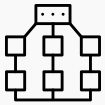
AWS Insider.net

2021 Cloud Efficacy Report

Introduction

The cloud promises quite a bit to organizations. And on a technical level, it usually delivers; the idea of wanting and obtaining cloud-based infrastructure, services, applications, and platforms is generally well established today. But the question remains: Are organizations getting value from the cloud? We sought to find out the answer to this question by looking at how organizations today use the cloud, what the challenges are, whether they plan to continue investing in the cloud, and whether the cloud has met their expectations.



Organizations have a choice of how to leverage the cloud. **44%** of organizations are using the **public cloud** to meet their needs.

Even after workloads are placed in the cloud, the need to **optimize existing cloud usage** is a top cloud initiative in **59%** of organizations.

One of the practical **benefits of the cloud** organizations expect to realize is the **ability to scale quickly and easily**, found in **53%** of organizations.

Cost Reduction was the top determining factor of a successful migration to the cloud. Organizations can measure success however they see fit, and this factor has the attention of **58%** of organizations.

Duplicative data is a primary concern for **48%** of organizations, because it causes an increase in storage costs.

40% of organizations say that **the cloud has not met their expectations.**

58% of organizations are **planning, implementing, or expanding** the presence of workloads in the cloud within the next 12 months.

As organizations continue their migration of workloads to the cloud, **46%** of them cite the need to **manage costs and expectations** as an important factor to improving cloud transformation.

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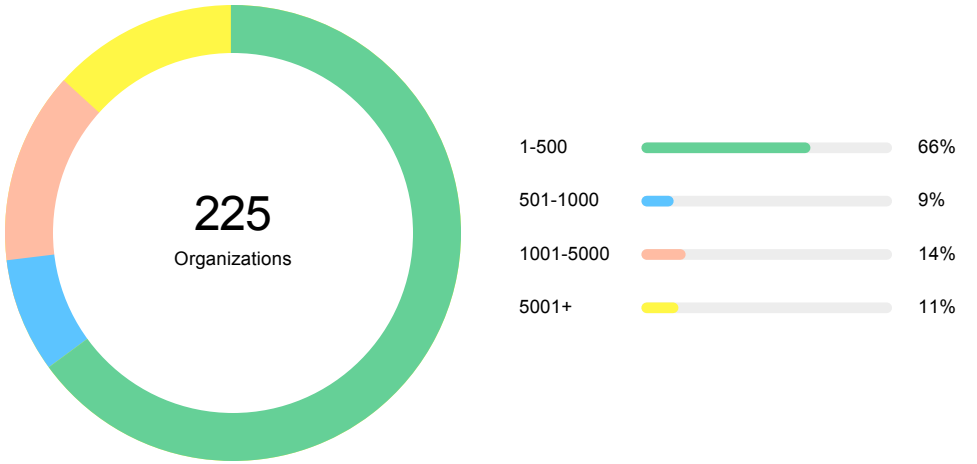
About Our Respondents

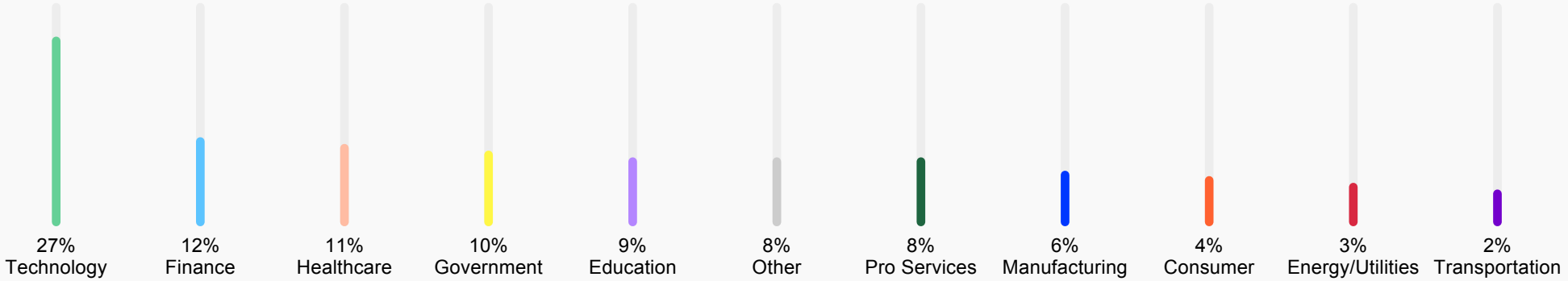
225 organizations participated in this year's report based on a survey conducted in late 2020.

Response by organization size (shown at right) provided us with representation by organizations of every size. Small to midsize businesses were best represented, with the midmarket and enterprise maintaining a strong showing.

Organizations in every industry vertical are making shifts to the cloud. Over 30 industry verticals are represented in this report, with the top 11shown below.



Breakout of Respondents by Industry



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About the Contributors

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Trenton Baker has had a diverse history in the storage industry for 20+ years. With his background in servers, storage, backup, DR, and cloud solutions, he has formed a particular set of skills designed to articulate a customer-first solution-centric point of view. It is Trenton's current directive to drive awareness and adoption of NetApp ® Cloud Volumes for AWS.

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Nick Cavalancia is a cybersecurity expert with over 25 years of enterprise IT and security experience. He regularly blogs, writes, and speaks on a wide range of cybersecurity and cloud adoption issues, helping organizations, IT professionals, managed service providers, and technology vendors to understand the current threat landscape, and how to build and execute strategies that minimize risk.

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AWSinsider.net, the independent resource for Amazon Web Services news and information, delivers news, how-tos, tips, and more to IT administrators, architects, developers and other stakeholders who use the Amazon Web Services (AWS) cloud platform. Coverage includes AWS, Amazon EC2, AWS Lambda, Amazon S3, and other related Amazon services. AWS insider.net was responsible for sourcing the data for this report from its audience of AWS professionals.

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2021 Cloud Efficacy Report

Your Current Cloud Environment

No two cloud strategies are exactly alike. And no two organizations see the cloud in the same way. So we asked organizations to characterize their use of the cloud, allowing multiple choices. Not surprisingly, most organizations fell into one of the three most used types of cloud use – *public, private, and hybrid*.

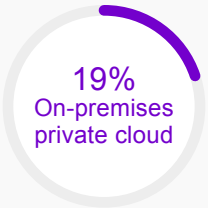
Of those organizations using the public cloud, only small subsets also chose **private cloud (29%)** or **hybrid cloud (25%)** in addition to their selection of the public cloud. This shows that most organizations using the public cloud are not interested in other commonly used cloud strategies.

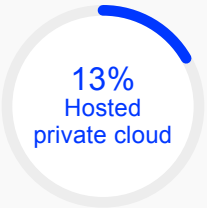
Which of the following best describes your current cloud environment?

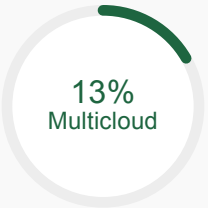
44%
Public Cloud

36%
Hybrid Cloud

31%
Private Cloud







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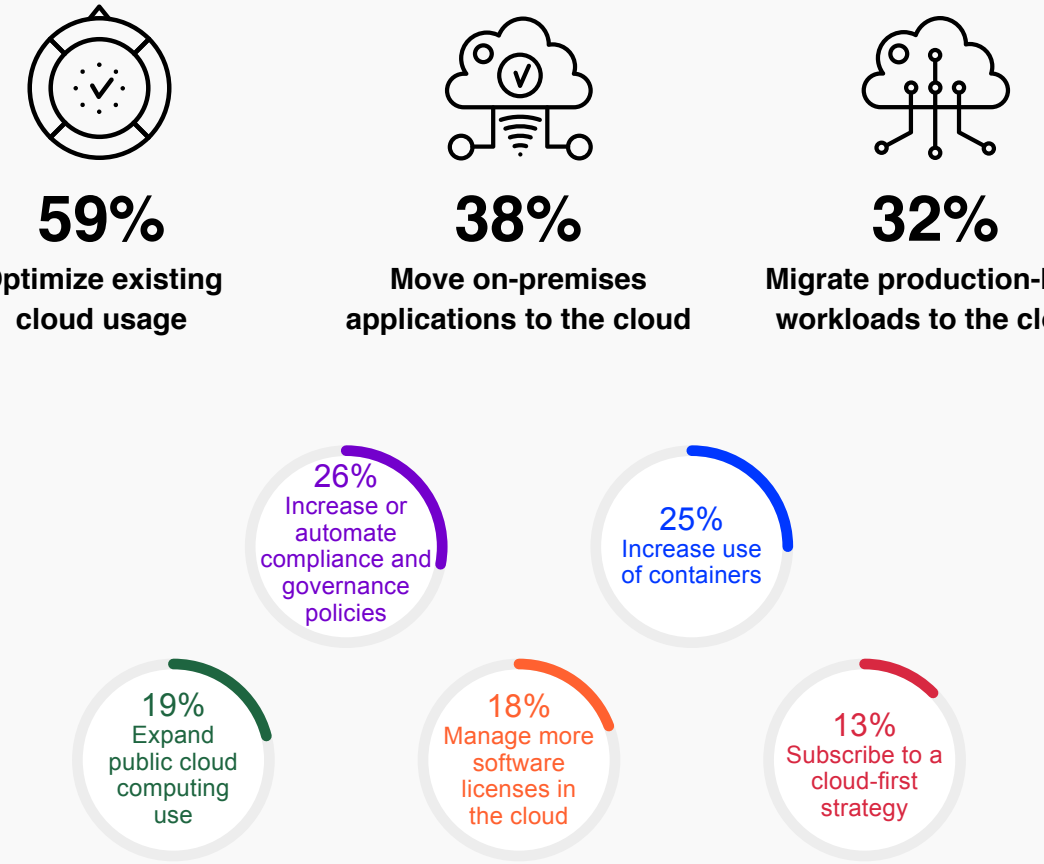
Top Cloud Initiatives

The cloud offers organizations an opportunity to run just about any part of their operation in a secure, durable, available, and accessible environment. Organizations choose to take advantage of this flexibility in different ways. Most organizations today **(59%) are looking for ways to improve the efficiency and use of the cloud resources** they currently employ. Over one-third of organizations also remain focused on the migration and implementation of workloads to and in the cloud, respectively.

What are your top cloud initiatives?



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Your Current Cloud Workloads

The majority of organizations using the cloud appear to be doing so in an effort to extend their on-premises operations and the reach of these services to an anytime, anywhere workforce. **Microsoft services** (such as Active Directory, Exchange, and SharePoint) topped the list at **just over half of organizations**, along with complimentary workloads **including database (49%)**, **file and print (42%)**, and **virtual desktops (32%)**.

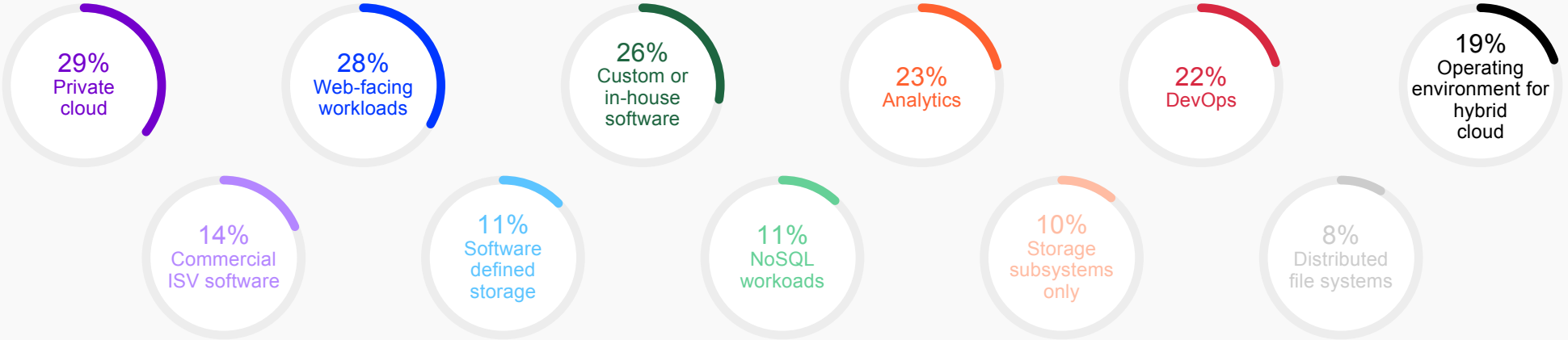
What are your primary cloud workloads and applications?

51%
Microsoft Workloads

49%
Databases

42%
File and Print

32%
VDI



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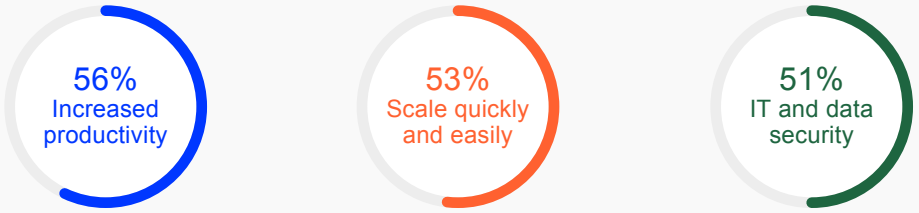
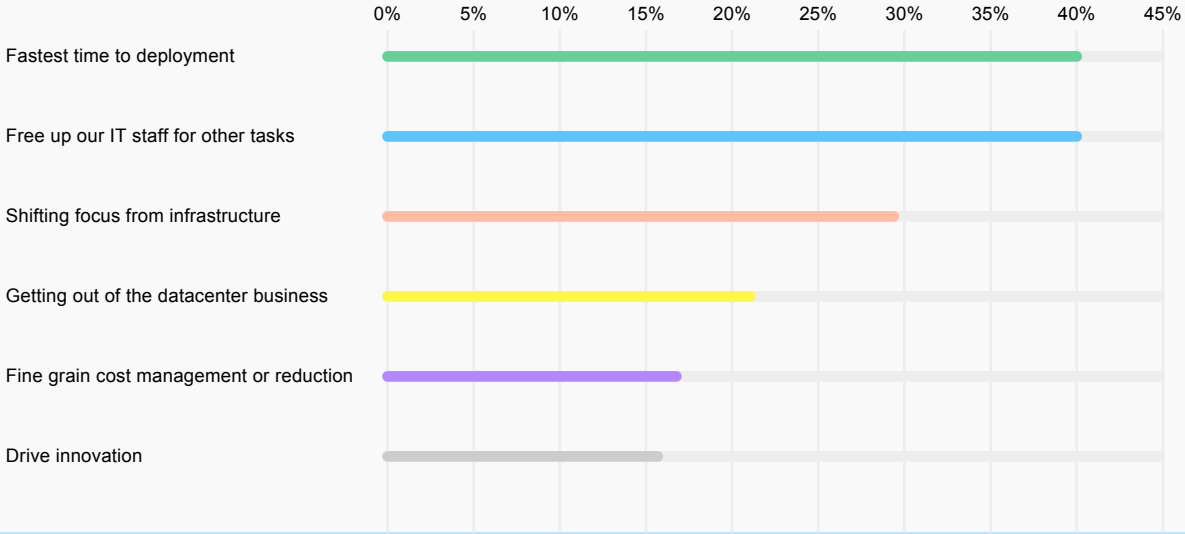
Expected Benefits of the Cloud

Every organization has its own motivations for shifting part or all of their operations to the cloud. Many start with the promise of the cloud, but end up choosing to move to the cloud based on specific practical business needs or environmental pressures. Over half of organizations today are looking for improvement in productivity, scalability, and security by moving to the cloud.

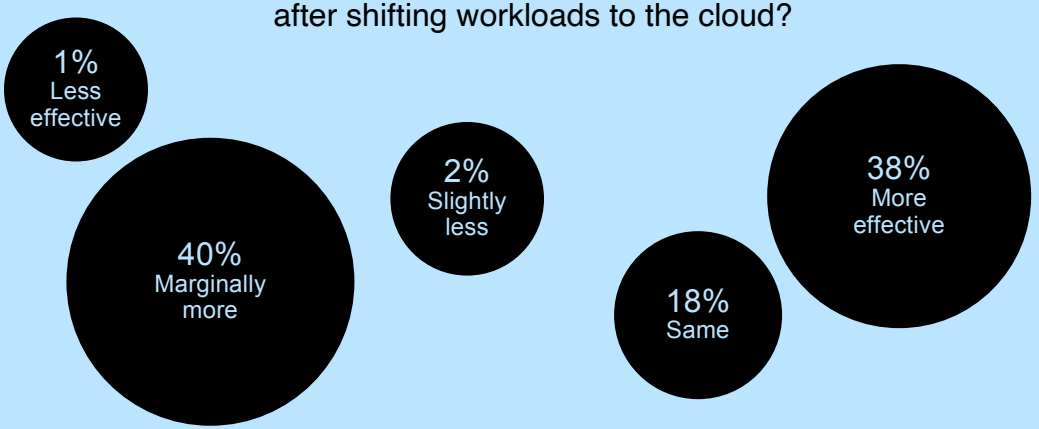
What benefits did your organization expect to see by migrating workloads to the cloud?





Given the primary focus of improved productivity, we wanted to see whether the cloud delivered on its promises. **78% of organizations** saw some **improvement in productivity** by moving to the cloud.

How would you rate your organization's productivity after shifting workloads to the cloud?



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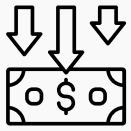
Success in the Cloud

Measuring a successful move to the cloud can be somewhat subjective, because the objectives initially laid out can lack metrics. Organizations today are primarily concerned with **reducing the cost associated with the cloud (58%),** while improving performance, user experience, security, compliance, and innovation.

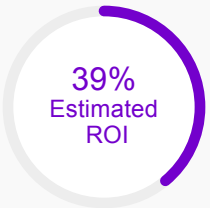
What determines whether your organization's move to the cloud is a success?

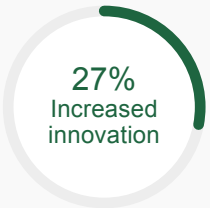


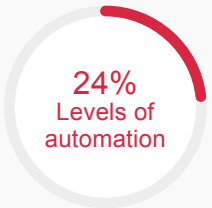
58%
Cost Reduction

48%
Increased Performance

43%
Improved user Experience







It's interesting to see that security is not a top factor in determining the success of a move to the cloud. This may be due to cloud providers offering layered security services and compliance features, which allow organizations to shift their attention to productivity, efficiency, and growing their business as markers of success.

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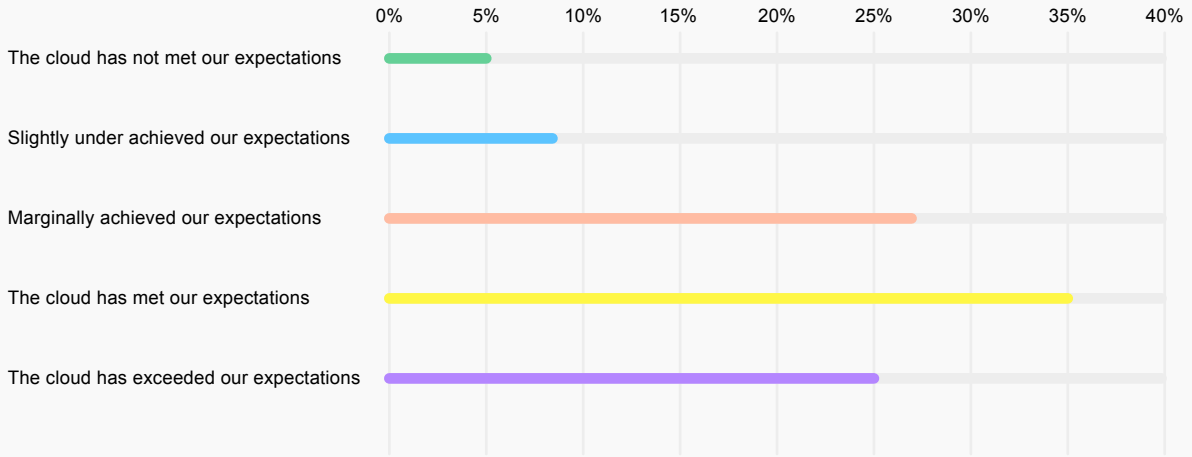
Expectations of the Cloud

Even today, the cloud comes with a lot of hype; the belief that you can accomplish and host just about anything in the cloud comes with a very large asterisk that says in fine print “your mileage may vary.” But a **majority of organizations (60%)** say that the cloud has met or exceeded their expectations, despite its challenges and need for optimization.

It’s important to note that there is room to improve cloud efficiency. Even in organizations where the cloud has “marginally achieved,” “met,” or “exceeded” expectations, that doesn’t mean IT’s work is done. The previously mentioned desire to optimize use by 59% of organizations and reduce costs by 58% of organizations highlights the necessity and opportunity to optimize use of the cloud.

Overall, how well has the cloud met your organization’s expectations?



Cloud optimization can come in multiple flavors of storage and compute. In order to succeed in application-driven infrastructures, there is clearly a need to understand how cloud infrastructure affects application resource needs.

Storage

Storage plays a pivotal role in supporting applications and in application-driven infrastructures. Particularly for complex workloads like HPC, SAP, and Windows Virtual Desktop, you need visibility into your entire cloud infrastructure—both in the cloud and in your data center—to ensure availability, manage costs, and protect data.

Compute

Cloud compute resources come in a dizzying array of types, configurations, and pricing models, making it difficult to ensure that those resources are keeping up with ever-changing applications. It’s important to automate resources, so that your CloudOps team doesn’t have to be in a constant cycle of manual changes and your Dev teams can work faster without the constraint of insufficient infrastructure.

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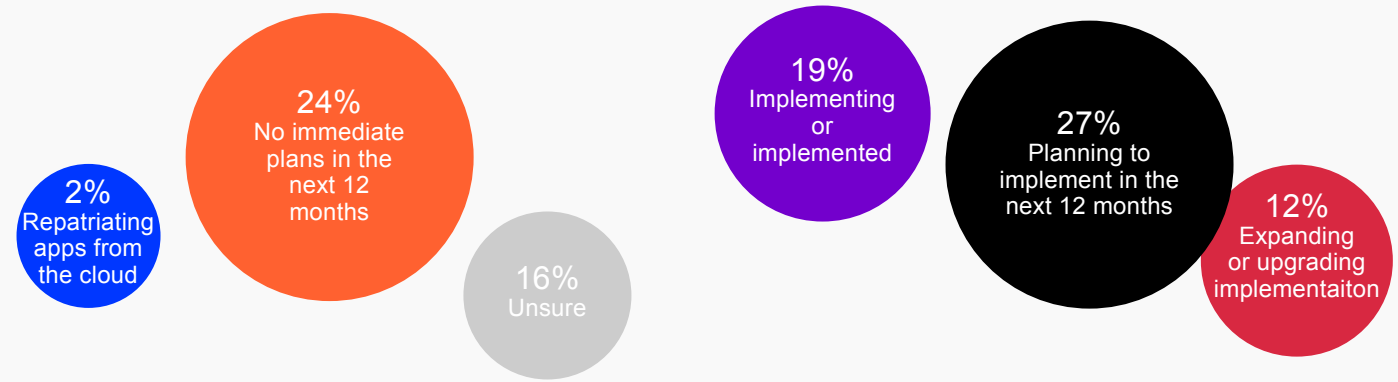
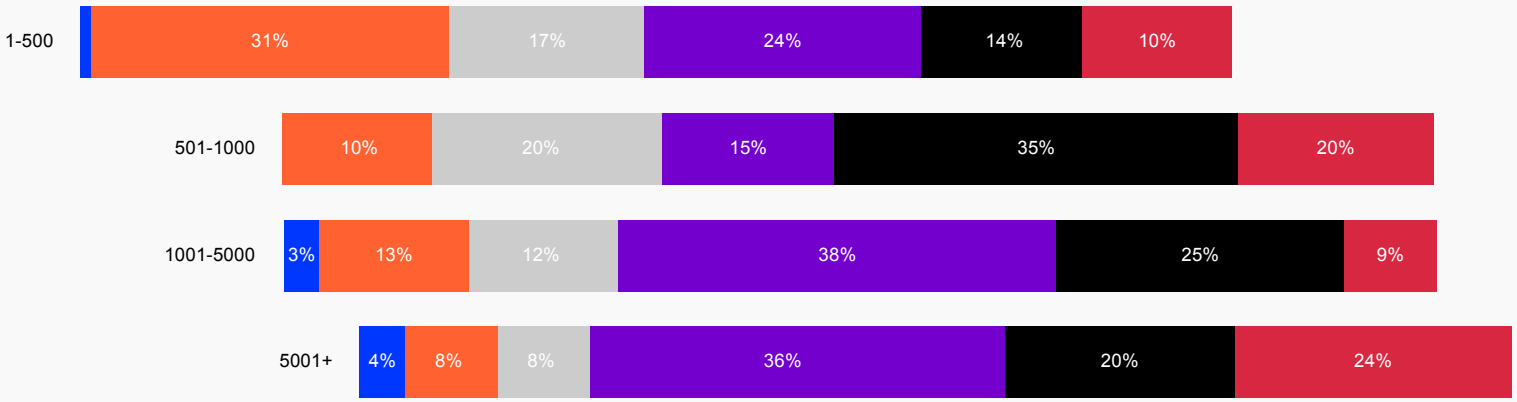
Future Plans for the Cloud

Organizations move to the cloud at different paces. Some have completely left on-premises data centers behind, some are still making plans, and others are looking to either expand or reduce their current footprint in the cloud. 58% either have plans or are implementing additional workloads in the cloud.

What are your future plans with regard to moving your next set of workloads to the public cloud?





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Running Workloads in the Cloud

Moving workloads to the cloud isn't a simple matter of "lift and shift." It's often a complex mix of allocating the right resources and people to help support the already-taxing process of moving VMs and data into the cloud. Organizations today find it equally challenging to both migrate to the cloud and ensure that their staff are properly skilled to **new environment (38%)**. The issue of cost – both **storage (33%)** and **migration (32%)** – comes up very quickly, as organizations realize that without proper tools, cloud costs, too, can spiral out of control.

What are the challenges your organization faces running workloads in the cloud?

38%

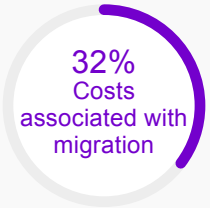
Migrating data and workloads to the cloud

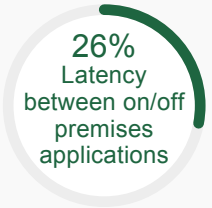
38%

Training existing staff on cloud services

33%

Reducing the cost of storage





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Optimizing the Cloud

As organizations push workloads to the cloud, it becomes evident that some degree of optimization is required to ensure proper availability, accessibility, security, and performance. **Over half of organizations (56%)** see security as a concern. **Storage reliability (38%)** and **performance (37%)** were nearly tied in a second place.

Which of the following are concerns to optimizing your cloud environment?

56%

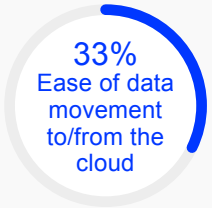
Security and privacy concerns

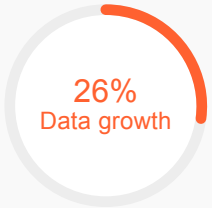
38%

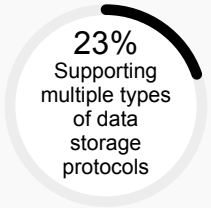
Cloud storage reliability

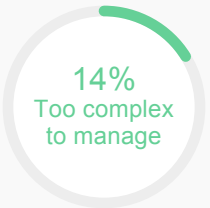
37%

Achieving consistent performance









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Your Current Cloud Storage

The cloud offers several types of storage to help meet an organization's specific needs. We found that the **majority of organizations (87%)** use the cloud for file storage, as opposed to block or object storage.

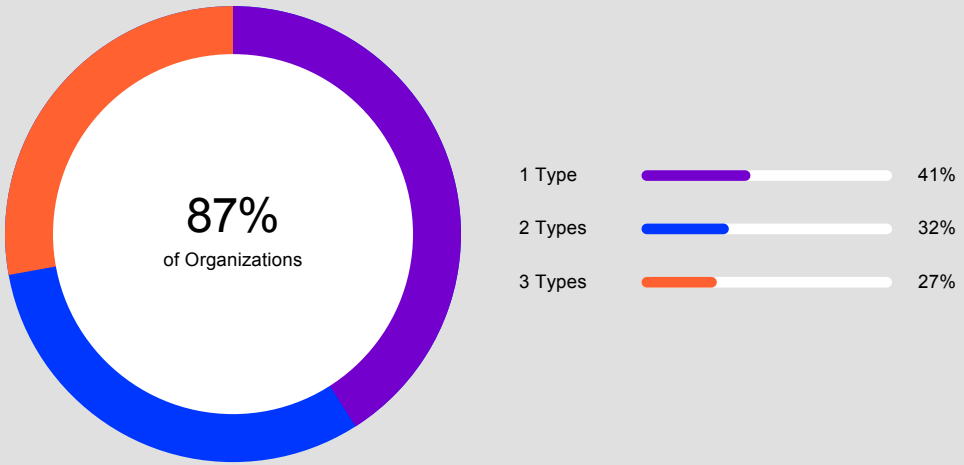
What types of cloud storage are primarily used for your workloads?

82%
of organizations use the cloud for file storage

37%
of organizations use the cloud for block storage

23%
of organizations use the cloud for object storage

Because no single storage type can meet all of an organization's needs, there is some expected overlap in usage. The breakdown of the number of cloud storage types used is shown to the right.



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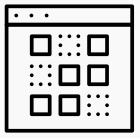
Increased Storage Costs

With storage cost being a recurring theme throughout this report, it's evident that organizations are concerned. There are several potential sources of storage cost increases. Some are due to a lack of proper oversight by IT, including **duplicative content (48%)**, **protection (40%)**, **sprawl (37%)**, **storage management (35%)**, and **tiered storage (29%)**. In other cases, it's simply a matter of how data is used, including **movement (38%)** and **egress (22%)**.

What are the top issues you feel can contribute to increased storage costs for your cloud workloads?



48%

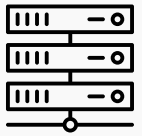
Duplicated Content Increasing Data Size

40%

Data Protection

38%

Data Movement Costs



37%

Storage Sprawl

35%

Storage Management

29%

Lack of Proper Tiered Storage Management

22%

Egress Cost

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Improving Use of the Cloud

Transitioning to the cloud doesn't mean that an organization stops evolving. There are plenty of opportunities to improve performance, cost efficiency, security, and efficacy of services. These improvements can serve as the basis for improving the next phase of either implementing new cloud workloads or migrating on-premises workloads to the cloud. The number one improvement is to have staff **better trained on cloud services (48%)** – this single factor could help address every other focus mentioned below more effectively.

What could your organization focus on next to improve your cloud transformation?

48%

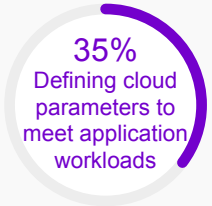
Training existing staff on cloud services

46%

Manage costs and expectations

39%

Increased security measures



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Ways to Improve Your Cloud Efficacy

As shown in this year's report, a majority of organizations (59%) see optimizing their cloud usage as being a top concern. Cost reduction was shown to be a leading factor in optimization; it is the top success factor (58%), followed by a need to improve cloud transformation (46%).

What are some practical ways you can optimize your use of the cloud while reducing cost?

Right-Size Resource Usage

The cloud is the perfect environment in which organizations can simply spin up VMs with the desired resources and storage with no regard for the expense incurred. Identifying and implementing more exact virtual resource requirements for each VM, and taking steps to reduce bloated VMs to what's actually needed to operate well, will not only reduce costs but also open up resources for other workloads.

Avoid Duplicated Data

Found a lot in DevOps environments, duplicated volumes, databases, etc. can easily be forgotten by the organization, but not by your cloud provider in the monthly bill.

Leverage Tiered Cloud Storage

Every cloud provider today offers some form of tiered storage. With the general concept being "the lower the cost, the slower the retrieval," cloud providers offer a number of tiers that are designed for everything from critical workloads to archived data.

Improve Staff Training

Some of the cloud inefficiency you're experiencing may simply be due to your IT staff not knowing the right way to implement, configure, and manage your cloud environment. By ensuring that they have both the training materials and the time to learn, you ca n increase their understanding of the cloud environment in which you operate and find ways to improve performance, cost effectiveness, and overall efficacy.

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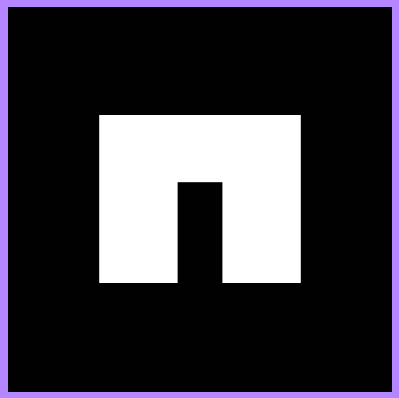

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