

solarwinds 

# IT TRENDS REPORT

Portrait of a Hybrid IT Organization



North America, Public Sector | 2017

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# Introduction

Cloud computing's mounting importance and the shift to hybrid IT—migrating some infrastructure services to the cloud, while continuing to maintain some critical services onsite—are evolving norms.

The cloud and hybrid IT are a reality for the majority of organizations today, unlike just a few years ago when they were limited to early adopters. Today, we are in a new era of work—one that is more global, interconnected, and flexible than ever—and organizations of all sizes are implementing cloud computing to better meet the demands of a modernized workforce. At the same time, the benefits of the cloud and hybrid IT introduce greater complexity and technology abstraction, and IT professionals are tasked with devising new and creative methods to monitor and manage this infrastructure in order to deliver the Quality of Service (QoS) end-users expect. All of this means hybrid IT can look drastically different from one organization to another; however, there are overarching trends worth exploring that paint a portrait of a modern hybrid IT organization.

This report explores the variety of ways in which hybrid IT is being integrated and delivered in public sector organizations in North America, including benefits realized, key considerations of migration and ongoing migration challenges, and the opportunity created by a new ecosystem where successful IT professionals are required to manage infrastructure from their premises to the cloud.

The findings are based on a survey fielded in December 2016 by C White Consulting on behalf of SolarWinds among IT practitioners, managers, and directors at public sector small, mid-size, and enterprise companies in North America whose organizations are leveraging cloud-based services for at least some IT infrastructure. All regions studied in 2017, as reported on the [SolarWinds IT Trends Index](#), were North America, Australia, Brazil, Germany, Hong Kong, Singapore, and the United Kingdom, with 868 respondents across all geographies combined.

# Key Findings

Today's hybrid IT organizations are:

## MOVING APPLICATIONS, STORAGE, AND DATABASES FURTHER INTO THE CLOUD.

- IT professionals surveyed reported that in the past 12 months, their organizations have migrated applications (73%), storage (51%), and databases (29%) to the cloud more than any other area of IT.
- By weighted rank, the top three reasons for prioritizing these areas of their IT environments for migration were greatest potential for return on investment (ROI)/cost efficiency, availability, and increased reliability, respectively.
  - This aligns with the results of analyst firm Gartner's [recent cloud adoption survey](#), in which it reported organizations are saving 14% of their budgets as an outcome of public cloud adoption.

## EXPERIENCING THE COST EFFICIENCIES OF THE CLOUD.

- 96% of survey respondents said their organizations have migrated critical applications and IT infrastructure to the cloud over the past year, yet three-fourths (75%) spend less than 40% of their annual IT budgets on cloud technology.
- Nearly three in five (58%) report their organizations have received either most or all expected benefits (such as cost efficiency, availability, or scalability) from cloud technologies.
- Two-fifths (40%) said their organizations spend 70% or more of their annual IT budgets on on-premises (traditional) applications and infrastructure.
  - In 2015, analyst firm IDC [predicted](#) that by 2018, at least half of all IT spending would be cloud-based, reaching nearly 60% of all IT infrastructure. The findings of the IT Trends Report 2017 potentially highlight a small lag in the cloud-based spending increase expected.
- However, survey results also demonstrate that cost efficiency is at times not enough to justify migration to the cloud: 29% have migrated applications and infrastructure to the cloud that were ultimately brought back on-premises:
  - The top two areas migrated and eventually brought back on-premises are applications (19%) and databases (11%).
  - The top reason given for bringing applications and infrastructure back on-premises

was security and compliance (45%), followed by poor performance (14%) and technical challenges with actual migration (14%).

### **BUILDING AND EXPANDING CLOUD ROLES AND SKILLSETS FOR IT PROFESSIONALS.**

- Over three-fifths (62%) of IT professionals surveyed indicated that the existence of the cloud and hybrid IT have had at least somewhat of an impact on their careers (requiring them to acquire new skills, but not altering their career path), while 11% say the cloud and hybrid IT have had a tremendous impact on their careers (altering their career path).
- Nearly three-fifths (57%) reported their organizations have either hired/reassigned, or plan to hire/reassign in the foreseeable future, IT personnel for the specific purpose of managing cloud/cloud-related technologies.
- The top two cloud-related skill IT professionals improved over the past 12 months were data analytics (40%) and monitoring/management tools and metrics (40%), followed by application migration skills (38%) and automation (33%).
- 63% said an IT staff skills gap was one of the five biggest challenges of the cloud and hybrid IT, while 47% said increased workload/responsibilities was one of the five biggest challenges.
- More than a third (38%) do not believe that IT professionals entering the workforce now possess the skills necessary to manage hybrid IT environments.

### **INCREASING IN COMPLEXITY AND LACKING VISIBILITY ACROSS THE ENTIRE HYBRID IT INFRASTRUCTURE.**

- Nearly two-thirds of IT professionals (65%) said their organizations currently use up to three cloud provider environments, with the largest percentage using two to three; however, one out of every 10 (9%) use 10 or more.
  - IDC [recently forecast](#) that more than 85% of enterprise IT organizations will commit to multi-cloud architectures by 2018. The results of the IT Trends Report 2017 potentially confirm this prediction.
- The largest percentage of organizations (37%) report hosting between 1-9% of their infrastructure entirely in the cloud, while just 1% say all of their infrastructure is hosted in the cloud.
- 11% said none of their infrastructure is hosted entirely in the cloud.
- By weighted rank, the number one challenge created by hybrid IT is increased infrastructure complexity, followed by lack of control/visibility into the performance of cloud-based applications and infrastructure.

# Recommendations

As illustrated in the study's key findings, IT professionals need to arm themselves with a new set of skills, products, and resources to succeed as the hybrid IT era continues to evolve. They should consider the following recommendations:

## **ENSURE CENTRAL VISIBILITY ACROSS ON-PREMISES AND CLOUD ENVIRONMENTS.**

Workloads are becoming increasingly distributed not only between on-premises and cloud, but between cloud service providers themselves. In the face of enterprise technology's exponential rate of change, a management and monitoring toolset that surfaces a single point of truth across those platforms is essential. The ability to consolidate and correlate data to deliver more breadth, depth, and visibility across the data center will allow IT professionals to more proactively identify problem areas and reduce the mean time-to-resolution.

## **CONSIDER MORE THAN JUST COST EFFICIENCY.**

Despite being the main impetus for cloud migration over the last several years, the findings of this year's report indicate that the cloud's ability to increase ROI is less important to today's IT professionals. Instead, as illustrated by IT professionals who eventually moved workloads back on-premises, security, compliance, and performance in the cloud are now top of mind. In today's on-demand environments, availability, durability, and an acceptable response time from the end-user perspective are expected no matter where an application service is hosted or from where it's delivered. As a result, IT professionals need to factor in the security and performance requirements of each application prior to migration to cloud services to ensure that QoS is still met.

## **CLOUD-PROOF YOUR JOB.**

As traditional, siloed IT roles—network administrators, storage administrators, systems administrators, database administrators, etc.—continue to converge, IT professionals must focus on improving and cultivating fundamental skillsets that will carry them into the cloud. Over the past 12 months, IT professionals ranked hybrid monitoring/management tools and metrics, application migration, automation, and data analytics as the most important skills and knowledge needed to successfully manage hybrid IT environments. IT professionals should look to leverage their peer community to better understand and more quickly put into practice various technology adaptations and abstractions like software-defined constructs, containers, microservices, and serverless architecture. They should also establish monitoring as a foundational IT function, also known as monitoring as a discipline, to drive a more proactive, efficient, and effective IT management strategy.

### **FORECAST FUTURE MIGRATION, BUT REMAIN FLEXIBLE.**

As illustrated by the results of this year's report, hybrid IT deployments take different shapes and forms from one organization to another. Every organization's environment is unique and the velocity, variety, and volume of new services are giving ample opportunity to realize innovation. It is incumbent on IT organizations to tailor their services to meet business needs through continuous integration and continuous delivery. To that end, IT professionals must be open to and agile in adopting the best-of-breed elements of cloud computing and hybrid IT. The best thing for any IT department to do in the year ahead is to build a roadmap for future proof-of-concepts and migration that will help illustrate ROI, or the lack thereof, for business management. This includes an understanding of how to get visibility of the entire stack with hybrid IT monitoring tools, building processes for migration and quality/reliability testing of applications, and learning economic and capacity planning models.

### **BUILD TRUST WITH CLOUD SERVICE PROVIDERS THROUGH IT COMPETENCY.**

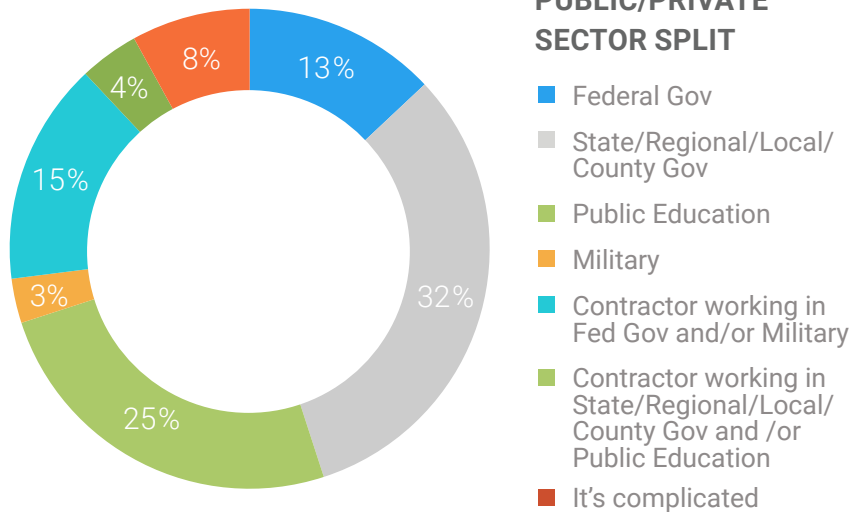
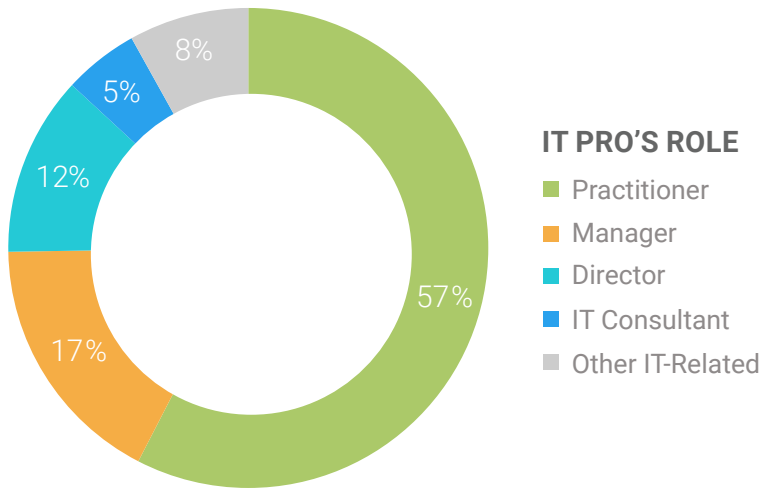
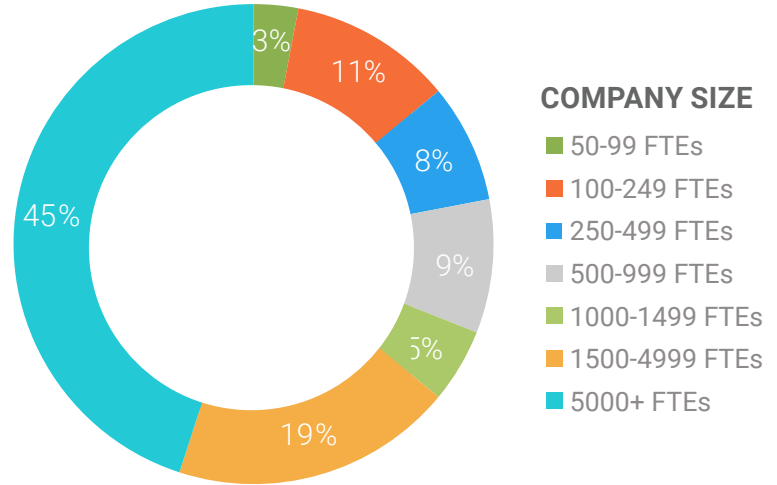
"Trust but verify" should be the IT professional's mantra in the year ahead, as organizations work to identify how best to maintain an element of control and visibility into workloads and applications that are hosted in the cloud. It will be critical to leverage comprehensive hybrid IT monitoring, beyond what is typically offered by cloud service providers, to ensure they have enough data and visibility to truly understand how workloads are performing in the cloud and the reasons for that performance. Competent organizations architect multi-region or multiple cloud strategies to avoid catastrophic downtime in the cloud due to a single point of failure, regardless of a regional failure or a provider failure. Organizations need to implement distributed systems best practices by spreading across a variety of regions and managing a highly durable, distributed workload. Similar to traditional on-premises strategies, availability and durability are key trust tenets in hybrid IT.

Learn more about how SolarWinds can help IT professionals better monitor and manage their infrastructure from on-premises to the cloud [here](#).

# Demographics

## NORTH AMERICA PUBLIC SECTOR RESULTS

75 IT practitioners, managers, and directors in the U.S. and Canada from public-sector small, mid-size, and enterprise companies whose organizations are leveraging cloud-based services for at least some IT infrastructure (including applications) participated in a December 2016 online survey.



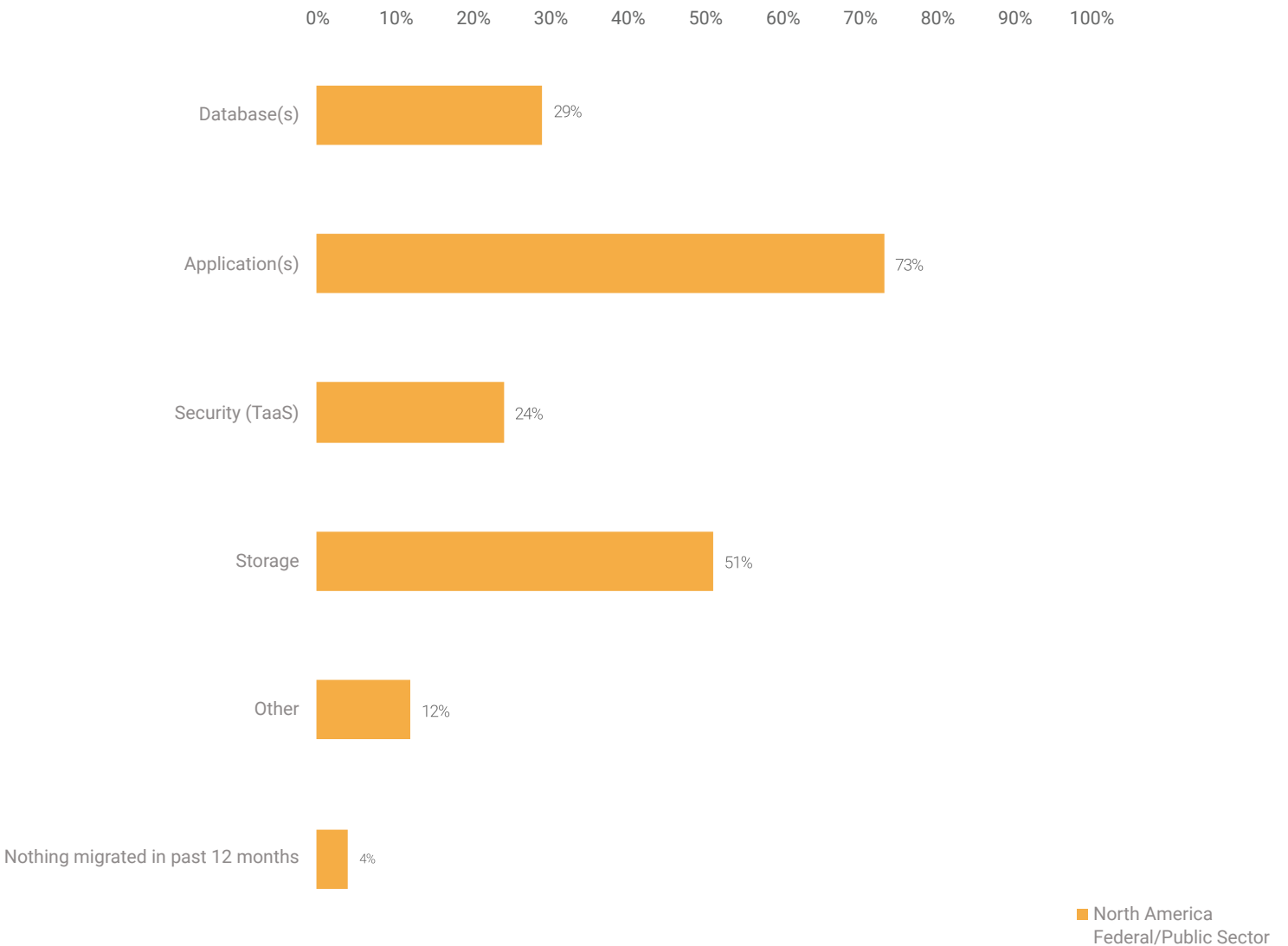


# FULL SURVEY RESULTS



# Inside Hybrid IT Orgs: Infrastructure Migration

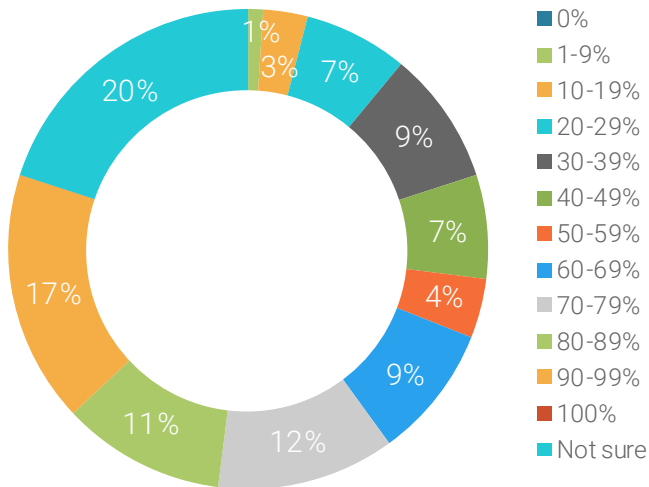
Which area(s) of your organization's IT infrastructure have been migrated (in part or in whole) to the cloud over the past 12 months?



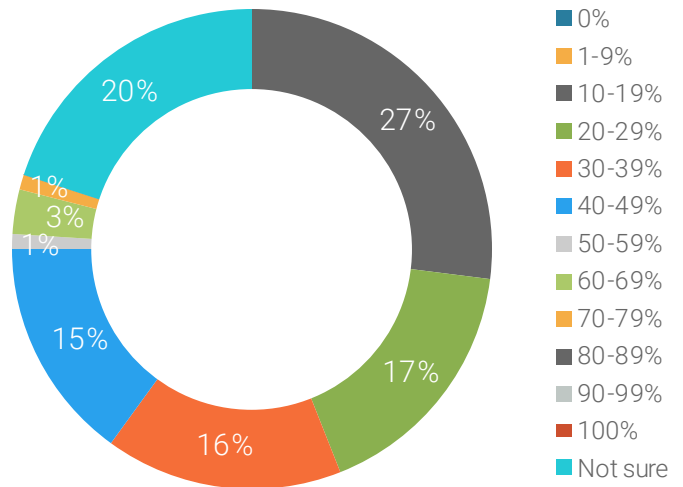
# Inside Hybrid IT Orgs: On-Premises vs. Cloud Budgets

How much of your organization's annual IT budget is spent on each of the following areas? (On-premises/traditional infrastructure or cloud/cloud-related technology)

ON-PREMISES/TRADITIONAL INFRASTRUCTURE (OVERALL)

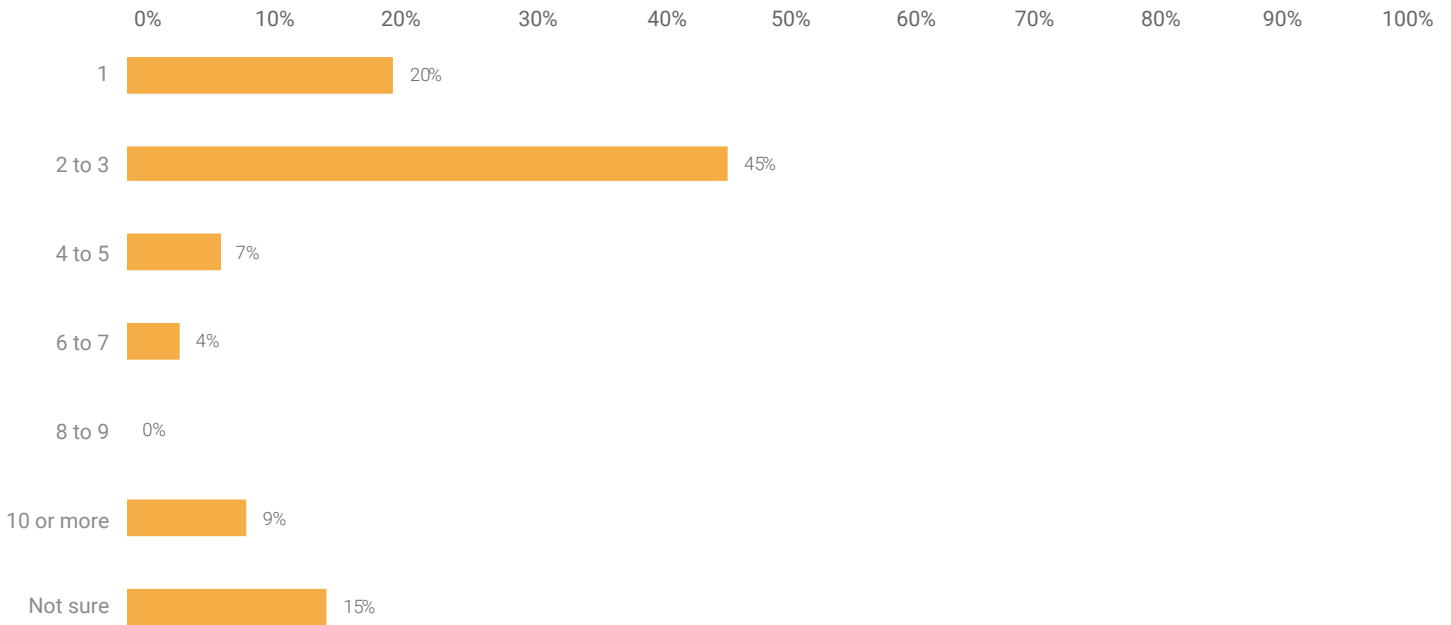


CLOUD/CLOUD-RELATED TECHNOLOGY SPEND (OVERALL)



# Inside Hybrid IT Orgs: Cloud Environments

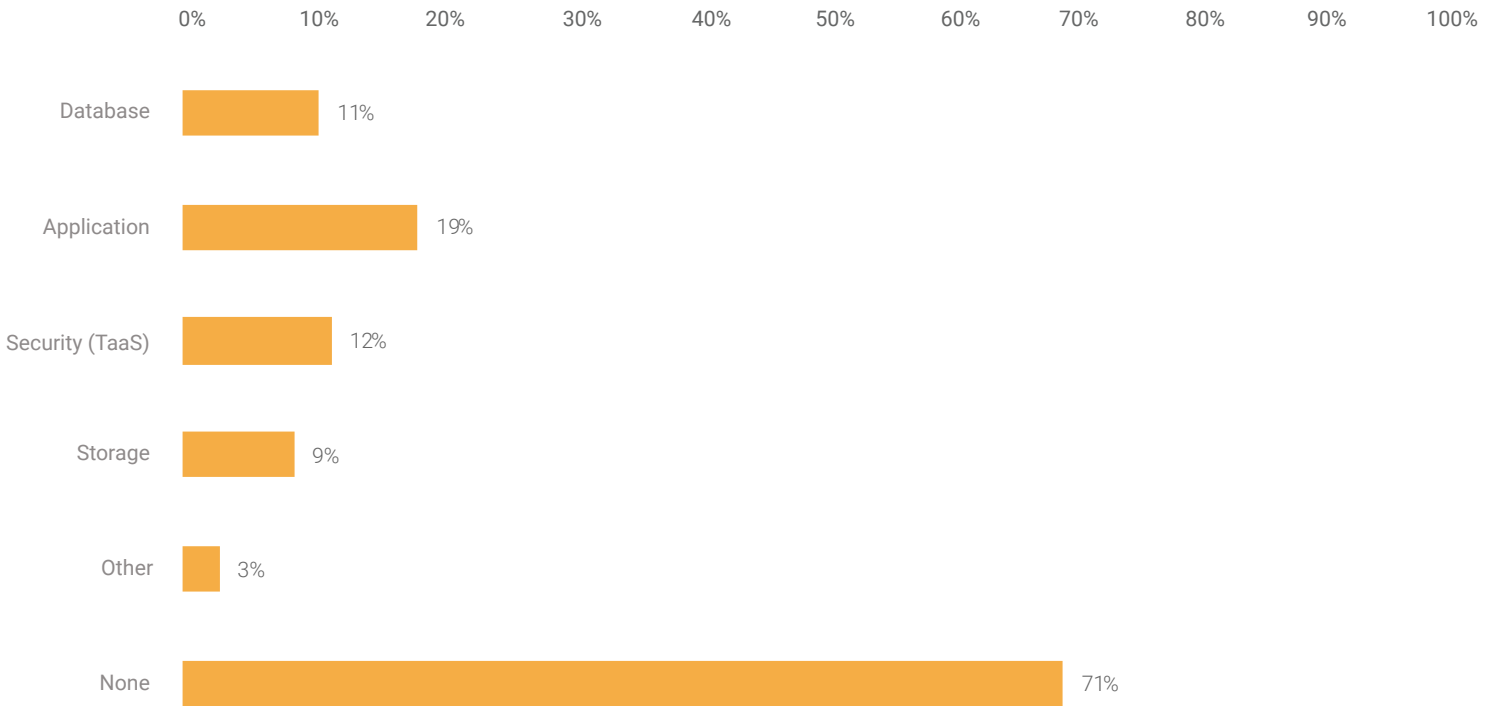
How many cloud provider environments is your organization currently using?



■ North America  
Federal/Public Sector

# Inside Hybrid IT Orgs: Cloud to On-Premises

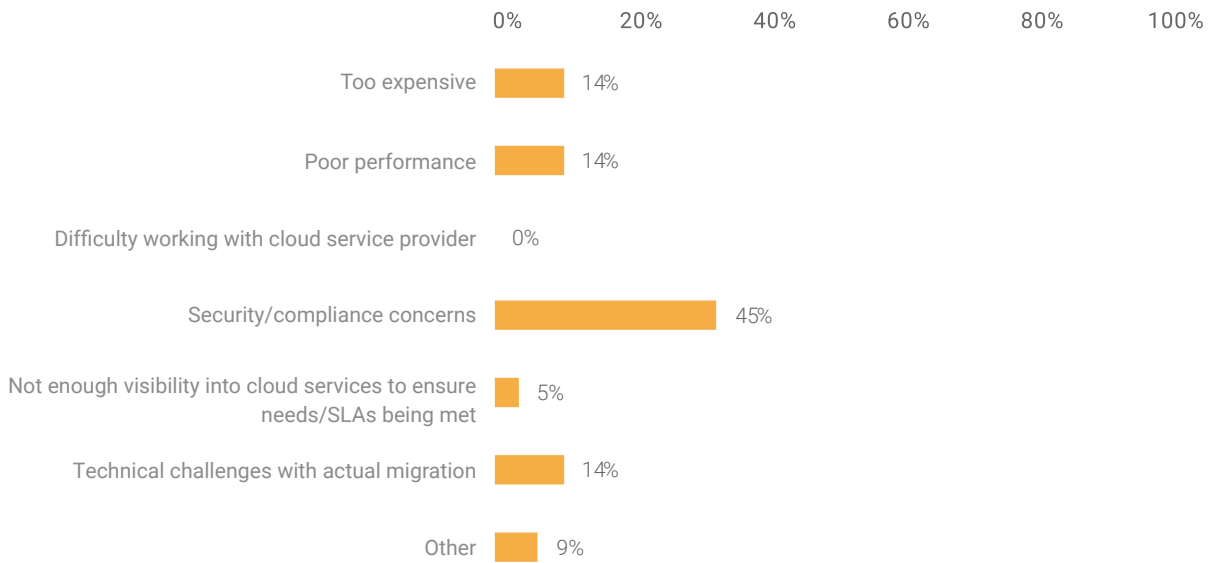
Which (if any) of the following area(s) of your IT infrastructure has your organization migrated/attempted to migrate to the cloud, but then ultimately brought back/left on-premises?



■ North America  
■ Federal/Public Sector

# Inside Hybrid IT Orgs: Reasons for On-Premises

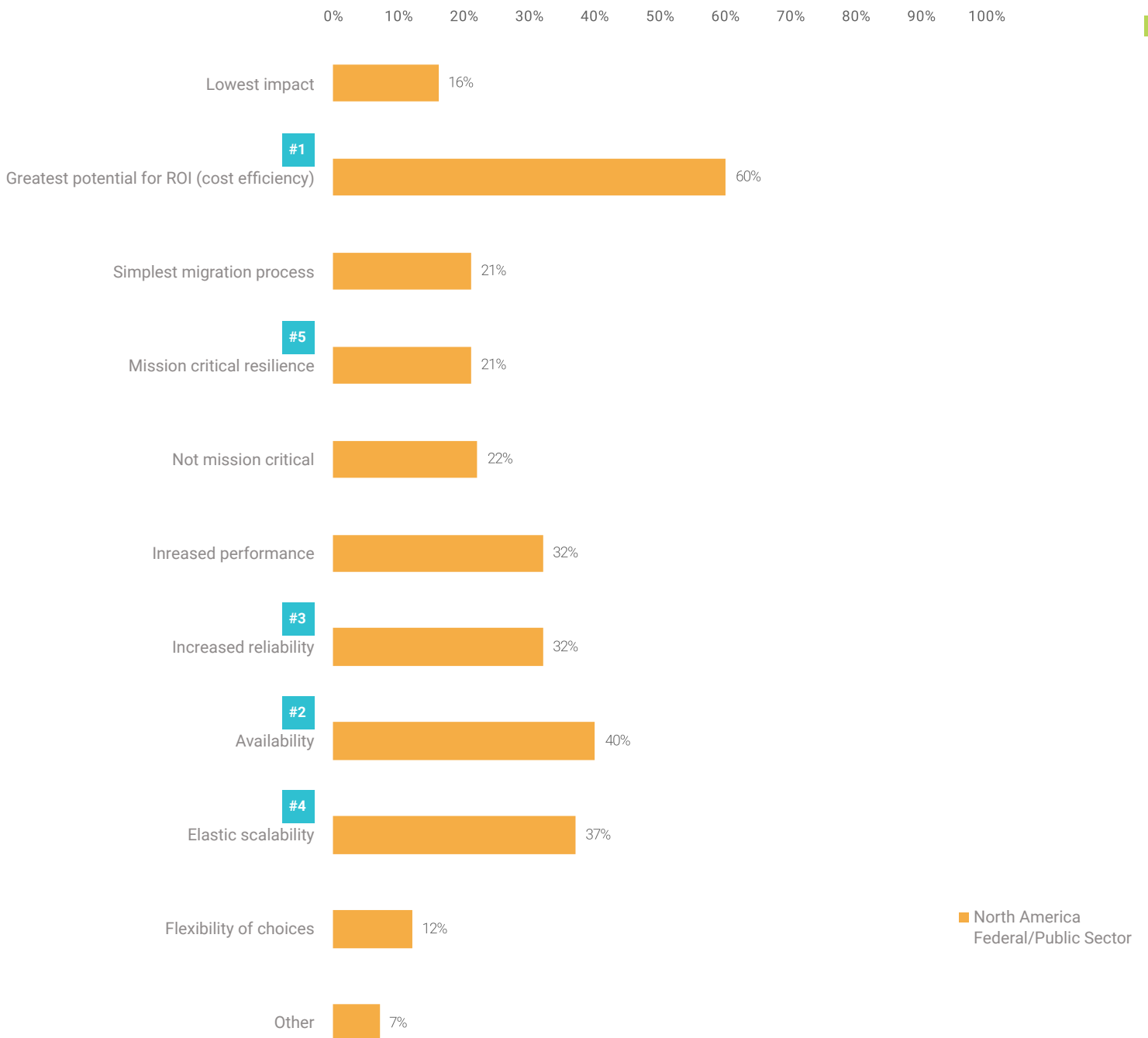
What is the biggest reason your organization ultimately brought back/left the selected area(s) of IT infrastructure on-premises?



■ North America  
■ Federal/Public Sector

# Inside Hybrid IT Orgs: Reasons for Migration

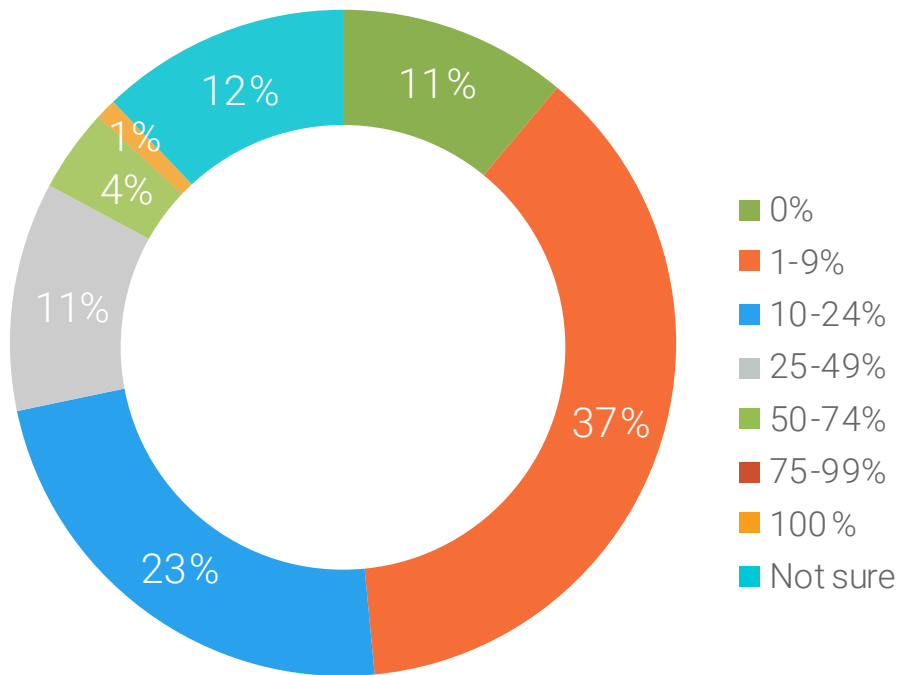
What were the top three reasons for selecting the areas of your organization's IT infrastructure that have already been migrated to the cloud?



# Inside Hybrid IT Orgs: All-Cloud Infrastructure

What percentage of your organization's IT infrastructure that was once maintained on-premises is now 100% in the cloud/cloud-related service?

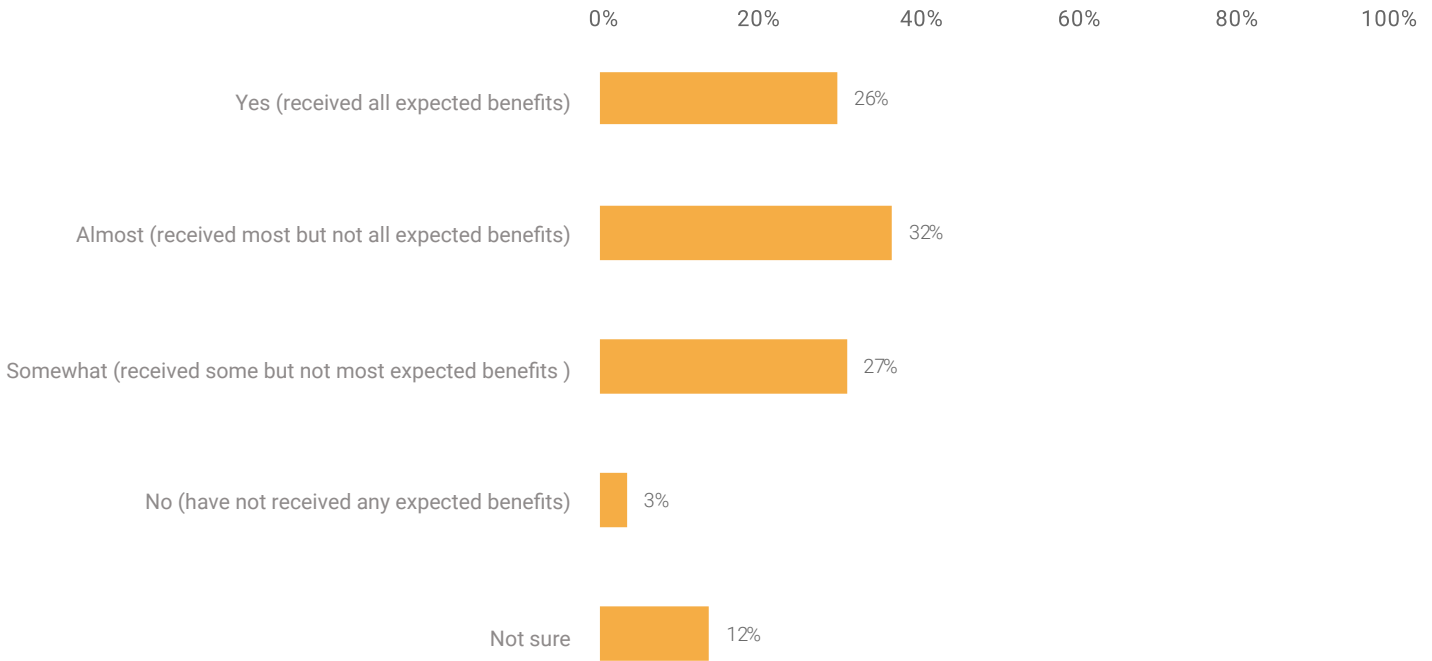
% OF IT INFRASTRUCTURE ONCE MAINTAINED ON-PREMISES NOW 100% IN THE CLOUD/CLOUD-RELATED SERVICE (OVERALL)





# Inside Hybrid IT Orgs: Benefits Realized

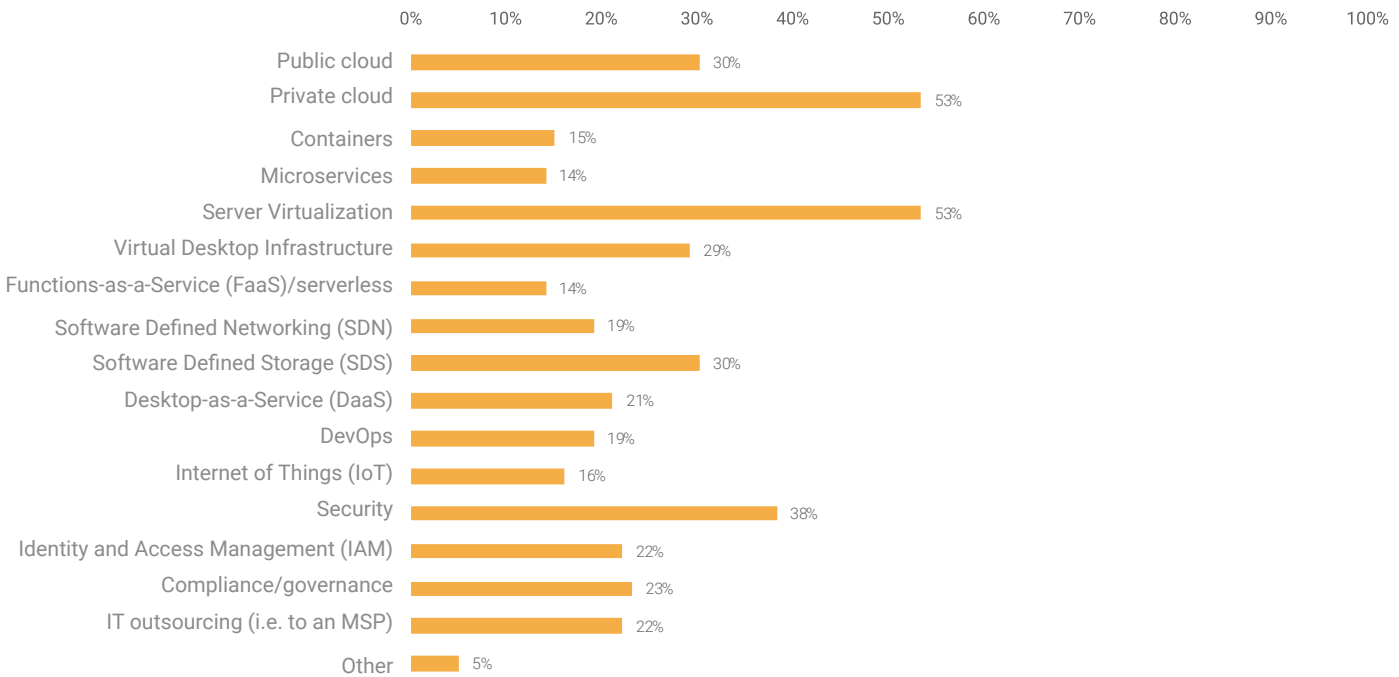
Has your organization received the benefits you expected from migrating area(s) of your organization's IT infrastructure to the cloud?



■ North America  
■ Federal/Public Sector

# Inside Hybrid IT Orgs: Hybrid IT Strategy

Which of the following are included within your organization’s hybrid IT strategy?



■ North America  
Federal/Public Sector

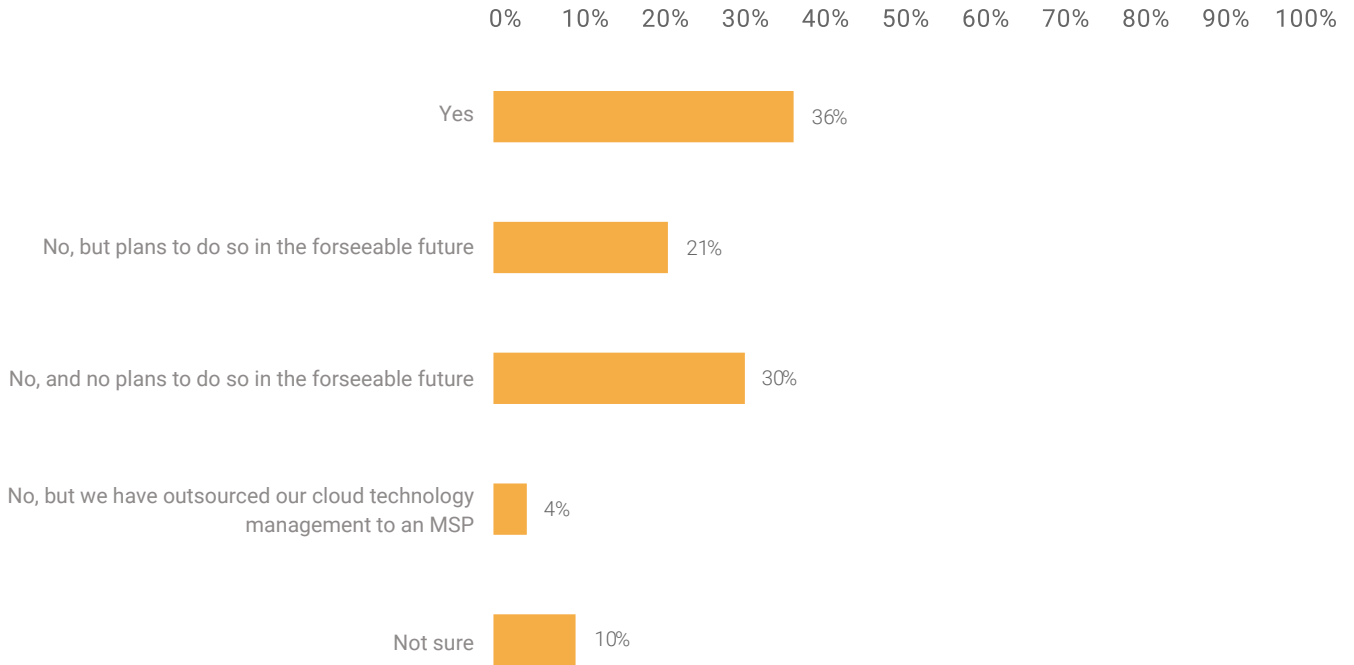
# Inside Hybrid IT Orgs: Challenges

What are the five biggest challenges that hybrid IT has created for your organization?



# New Ecosystem of IT Pros: New Cloud Roles

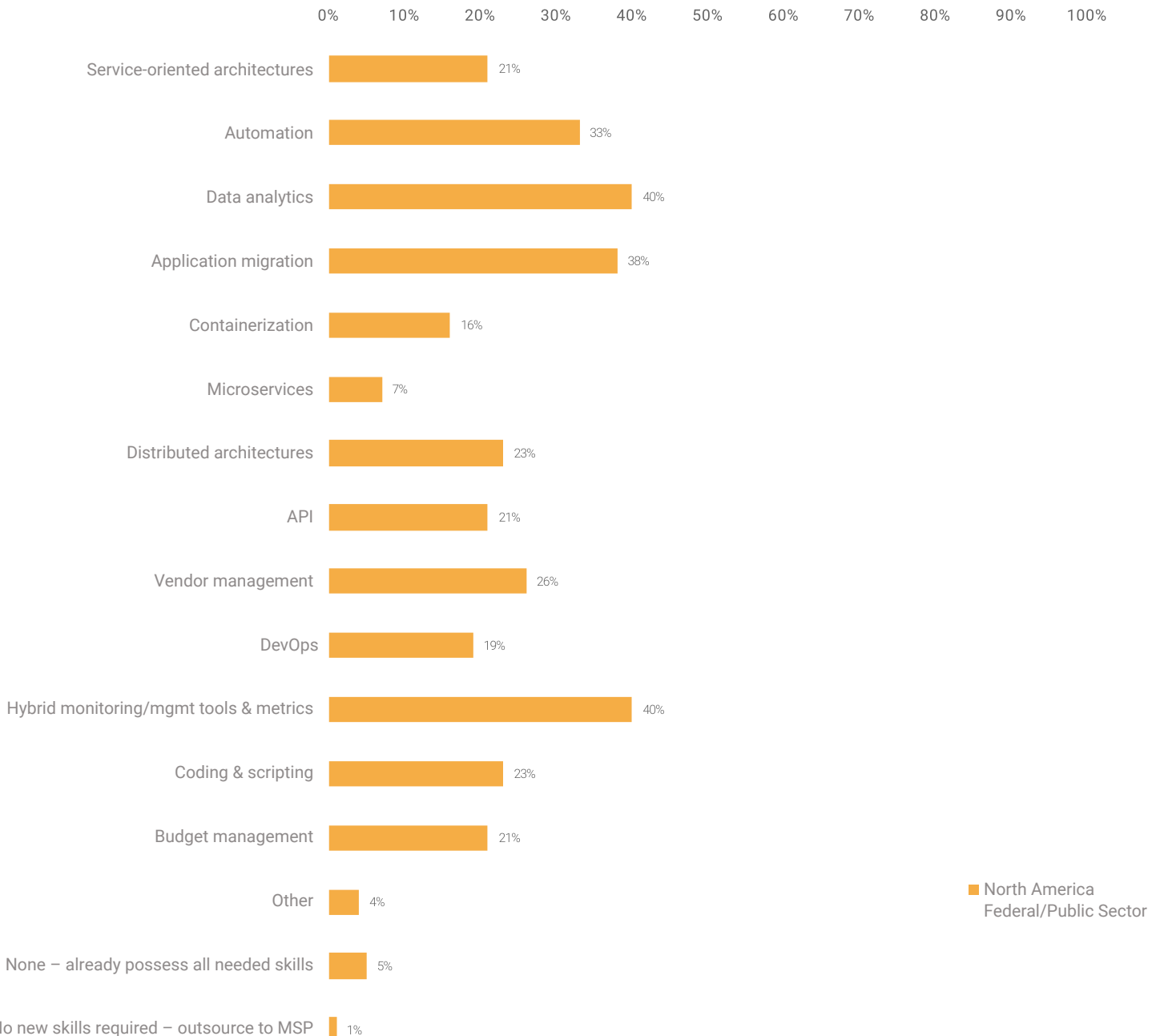
Within the past five years, has your organization’s IT department hired or reassigned IT pro(s) for the specific purpose (100% of job description) of managing your organization’s cloud technology or cloud-related technology?



■ North America  
Federal/Public Sector

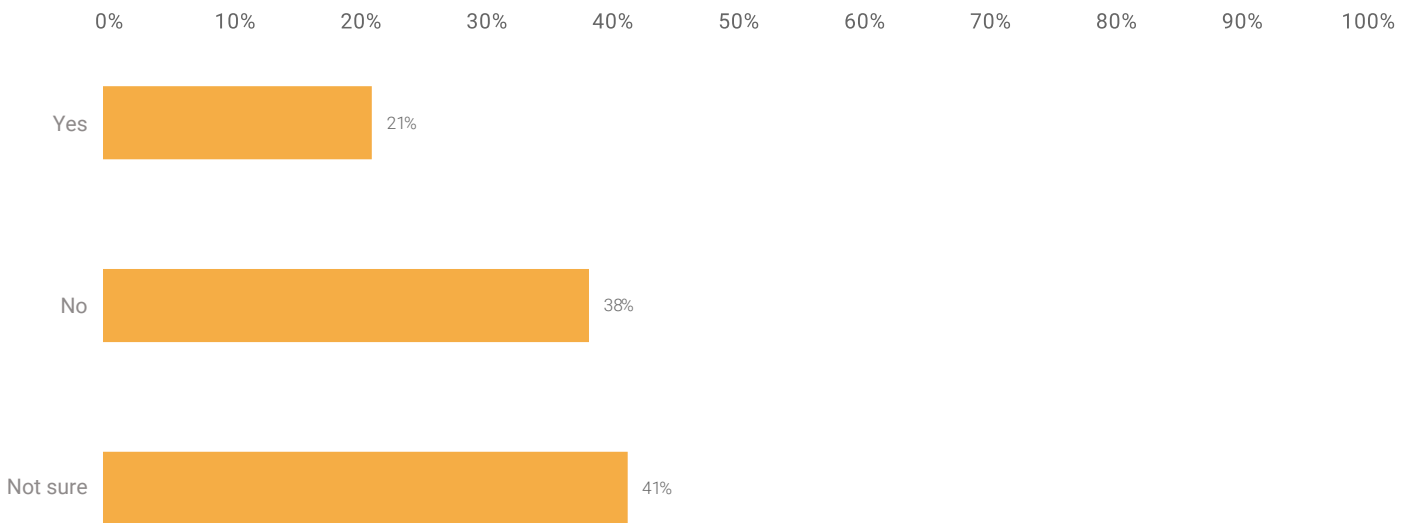
# New Ecosystem of IT Pros: Cloud Skills

Which of the following cloud-related skills have you worked to develop/improve over the past 12 months in order to better manage a hybrid IT environment?



# New Ecosystem of IT Pros: New Workforce

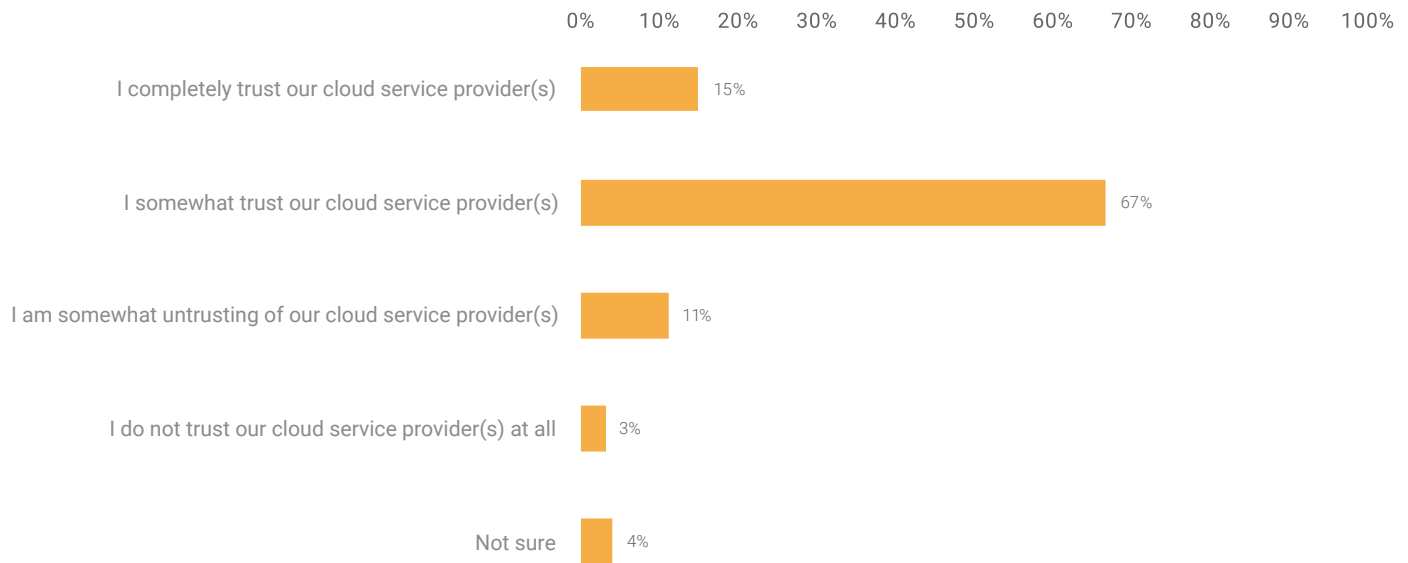
Do you believe that IT professionals entering the workforce today possess the necessary skills to manage hybrid IT environments?



■ North America  
■ Federal/Public Sector

# New Ecosystem of IT Pros: Cloud Service Provider Trust

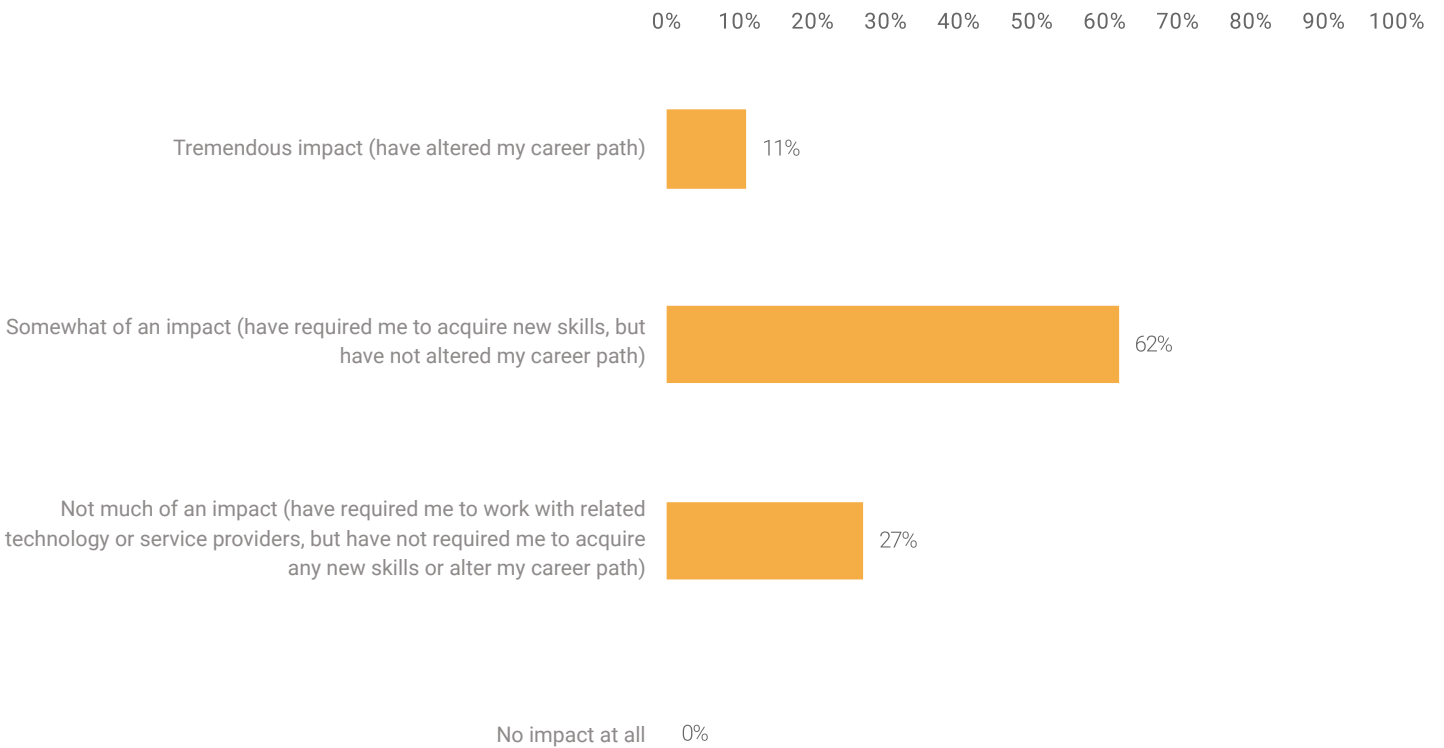
In general, how would you rate the level of trust you have in your cloud service provider(s)?



■ North America  
Federal/Public Sector

# New Ecosystem of IT Pros: Cloud Impact on IT

To this point, how much of an impact have the existence of the cloud and the hybrid IT environment had on your career?



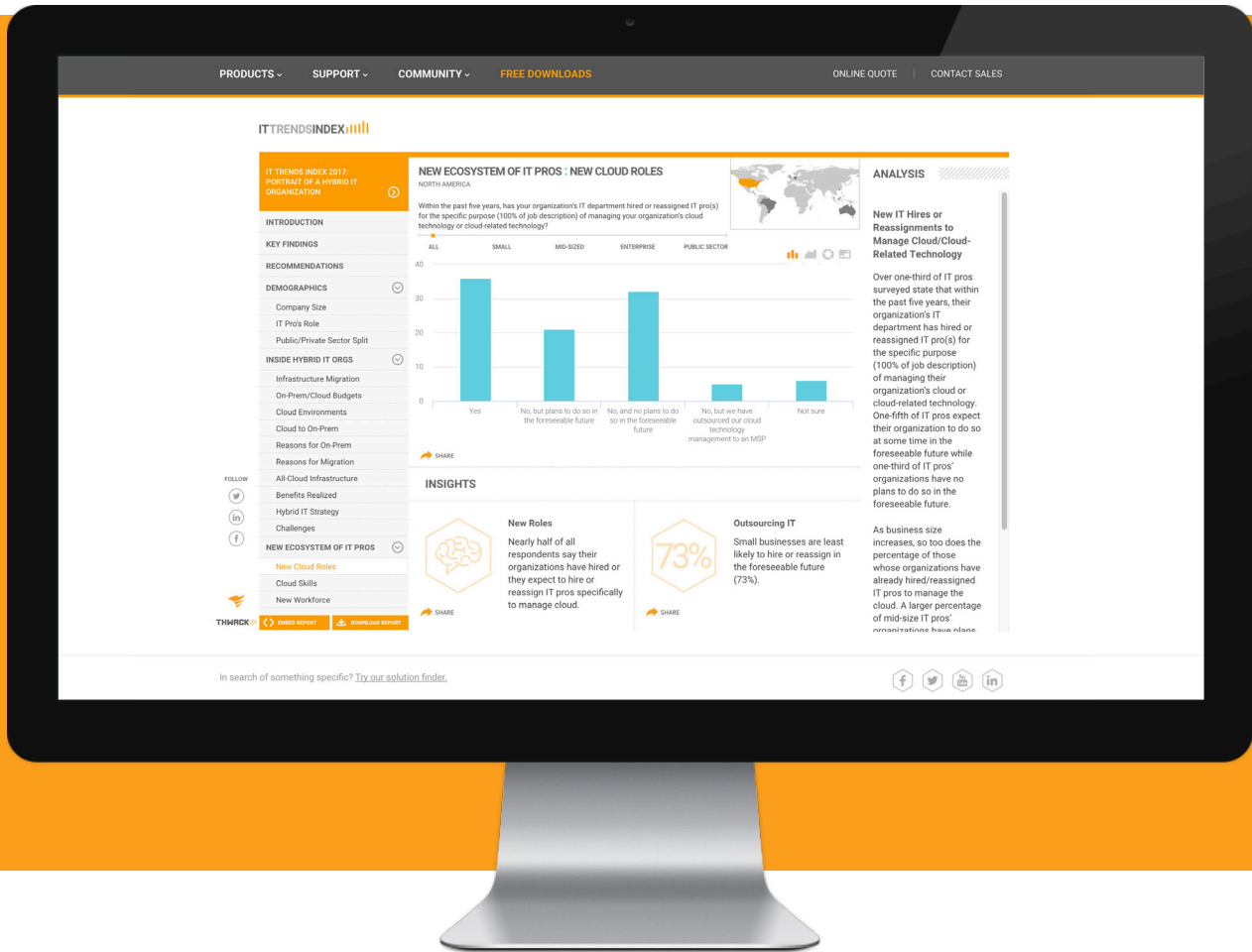
■ North America  
Federal/Public Sector



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# IT TRENDS INDEX

interactive data visualizer



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