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State of the Hybrid Cloud 2017

Understanding Hybrid Cloud in 2017

Over the past several years, hybrid cloud has been a consistent topic of interest in our discussions with enterprise customers. The notion of hybrid cloud has been around in the industry for a while now. But we've long had the sense that people think about and approach hybrid cloud in different ways. Despite this, organizations have moved ahead with hybrid cloud strategies, looking to achieve the benefits of cloud computing while also continuing to get value from their existing on-premises resources.

With the explosive growth of cloud, particularly at commercial companies, we felt it was time for a definitive study on hybrid cloud. We found no research available to help us more deeply understand the topic. What follows is the result of a survey conducted from December 2016 through January 2017 by Kantar TNS. We surveyed midsized to large organizations, that have either deployed Hybrid Cloud solutions or were planning to do so within 12 months, to determine their understanding and usage of hybrid cloud. We wanted to get at the drivers, benefits, challenges, and solutions in the hybrid cloud space. This report outlines the data obtained and provides a detailed look into the state of the hybrid cloud.

Key takeaways from the survey

- **Digital transformation and business growth drives the need for hybrid cloud.**
- **Hybrid cloud usage is generally high and varies widely by industry, country, and age of the organization. More established organizations are very likely to be using hybrid cloud.**
- **The top benefit of hybrid cloud is flexibility, offering the opportunity to achieve cloud benefits while still maintaining existing resources. The benefits outweigh the challenges.**
- **The top challenges with hybrid cloud are complexity and lack of skill sets. Organizations that have deployed hybrid cloud put more value on consistency across cloud and on-premises environments.**

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Overview of respondents

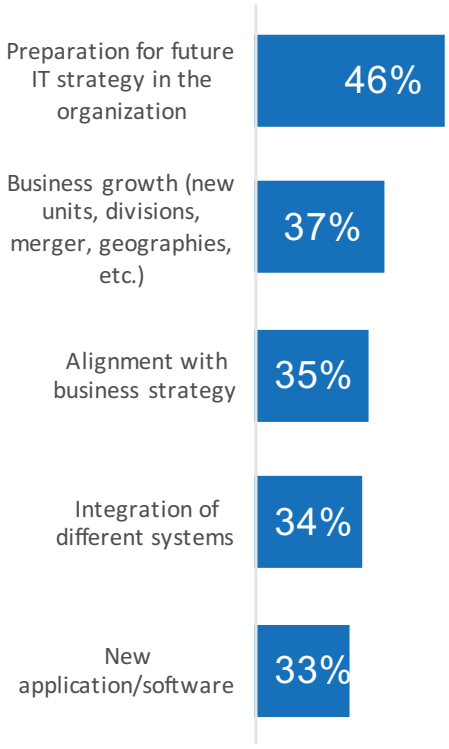
The survey was conducted in four countries (U.S., Germany, U.K., and India) with a total of 1,175 participants. Most respondents were in IT, although there is a good representation from the business side as well. Most respondents were decision-makers in some aspect of their role. The organizations where the respondents worked spanned many industries and company sizes.

More detailed organization and demographic information is available in the Appendix.

Digital transformation and business growth drives the need for hybrid cloud

Enterprises must innovate to remain competitive and ahead of the game. Digital transformation is top of mind for executives, and one cause for the growth of cloud computing is the need for enterprises to innovate faster. IT is at the heart of how companies use technology, and IT staff are looking for ways to evolve their strategy to support this pace of innovation while still providing the stability and protection their companies need.

Q: What were the primary reasons behind your organization's last Hybrid Cloud solution deployment?



So it's no surprise that the top triggers for hybrid cloud projects relate to business growth and the continued evolution of overall IT strategy. IT and business leaders alike view hybrid cloud as part of their business strategy—and it seems to be working, with 92 percent of those who have deployed a hybrid cloud solution indicated they would do it again.

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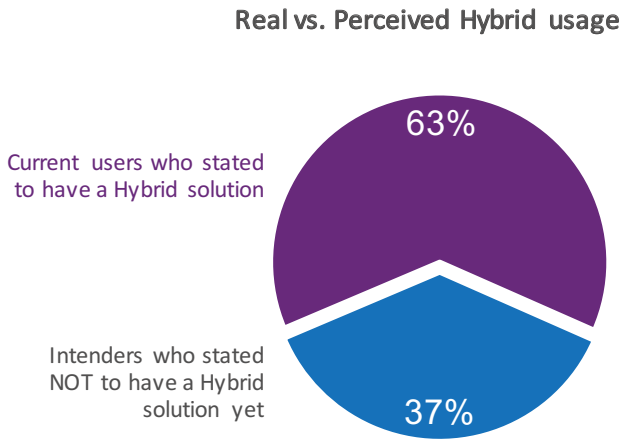
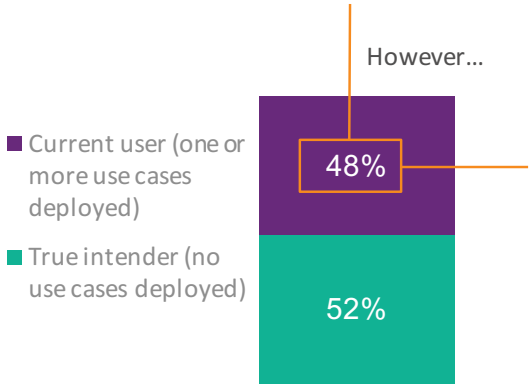
There is a common understanding of hybrid cloud, but challenges identifying it in practice

Generally, respondents all had very similar definitions of hybrid cloud. Nearly everyone chose to define it as some form of integration of cloud and on-premises environments. First we asked whether they were yet using hybrid cloud, and then later in the survey asked them to select solutions from a list that they had deployed in the past year, with 63 percent saying they currently have at least one hybrid solution. What we found surprising was the large number of cases where a respondent said they were not using a hybrid solution, but then selected a hybrid option from the list of deployed solutions. It seems that while the conceptual definition of hybrid cloud is not challenging for people, identifying hybrid cloud in practice is more difficult.

Q: Which of the following deployment methods is your organization using or planning to use for its technology solutions/applications?



For each of the following Hybrid Cloud use cases, please indicate where your organization is in the deployment process.



… almost half of those Intenders are **actually deploying a Hybrid** Use Case.

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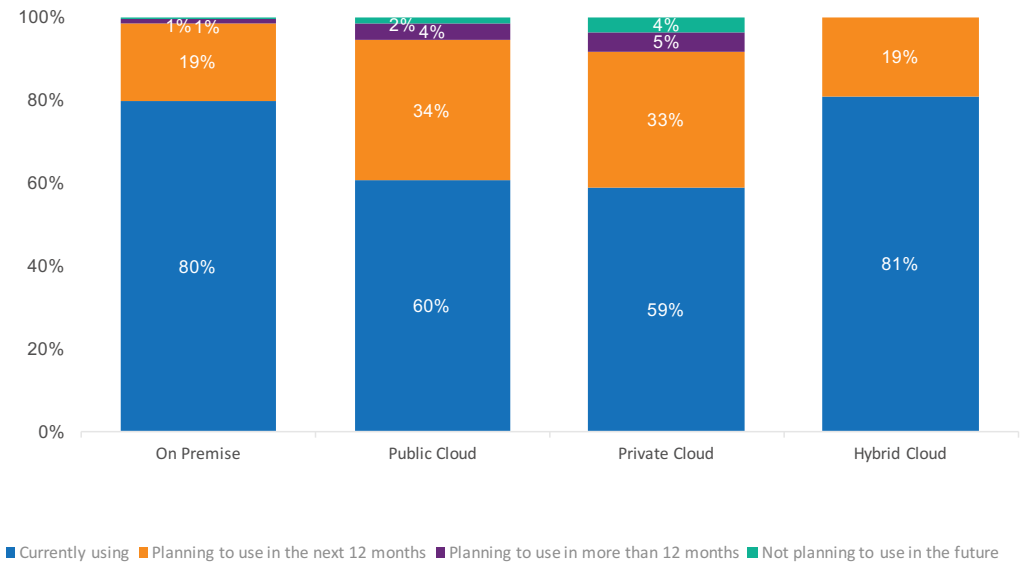
Once engaged, hybrid cloud is the most popular deployment method

We presented different cloud and on-premises models and asked which of them would be used going forward. The most selected model was hybrid cloud, with all users either using it now (81 percent) or planning to use it in 12 months (19 percent). On-premises plans were similar, whereas public cloud and private cloud lag. Even as more and more enterprises have moved toward the cloud and even taken cloud-first strategies, often they are not taking a cloud-only strategy. A cloud transition does not happen overnight. Some organizations have indicated that hybrid is, in fact, an end-state for them as it helps them deal with regulatory or privacy challenges.

Q: Which of the following deployment methods is your organization using or planning to use for its technology solutions/applications?



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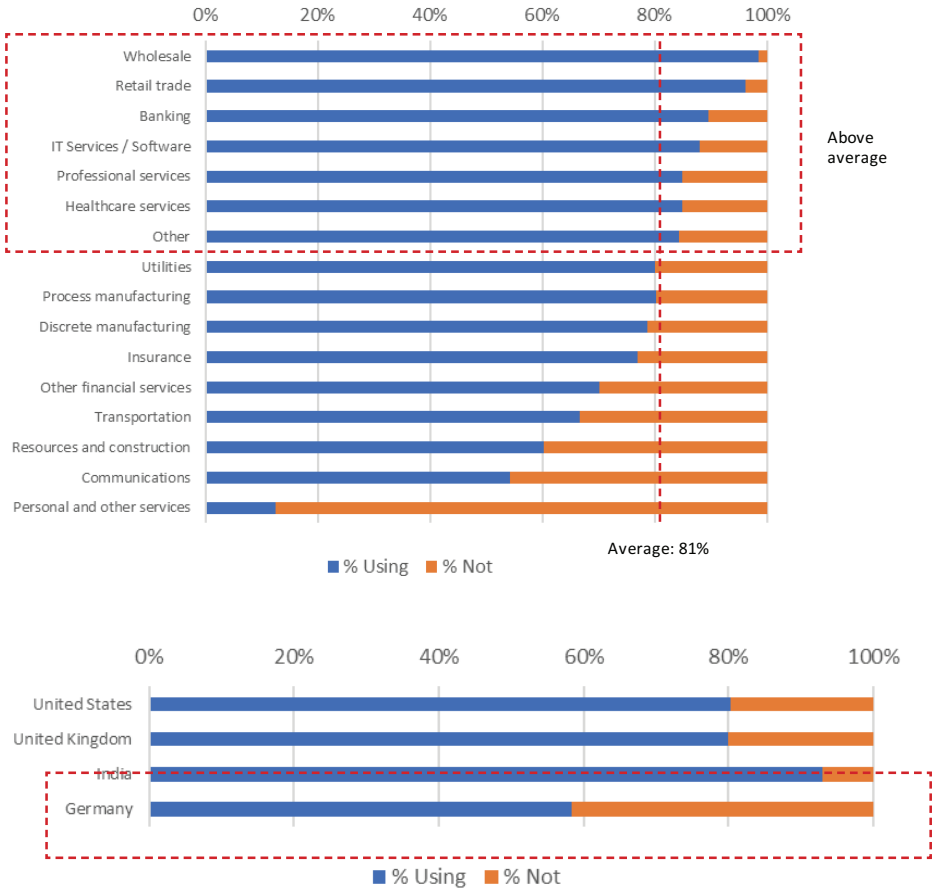
Hybrid cloud usage varies a lot by industry and country

While the adoption of hybrid cloud is generally high, regulated industries like banking and healthcare rank near the top. Hybrid cloud allows such companies to leverage the cloud as much as possible, while still meeting their compliance requirements. Other industries near the top of the list are those like retail that tend to have remote or distributed facilities, which may not have reliable or fast connections to the cloud. Hybrid cloud provides these industries with the flexibility needed to optimize their environments.

Hybrid cloud adoption also varied between countries. Along with lower adoption of the cloud in general due to data sovereignty laws, Germany also lagged far behind in hybrid cloud adoption. India, on the other hand, showed very high adoption, perhaps in part due to Internet latency and the need to keep IT assets close to where they are used.

Q: Is your organization using hybrid cloud solutions?



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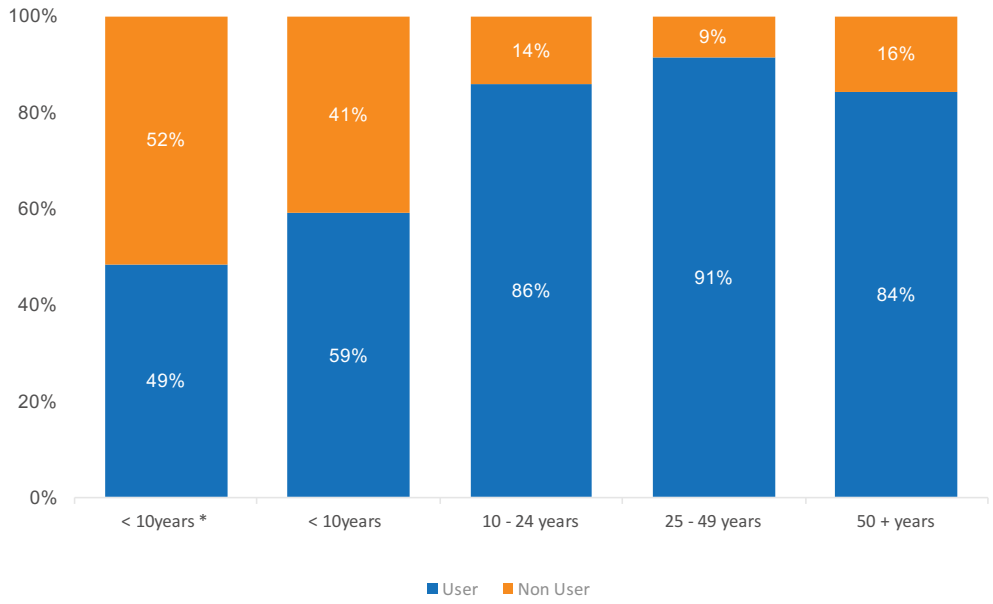
More established organizations are using hybrid cloud

The correlation between the number of years a company has been in business and its hybrid cloud usage is very strong. Organizations over 10 years old have already made significant technology investments, and they are extremely likely to be using hybrid cloud. The number drops quite a bit for companies less than 10 years old, especially when filtering out IT services and software companies, which are generally more likely to use hybrid cloud. With that filter about 50 percent of companies less than 10 years old are using hybrid cloud, versus nearly 90 percent for 10-year-old companies.

Usage of Hybrid Cloud by organization age.



Source: FY17 Hybrid Cloud Note : * indicates Not including IT Services/Software Industry

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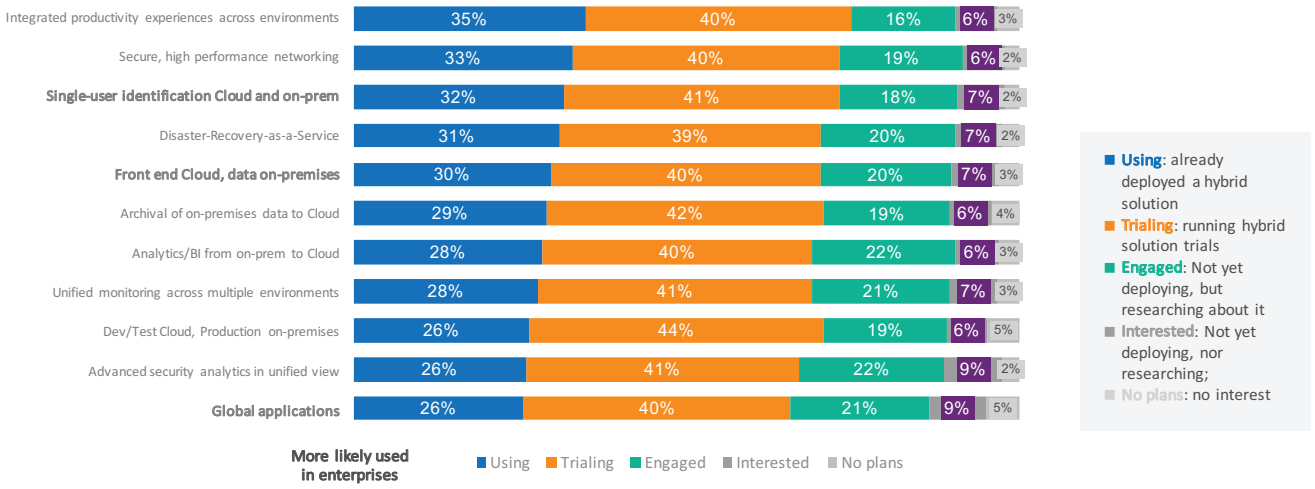
Hybrid cloud solutions are used in many scenarios

Hybrid cloud is happening now, with 48 percent of respondents indicating they were currently undergoing a deployment. In looking at usage by different types of use cases (see the Appendix for the definitions), the distribution is fairly spread out, as you can see from the chart. More interesting are the solutions that stand out more for enterprises, which tend to deal with greater complexity, including dealing with managing identity, data location, and global rollouts.

Q: For each of the following Hybrid Cloud use cases, please indicate where your organization is in the deployment process.



Going a step further and categorizing the use cases into applications, data, infrastructure, and identity, we see other interesting trends. Infrastructure use cases lead overall. But again this varies widely by country—for example, with very high usage of identity use cases in India.

Use case type:	Country				TOTAL
	513	168	169	325	1175
Hybrid Applications n=71	37%	21%	31%	62%	41%
Data n=31	37%	23%	38%	63%	42%
User n=77	46%	24%	40%	70%	48%
Infra-structure n=112	54%	32%	56%	81%	59%

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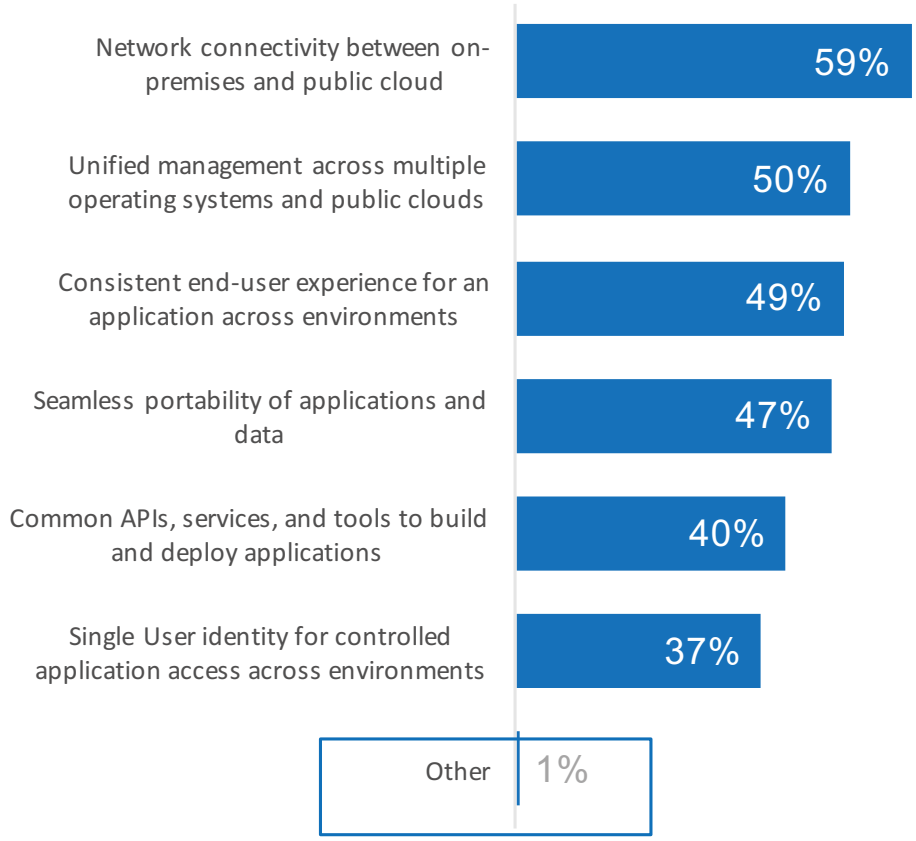
Prioritization of hybrid capabilities changes once users deploy a solution

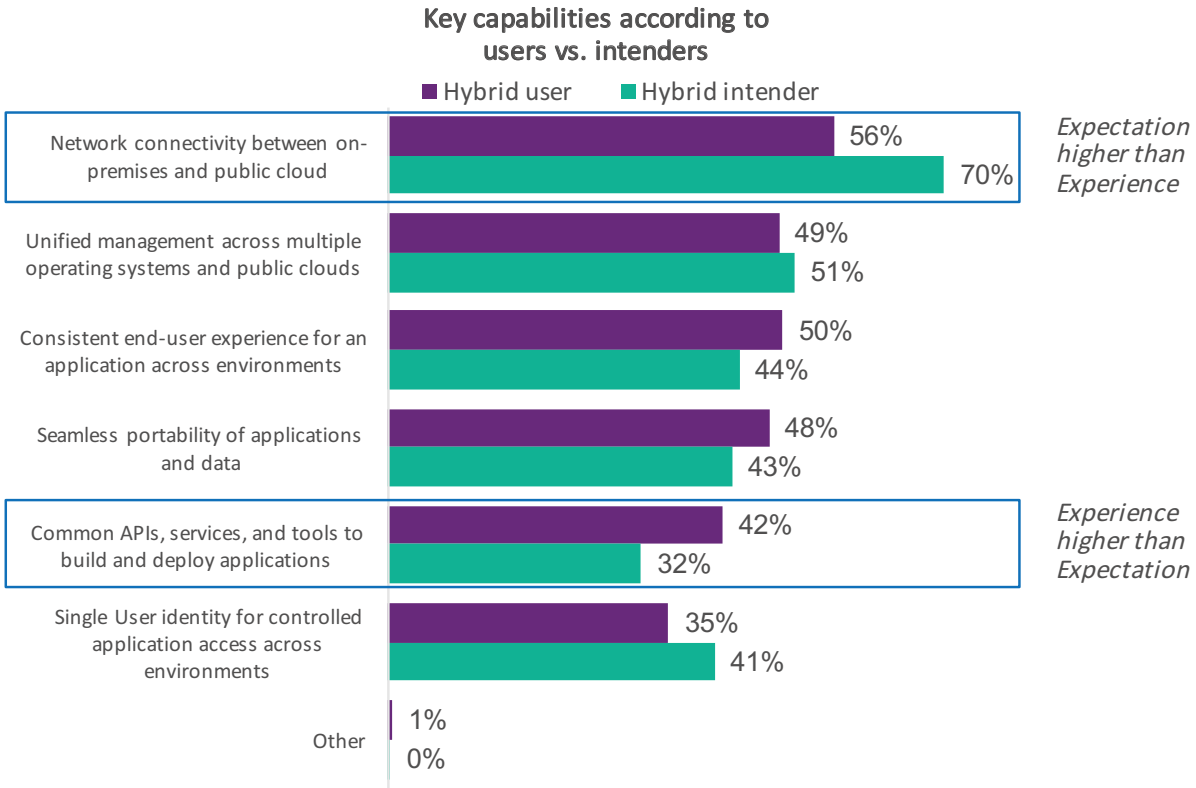
We also asked participants to identify the most important capabilities in a hybrid cloud. The "other" response was very low, indicating this was a good list of the requirements people typically consider. Network connectivity scored the highest, which makes sense given that it's a foundational element for connecting different datacenters.

Q: In your opinion, what are the key capabilities of a Hybrid Cloud solution? Please select up to three most relevant characteristics from the list below.



The differences in the results between those who have deployed and those who have not were interesting. Those who were planning to deploy considered network connectivity as the most important capability, but that number dropped nearly 15 points for those who were already using hybrid cloud. On the other hand, the importance of having a consistent application experience across environments, seamless portability, and common tools to build and deploy applications were higher for those who were currently using. Current users had a more accurate notion of what they needed to fight potential complexity in their hybrid environment, and indeed successful hybrid cloud requires much more than just connectivity.

Q: In your opinion, what are the key capabilities of a Hybrid Cloud solution? Please select up to three most relevant characteristics from the list below.



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Responses also showed a variance in the importance of certain hybrid cloud capabilities by the age of the company as well as by country.

	US	UK	India	Germany
Hybrid Cloud Components				
n	*513*	*169*	*325*	*168*
Network connectivity between on-premises and public cloud	57%	56%	58%	70%
Seamless portability of applications and data	49%	44%	47%	44%
Common APIs, services, and tools to build and deploy applications	39%	37%	45%	38%
Unified management across multiple operating systems and public clouds	49%	42%	54%	53%
Single User identity for controlled application access across environments	37%	47%	35%	26%
Consistent end-user experience for an application across environments	48%	47%	53%	45%
Other (specify)	1%	2%	0%	0%

	< 10years	10 - 24 years	25 - 49 years	50 + years
Hybrid Cloud Components				
N	*257*	*464*	*247*	*197*
Network connectivity between on-premises and public cloud	68%	59%	56%	51%
Seamless portability of applications and data	43%	49%	43%	51%
Common APIs, services, and tools to build and deploy applications	41%	42%	41%	37%
Unified management across multiple operating systems and public clouds	52%	49%	51%	47%
Single User identity for controlled application access across environments	44%	38%	34%	29%
Consistent end-user experience for an application across environments	43%	50%	48%	54%
Other (specify)	0%	0%	2%	1%

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Flexibility is key as organizations move toward hybrid cloud

Organizations overall say flexibility and portability rank first, followed by scalability and performance, as the top three benefits they are looking for in a hybrid cloud.

Q: Which of the following do you consider the most important benefits of Hybrid Cloud (versus a non-hybrid cloud) environment? Please select up to five responses.

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Benefits is another area where the picture differs between those who are planning to deploy versus those who have deployed. Those already in deployment find flexibility and scalability more important. While planners also felt scalability was important, they responded that IT risk management was an important benefit.

Benefits	Using	Planning
n	*947*	*228*
Faster time-to-market	30%	31%
Better scalability	47%	39%
Increased performance and/or higher availability	43%	43%
More cost-efficient	37%	42%
Better security and/or control	34%	41%
Better governance and compliance	26%	28%
Easier to maintain	30%	33%
More flexibility because of portability/compatibility across environments	47%	40%
Ability to improve analytics and intelligence on my existing data	27%	32%
More opportunity for innovation	31%	34%
Improved IT risk management	33%	43%
Ability to extend or modernize my current applications	31%	39%
Other (specify)	0%	0%
None of the above	1%	1%

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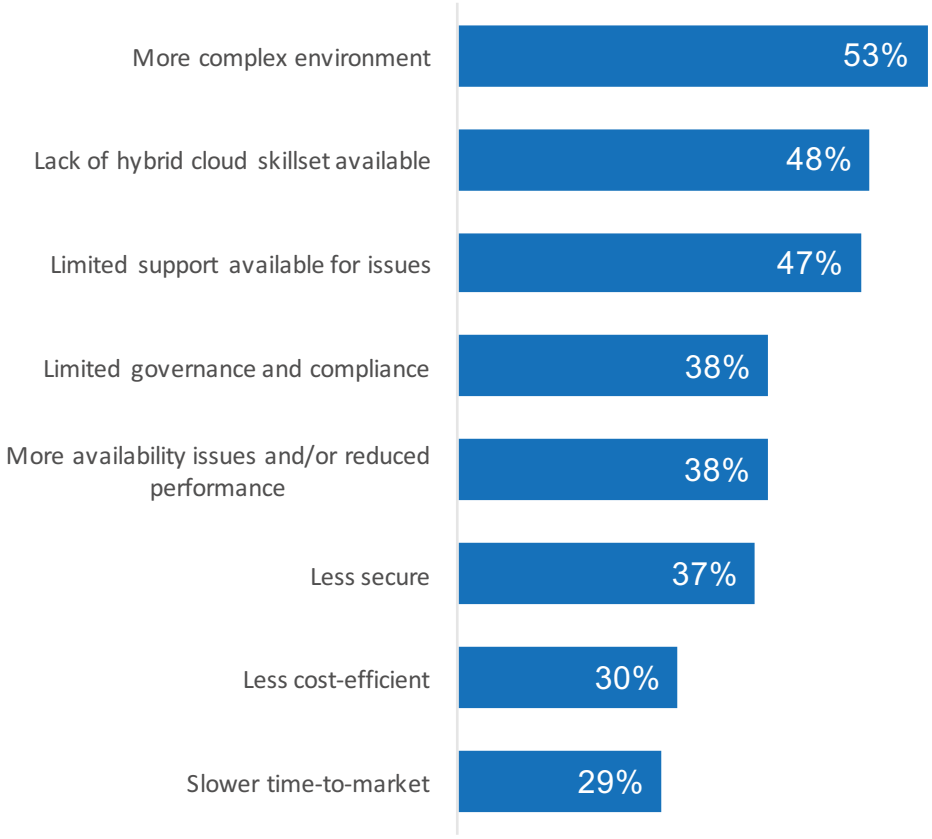
Complexity and lack of skill set are top challenges for hybrid cloud

Hybrid cloud provides many benefits, but organizations also face challenges. Respondents indicated complexity was the biggest challenge they faced, along with a lack of skill sets. This is even more true for financial services and manufacturing firms, as well as for more established organizations.

Q: Which of the following do you consider the most important challenges of Hybrid Cloud (versus a non-hybrid cloud environment)? Please select up to five responses.



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Complexity is potentially multiplied in a hybrid cloud where multiple locations need to be integrated. This can mean multiple systems, which then require multiple skill sets. As noted earlier, more established companies recognize the value of consistency across these environments to help reduce this complexity.

Hybrid Cloud Challenges	< 10years	10 - 24 years	25 - 49 years	50 + years
N	*257*	*464*	*247*	*197*
Limited support available for issues	57 %	48 %	42 %	37 %
Lack of hybrid cloud skillset available	56 %	46 %	44 %	47 %
More complex environment	55 %	50 %	49 %	62 %
More availability issues and/or reduced performance	54 %	41 %	30 %	22 %
Limited governance and compliance	49 %	41 %	35 %	24 %
Less cost-efficient	44 %	30 %	27 %	17 %
Less secure	44 %	34 %	35 %	41 %
Slower time-to-market	40 %	32 %	22 %	14 %
None of the above	2%	5%	6%	8%
Other (specify)	0%	0%	1%	2%

Hybrid Cloud Challenges	Using	Planning
n	*947*	*228*
Slower time-to-market	27%	35%
More availability issues and/or reduced performance	35%	54%
Less cost-efficient	27%	43%
Less secure	35%	46%
Limited governance and compliance	34%	56%
More complex environment	52%	57%
Lack of hybrid cloud skillset available	44%	61%
Limited support available for issues	45%	56%
Other (specify)	1%	1%
None of the above	6%	2%

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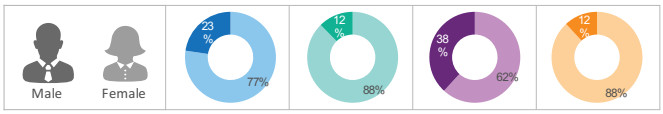
Appendix A: Demographics

Gender



Primary Role

Formal IT	82%	84%	56%	74%
Informal IT	4%	2%	3%	2%
Developer	1%	1%	2%	1%
Business DM	13%	13%	39%	24%

Age

18 to 24	1%	3%	3%	2%
25 to 34	34%	30%	52%	41%
35 to 44	33%	36%	38%	26%
45 to 54	20%	22%	4%	21%
55 to 64	9%	8%	2%	10%
65 or older	2%	0%	0%	0%
N=	*508*	*165*	*325*	*167*

User Access Decision Making

I make decisions	96%	96%	99%	98%
I rarely influence	4%	4%	0%	3%

Infrastructure Decision Making

I make decisions	97%	93%	99%	99%
I rarely influence	3%	6%	1%	1%

Application Decision Making

I make decisions	97%	99%	99%	98%
I rarely influence	3%	1%	0%	2%

US	UK	India	Germany
n=513	*n=169*	*n=325*	*n=168*

Industry	US	UK	India	Germany
n	*513*	*169*	*325*	*168*
Process manufacturing	14%	11%	11%	14%
Discrete manufacturing	13%	11%	9%	16%
Professional services	9%	12%	7%	5%
Resources and construction	8%	2%	2%	7%
Transportation	7%	8%	1%	10%
Banking	6%	14%	7%	5%
Healthcare services	6%	2%	2%	7%
Retail trade	6%	5%	12%	2%
IT Services / Software	6%	7%	20%	2%
Communications	5%	6%	1%	5%
Other financial services	4%	5%	3%	4%
Wholesale	4%	2%	14%	2%
Utilities	3%	3%	2%	4%
Insurance	2%	3%	6%	8%
Personal and other services	1%	1%	0%	1%
Other	5%	9%	4%	6%

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Appendix A: Demographics

	US	UK	India	Germany
Organization Size (In-Country PCs)				
n	*513*	*169*	*325*	*168*
250 to 499 PCs	25%	18%	16%	
500 to 999 PCs	32%	46%	35%	
1000 to 2999 PCs	18%	18%	36%	
3000 to 4999 PCs	7%	5%	4%	
Or 5000 or more PCs	18%	12%	9%	
Organization Age				
n	*508*	*166*	*323*	*168*
Less than 2 years	0%	0%	0%	
2 to 5 years	2%	3%	4%	
6 to 9 years	13%	23%	24%	
10 to 24 years	40%	33%	53%	
25 to 49 years	24%	23%	17%	
50 or more years	22%	17%	2%	

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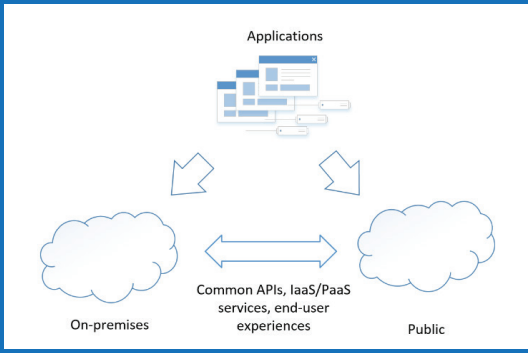
These are the definitions and pictures shared with respondents to identify use cases.

Appendix B: Use Case Definitions

Hybrid Applications

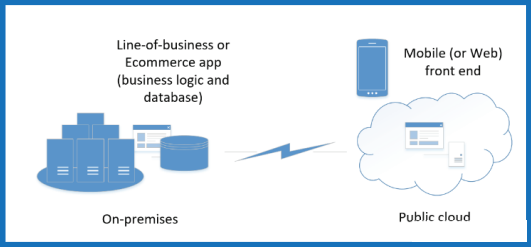
Global applications – deploying the same app to multiple locations worldwide

Enable your developers to build applications in a common way and deploy them to the right locations, based on business and technical requirements. Increase application development agility and consistency by reusing application templates and components



Application front end in public cloud with sensitive data on-premises

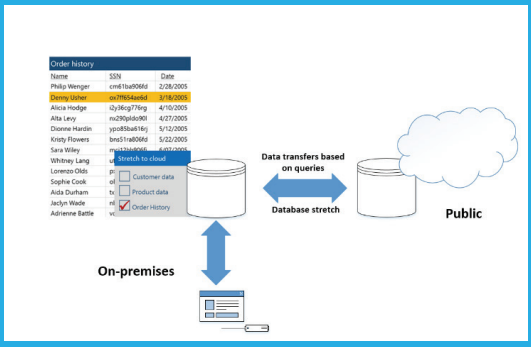
Extend your existing applications by combining on-premises application data with on-demand public cloud resources. Provide scalable web and mobile experiences during times of high application use.



Data

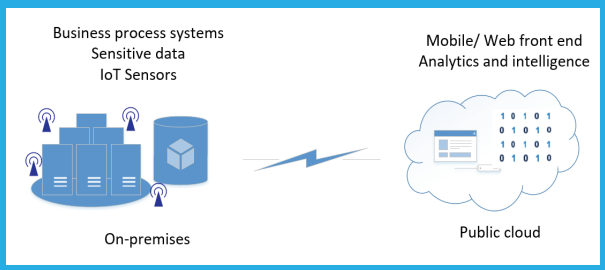
Archival of on-premises application data in public cloud

Integrate lower cost, bottomless cloud storage to your existing application by storing cold application data in public cloud. No application code changes are needed. Your application data is securely encrypted and remains online for queries.



Using analytics or business intelligence in the cloud to process data from on-premises applications and/or smart devices

Improve your business processes by transforming customer and/or operational data (e.g.; from applications and smart devices) into actionable insights using the scale and intelligence of public cloud.



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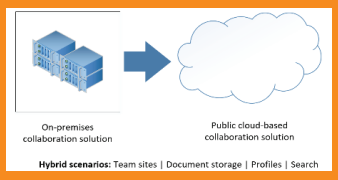
Appendix B: Use Case Definitions

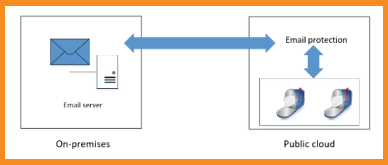
User

Integrated email/ collaboration experiences across on-premises and public cloud

a) Combine a public cloud collaboration solution with on-premises collaboration for connected experiences, including team sites, document storage, and search.

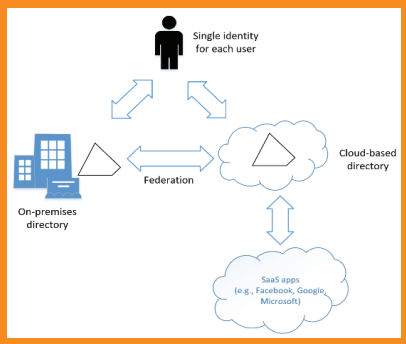


a) Combine a public cloud email solution with on-premises mail servers while having all users sharing the same email address space. Leverage your existing mail server infrastructure till you feel ready to move email fully to public cloud.



Controlled application access with a single user identity across on-premises and public clouds

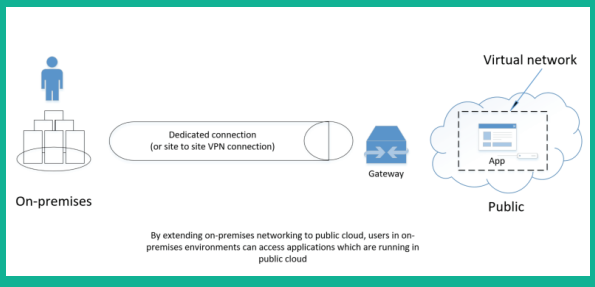
Maintain control over employees' access to applications with a single user identity across on-premises and cloud environments. Enhance end user productivity by enabling single sign on (SSO) access to 1000s of SaaS apps.



Infrastructure

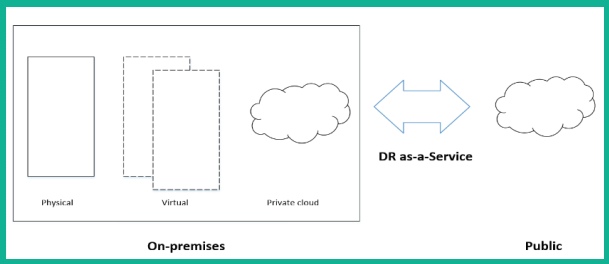
Secure, high performance networking between on-premises and public cloud

Seamlessly integrate your on-premises applications with public cloud resources through virtual networking. Extend your datacenter securely with flexible connectivity options, including VPN or dedicated high-speed links.



Disaster-Recovery-as-a-Service (DR as-a-Service)

Ensure availability of critical applications and data with automated, workload-aware Disaster Recovery (DR) plans. Protect and replicate complex workloads, including SAP and SQL. Achieve near-synchronous replication between on-premises to cloud or cloud to cloud.



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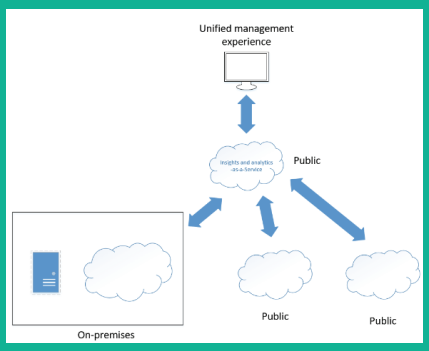
Appendix B: Use Case Definitions

Infrastructure

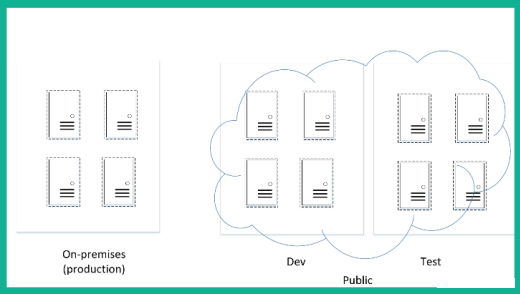
Unified monitoring across multiple public clouds and on-premises environments

Gain actionable insights and analytics across your applications and workloads across on-premises and multiple public clouds, all in a single management experience.



Dev/Test in public cloud with on-premises production deployment

Accelerate application development with dev/ test infrastructure in the public cloud. Enable self-service so your developers can start building in minutes. Turn off the resources when you don't need them to save costs. Mirror your on-premises production environment in public cloud for consistency.



Infrastructure

Advanced security analytics across entire environment in a unified view

Prevent, detect, and respond to threats across your hybrid cloud. Understand the security posture of your entire environment in a single view, be it antimalware, patching or configuration baselines. Use cloud-scale analytics to perform more intelligent and effective threat detection.