

RESEARCH REPORT

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State of the Cloud

As IaaS advances, organizations are taking three main paths to public cloud adoption: virtual machines, containers, and serverless architecture.

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RESEARCH SYNOPSIS

Survey Name: State of Cloud Computing Survey

Survey Date: December 2017

Region: North America

Respondent base: 200 cloud computing users who use or plan to use infrastructure-as-a-service. The margin of error for the total respondent base (N=200) is +/- 6.8 percentage points.

Methodology: InformationWeek surveyed business technology decision makers at North American companies on cloud computing usage and optimization strategies. The survey was conducted online, and respondents were recruited via an email invitation containing an embedded link to the survey. The email invitation was sent to a select group of UBM's audience. Nearly half of the resulting respondents held IT management titles such as CIO, CTO, VP of IT, IT manager, or IT director. Four in 10 were from large companies with 1,000 or more employees. UBM was responsible for all programming and data analysis. These procedures were carried out in strict accordance with standard market research practices.

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AUTHOR



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Joe Emison works with DMGT's portfolio companies on challenges with products and technology. Joe is a serial technical entrepreneur, most recently founding BuildFax in 2008, and has consulted with many other companies on their own cloud launches and migrations. Joe graduated with degrees in English and Mathematics from Williams College and has a law degree from Yale Law School.

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Introduction: The Three Cloud Paths

As the year begins, the state of the cloud is stratified, with different organizations taking distinctly different paths to realize the benefits of the cloud. The most widely used cloud architectures are still based on virtual machines.

The most advanced enterprises dealing with legacy applications have steadily increased their adoption of containers as part of simpler, easier-to-manage architectures. And finally, many startups and green-field development projects across different organizations have embraced “serverless” cloud architectures, which give them both the benefits and the consequences of having application uptimes controlled almost entirely by their cloud vendors.

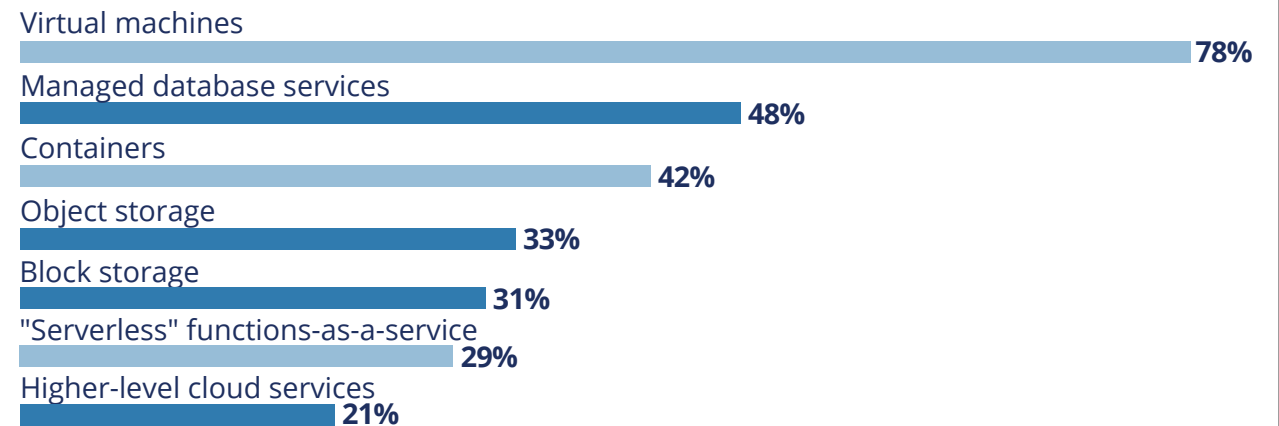
These architectures can be deployed in public clouds, private clouds, or hybrid clouds, although we continue to see significant movement from private to public, and hybrid remains more popular with vendors and pundits than in production deployments. But some things haven’t changed over the past decade: security, cost control, and cloud management remain signifi-

cant issues for many organizations.

This report will explore the three main paths that organizations are taking in the cloud — virtual machines, containers, and serverless — explaining what they are, who’s using them (and why), what the dominant concerns are, and what the future holds.

IaaS Services Currently in Use or Considered for Use

Which IaaS technologies and services are in use or consideration by your organization today?



Note: Multiple responses allowed

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Path 1: Virtual Machines

The Architecture

More than 15 years ago, VMware and Xen brought their virtualization solutions to market, allowing organizations to run multiple “virtual machines” on a single physical computer, with reasonable (but not as good as bare metal) performance. Over

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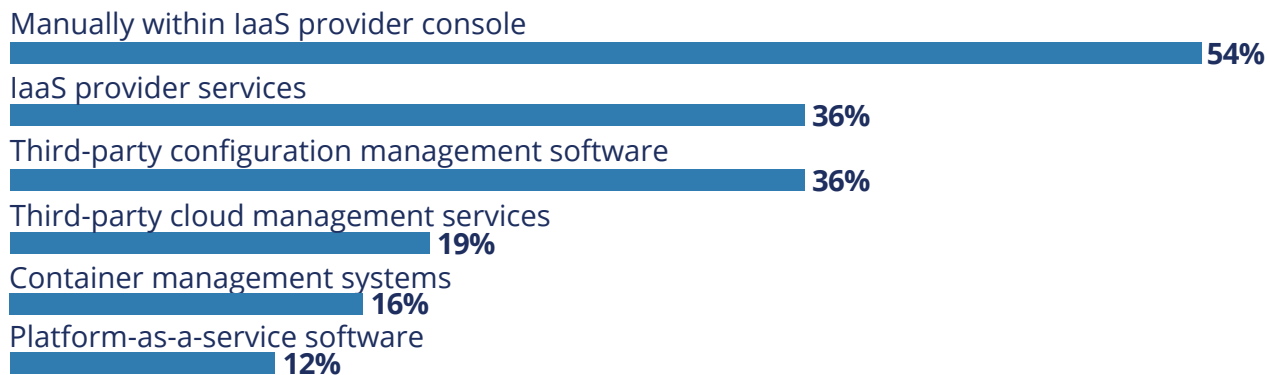
time, virtual machine performance has improved, and Amazon Web Services' initial (and still most-popular) compute product, Elastic Compute Cloud (EC2), provides on-demand virtual machines.

As EC2 grew in popularity and revenue, and attracted substantial competition, organizations began to put pressure on their IT departments to "adopt the cloud" and realize some of the business benefits that startups and greenfield development were achieving with EC2 (e.g., Instagram valued at \$1 billion, serving tens of millions of users with only a handful of IT employees). This led to two virtual-machine-centric "adoption" scenarios. The first was renaming existing, in-house virtual-machine infrastructures as "private clouds." The second was moving the existing, in-house virtual-machine infrastructure to a public cloud, but without making substantive changes to take advantage of the public cloud.

As time has passed, more organizations have realized that they can't achieve the full benefits of the cloud within private clouds, or accomplish the changes to existing virtual machines that are necessary to realize the full

Managing and Automating Workloads in a Cloud Environment

How are you managing, automating, and orchestrating workloads in your cloud environment?



Note: Multiple responses allowed

Base: 155 respondents who use public IaaS, private cloud or hybrid cloud infrastructure

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

benefits of the cloud gained by organizations that are built on the cloud. As such, we have seen noticeable, but iterative, improvements in the way that organizations have been using virtual machines on the cloud.

Who Is Using It?

Many organizations spent the 2000s moving most of their physical machines to vir-

tual machines, and so continuing to think and work with virtual machines feels safe and understandable to most long-standing IT professionals. Therefore, we see 78% of survey respondents using virtual machines in their infrastructure-as-a-service (IaaS) environments. On the technical adoption curve, virtual machines are generally the only cloud infrastructure used by laggards

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and the late majority; however, because of their ubiquity, it is not uncommon to see them in basically every substantial cloud deployment.

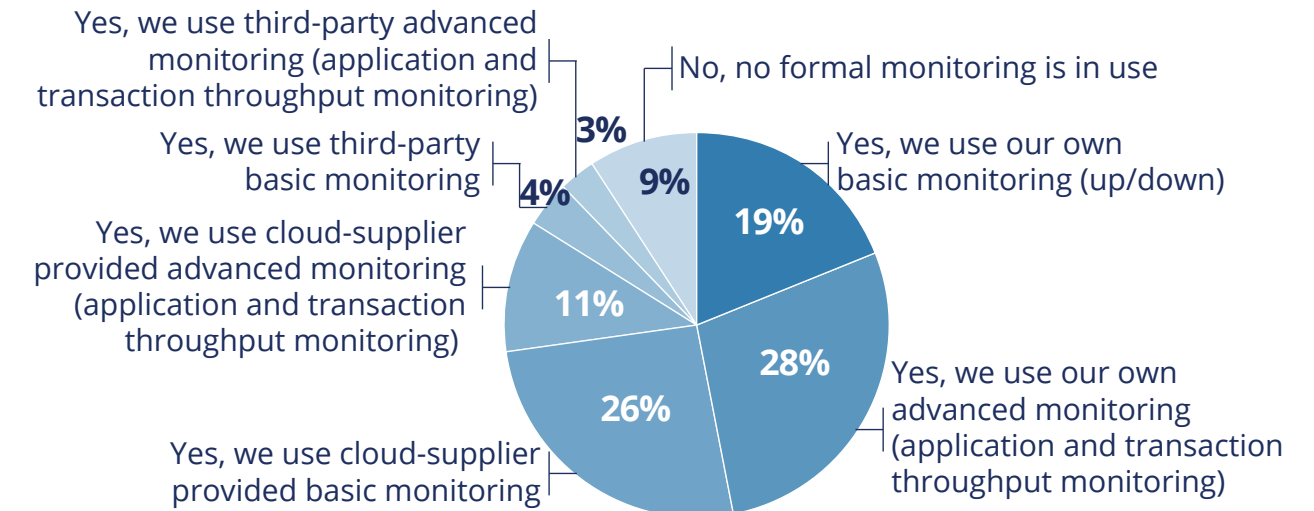
Management

Virtual machines have traditionally been managed as “pets” — meaning that they are individually launched and individually managed by systems administrators, and usually have individual names (which inspires the pet analogy). The goal of cloud-native architectures is to run virtual machines as “cattle” — meaning that they are handled in groups, without individual names, and where the loss of any one does not affect the overall organization significantly.

Perhaps unsurprisingly, the “pet” legacy of virtual-machine management still reigns supreme. Only a little more than a third of survey respondents are using configuration management, which is the primary method of managing virtual machines as cattle. Configuration management allows organizations to build server and orchestration “templates” that allow creating, updating, and terminating virtual machines automatically.

Actively Monitoring Cloud-Based Apps

Do you actively monitor performance of your cloud-based applications?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

In addition to orchestrating workloads, it is easier to monitor applications running on cloud infrastructure than in a legacy data center environment, and we do see some increasing use of monitoring. More than a third of our survey respondents are using monitoring provided by their cloud vendors, and more than another quarter are using even more advanced application

performance monitoring (the best practice today).

Security

Security continues to be a substantial concern for many organizations adopting or considering adopting public cloud services. Even though public cloud providers have far better objective security profiles

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than in-house data centers — for example, more annual security audits, stricter employee and monitoring controls, more fine-grained access options, better auditability of records — IT professionals continue to cite narratives around the supposed less-secure nature of the public cloud.

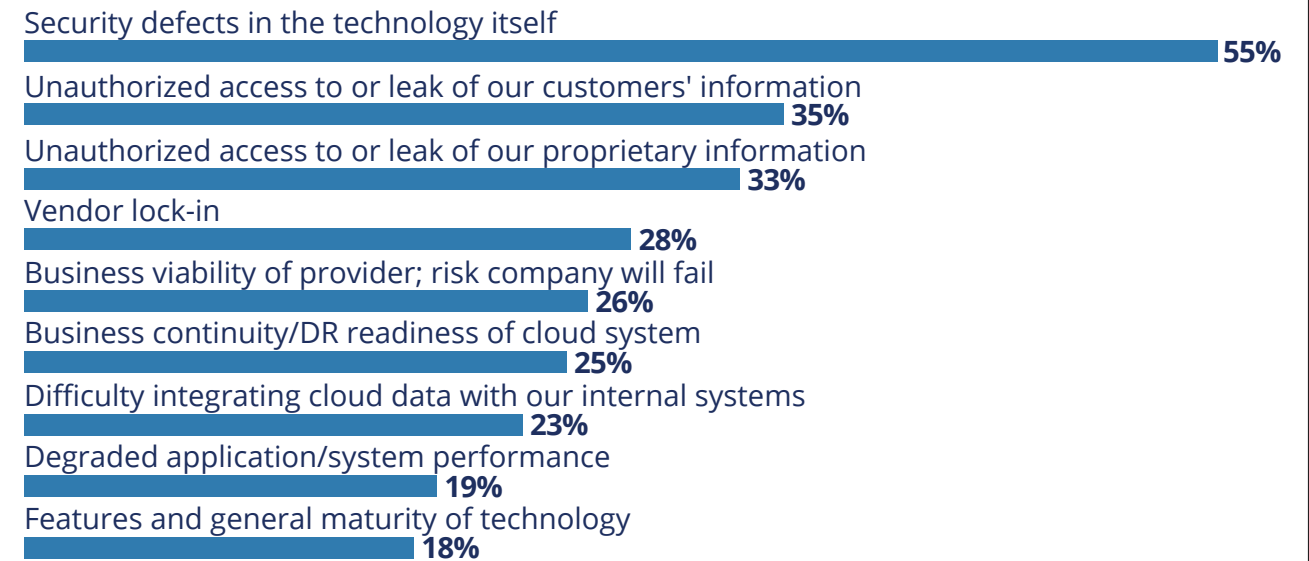
For example, one of our survey respondents, who uses absolutely no IaaS and is still using on-premises virtual machines for all applications, justified his lack of cloud adoption this way:

“Cloud computing is a disruptive technology and is great for startups with no intrinsic value to their IP or data, but security concerns are an important factor in the more established corporate culture, especially in the light of recent high-profile data breaches.”

What’s fascinating about this statement is that it runs counter to facts on the ground. The vast majority of valuable IP and data is hosted in the cloud (see the top 500 websites), and the high-profile data breaches of 2017 are at least as likely to have been from data centers as the public cloud (e.g., Equifax, Verifone, SEC).

Top IaaS Risks

When thinking about risks related to IaaS, what are your top three concerns?



Note: Maximum of three responses allowed

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Evidence shows that we have reached a point in time where essentially every large organization recognizes that the public cloud, if used properly, is far more secure than on-premises deployments, and that the business benefits of the public cloud make it a much preferable place to run

applications. However, some anti-cloud IT professionals continue to spread fear, uncertainty, and doubt about the security of the public cloud.

We also see increasing adoption of third-party vendor cloud security solutions that make it easier for organizations to deploy

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cloud infrastructures securely, although it is certainly still early days, with many vendors and no obviously dominant one yet.

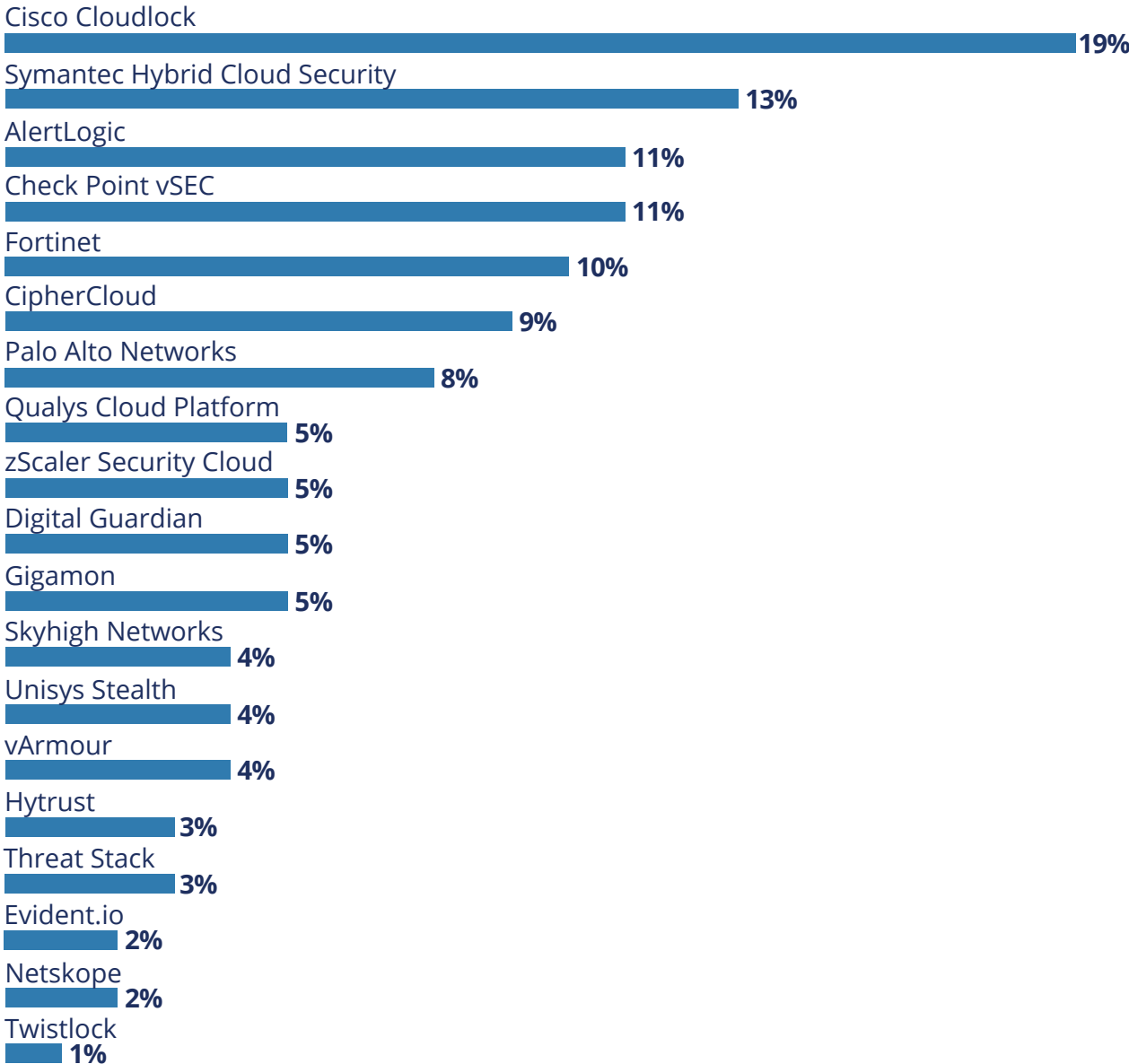
Cost Control

One of the early narratives around cloud adoption was that the cloud would reduce IT infrastructure costs by allowing customers to pay only for what resources they needed (since, from the beginning of EC2, you only paid per hour of virtual machine deployed). However, this has not proven to be true over time, for several reasons.

First, organizations have traditionally been quite bad at only running virtual machines when needed; most virtual-machine-based cloud deployments run VMs 24/7. Second, because VMs are so easy to launch in a cloud environment, organizations tend to use more of them. Third, while there are certainly cost savings to be had on the management side because fewer people are necessary to manage cloud infrastructures than on-premises infrastructures, organizations have had trouble moving enough infrastructure to the cloud in the right way to feel comfortable laying off systems and

Use of Cloud Security Management Tools

Which of the following cloud security management tools or services are you using or planning to use in the next 12 months?



Note: Multiple responses allowed
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

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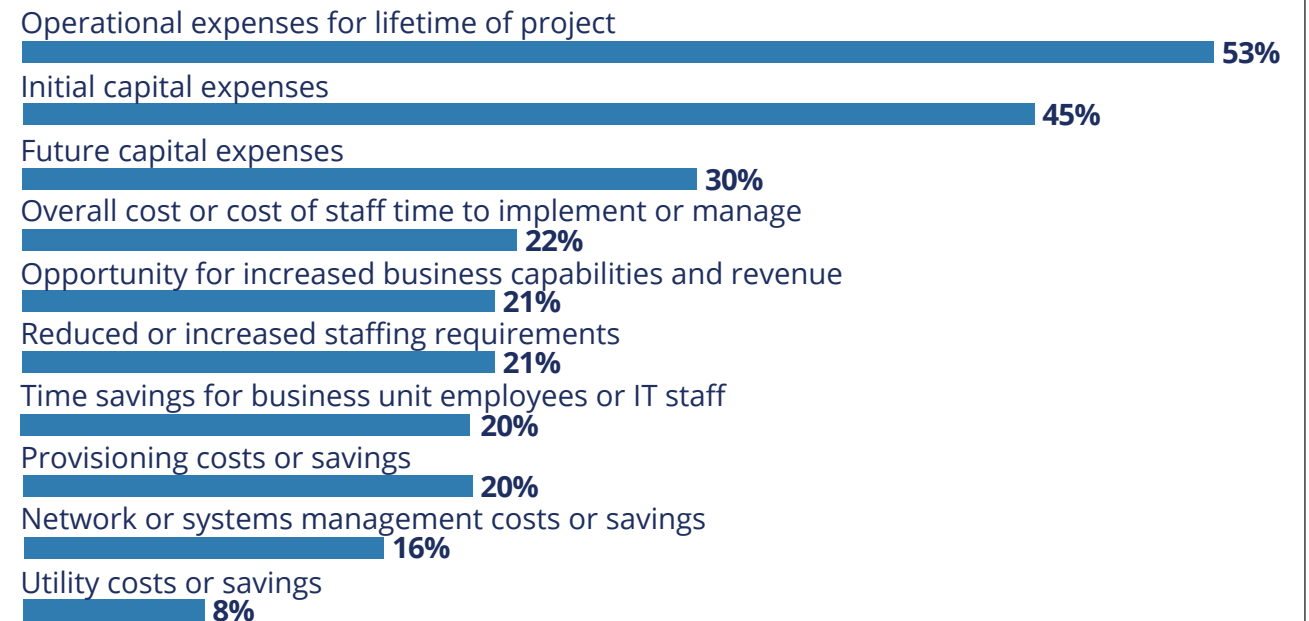
network administrators. And fourth, the shift from capitalized expenses to operational expenses has been difficult for larger, slower-growth organizations.

Our survey shows how front-and-center expenses are to cloud adoption, although for the first time this year, we see most organizations focusing on total operational cost of ownership, which is the key to making the shift from on-premises capex deployments to the cloud. Unfortunately, the second and third most important financial factors for our respondents are around capitalized expenses, which means we should continue to see larger organizations lag in their movement to the cloud.

And like the security space, we are in the early days of cloud cost management tools, which help organizations avoid unexpected and runaway cloud costs. You can see the substantial head start that Amazon Web Services has in that its own Trusted Advisor product is the number one most widely used cost control service, used by almost twice as many respondents as the number two choice.

Financial Factors Impacting IaaS Decisions

Which financial factors have the greatest impact on decisions regarding IaaS services at your organization?



Note: Maximum of three responses allowed

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

The Future

Virtual machines will likely continue to be the most widely used cloud infrastructure for several years to come, as enterprises continue their very slow march off

data centers and private clouds to public clouds. Over the past three years of surveys, we have seen a general trend of more and more workloads moving to the public cloud from the private cloud: in 2014, 24%

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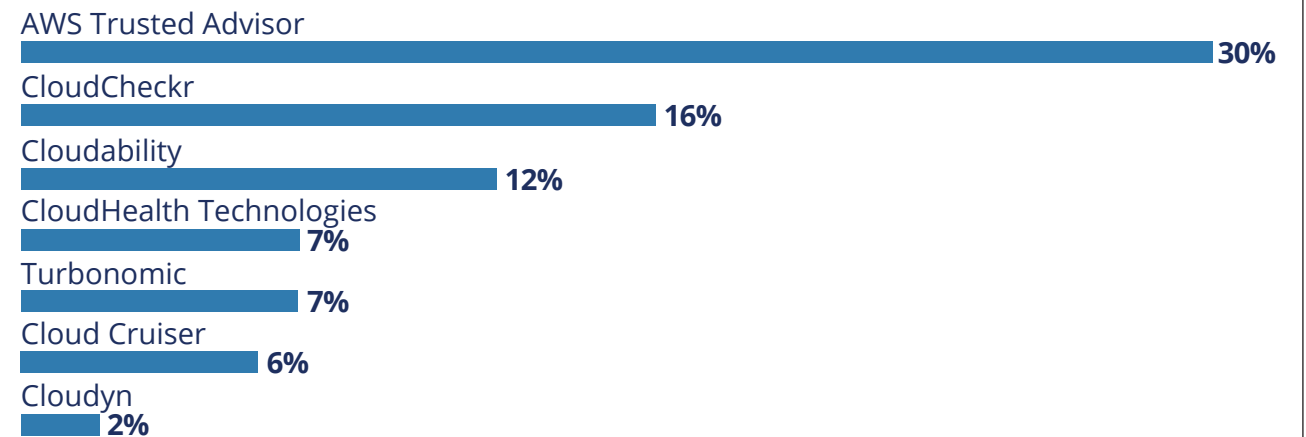
our respondents had most of their workloads in the public cloud, and that has increased to 43%.

Perhaps the biggest unanswered question in cloud adoption is how enterprises will move forward in their adoption of the public cloud. Will it be mainly around virtual machines (with configuration management?), or containers or serverless (the next sections of this report), or could it be around continuing private or hybrid cloud adoption? One interesting result of our survey is the substantial drop in the number of respondents who are developing hybrid cloud capabilities. In 2016, more than 71% said they were developing or considering capabilities, and that has dropped to 30% in this year's results.

Most pundits and investors are betting on either containers or serverless as the future for the enterprise, as opposed to continued virtual-machine-centric deployments or private or hybrid deployments. And that is reflected in our survey, although it remains to be seen how quickly those technologies are adopted, and for what percentage of enterprise application deployments.

Use of Cloud Cost Management Tools

Which of the following cloud cost management tools or services are you using or planning to use in the next 12 months?



Note: Multiple responses allowed

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Path 2: Containers

The Architecture

Conceptually, containers are to virtual machines what virtual machines are to physical machines: a way of running multiple applications/environments within what used to be a single environment. In addition, just as virtual machines eliminated some of the

systems administration needs at the physical server level, containers eliminate some of the systems administration needs at the virtual machine level.

Compared to our 2017 State of the Cloud report, the past 12 months show a significant increase in container adoption, with 12% of respondents using containers in production versus 7% one year ago. In

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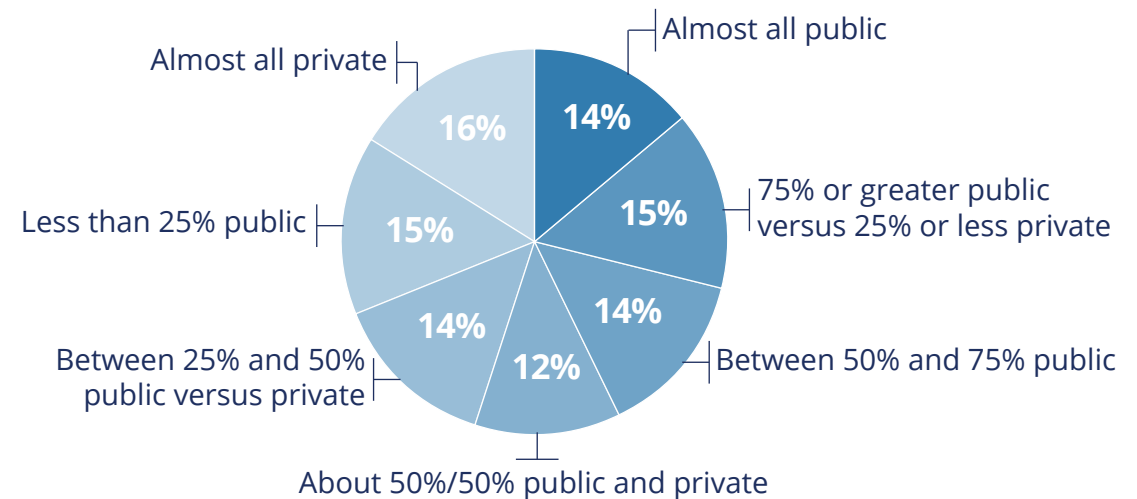
addition, the number of respondents who are considering containers almost doubled from 13% to 25%, and those who have no plans to deploy shrank from 30% to 19%.

Who Is Using It?

The most significant interest and growth in adoption around container-based cloud architectures is in large organizations that have significant numbers of existing applications and significant ongoing software development efforts. Containers provide many advantages over virtual machines for these organizations. First, it's easier to make development environments run identically to production environments and easier to connect to continuous-integration systems for reliably deploying software, which makes software development processes run much more consistently. Second, containers require less configuration than virtual machines, so it is easier, faster, and less error-prone to set up containers for developments. Third, because containers are simpler, IT professionals can gain more control over deploying and running containerized soft-

Public vs. Private Cloud-Based Workloads

Approximately what is the ratio of total cloud-based workloads running on public versus private infrastructure?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

ware than having to let developers have full access to various operating-system-level configuration operations within virtual machine architectures.

Management

Outside of our survey, the three most popular container orchestration/manage-

ment systems in the market are Kubernetes, Docker Swarm, and Mesosphere. Although our survey found Docker Swarm to be only slightly less used than Kubernetes, the past year saw almost every vendor — even Docker — and pundits coalesce around Kubernetes as the most popular system.

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Security and Cost Control

Security and cost control for containers is quite like virtual machines, where organizations are either running multiple containers per virtual machine or using public cloud container-based services. This past year saw many different new and improved cloud services built around running containers in the cloud: Amazon's Elastic Container Service for Kubernetes and Fargate; Microsoft's Azure Container Service (which also runs Kubernetes); and Google Kubernetes Engine.

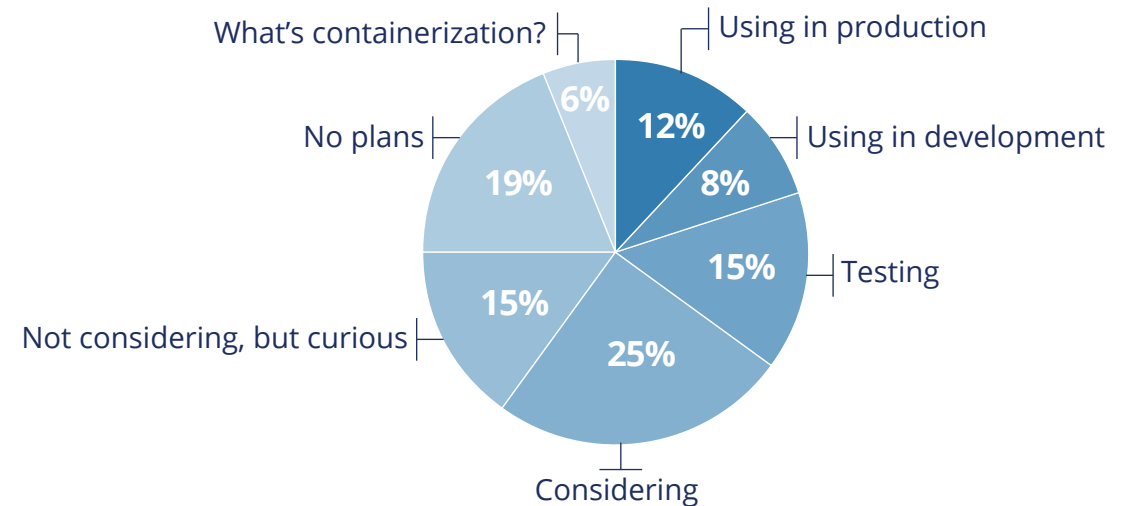
Our survey respondents note that cost is either the most important factor (45% of respondents) or at least important (96% of respondents), which is likely driving new services like Fargate, in which customers are only billed for the run time of the container and it is much easier to set up containers to run tasks and then stop than it is with virtual machines.

The Future

This past year set a convincing template for the future of containers: more standardization and improved tooling around

Plans for Containerization Systems

Do plans for containerization systems such as Docker factor into your cloud environment?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Kubernetes as the primary container orchestration/management platform, and more public cloud services built around Kubernetes, billing only for compute time used. And because it is not too difficult for software under active development to migrate from virtual-machine-based architectures to container-based architectures, it is

an easy, iterative path for organizations to take as they migrate to the cloud.

Path 3: Serverless

The Architecture

The overall direction of cloud architectures has been taking more and more traditional

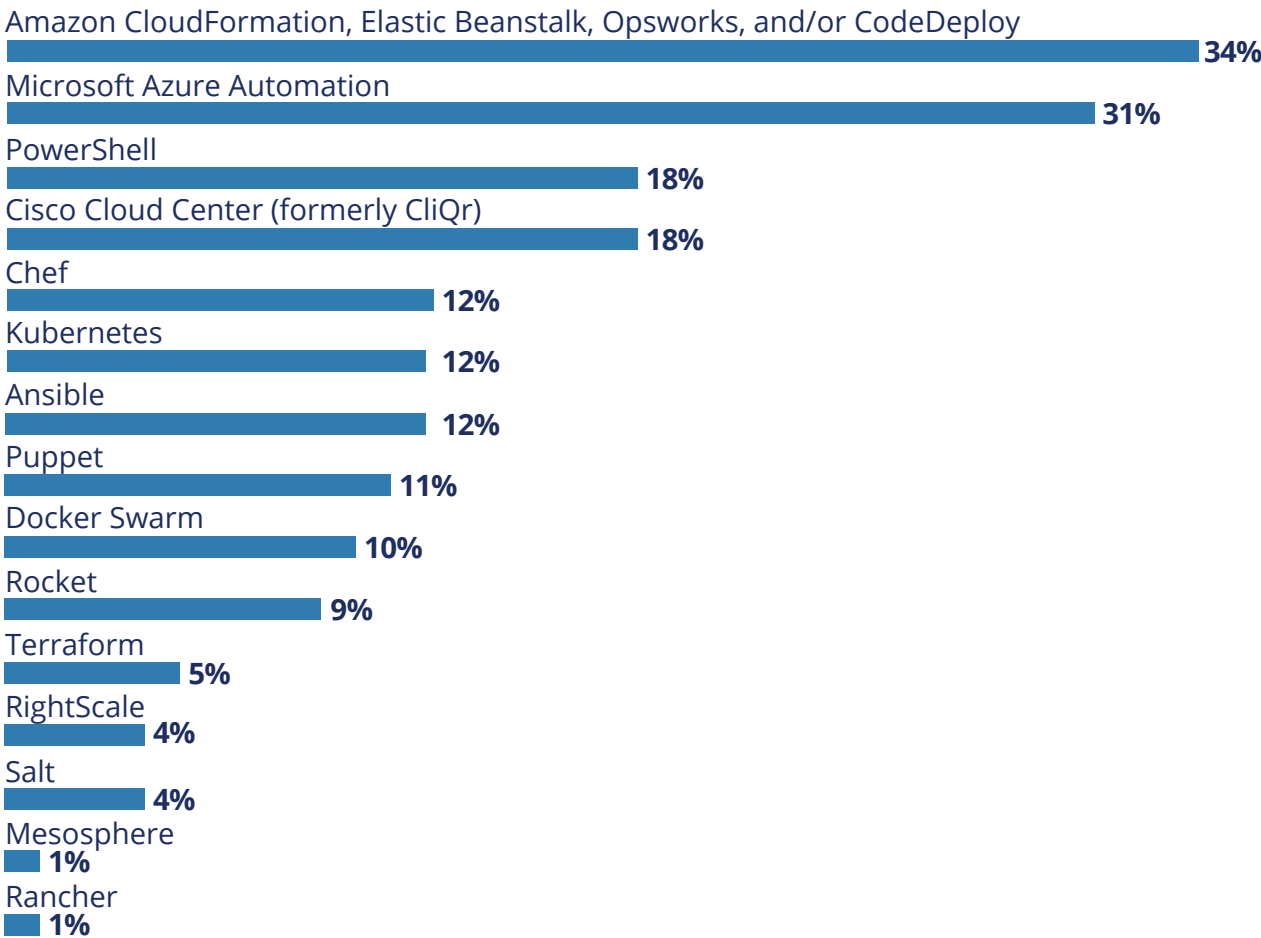
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systems administration control and authority away from end users and software developers. The path from physical machines to virtual machines to containers is one in which fewer and fewer aspects of the system are accessible and configurable. And the introduction of “serverless” application architectures goes yet another step beyond containers, such that the only thing that end users and software developers have control over is the actual code, or business logic, needed to run the application. The name “serverless” comes from the notion that one has no responsibility for or authority to control the underlying container, virtual machine, or physical machine that runs the code; instead, all uptime is in the hands of the cloud provider.

Serverless architectures are sometimes referred to as “functions-as-a-service” (FaaS) architectures, in which a FaaS platform like AWS Lambda, Azure Functions, or Google Cloud Functions is involved. However, this is only one part of serverless. Building a static website that runs on Amazon S3 (or Google Cloud Storage or Netlify) and building a mobile app that

Use of Configuration Management

Which of the following configuration management or orchestration tools or services are you using or planning to use in the next 12 months?



Note: Multiple responses allowed
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

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uses a backend-as-a-service are two other examples of serverless architectures.

Who Is Using It?

Serverless architectures have been embraced by startups and other software developers pursuing greenfield projects. Serverless architectures have the potential to help organizations realize the main benefits of IaaS more directly and easily than through virtual machines or containers.

Our survey respondents rated scalability, performance, cost savings, and time-to-market as the four most important benefits of IaaS. Serverless architectures scale effortlessly, are built for consistent performance at scale, are only billed as they are used, and — because they do not require configuration or management of physical machines, virtual machines, or containers — can be much faster to bring to market.

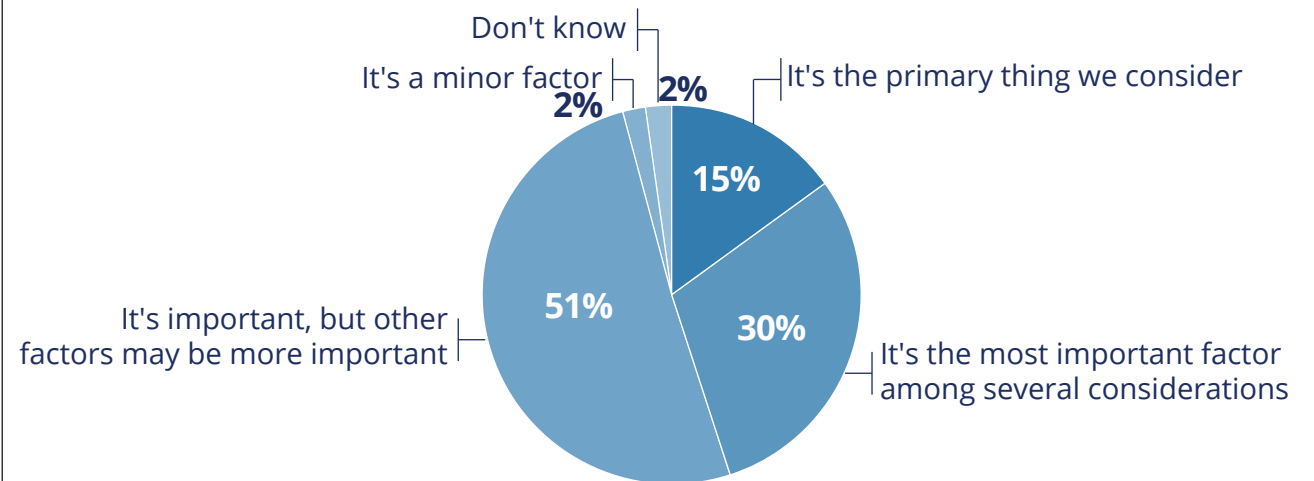
Management, Security, and Cost Control

Serverless architectures are also much simpler from management, security, and cost control perspectives. Serverless architectures, once

code is deployed, are managed entirely by the cloud provider. Security is also handled entirely through the cloud provider's identity and access management systems, which are usually much more fine-grained with better audit trails than anything built or run by an organization. And cost, as described above, is simply pay-per-code-run.

Consideration of Cost for IaaS Project

How heavily does cost factor into a decision to go ahead with a IaaS project at your organization?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

The Future

Startups and greenfield development have consistently been on the leading edge of cloud architectures, starting from the beginning of the public cloud era. Serverless architectures enable software development organizations to outsource emergency operations and uptime to cloud providers,

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which makes applications more reliable with less in-house knowledge and resources necessary. As such, it should not be a surprise that forward-looking organizations are implementing serverless architectures wherever it is feasible for them to do so.

All Paths Are Good Paths

As far as public cloud vendors go, Amazon Web Services remains dominant, and our survey respondents confirm this, with 62% of respondents using AWS. Microsoft Azure continues to improve and impress, especially as Microsoft itself continues to make strides within open source and for all software developers. More and more developers are choosing to use Microsoft's editor, Visual Studio Code, even if they don't use a Windows computer or Microsoft's languages or development environments. Google Cloud, which has historically had some unique products, especially in big data (BigQuery), machine learning (TensorFlow), and mobile/serverless application development (Firebase), had an unimpressive 2017, and seems to be falling behind both Amazon and Microsoft.

Google Cloud Functions, the company's FaaS platform, is still in beta.

Regardless of the chosen cloud architecture path, almost every organization that is adopting cloud — especially the public cloud — is reaping benefits. The limitless resources of public cloud providers make scaling, even (especially!) vertical scaling, simple and easy. Once organizations are in the public cloud, even if "lifting-and-shifting," they have substantially better business continuity and disaster recovery options than were possible on premises or in a co-location facility. Essentially all public cloud benefits become available even if you make a very limited and iterative move into the cloud.

Top Benefits of IaaS

What are the top three benefits your organization hopes to realize by using IaaS?

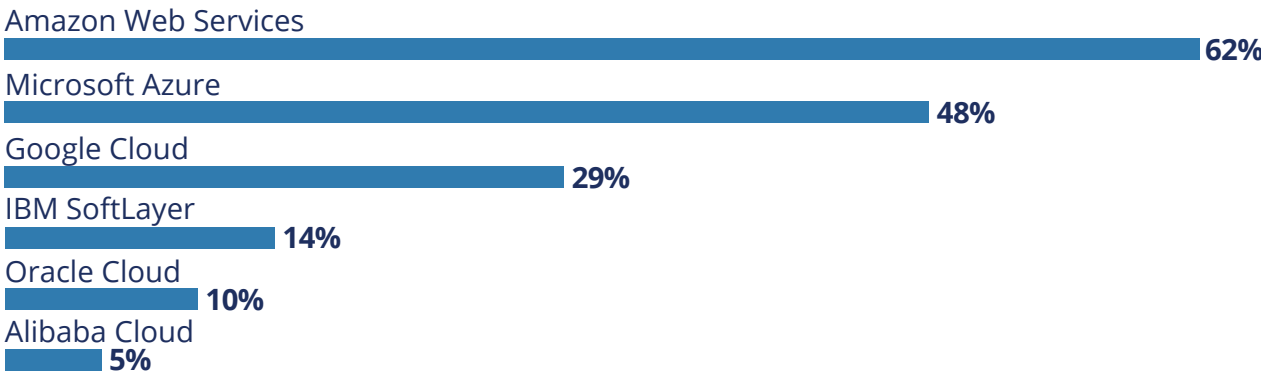
	Overall Rank
Greater scalability	1
Higher performance	2
Cost savings	3
Faster time to market	4
Improved business continuity	5
Better/faster access to technology resources	6
Increased IT staff efficiency	7
Expanded geographic reach	8
Improved security	9
Shift of cost allocation from capex to opex	10
Improved employee productivity	11

Note: Maximum of three responses allowed
Note: Score is a weighted calculation where items ranked first are valued higher than those that follow. The score is based on the sum of all weighted rank counts.
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

APPENDIX

Public IaaS Providers in Use

Which public IaaS providers do you use?



Note: Multiple responses allowed
Base: 111 respondents who use public IaaS or hybrid cloud infrastructure
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Measuring Benefits of Using IaaS

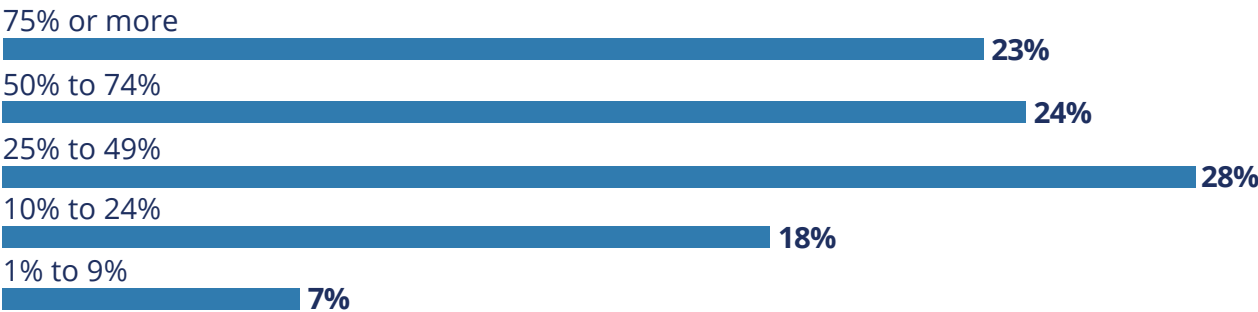
For each of the following categories, please indicate the degree to which your organization has experienced actual benefit by using IaaS.

	Benefited greatly	Benefited somewhat	Benefited minimally	No benefit	Does not apply
Greater scalability	35%	44%	15%	3%	3%
Improved business continuity	28%	36%	24%	8%	4%
Improved performance	26%	43%	23%	6%	3%
Expanded geographic reach	25%	27%	19%	18%	11%
Better/faster access to technology resources	25%	44%	20%	7%	4%
Cost savings	20%	36%	28%	12%	4%
Improved employee productivity	16%	41%	26%	13%	5%
Increased IT staff efficiency	15%	38%	31%	10%	6%
Shift of cost allocation from capex to opex	15%	39%	23%	13%	11%

Base: 155 respondents who use public IaaS, private cloud or hybrid cloud infrastructure
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Future Business Services Delivered from the Cloud

Looking ahead 24 months, what percentage of your IT and business services do you predict will be delivered from the cloud?

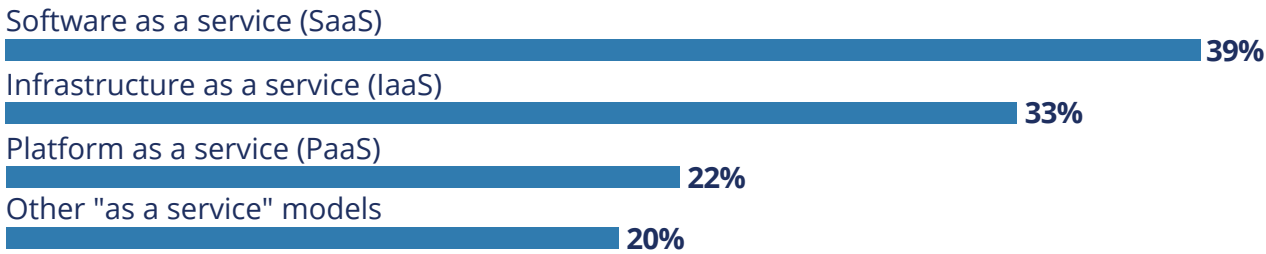


Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

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Cloud Budget Allocation

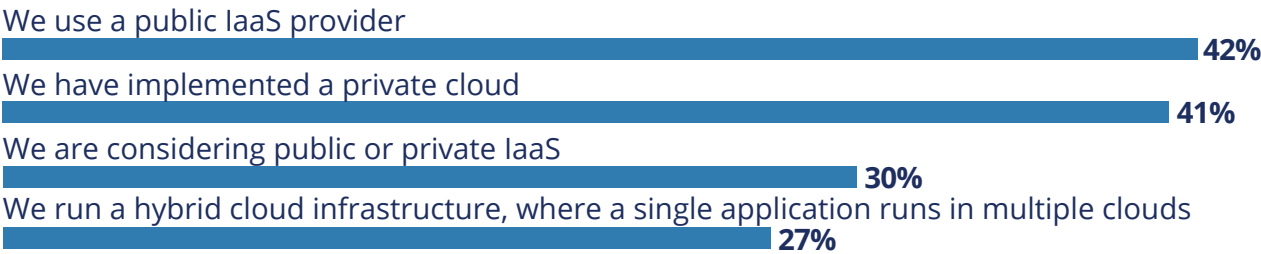
In 2018, how will your company's cloud budget be split between the following services?



Note: Due to average percentages, total does not equal 100%
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Utilizing IaaS

How is your organization utilizing IaaS?

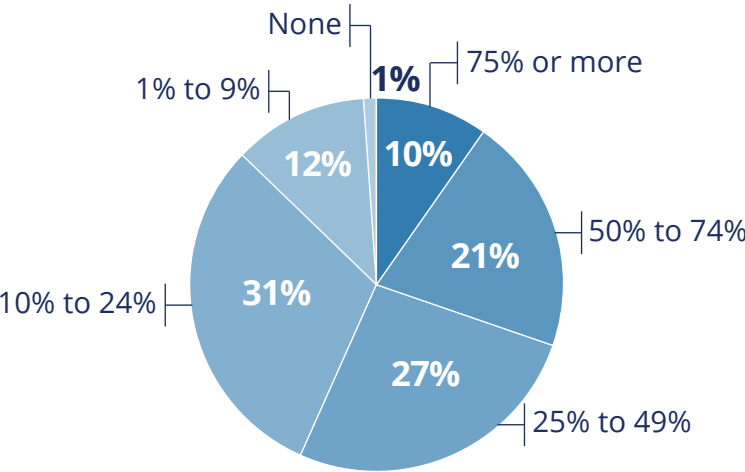


Note: Multiple responses allowed
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

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Percent of IT Budget Dedicated to the Cloud

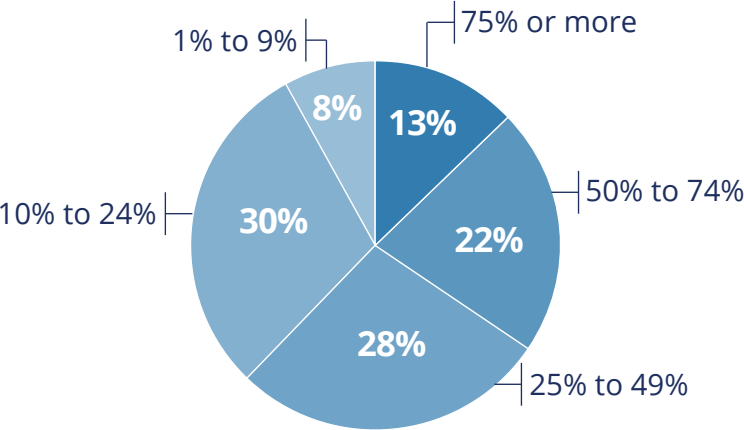
In 2018, what percentage of your company's IT budget will be allocated toward cloud?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Percent of IT Services Delivered from IaaS

Looking ahead 24 months, what percentage of your IT services do you predict will be delivered from IaaS?

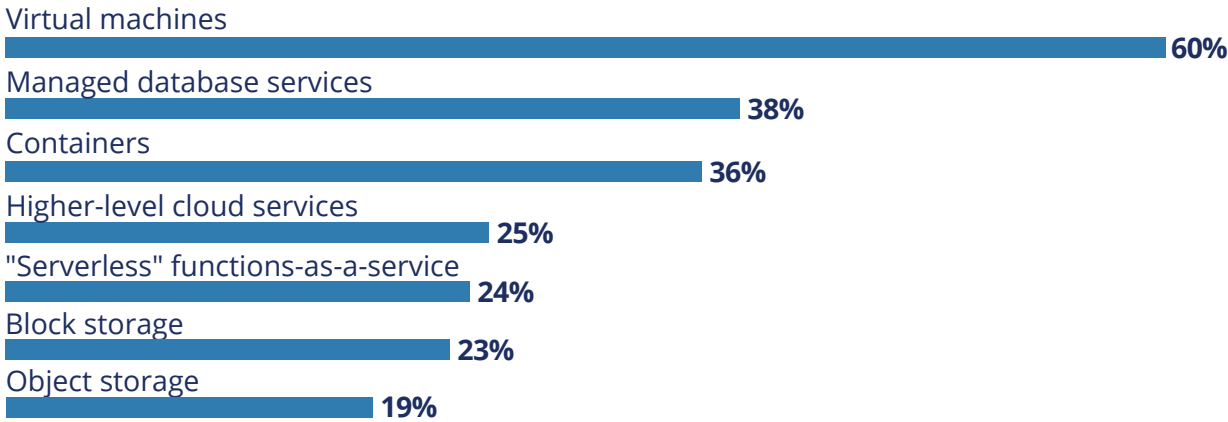


Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

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IaaS Technologies Likely to Begin Using in Next Year

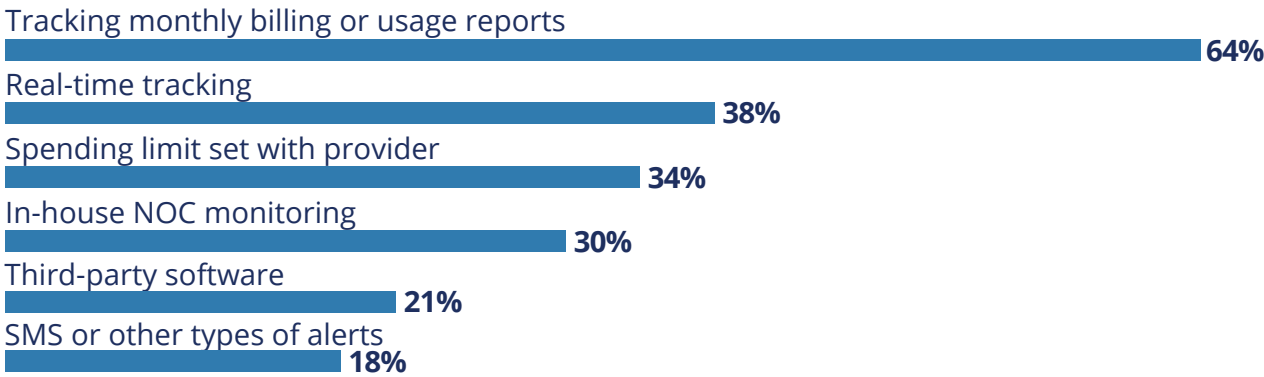
Which IaaS technologies and services is your organization most likely to begin using in the next 12 months?



Note: Multiple responses allowed
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Strategies to Monitor Costs of IaaS

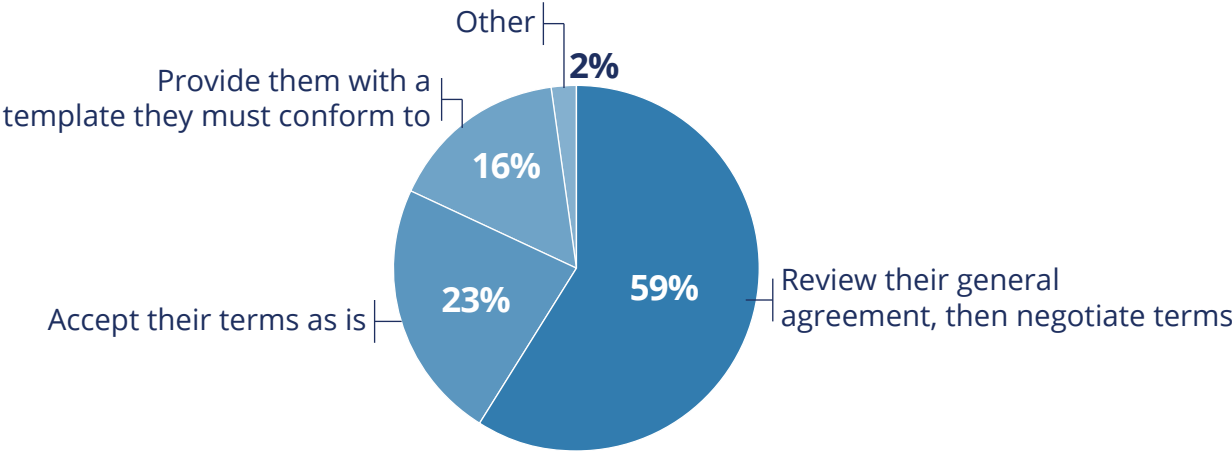
What strategies does your organization use or plan to use to monitor or estimate costs of IaaS?



Note: Multiple responses allowed
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

SLA Agreements with Cloud Providers

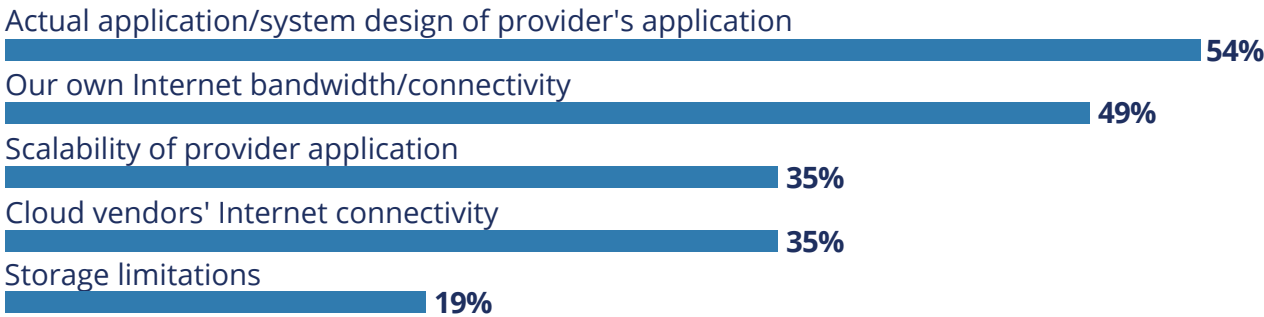
How do you create your SLA agreements with cloud providers?



Base: 155 respondents who use public IaaS, private cloud or hybrid cloud infrastructure
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Performance Challenges of Cloud-Based Apps

What are the biggest challenges for performance of cloud-based applications?

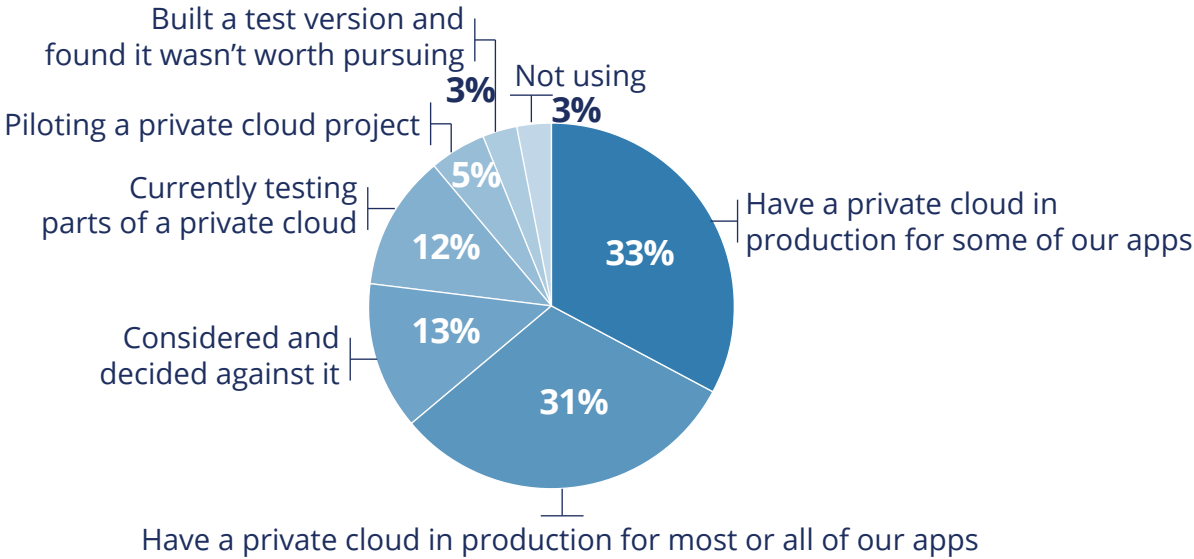


Note: Maximum of three responses allowed
Base: 155 respondents who use public IaaS, private cloud or hybrid cloud infrastructure
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

State of the Cloud

State of Private Cloud Adoption

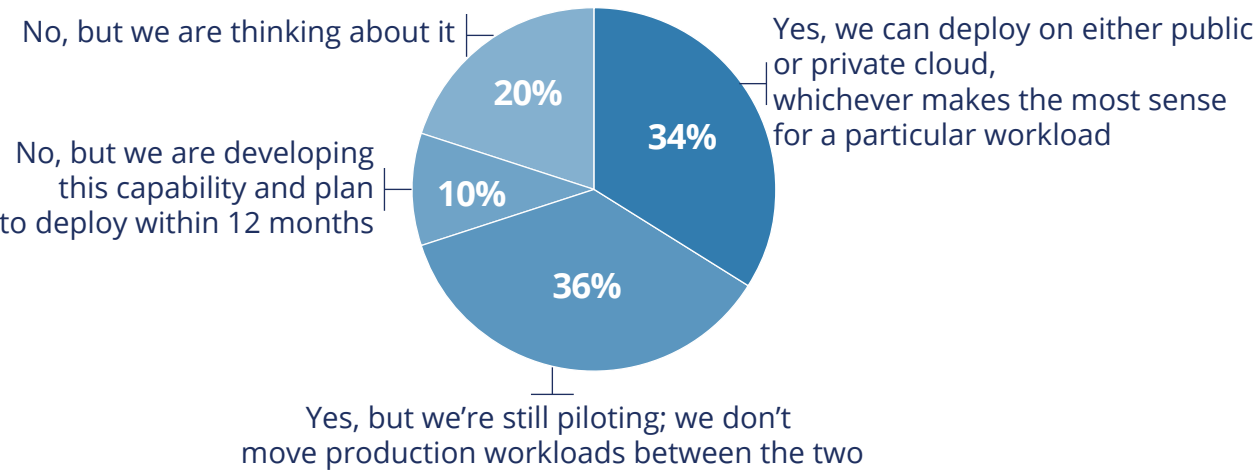
Which best describes your state of private cloud adoption?



Base: 111 respondents who use private cloud or hybrid cloud infrastructure
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Moving Apps from Private Cloud to Public Cloud Services

Can you provision and/or move applications and data from your private cloud to one or more public cloud services like AWS, Azure, etc.?



Base: 111 respondents who use private cloud or hybrid cloud infrastructure
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

State of the Cloud

Deployments in Cloud

For each of the following categories, please indicate whether your organization has deployed them using private cloud, public cloud, hybrid cloud, or not at all.

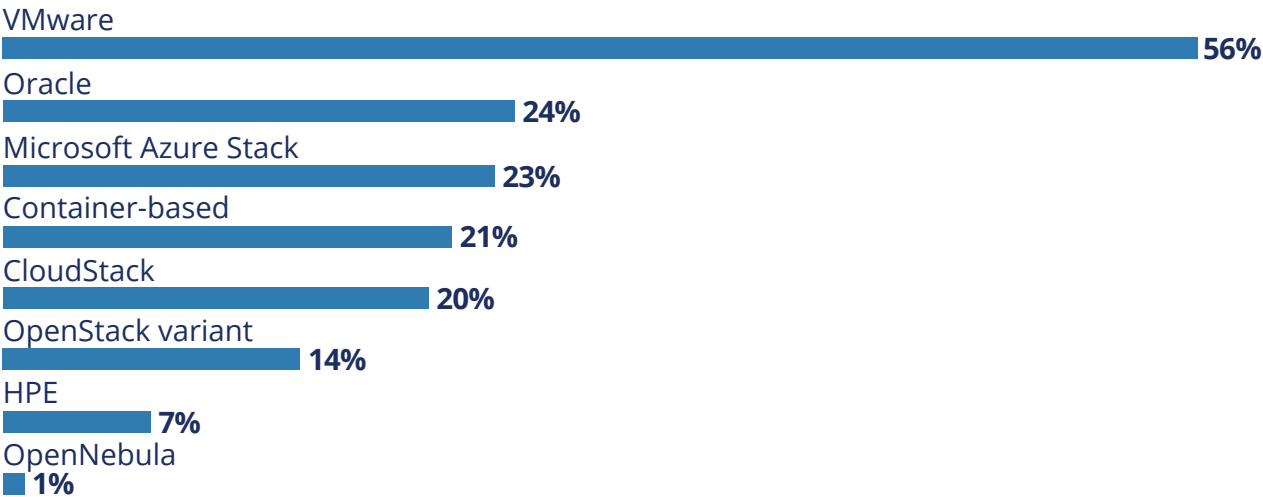
	Deployed in private cloud	Deployed in public cloud	Deployed in hybrid cloud	Not deployed
Database for N-tier applications	41%	24%	16%	20%
Security services	41%	22%	16%	21%
Authentication and authorization	41%	17%	19%	23%
Other DBs for mission critical apps	35%	27%	15%	24%
Middleware/app logic	34%	27%	20%	20%
Network services	33%	23%	19%	25%
Web server	32%	42%	19%	7%
Application development and test	32%	24%	18%	26%
ERP	32%	21%	12%	35%
Email server	29%	45%	17%	9%
Project/time management	29%	28%	17%	25%
HR/recruiting/training	29%	23%	18%	30%
Big data	29%	19%	13%	39%
CRM	28%	29%	15%	27%
Business intelligence/analytics	28%	25%	16%	31%
Collaboration/SharePoint	25%	38%	15%	22%
VDI	24%	18%	14%	44%
CMS/EIM	22%	27%	16%	36%

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

State of the Cloud

Private Cloud Platforms

What cloud platform are you using for your private cloud?

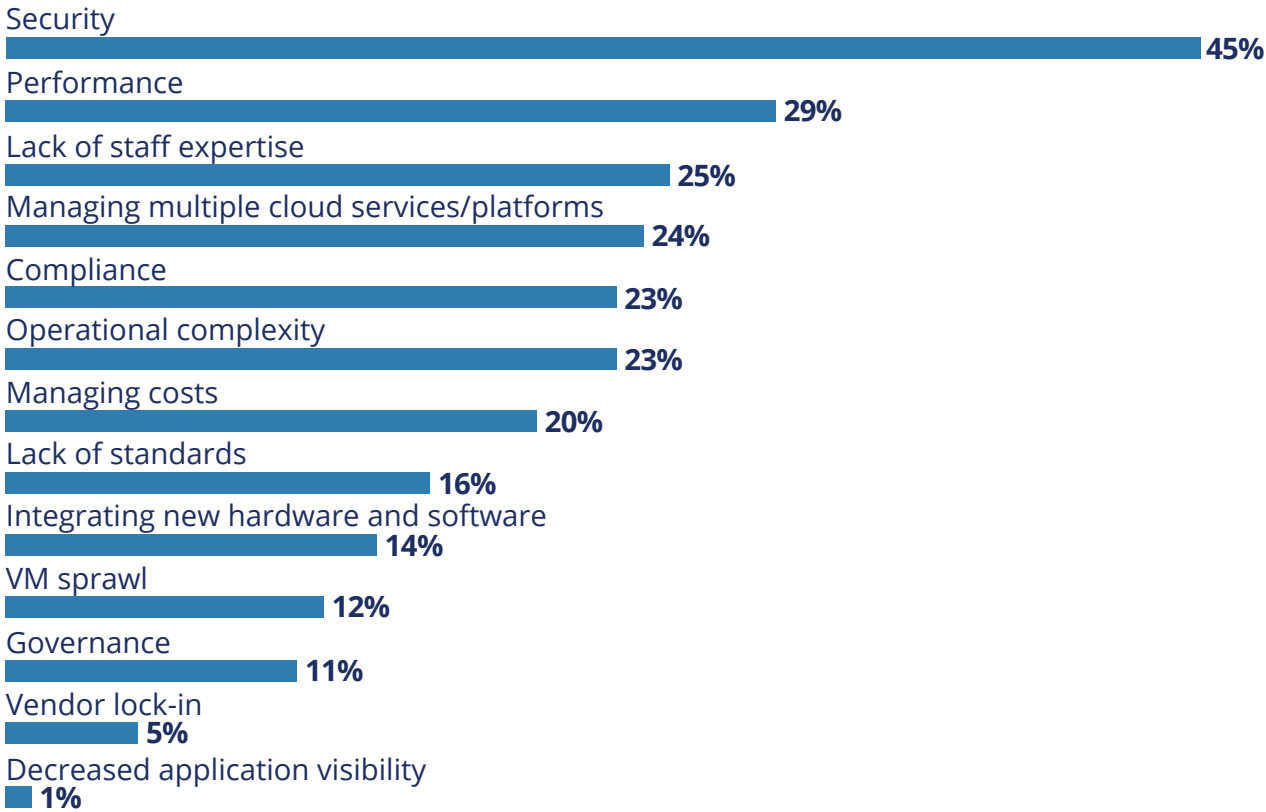


Note: Multiple responses allowed
Base: 111 respondents who use private cloud or hybrid cloud infrastructure
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

State of the Cloud

Private or Hybrid Cloud Challenges

What are the biggest challenges your organization has encountered in utilizing private/hybrid cloud?



Note: Maximum of three responses allowed

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

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Success of the Cloud Meeting IT Goals

How successful is your cloud initiative in meeting the following IT goals?

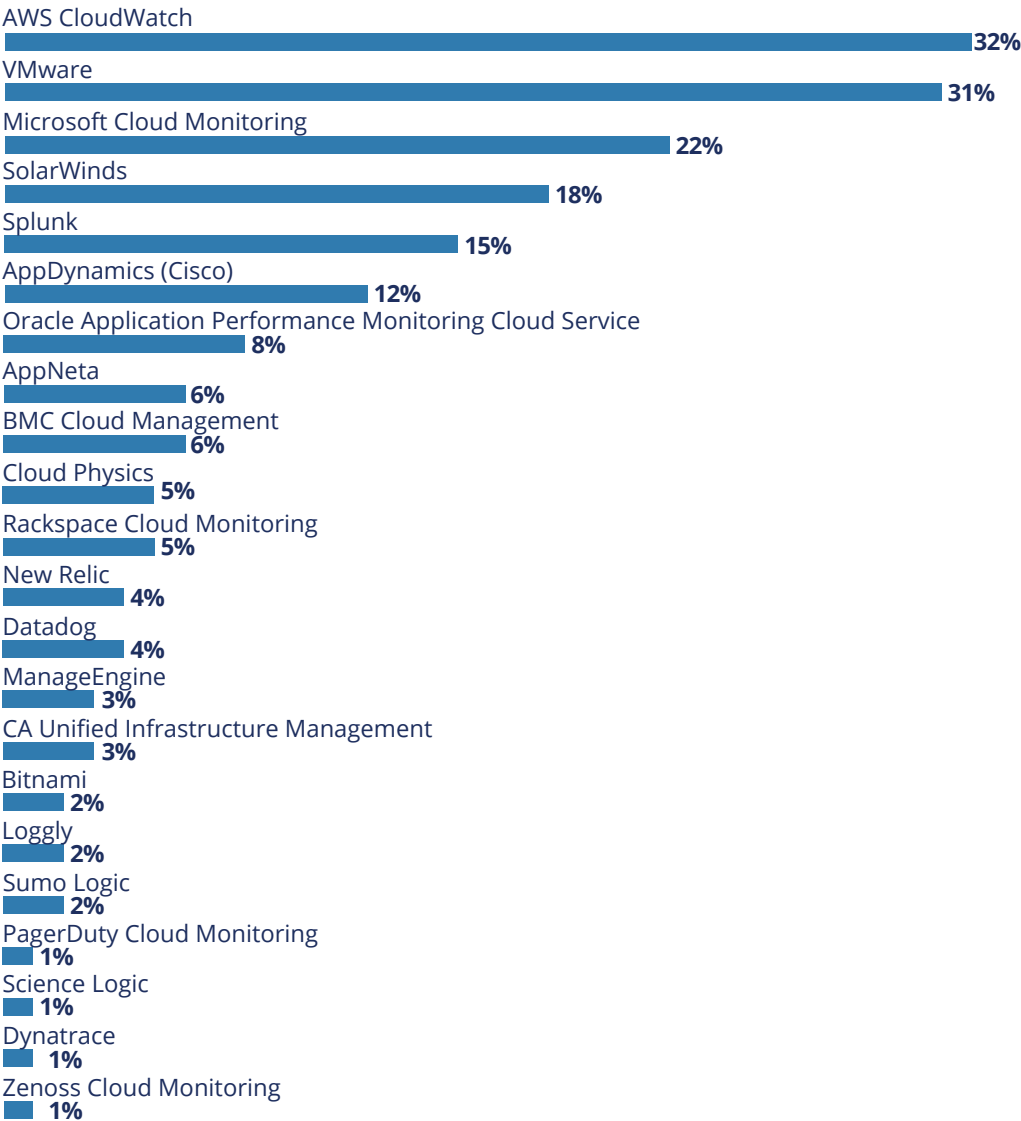
	5 - Extremely successful	4 - Somewhat successful	3 - Neither successful nor un- successful	2 - Somewhat un- successful	1 - Completely un- successful
Better scalability	26%	39%	24%	8%	3%
Better disaster recovery	20%	38%	32%	7%	3%
Better overall reliability	19%	40%	29%	9%	3%
More efficient use of hardware	18%	42%	27%	10%	4%
Standardized OS builds	17%	38%	34%	9%	2%
Faster delivery of applications to the business	15%	41%	35%	5%	5%
Better average application performance	12%	38%	41%	8%	2%
Allowing self-service for end users	11%	30%	43%	11%	5%
More efficient use of IT staff time	11%	37%	38%	11%	3%
Better peak application performance	11%	41%	35%	10%	4%

Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

State of the Cloud

Use of Cloud Performance Management Tools

Which of the following cloud performance management tools or services are you using, or plan to use in the next 12 months?



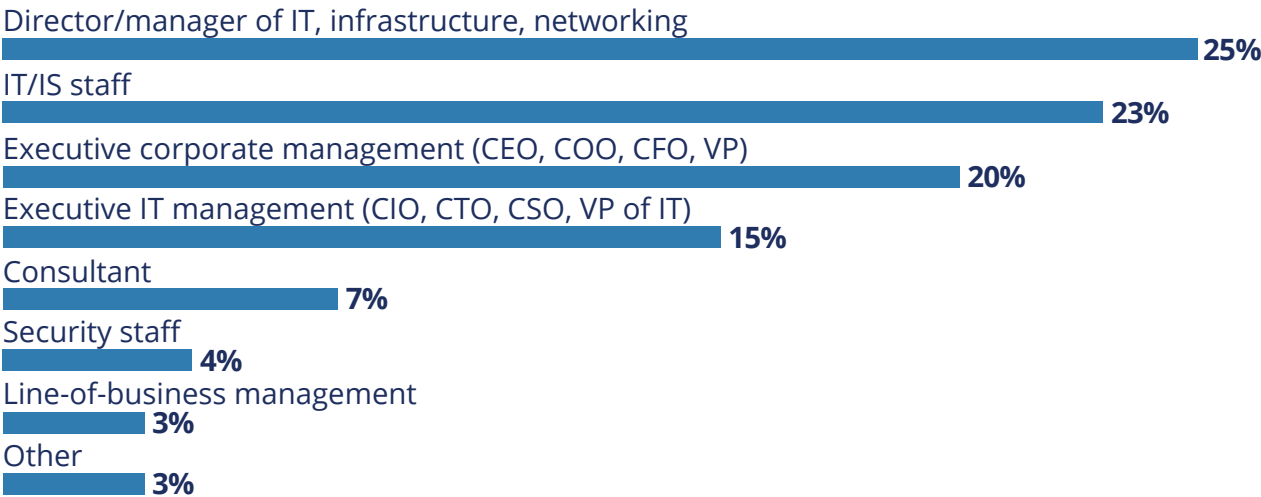
Note: Multiple responses allowed
Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

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Respondent Job Title

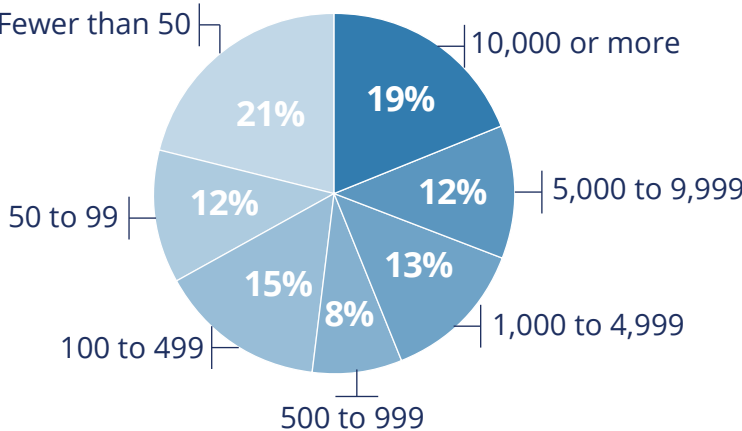
Which of the following best describes your job title?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Respondent Company Size

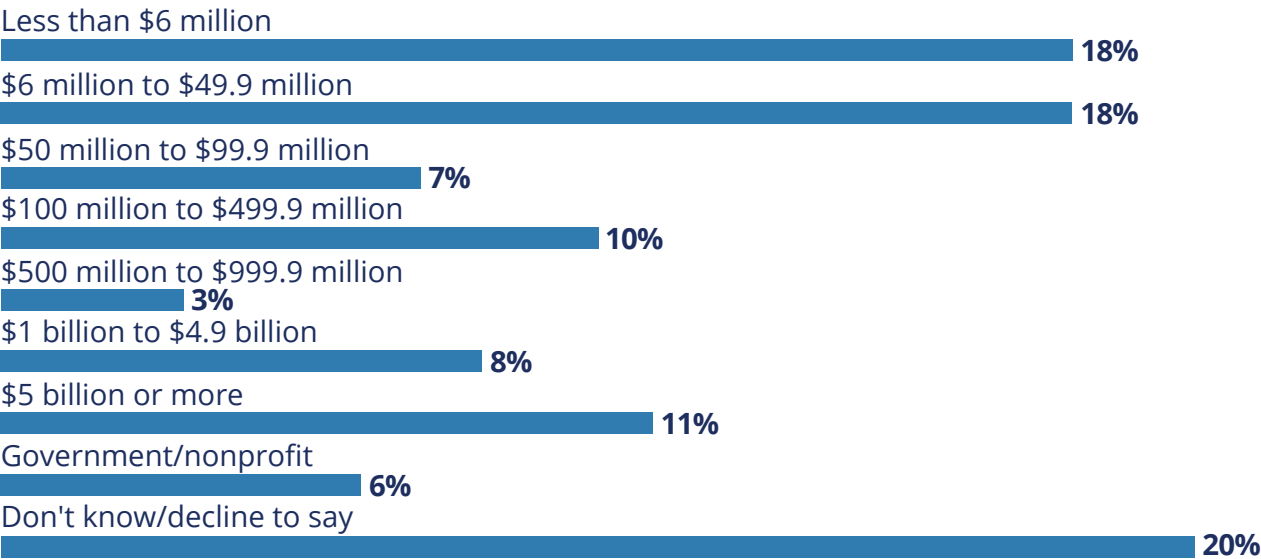
How many employees are in your organization in total?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

Respondent Company Revenue

Which of the following dollar ranges includes the annual revenue of your entire organization?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017

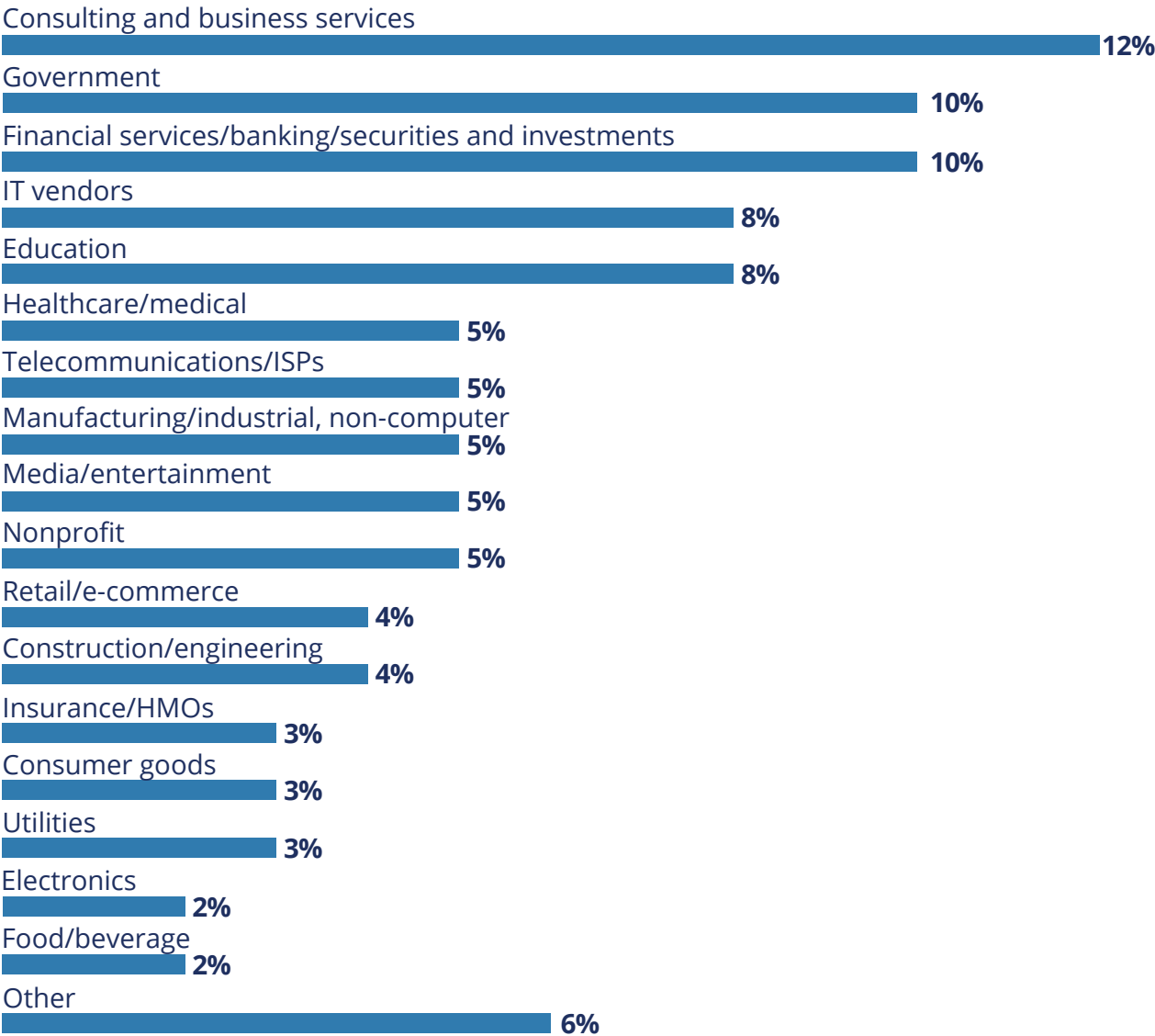
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State of the Cloud

Respondent Industry

What is your organization's primary industry?



Data: Informa survey of 200 cloud computing users who use or plan to use IaaS, December 2017