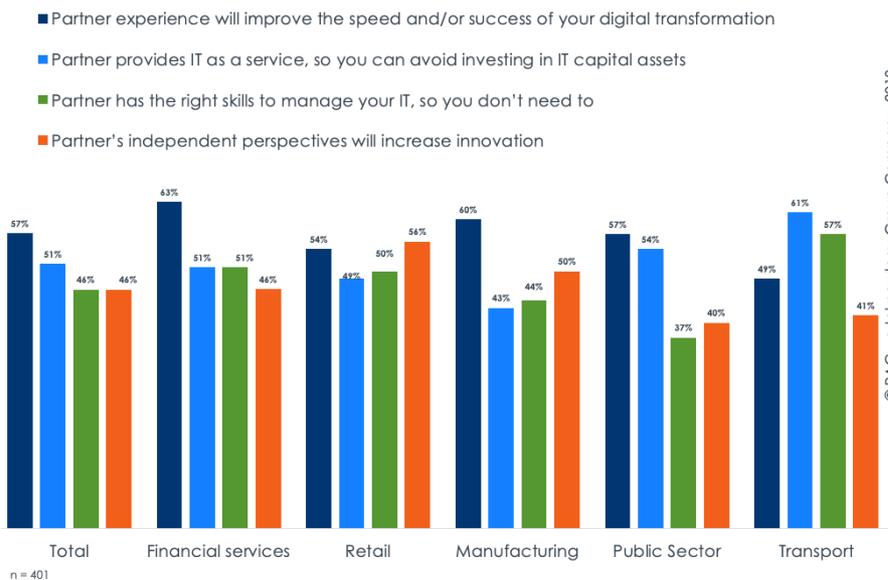
HYBRID IT USERS ARE SEEKING SIMPLE SOLUTIONS

The survey shows that organizations are keen to embrace multi-cloud as part of hybrid IT, and at the same time they seek simplicity by selecting a single preferred cloud for each type of workload – for example, a single infrastructure public cloud provider (even if delivered from multiple zones/regions), a single private cloud solution (even if hosted in multiple Data Centers), a single PaaS platform etc. Organizations often have additional more specialist requirements – perhaps for a Database-as-a-Service (DBaaS) cloud, or a Software-as-a-Service (SaaS) project management platform – and these are typically added as point solutions. The complexity of making these systems work together is considerable, creating a natural barrier on the maximum number of discrete clouds any single organization plans to use.



90% of respondents in the transport and public sectors prefer to have a single supplier for each type of cloud. While this number falls in other verticals, the overall pattern is the same: between 2/3 and 3/4 of respondents only plan to select a single supplier for each type of cloud.

SYSTEMS INTEGRATORS ACCELERATE HYBRID IT TRANSFORMATION



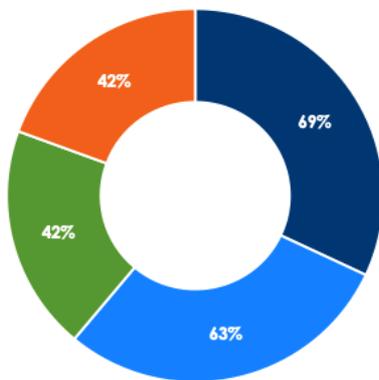
Overall, **improving the speed and chances of a successful delivery** are top reasons for users to consider partnering with a service provider for cloud and traditional IT delivery. This highlights the growing complexity of hybrid deployments, as usage and integration grow. Cloud

environments are increasingly multi-dimensional, interconnected and interdependent, and many users turn to service providers for help in managing this complexity.

This is common across the verticals studied, with the exception of the Transport sector, which placed a much higher importance on the Opex financial proposition (i.e. rent the service instead of buy the system) and on alleviating skills gaps.

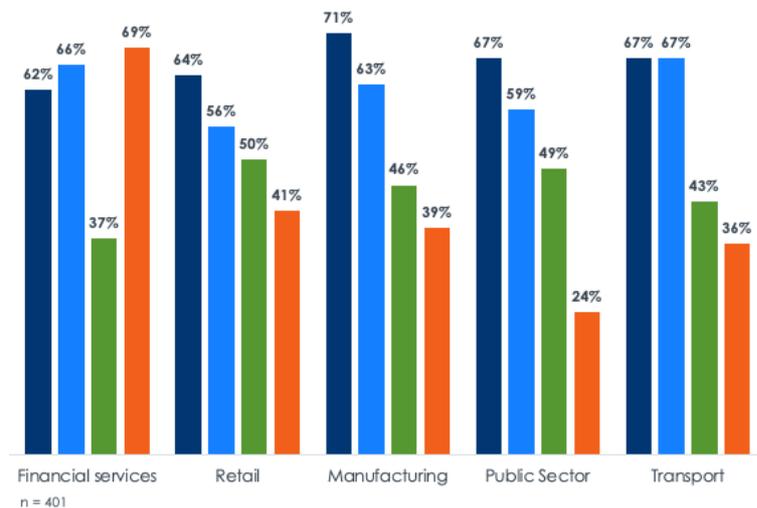
AI AND IOT WILL CONTINUE TO GROW RAPIDLY IN THE ENTERPRISE

Many of the most promising and disruptive new technologies in IT use cloud as a foundation. Among hybrid IT users, the hottest areas of future increased use are Artificial Intelligence (AI) / Machine Learning and the Internet of Things, followed by containers and blockchain.



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■ Artificial Intelligence / Machine Learning ■ Internet of Things ■ Containers ■ Blockchain



More than two-thirds of organizations plan to use AI/ML in future, reflecting the huge potential of these services to improve both customer experience and operating efficiencies. While today's AI applications are often quite limited (website chatbots, etc.), respondents are rightly optimistic about the technology's future potential. Already a range of functions is available from larger cloud services providers that can be used in multiple sectors – for example, text-to-speech, translation, image recognition and sentiment analysis. AI/ML will enable organizations of all types to provide a more personalized and engaging customer experience, with much more accurate, timely anticipation and satisfaction of customers' unmet needs, delivered much more efficiently.

AI/ML is a good example of a set of capabilities that today is largely "built for cloud". This is mostly to do with how these services work – they need data from which to learn, and increasingly data is both generated and held in the cloud. The major cloud platforms have responded by developing out-of-the-box services that specifically provide IoT and AI/ML functions. This means that, while self-hosted alternatives are possible, the ease of use and cost advantages of the cloud-delivered capabilities means that for many hybrid IT users, AI/ML and IoT are becoming extensions of cloud services. This in turn is driving demand for cloud services, since these are increasingly just seen as the easiest place to develop and deliver AI/ML and IoT solutions.

PAC'S OPINION: BEST PRACTICE RECOMMENDATIONS FOR HYBRID IT



Solid research and preparation maximize the chances of success. For many organizations that today run very traditional IT, the best way to prepare for hybrid IT is to first get some experience with a standalone public or private cloud solution.



Getting the best from hybrid IT involves going beyond physical-to-virtual transitions, building out flexible solutions which integrate traditional IT, public and private clouds, cloud-hosted applications, cloud-native apps, and potentially even edge-based solutions. The transformational aspects of hybrid only materialize for organizations that are willing to invest the effort to use these new services in new and agile ways.



Expect and prepare for the integration challenge to grow. Everyone finds hybrid IT integration a struggle. If no current team members have prior experience with cloud, plan to secure some short-term expertise (internal secondment or external contractors), or else prepare to buy-in the necessary professional and/or managed services.



Human factors are often overlooked but must be carefully managed within hybrid IT projects. When organizations create "digital" teams to champion cloud IT, other IT staff can feel relegated to a lesser role. Equally infrastructure-focused subject matter experts may feel threatened by the ease of use of cloud, which could appear to put their expert status at risk.



Don't try to do it all yourselves. Cloud and hybrid IT are different from traditional IT, and require different approaches. Work with trusted suppliers with a track record of successful hybrid delivery to help navigate the hybrid IT transformation landscape – and remember that hybrid IT is more about business outcomes than individual technologies themselves.



Clarity on the requirements of the project is essential, but rare. Much concern around compliance for hybrid IT stems from a lack of clarity about who is responsible for what, where data needs to reside, how it has to be secured, etc. - and of course data management is much more complex when data is held across multiple platforms. Once the requirements are clear, the stepping stones to achieve compliance will be much easier to identify.



Cyber security is recognized by current hybrid IT users as an area where contrary to previous perception, hybrid IT delivers MORE robust protection of systems and information than previous traditional IT. At the same time, experienced users recognize cloud and hybrid security as a complex space that presents genuine challenges.



Pick the right tools for the job and avoid "one size fits all" thinking. There are many cloud platforms, services and solutions available, both public and private, with private cloud showing fastest growth in our survey. Since each organization has a unique set of requirements and resources, it is normal to end up with a hybrid IT solution.



Create a blend of different public and private clouds to suit your individual needs, and select an integration partner both capable of bringing these together – and without any single preferred cloud platform.

METHODOLOGY

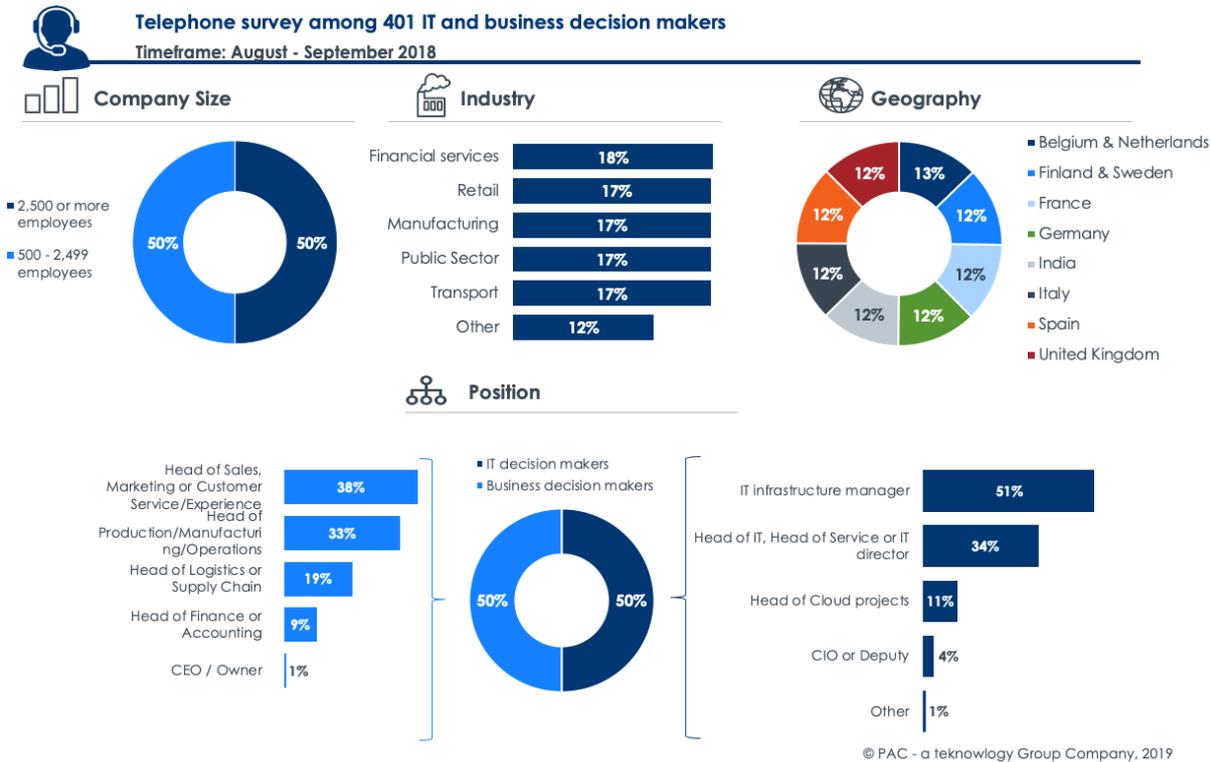
During August and September 2018, PAC interviewed 401 business and IT decision-makers of organizations that are already using hybrid IT, as defined in the introduction.

All respondents were either IT decision-makers within their organization (in which case they were selected for their responsibility for both cloud and traditional IT) or else business decision-makers (in which case they were selected because cloud is critical to their role).

Respondents were from an even mix of mid-sized and larger organizations (only organizations with at least 500 employees took part in the study) and were selected mainly from the Financial Services, Retail, Manufacturing, Transport and Public Sector verticals.

In terms of geographic scope, the sample was evenly divided into respondents from Belgium and The Netherlands, Finland and Sweden, France, Germany, India, Italy, Spain, and the UK.

The aim of the study was to understand the experience of existing hybrid IT users, to better guide organizations that have yet to embrace combinations of cloud and traditional IT.



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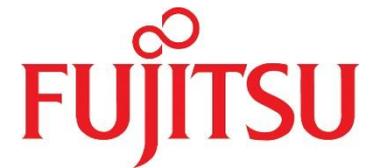
Independence and data protection

This study was produced by Pierre Audoin Consultants (PAC – a teknowlogy Group Company). Fujitsu Ltd had no influence on the analysis of the data or the production of the study.

The participants in the study were assured that the information they provided would be treated confidentially. No statement enables conclusions to be drawn about individual companies and no individual survey data was passed to Fujitsu Ltd or any other third party. All participants in the study were selected at random. There is no connection between the production of the study and any commercial relationship between the respondents and Fujitsu Ltd.

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