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# 2021 Hybrid Cloud Report

Optimized for agility: embracing a hybrid future





# Foreword

Events of the last 12 months have significantly impacted many of us in both a personal and professional capacity. Yet even in crisis, there is opportunity.

Organizations have made huge adjustments not only to how they communicate and sell to customers but in how they operate and interact with one another. And while it's easy to focus on the pandemic as a catalyst of change, we must acknowledge that many enterprises are already on an innovation journey. They have a strategy in place to usher in a modern workplace, with innovative and new networking capabilities that support and respond to the changing needs of both their customers and employees.

The need to ensure continuity and the capacity to adapt remains at the forefront of many leadership discussions. Being able to prepare, react, and respond not just to the threat of a pandemic, but to ever-changing market conditions, is an opportunity for technology to completely re-engineer your business.

**Cloud is not just the IT strategy of choice, but a business strategy for many.**

Our 2021 Hybrid Cloud Report uncovers how global organizations utilize hybrid cloud to their advantage; to seek agility, better performance, and increased efficiency gains.

As enterprises continue to invest in digital transformation, they will look to partner with leading systems integrators and managed service providers (MSPs) that have integrated technology platforms, processes, and people across cloud, networking, and security. Technology and data are vital, but it's the investment in people that integrates and automates with business and operational processes that differentiates world-class transformation from the average.



**Rob's at the forefront of making sure we transform our services, capabilities, and infrastructure go-to-market strategy to help clients achieve their business outcomes. His focus is on making sure our clients' cloud, data center, networking, and security infrastructure are responsive to their business, application, and data needs, helping to reduce overall costs and operational complexity. Rob is part of NTT's senior leadership team based in London and has assumed executive responsibility for our partnership with Cisco Systems globally.**

**Rob Lopez**

*Executive Vice President at NTT*

**CONNECT WITH ROB ON LINKEDIN**

A person is seen from behind, sitting on a dark platform and looking into a large, curved glass aquarium tank. Inside the tank, a large penguin is swimming near the surface. The background of the tank shows some rocky structures. The scene is dimly lit, with the light from the tank illuminating the person's silhouette and the penguin.

# Executive summary



# Key findings

**Organizations globally have rapidly adjusted course in recent months to navigate uncertainties. Business continuity, resilience, and the ability to adapt to change have been pushed to the forefront of the boardroom agenda, and in a bid to deliver on those objectives, **hybrid cloud** has become a core enabler of the business strategy – 93.7% of organizations agree it is critical to meeting their immediate business needs. Yet, despite its overwhelming benefits, it can be complex if not approached correctly.**

The 2021 Hybrid Cloud Report, based on global research conducted by 451 Research on behalf of NTT Ltd., uncovers business priorities, the role that hybrid cloud plays, and how enterprises intend to embrace agility, security, and cost-efficiency

as part of their own agendas over the coming 12 months. Respondents came from a cross-section of IT and business leadership positions, totaling 950 people in 13 countries across five regions.

## 1. Business continuity, resilience, and agility are the priority business objectives

In perhaps a sign of the times, agility, business resilience, and continuity are the most popular objectives organizations will focus on over the coming 12 months. The speed with which the global pandemic hit took many by surprise, leaving many enterprises unprepared for the consequences and subsequent seismic shift in how they adapt and now need to operate.

Agility has always been a crucial outcome for most, if not all enterprises. The ability to innovate

and respond to changing market conditions is vital. Yet, the speed, scale, and intensity of the impacts of COVID-19 has laid bare deficiencies many may not have considered. In our experience, most clients underestimate the requirement for network transformation when deploying cloud solutions. Agility is core to not only being able to innovate but for many, to survive. A sound IT strategy underpinned by hybrid cloud is essential in achieving this, providing a stronger footing for future growth.

77.5%

**say that business continuity and resilience for their organization and supply chain will be important to their organization over the next 12 months**

66.9%

**say that improving their business agility and their ability to respond to change will be important to their organization over the next 12 months**

## 2. The complexity of compliance and security

Despite its clear benefits, hybrid cloud does bring security and compliance complexities. This is why for many enterprises, **it's the first consideration in vendor selection for hybrid cloud.**

With heightened prominence, not to mention the significant investment it commands, security has moved from cost center to transformation enabler. With both public and third-party private cloud proving increasingly popular environments to host applications and workloads, comes the added notion of a larger attack surface area to secure. Security is ultimately a shared responsibility. It's also an experience enabler, which is why these skills are prized by businesses everywhere.

61.6%

**of organizations say that security and compliance considerations are critical to their hybrid cloud plans and the first consideration in vendor/service selection**

94.7%

**of organizations ensure the CISO/cybersecurity team is closely involved with cloud decision-making**

## 3. Cost efficiency is the top driver for hybrid cloud

**A more efficient total cost of IT operations is the biggest driver of hybrid cloud adoption,** and it's easy to see why. The shift to a distributed workforce model has meant people require access to both data and applications in new, different, and often complex ways – and organizations want to enable that in not only a cost-efficient manner but in a high-performance environment too. **SD-WAN has emerged as a more cost-effective way of connecting to the cloud** but it's critical to note that optimizing traffic flows across multiple connectivity options requires proper architecture and ongoing analysis and management.

The role of partners also brings to light not only how much organizations rely on their skills and expertise, but how they drive greater efficiencies through intelligent platforms and automation. With more and more enterprises shifting a majority of their IT infrastructure to third parties, they now fully deserve their place among people, process, technology, and partners.

**Number one driver for adoption of hybrid cloud**

**Is reduced/more efficient total cost of IT operations**

# Introduction





**Never before has technology played a more critical role within organizations – both operationally and strategically. The need for greater agility and performance was already on the minds of many leadership teams – the pressure to innovate already prevalent. Creating superior employee and customer experiences, as well as driving better efficiencies has seen many senior leaders already turn to the virtues of a hybrid IT environment to deliver resources at scale.**


And that dependency became even greater overnight through the emergence of COVID-19. **Enterprises had to reimagine their business models** and the infrastructure that supports them in the blink of an eye. For many, it was a case of adapt or cease to function.

Workforces became instantly remote, and for a while, the only way to conduct business was online, which instantly put more pressure on the network. Therefore, organizations had to optimize their networks to support sustained remote working, boosting employee experience and keeping them connected, as well as for virtual events as a means of connecting with their own customers.

As such, business agility took on a heightened sense of urgency and in order to adapt, technology became one of the determining factors of organizational survival.

These sentiments are reflected in the research findings of our 2021 Hybrid Cloud Report. **93.9% of C-suite executives agree technology is their lifeblood** (54.5% strongly agree), and that COVID-19 has caused them to focus on it even more. Furthermore, **89.6% of organizations are more reliant on technology** since the start of the pandemic.





Yet, with the dependency on technology and a dramatic shift in business operations, comes the extra task of keeping workers, data, and applications secure. Security has always been one of the most important priorities, but its standing has heightened further with the arrival of the pandemic and a greater digital footprint to secure as a result of a distributed workforce. More detail on this can be found in our [2020 Intelligent Workplace Report](#), where 76.9% of organizations say they find it more difficult to spot IT security or business risk brought about by employees when they are working remotely.

Adoption of hybrid cloud is further complicated by changing regulatory and compliance obligations. Different regions, countries, and industries have varying legal expectations. No wonder risk and compliance services are the most valued skills sought from service providers.

**The benefits far outweigh the challenges and the trend to hybrid is set to continue.**

Currently, **60.9%** of organizations globally are already using or are in the process of piloting a hybrid cloud solution, and a further **32.7%** plan to implement a hybrid solution within the next **12-24 months**. And that's just as well given **53.9%** of respondents to our [2020 Intelligent](#)

**Workplace Report** say that post-pandemic, they'll aim to use a more distributed resourcing model, rather than return to office life as normal. This importance is further endorsed by the fact that **84.6%** of leadership teams are the main decision-maker for cloud strategy.

To reimagine their business, organizations need IT environments that are: (1) optimized for **agility**, while (2) also meeting **compliance and security** requirements, and (3) **performing efficiently**. Moreover, it is these three core themes, outlined by the 950 respondents to the survey, that are studied in more detail as part of this report.

A composite image featuring a large, glowing orange and blue sphere on the left, a circular grid structure on the right, and a silhouette of a person in a suit on the bottom right. The text 'Business agility' is centered over the image.

# Business agility

## 1. Business objectives priorities

Agility, business resilience, and continuity dominate the list of priorities over the next 12 months. And rightly so, enterprises have always sought agility – regardless of the recent global pandemic. They need to be able to respond to changing conditions, and they require resiliency across not only their own organization but their supply chains too.

### Improving agility, business resilience and continuity are the most commonly cited business objectives



**Fig. 1 Organizational objectives**

Over the next 12 months, which of these objectives are important to your organization? n=950

**It's becoming increasingly important for organizations to be agile and resilient, as today's enterprises need to adapt to rapid change. Hybrid cloud has emerged as the strategic cornerstone for achieving greater agility**

Current macro-level issues continue to influence the way respondents currently think and feel. Many are still unsure as to their future, so they're naturally focused on the present day. Just over two-thirds of organizations **(66.9%) say improving their business agility and ability to respond to change will be important over the next 12 months**, the second top objective behind business continuity – both likely reflecting changes brought about by the pandemic.

And while it's easy to identify the pandemic as a rationale for a focus on agility, the pace of innovation will always be the biggest driver. When the modern workplace is considered, and how data and applications are now all available at our fingertips via tiny mobile devices, it's the ability to make data available to drive improved experiences that act as the driving force for agility.

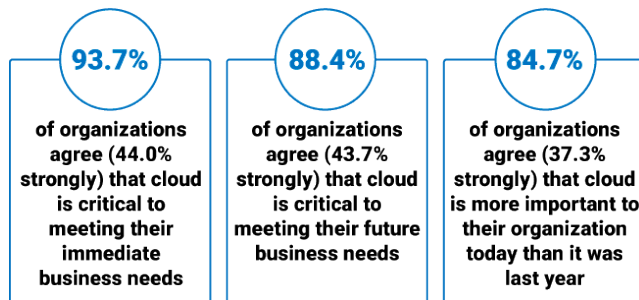
**The question is, how is agility enabled?**

## 2. Importance of cloud

The answer from our research is hybrid cloud, where it's regarded as an accelerator of business objectives. **93.7% of organizations agree cloud is critical to meeting their immediate business needs, while 88.4% agree it is also critical to meeting their future business needs.**

And as expected, data sits at the heart of the agility conversation. The ability to access and process data to make informed, real-time decisions is one of the biggest considerations in the design of hybrid environments. With public cloud, on-premises legacy systems, and private cloud in operation, customer and organizational data sit across a variety of sources, including at the Edge, which means keeping track of the logical and physical locations of data is paramount.

### Enabling agility: Hybrid cloud is considered an accelerator of business objectives



Hybrid cloud offers business and IT leaders the chance to meet changing business demands head-on. While continuity and business resilience are fundamental, improving customer experiences and growing revenues still features highly on the list of business objectives. As such, leaders need to be accelerators of technology, from strategy through to deployment. Hybrid cloud provides a way to achieve this goal by speeding up processes, encouraging collaboration, and providing cost-

effective solutions to free up IT budget for growth, transformation, and innovation.

It is complex to implement, but hybrid cloud ultimately simplifies internal operations through automation, as well as streamlines the management of IT resources. This increases overall efficiency by reducing the time spent by IT teams on managing supporting infrastructures.

### 3. Types of IT infrastructure operated

To take advantage of hybrid cloud, understanding exactly what works in any given scenario, as well as how and where it can fulfil the needs of a particular business model is crucial. Mixing public and private cloud leverages the best of both worlds, each for different reasons and of course, different workload priorities. And according to our research study, organizations anticipate growth in both areas, while non-cloud and on-premises environments are set to decrease.

Cloud has fundamentally changed how networks are operated and our **2020 Global Network Insights Report** shows SD-WAN adoption increasing with an 84.7% year-on-year growth rate and over 58% of survey participants in our **2020 Global Managed Services Report** either considering or undergoing SD-WAN transformation. Moreover, network services must deliver predictable and acceptable application performance no matter where the application resides or where users connect from. And organizations expect these services to be delivered cost-effectively and securely, all while providing ongoing traffic analysis and pro-active network management.

Public cloud adoption, used for less sensitive data and the ability to scale rapidly, is set to increase by **22.4%** over the next 18 months. Additionally, private cloud in third party/supplier data center(s) or colocation (business-critical data), is forecast to increase by **10.6%** in the same period. As organizations become more cloud-native and

hybrid, the requirement to modernize existing applications to greater support digital transformation objectives intensifies. Enterprises need a SecDevOps strategy to ensure applications are both innovative, yet secure; and of course, this means finding the skills to accomplish this, or look towards a partner who can help.



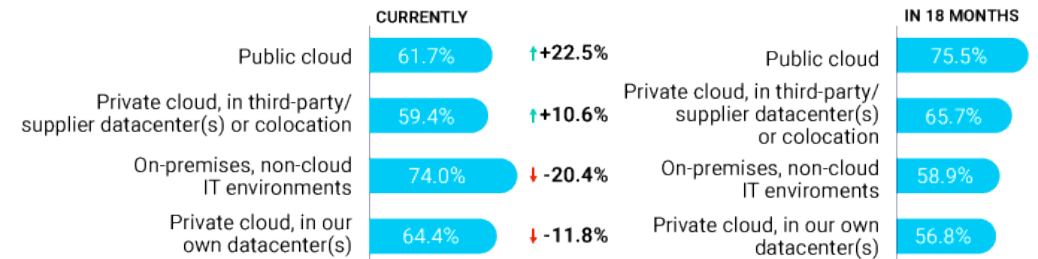
The use of non-cloud environments is forecast to decrease by **20.4%**, while so too is the use of private cloud in respondent's own data centers (**down by 11.8%**). That's not to say on-premises and private cloud (own data center) are losing relevance, there will always be applications and workloads that need to stay firmly within the organization's boundaries. The challenge is making sure current on-premises infrastructure assets are up to the job. The reality is many aren't.

In addition to the workloads and applications being sub-standard, our **2020 Global Network Insights Report** found that in 2019, almost half of network infrastructure assets (**47.9%**) were either ageing or obsolete. This compares to just **13.1%** in 2017. Many organizations are 'sweating' their current on-premises infrastructure, treading a fine line between saving cost and forgoing agility – not to mention the potential security loopholes that might appear in ageing infrastructure.

Given the forecasted decrease in on-premises infrastructure, enterprises likely realize the skills and resources required to manage this complex estate, as well as the total cost of ownership, is better placed in the hands of a service provider. Our **network research** again supports this, highlighting a **55.5%** increase in business availability where clients use proactive support services. Automation and machine learning have further reduced the number of critical, business-impacting incidents by **10.5** percentage points year-on-year.



### Private cloud and public cloud are each forecast to increase in use



**Fig. 2 Types of IT infrastructure operated**

Which of the following types of IT infrastructure environments does your company currently operate?: n=950

Which of the following types of infrastructure environments do you expect your company to operate 18 months from now?: n=950



#### 4. Technology project focus

The criticality of the cloud and how it enables a broad spectrum of technologies is highlighted in the types of projects organizations are investing in to address their business needs. The Internet of Things (IoT) leads the way among **77.4%** of respondents (see the graphic on the next page), along with other emerging technologies such as artificial intelligence (AI) and machine learning (ML), as they seek to future proof their business.

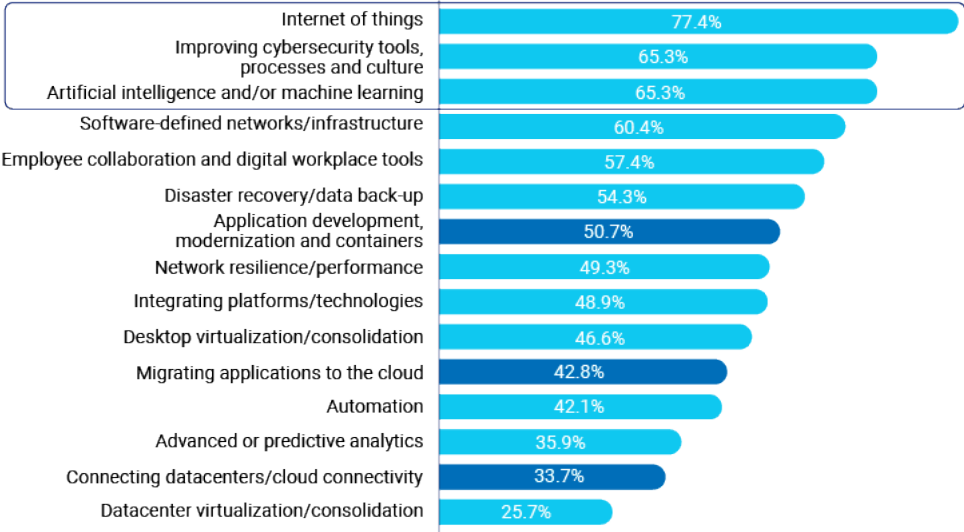
Looking beyond tools and technology, data is again the common denominator. Enterprises understand that getting hold of vital customer, organizational and indeed, cybersecurity data for that matter, facilitated by cloud, enables better business outcomes. But for many, developing solutions to extract data is challenging.

Organizations can leverage cloud and emerging technology to increase efficiency, reduce costs, and develop game-changing products and services. However, the path to achieving these goals can also be challenging, especially for large scale projects. How much will it cost? Will it work? Where does the expertise lie? How does the project move out of the idea phase?



The ability to experience tools and services from major technology providers to test and validate proof of concepts in a live data center environment and innovate with the latest technologies is crucial to achieving greater effectiveness around cloud strategy.

**Cloud solutions are enabling key technology investments and an agile approach**



**Fig. 3 Technology project focus**

Which technology projects is your company investing in to address your business needs? n=950

As expected, security features highly on the list of priorities for **65.3%** of enterprises, particularly in light of the current pandemic challenges. Not only are there increased threats to deal with, but as more applications and workloads move to the cloud, along with a greater number of endpoints connecting to the corporate network, security concerns unsurprisingly rise.

As our next section uncovers, security is one of the leading considerations in the implementation of hybrid cloud. Yet, while there are inevitable security challenges, there are also many opportunities to be leveraged to achieve even greater levels of security and compliance around sensitive data.

**Uncover more business agility insights and find out how we can help you adapt to rapid change.**

[VIEW INFOGRAPHIC](#)





**Security and  
compliance**



**Along with rapid changes in the market, organizations know they need to align with governance and compliance regulations to ensure greater security. But they're struggling to implement these factors across complex hybrid environments.**

**Traditionally seen as a cost center, attitudes to security and compliance are changing. If viewed as an enabler of transformation, security becomes a key tenant of the overall business strategy, particularly in light of the current economic climate and the rise of the distributed workforce.**

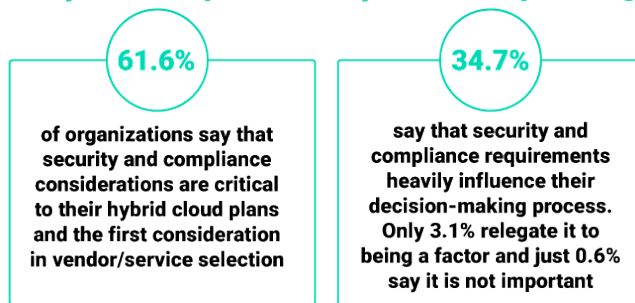
As more and more organizations adopt a scaled, agile framework as part of a hybrid cloud transformation, security should be aligned to the overall enterprise risk tolerance and business objectives.

It should be built into (not bolted onto) organizational digital programs from the outset, especially as dependency on cloud-based services and applications increases to support a digital workforce; and correspondingly, so does the potential attack surface.

## 1. The complexity of compliance

It appears that message is being heard loud and clear from senior leadership teams across global enterprises – security is at the forefront of their thinking. **61.6% of organizations say security and compliance are 'critical'**, and the first consideration in vendor or service provider selection for hybrid cloud planning. A further **34.7%** say security and compliance requirements 'heavily influence' their decision-making process. Only **3.1%** relegate it to 'being a factor' and just 0.6% say it is 'not important'. It's little wonder therefore why **94.7%** of CISOs or cybersecurity teams are closely involved in the cloud decision-making process, while **98.6%** are involved in vendor/service selection.

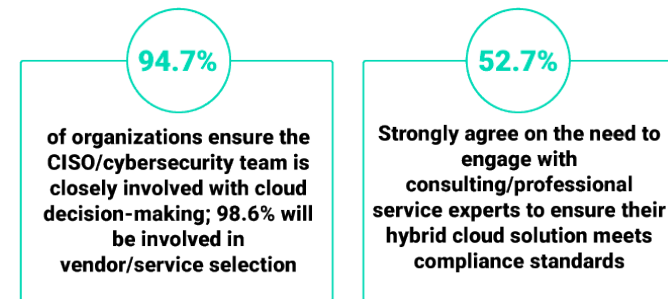
### The role of security and compliance in hybrid cloud planning



And it's not surprising to see why security and compliance are given such high priority. One successful cybersecurity attack could fundamentally damage profitability, trust, and reputation. But unfortunately, for the vast majority, if not all of enterprises, there's a huge degree of complexity in being compliant.

And it's getting increasingly complicated because of the rise in the number of regulations not just across different countries and regions, but industry-specific too. A huge **95.2%** of organizations say they struggle to keep up with compliance obligations, while **52.7%** strongly agree on the need to engage with consulting or professional service experts to ensure their hybrid cloud solution meets compliance standards.

### Organizations struggle to keep up with compliance obligations



Not only do partners have the skills, expertise, and resource, but regulators are coming down harder on those who aren't compliant. Global enterprises with hybrid cloud environments need to remain compliant with local regulators across all markets they operate in, with data sovereignty, for example, being one of the most critical considerations.

The short answer is that security not only matters, but it's also fundamental to an organization's ongoing transformation and long-term success – pandemic or no pandemic.

## 2. Lack of visibility and control in public cloud

Cloud security is complex, yet the end game is about control and visibility. Without it, gaining a complete picture of digital risk is very hard, which is important when considering the appropriate set of technology, tools, and controls needed to remain secure. And a lack of visibility and control is already having an impact. In the last **12 months** alone, **32.4%** of organizations have migrated applications or data from public cloud to private or non-cloud environments, with security breaches, be those internal misconfigurations or external threats, the main reason given.

### Migration from public cloud

In the last 12 months alone, nearly **32.4%** of organizations have migrated applications or data from public cloud to private or non-cloud environments

#### Of those who did migrate from public cloud

**43.2%**

migrated to a non-cloud environment

**41.4%**

migrated to an on-premises private cloud environment

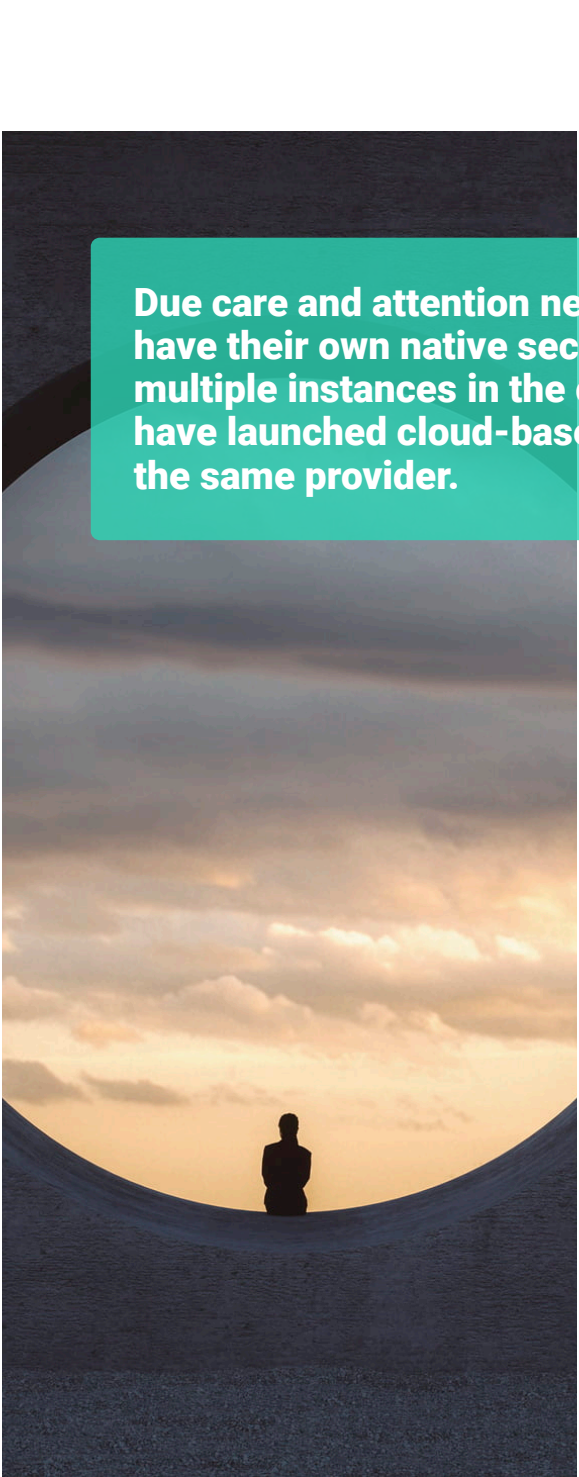
**39.2%**

migrated to a hosted private cloud environment

**Fig. 4 Migration from public cloud**

Within the last 12 months, has your organization migrated any applications or data that were primarily part of a public cloud environment to a private cloud or non-cloud environment? Multiple 'yes' answers permitted. n=950





**Due care and attention need to be given to the fact that cloud service providers have their own native security controls. But these do not provide visibility across multiple instances in the cloud (especially where different business units or teams have launched cloud-based applications or workloads in silo), despite being with the same provider.**

This is further complicated by the fact that businesses tend to use multiple clouds, not just one. As such, getting consistency in common security policies, procedures, and behaviors to address the fragmentation of the different cloud environments is a constant, ongoing challenge. There is also the question of whose responsibility it is to secure what part of the cloud and its supporting infrastructure. Responsibility for securing different parts of hybrid cloud infrastructure varies by vendor but ultimately, it's the business that needs to ensure their cloud environment is secure end-to-end.

Malicious actors will also look to capitalize on new attack vectors, using cloud infrastructure to launch and execute attacks with the speed and scale the cloud enables. Sometimes they'll attack to steal data, other times they'll attack to disrupt and dismantle services or operations. New technologies and threat detection techniques change the game on a regular basis, yet it's important to know what controls are best for different circumstances, which is based upon threat profile and risk appetite, and again, what you need to protect.

It's equally important to know where

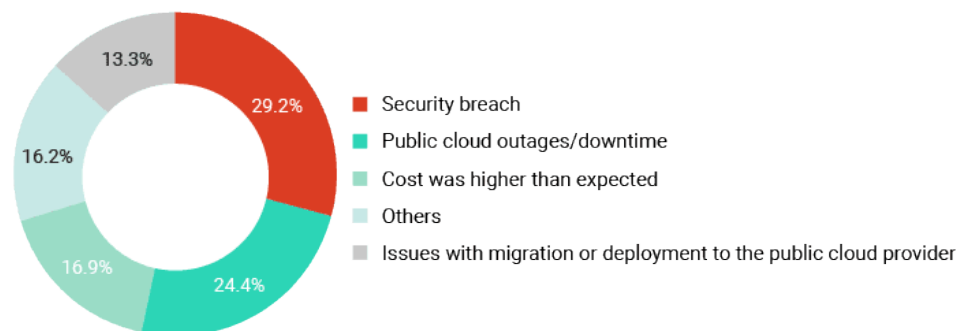
sensitive data is being stored, how it is accessed and used, and by whom (how it's secure in-motion, in-use, and at-rest). This is vital in a COVID-19 world, with a surge in BYOD and more business being conducted outside of the traditional security perimeter, and with an increased reliance on cloud-based services. Despite heavy investments, security teams struggle to keep pace with attacks, integrating 'new' solutions and controls, while having to manage existing technology sets. Uniform visibility is required across the entire cloud landscape, as well as having policy consistency – to remain compliant and to withstand and respond to attacks at 'cloud-speed'.

And while absolute security is impossible, security professionals can take actionable steps that give leaders confidence in their security posture.

### 3. Barriers and migrations

Security and compliance are significant influencing factors in the hybrid cloud selection process because building and managing a comprehensive cloud security program is not straightforward. **46.3% of respondents say it is the number one barrier to adopting** hybrid cloud; and digging deeper into the realms of public and private cloud usage offers further context. Organizations feel they have less control within public cloud environments. And of those who have migrated, security breaches (**29.2%**) are the most common driver for migrations to private or a non-cloud environment.

#### Organizations have less control with public cloud environments and security breaches are the most common driver for migrations to private or a non-cloud environment



**Fig. 5 Drivers for migration from public cloud**

What was the primary driver for migrating workloads from a public cloud to a private cloud or non-cloud environment?: n=308

Moving applications and data to new platforms is a big decision. Among other things, it's about understanding and having knowledge of, the available security features a cloud service provider offers, as well as where the responsibility lies for securing applications, data, and the supporting infrastructure. Then it's about mapping it back to what additional third-party security controls are needed to help ensure a complete cloud security posture. Data integrity and protection is a tricky issue. There will always be applications and data that need to stay in a private environment, rather than in a hosted shared service, particularly with compliance becoming increasingly onerous.

#### Security versus performance

The age-old question always exists when security is placed in the context of cloud and transformation. Data, applications, and workloads need to be secure, but it can't be to the detriment of innovation and speed to market. A delicate balance is required to ensure both security and performance co-exist. The next theme of our report looks at how organizations prioritize performance, and how efficiencies are gained through the use of service providers, intelligent platforms, and automation.

**Uncover more security and compliance insights and find out how we can help you to mitigate risk.**

[VIEW INFOGRAPHIC](#)

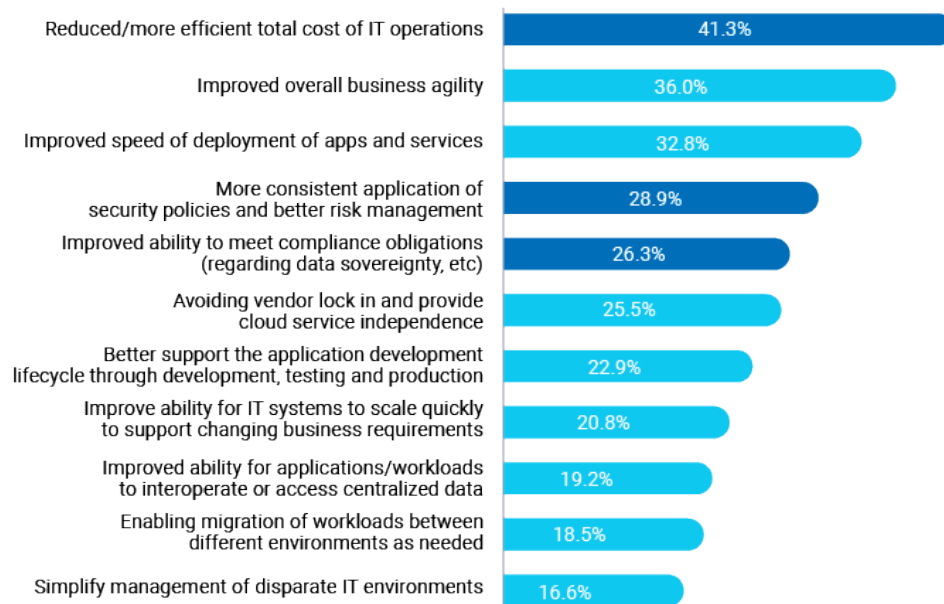
A woman with long dark hair, wearing a dark jacket, stands in a futuristic, illuminated environment. She is positioned in the lower right quadrant of the frame, looking towards the camera. The background features a large, glowing blue ring with a white inner ring, set against a dark, starry background. To the left, there is a large, curved structure with a grid of small lights. The overall scene is lit with blue and white light, creating a high-tech, futuristic atmosphere.

**Performance and  
operational efficiency**

## 1. Drivers for hybrid cloud

The shift to a distributed workforce model means people require access to data and applications in new, different, and often complex ways. To facilitate that and optimize performance, many enterprises have accelerated the adoption of hybrid IT. This enables applications and workloads to be moved into different operating environments to increase performance, reduce cost, and provide efficiency gains. Therefore, it's of no real surprise to see global organizations state reduced or more efficient total cost of IT operations as the biggest driver towards adopting hybrid cloud.

### Cost efficiency is the top driver for hybrid cloud



**Fig. 6 Drivers for hybrid cloud**

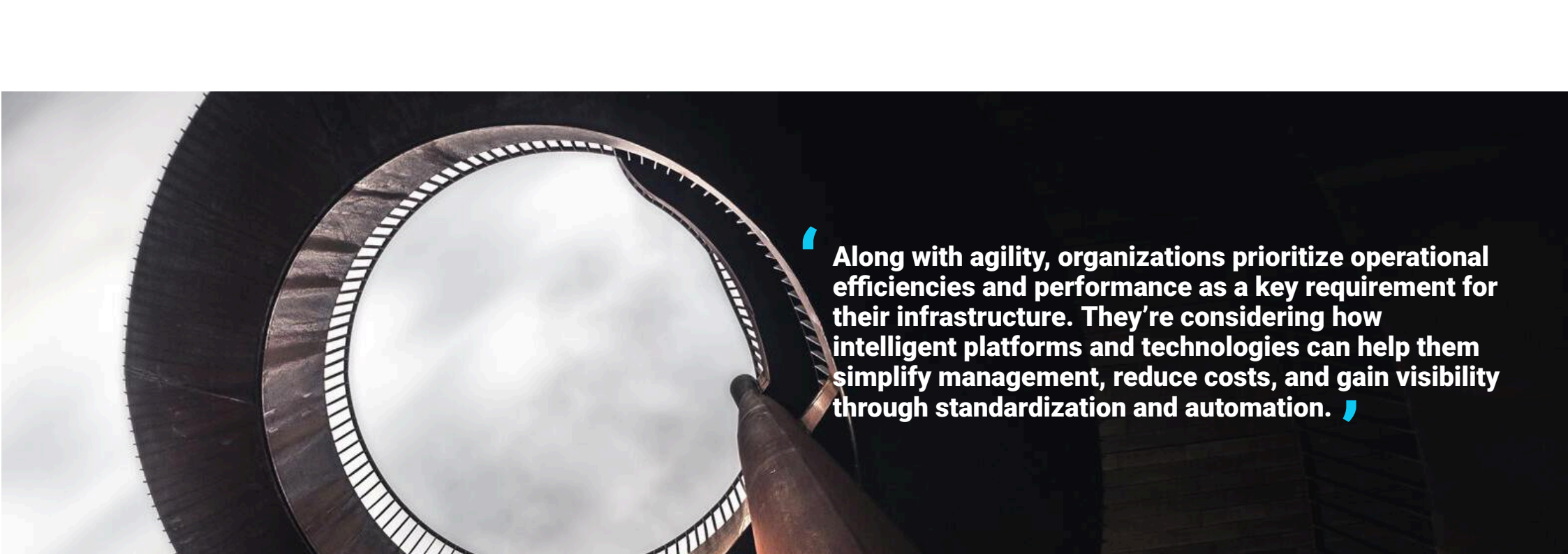
In your opinion, what are the main business drivers for the adoption of hybrid cloud at your company?: n=950

Hybrid cloud offers an efficient operating model because enterprises can take advantage of both automation and elasticity. When organizations experience high levels of demand, they can scale and pay for that demand when it's needed. Similarly, they expect costs to reduce if demand decreases.

Service providers who assist organizations to adopt hybrid cloud have a key role in delivering automation, which helps reduce operational complexity and enables much faster response and delivery outcomes. However, it is less about machines driving the capability, and more about the applications, data, and analytics handled through an intelligent platform that delivers the outcome. The greater the volume of data going into the platform, the more organizations see the value a service provider brings across a range of functions and services.

Service providers who offer intelligent, platform-based services provide not only pin-point focus and speed of execution, but importantly, make life much simpler. The ability to utilize data in the platform, and subsequently analyze and act upon it through analytics, has a drastic impact on the improvement of business processes, therefore making organizations more efficient.





**Along with agility, organizations prioritize operational efficiencies and performance as a key requirement for their infrastructure. They're considering how intelligent platforms and technologies can help them simplify management, reduce costs, and gain visibility through standardization and automation. »**

## **2. Barriers to hybrid cloud adoption**

While performance efficiencies and reduced costs are big motivators in driving hybrid cloud adoption, elements of both can be barriers. Network performance and availability are regarded as sizeable barriers to hybrid cloud adoption, with issues around networks not being properly architected to support a hybrid IT environment impacting organizational performance. An underperforming network will undo the benefits cloud offers, impacting the availability of data and applications and thus, user experiences.

Additionally, the proliferation of network-connected devices and sensors brought about by IoT for example, applies even more pressure to the network, which is now regarded as the platform for much of modern business and significantly enables cloud, new business models, mobility, and modern business communications.

For a hybrid cloud strategy to be fully effective, it's vital the network is well architected to meet the needs of modern-day infrastructure, particularly if it was designed and deployed pre-cloud. Older networks simply won't cope with the new requirements brought about by a cloud operating environment. Modern network architectures make use of software-defined networking technology, network virtualization, and consistent service insertion across on-premises and cloud platforms. It brings the network from the hardware world into the software world, enabling greater automation and provisioning network resources on-demand, similar to the way cloud resources are provisioned.

## Ten greatest barriers to hybrid cloud adoption



Managing data security



Network performance or availability



Organizational silos and outdated work practices



Lack of talent / skilled workers



Managing cost across multiple cloud environments



Migrating legacy IT and business applications



Visibility and management of workloads across cloud environments



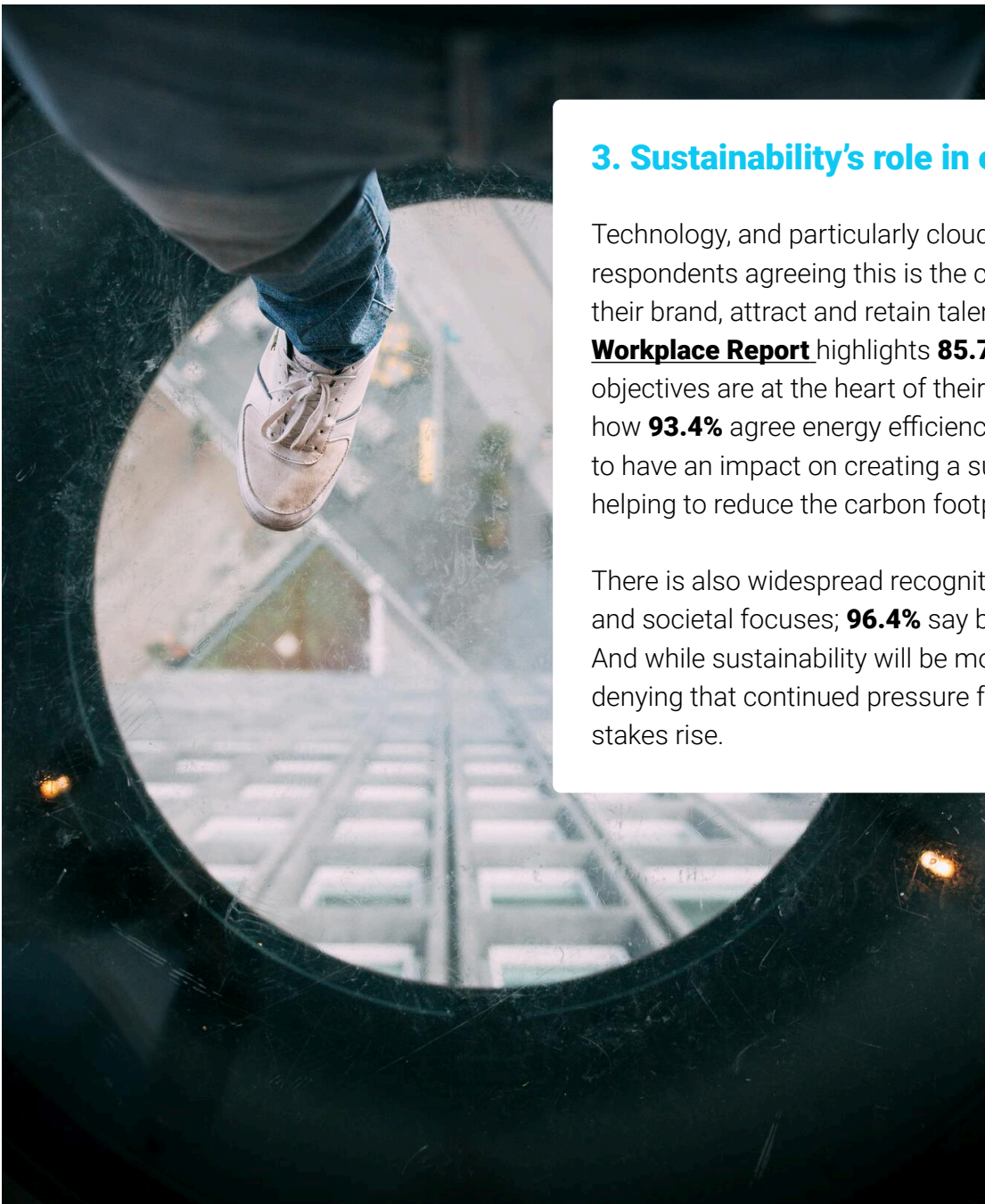
Managing multiple cloud platforms



Imposing and maintaining accountability for SLAs



Getting multiple partners to work together



### 3. Sustainability's role in efficiency and technology strategy

Technology, and particularly cloud plays an important role in supporting a **sustainable future**, with **91.9%** of respondents agreeing this is the case. Indeed it will continue to be at the forefront of how enterprises build their brand, attract and retain talent, differentiate and reduce operational costs. Supporting this, our **Intelligent Workplace Report** highlights **85.7%** of organizations agree that environment, social and governance (ESG) objectives are at the heart of their agenda. Furthermore when it comes to cloud, this report goes on to detail how **93.4%** agree energy efficiency is important in cloud purchasing decisions. Additionally, cloud will continue to have an impact on creating a sustainable business environment, with cloud-based business applications helping to reduce the carbon footprint of organizations.

There is also widespread recognition of the need for a focus on sustainability, both in terms of environmental and societal focuses; **96.4%** say building sustainable cities is important to supporting employees and society. And while sustainability will be more prominent on the business agenda in some regions than others, there's no denying that continued pressure from both customers, shareholders and partners will continue to see its stakes rise.

**91.9%**

**Agree (56.9% strongly) that the cloud has a key role in supporting the sustainable future**

**93.4%**

**agree (52.3% strongly) that energy efficiency is important in cloud purchasing decisions**

**89.6%**

**Agree (57.4% strongly) that future cities need to be sustainable and use resilient technology**

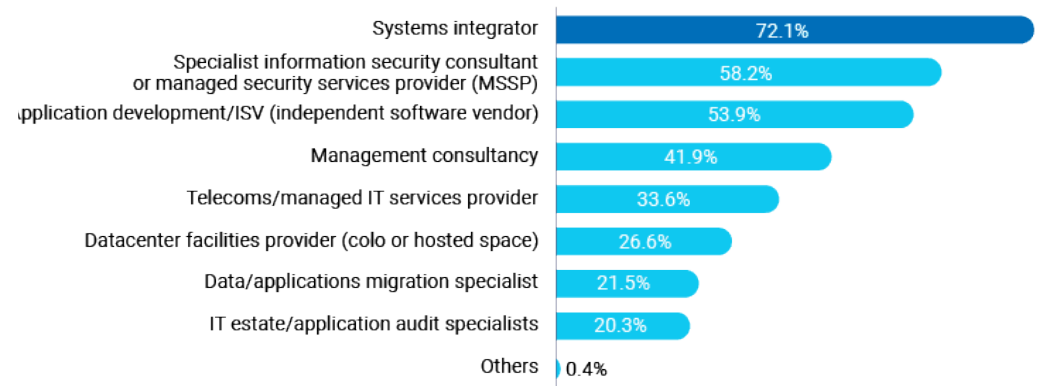
## 4. Partnering for a successful hybrid cloud

Adding to performance worries, many IT leaders are being asked to deliver higher quality services with reduced resources, while coming in on budget. Not an easy task when the recent dramatic macro-economic changes are considered, as well as trying to comprehend and deliver new strategies to expedite digital transformation.

A significant shortage of skills and the complexities of implementing a hybrid cloud environment, not to mention the significant time, cost, and resource required, can make it more efficient to engage with a partner to help design, build and manage a hybrid strategy. Using a partner means tapping into external, expert resources to bolster or complement existing skill sets. It helps improve the predictability of IT spend and makes budget planning easier.

The virtues of using a partner are clear when data repatriation is concerned. Our research study uncovered that **45.1%** of organizations intend to repatriate data back to its country of origin, to save costs, minimize vendor lock-in, or because of political considerations, laws, or regulations. This can be a complex process, and for which the skills of a partner can prove invaluable. When it comes to the types of partners used, **72.1%** engage with systems integrators, while **58.2%** engage with specialist information security consultants or MSSPs, highlighting the importance of security to cloud deployments.

### Systems integrators are the most common partner for hybrid cloud



**Fig. 7 Types of partner used in relation to hybrid cloud strategy or execution**

Which of the following types of partner does your company engage with in relation to hybrid cloud strategy or execution?: n=950

Enterprises turn to partners due to the extreme depth of capabilities and the full stack of solutions on offer, particularly system integrators. Highlighting the importance of the priorities of the current day, **70.0%** of organizations look for risk and compliance services to support their hybrid cloud plans, while business continuity/disaster recovery (**64.6%**) is the second most common capability sought – in line with wider business objectives and a common perspective across almost every industry vertical.



Organizations require extreme depth of capabilities and a full stack of solutions from their partner

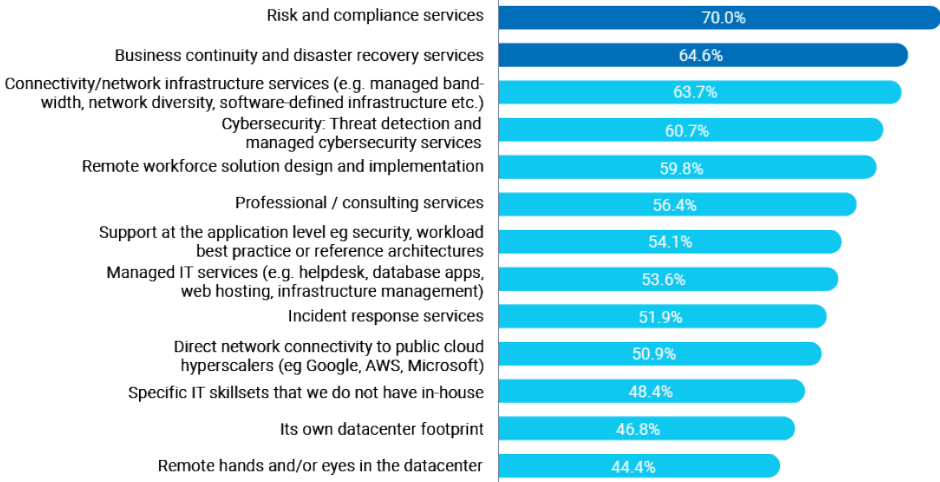
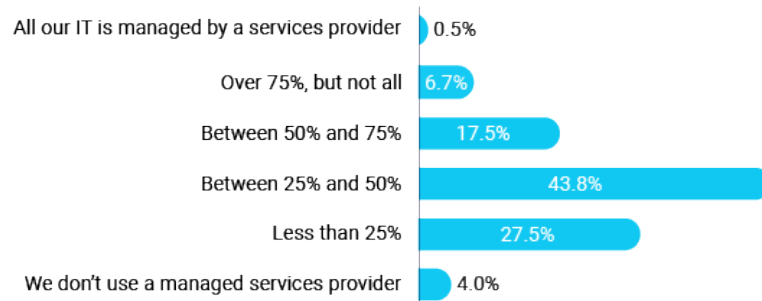


Fig. 8 Capabilities sought in hybrid cloud partner

Which capabilities do you look for in a partner to support your hybrid cloud plans?: n=950

The trend of increasing reliance on partners is set to continue and grow, falling into line with recent findings from our **2020 Global Managed Services Report**. Gradually, organizations will seek to outsource more and more of their IT infrastructure to partners. Currently, nearly one quarter (**24.7%**) of organizations outsource more than half of their IT to a service provider, while **43.8%** of organizations outsource between a quarter and a half of their IT – the most common scenario. Just **4.0%** are not using a managed service provider (MSP) in any form.

## Service providers manage an increasing proportion of enterprise IT



**Fig.9 Percentage of IT currently managed by a service provider**

How much of your IT is currently managed by a service provider?: n=950

As enterprises manage the challenges faced by the pandemic and transform, the future looks strong for managed service providers (MSPs) across several core technology capabilities. Yet they cannot be complacent. MSPs also need to consider the dynamics of their relationship with their clients and how they can continue to add value, across not only the IT function but in lines of business and as part of organizational strategy too.

For example, MSPs who deliver smart sourcing, that is having relevant skills and deep expertise, as well as being business outcome-focused, will continue to gain the confidence of organizations; helping them to navigate their way through uncertain times. In addition, being able to deliver services across multiple IT domains; cloud, data center, networking, security, will enable them to be more relevant to organizations.



### Case Study

**Noatum Maritime** is a leading maritime, logistics, and port services company with **2,700 professionals across 103 companies in 28 countries**. Technology is critical to the smooth operation of the business and when COVID-19 forced international lockdowns, they required a quick working solution to provide remote access to around **700 additional users**. They urgently needed to expand their **Virtual Desktop Infrastructure platform**. In less than two weeks we, as their managed services provider, had to triple the compute capacity on the platform, as well as optimize the entire environment to ensure a seamless user experience. NTT Ltd. were awarded the contract to migrate and transform their core IT services under a single management contract two years ago. The initial migration was extremely successful, and the strong partnership with our intimate knowledge of their IT environment ensured that we were able to promptly address their needs when the pressure was on.

**Uncover more performance and operational efficiency insights and how we can help you drive continuous improvement.**

[VIEW INFOGRAPHIC](#)



# Recommendations



### **Modernize your applications**

Transform your applications by using best-practice methodologies to support your cloud-native development and modernization, realizing the full potential of your data. No matter where you are on your transformation journey, begin with a consultative-led approach to evaluate your current 'as-is' operating state and then identify your target 'to-be' state.



### **Optimize cloud networking**

Optimize networking in, to, and across hybrid cloud environments to support your application performance, IoT, data, mobile workforce, and global expansion plans. This will provide your people with the best possible user experience, irrespective of where they're connecting from.



### **Transform WAN and connectivity for greater agility**

Organizations should focus on network services that deliver predictable and acceptable application performance no matter where the application resides, or where users connect from, in a cost-effective and secure manner.





### **Optimize next-gen infrastructure operations for cloud success**

Infrastructure is a critical consideration in your cloud journey, ensuring applications and data located on-premises and in colocation facilities perform well as part of an end-to-end hybrid approach. Utilizing next-generation data centers, for example, gives your users the best possible experience through increased performance of applications. You can also take advantage of the continuous innovation of a fully managed and optimized cloud environment.



### **Establish security as an enabler**

View security as a transformation enabler to better improve application experiences for both your customers and employees. Security is a critical element of hybrid cloud strategy, and poorly designed, insecure applications will impact experience, brand reputation, and revenue. Security has to be built into digital programs from the very start.



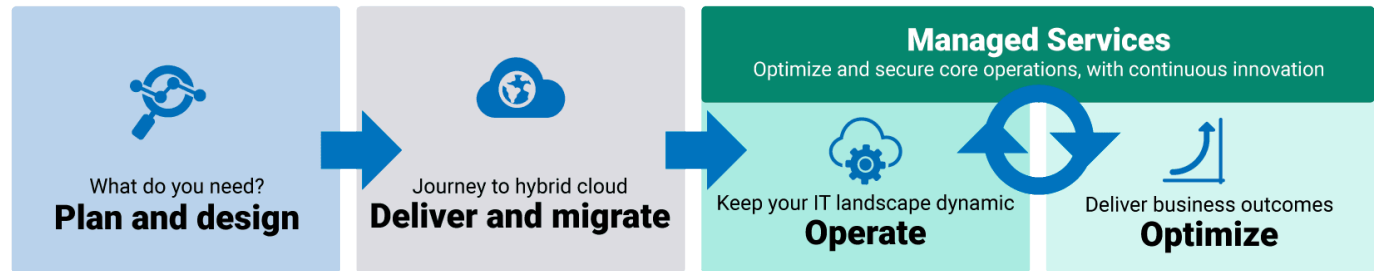
### **Partner for private cloud and platform requirements**

Secure mission critical applications using cloud and data center infrastructure from NTT and partners, offering extensive knowledge and scale. Taking a platform approach enables discovery, configuration, integration, and management of services across multiple enterprise applications and technology partners, providing you with optimized service outcomes, and delivery of your business goals.

# Next steps



**Organizations need greater clarity around their transformation approach and ability to adapt to both expected and unexpected changes. Being prepared is about understanding what the steps in the journey are, and what they need to get right.**



### **Plan and design**

First and foremost, our consultative approach identifies the technical and business requirements and outcomes. The discovery of 'as is' workloads and technical architectures outlines the current state before a 'to be' roadmap is presented, laying out the best venues for workloads, and a migration plan on how to move on that transformation journey.

### **Deliver and migrate**

A detailed migration plan outlines the specific governance model and appropriate architecture for hybrid cloud, coupled with a blueprint that helps accelerate you to the cloud of your choice.

### **Managed Services**

Our blueprints provide best practice based on experience when it comes to providing managed services, showcasing innovation in service and commercial constructs. Our managed services for hybrid cloud provides a fully managed offering of your environment, where over time we provide continuous service improvement and optimization.

### **Let our experts help you on your journey**

[CLICK HERE —](#)

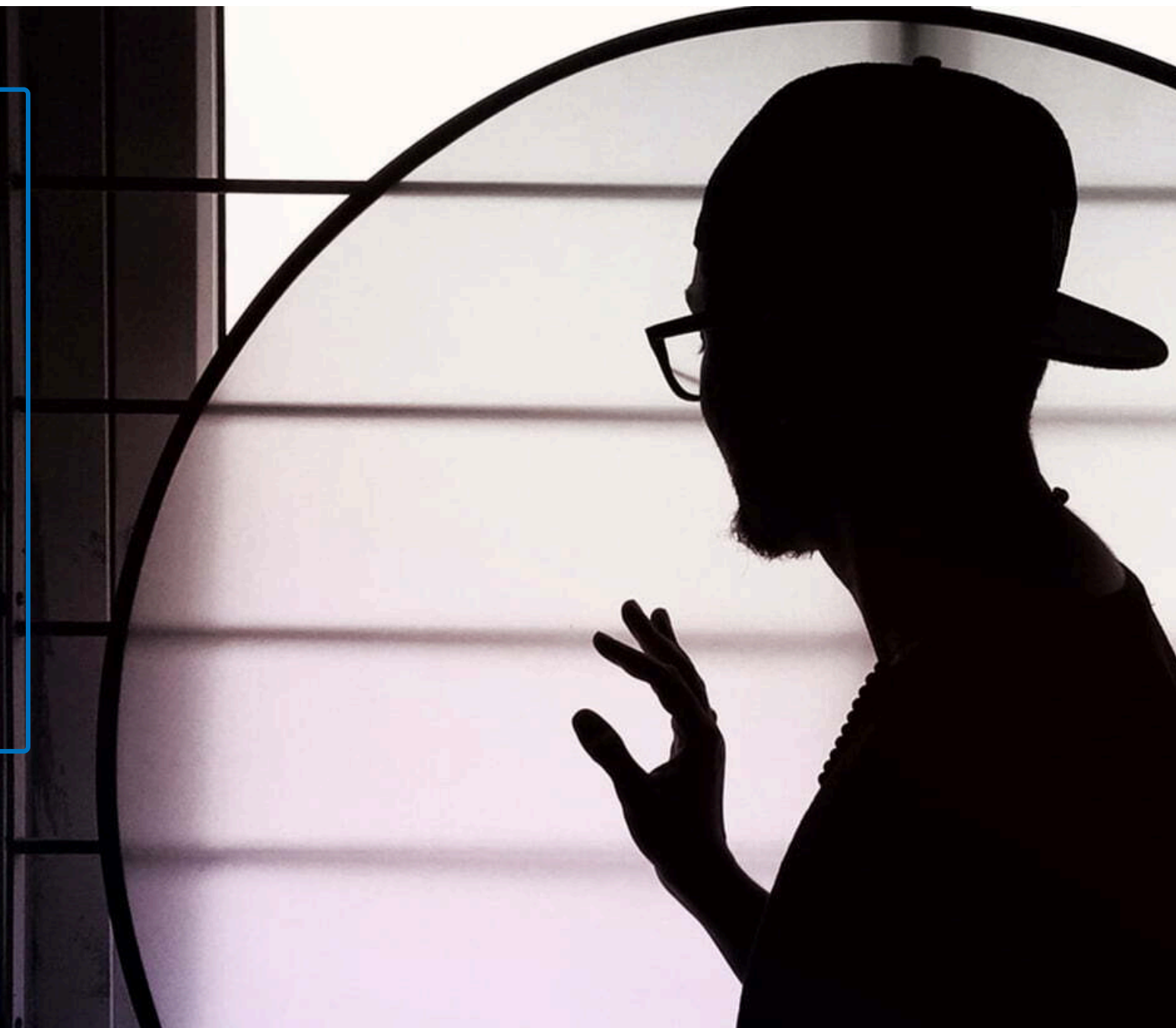
An aerial photograph of a roundabout with a central island. The island is a circular concrete structure with a dark ring around its perimeter. The surrounding roads are paved and have white lane markings and arrows. There are several cars parked in a lot on the left side of the image. The central island has some vegetation and a few small structures. The overall scene is a well-maintained urban intersection.


**Assess your cloud maturity**

# How mature is your hybrid cloud strategy?

To measure your progress in evolving your hybrid cloud strategy against those of your peers, we have created a short assessment tool to benchmark your progress against other organizations. The results are based on our detailed global research – and provide a range of best practice recommendations to keep you moving forward.

[TAKE OUR SHORT ASSESSMENT NOW](#)



A person is seen from the side, looking at a large, circular structure composed of many concentric rings of glowing neon tubes. The rings are illuminated with a gradient of colors, from blue on the outside to green and yellow towards the center. The background is dark with some faint light trails.

# Research methodology

# The research in numbers



## Conducted by 451 Research

**950 interviews undertaken across 13 countries in 5 regions**

### Respondent role

C-suite: 9.3%  
Reporting to the Board:  
33.2%  
Manager: 57.6%

### Functional area

IT: 72.5%  
Other business roles: 27.5%

### Organization size

1,000-2,000: 19.5%  
2,001-5,000: 19.8%  
5,001-10,000: 19.6%  
10,001-50,000: 24.1%  
50,001+: 17.1%

from across 14 sectors, including



Retail and wholesale



Manufacturing



Financial services



Education



Healthcare and  
pharmaceutical



**About NTT Ltd.**



An aerial photograph of a circular track with a central fountain and trees. The track is composed of multiple concentric lanes, and the central area features a fountain and some greenery. The image is used as a background for the text.

**NTT Ltd. is a leading global technology services company. Working with organizations around the world, we achieve business outcomes through intelligent technology solutions.**

For us, intelligent means data-driven, connected, digital, and secure. Our global assets and integrated ICT stack capabilities provide unique offerings in cloud-enabling networking, hybrid cloud, data centers, digital transformation, client experience, workplace, and cybersecurity. As a global ICT provider, we employ more than **40,000 people** in a diverse and dynamic workplace that spans **57 countries**, trading in **73 countries**, and delivering services in over **200 countries** and regions.

**Together we enable the connected future.**

Thank you for reading

# 2021 Hybrid Cloud Report

