CLOUD SECURITY

SPOTLIGHT REPORT

LinkedIn Group Partner

Information Security

Presented by

ALIEN VAULT

CLOUD SECURITY
SPOTLIGHT REPORT

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OVERVIEW

Cloud adoption is increasing quickly as organizations are looking to reduce IT cost, increase agility and better support business functions. However, security of data and systems in the cloud remains a key issue and critical barrier to faster adoption of cloud services.

This report is the result of comprehensive research in cooperation with the 250,000+ member Information Security Community on LinkedIn to explore the specific drivers and risk factors of cloud infrastructure, how organizations are using the cloud, whether the promise of the cloud is living up to the hype, and how organizations are responding to the security threats in these environments.

In this report you will learn how your peers are approaching security in the era of cloud infrastructure and gain valuable benchmark data to gauge how your own organization stacks up.

Many thanks to AlienVault for supporting this exciting project.

Thanks to everyone who participated in this survey.

We hope you will enjoy this report.

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Information Security

KEY SURVEY FINDINGS

The 5 Major Trends in Cloud Security

1. Security is still the biggest perceived barrier to further cloud adoption. Nine out of ten organizations are very or moderately concerned about public cloud security.

2. The dominant cloud security concerns involve unauthorized access, hijacking of accounts, and malicious insiders. Almost 80% of managers are concerned about personal cloud storage services operated by employees or visitors.

3. The most popular method to close the cloud security gap is the ability to set and enforce consistent cloud security policies. Encryption for data at rest and in motion top the list of most effective security controls for data protection in the cloud .

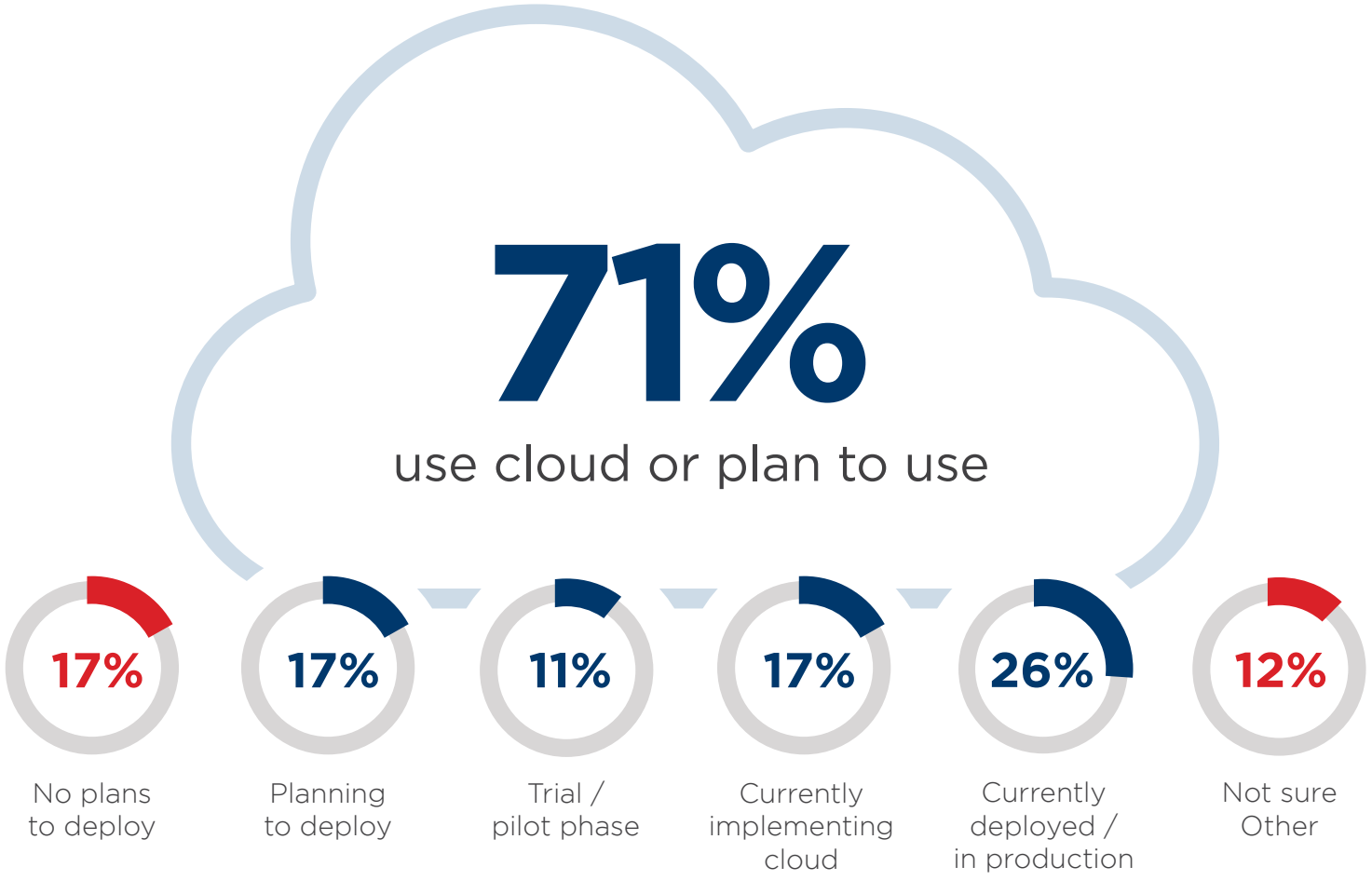
4. Is cloud computing delivering on the hype? Yes on flexibility, availability and cost reductions. But security and compliance remain the biggest concerns.

5. Despite SaaS providers making massive investments in security, 36% of respondents believe that major cloud apps such as Salesforce and Office 365 are less secure than on-premise applications.

CLOUD ADOPTION TRENDS

CLOUD ADOPTION

71% of respondents are either in planning stages, actively implementing or in production cloud environments.

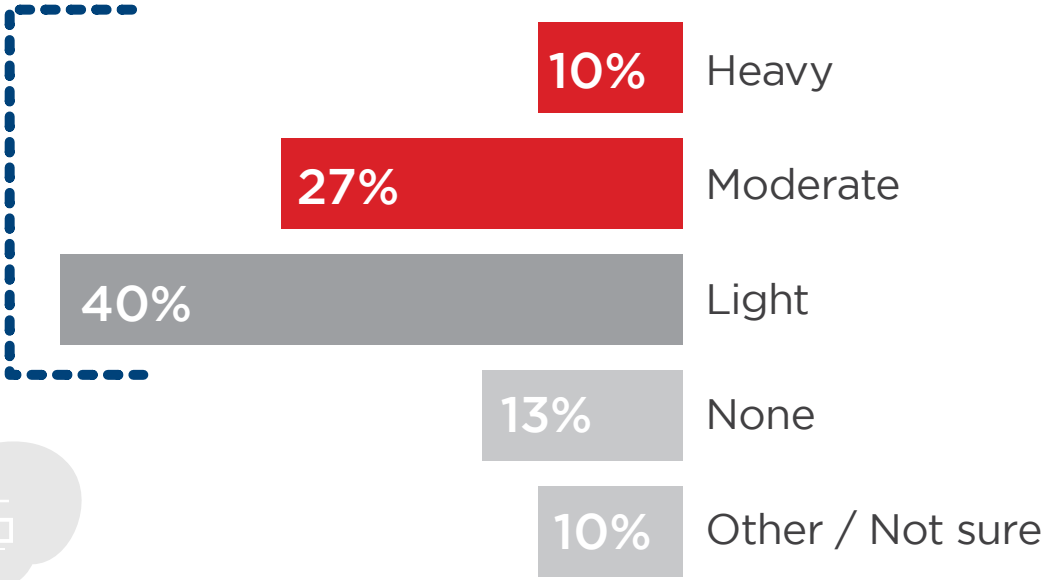


Q: What is the overall status of your organization's cloud adoption?

PUBLIC CLOUD USAGE

This question reveals a typical technology adoption pattern where 37% of respondents characterize themselves as moderate to heavy users of public cloud services. Over 77% of organizations surveyed already have at least some investment in public cloud services.

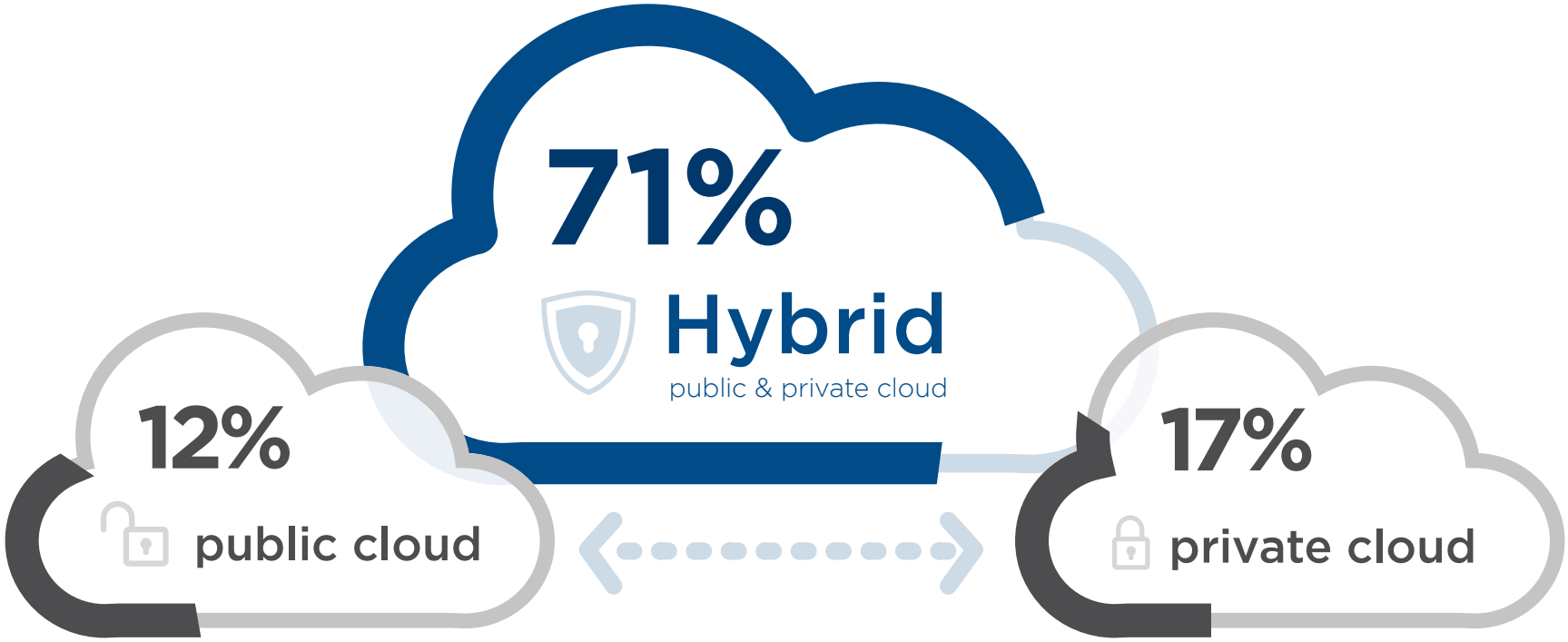
77%
are investing in
public clouds



Q: What best describes your organization's use of public cloud computing?

CLOUD DEPLOYMENT MODELS

Hybrid cloud deployments are most common with 7 out of 10 respondents using both private and public clouds in their organization.

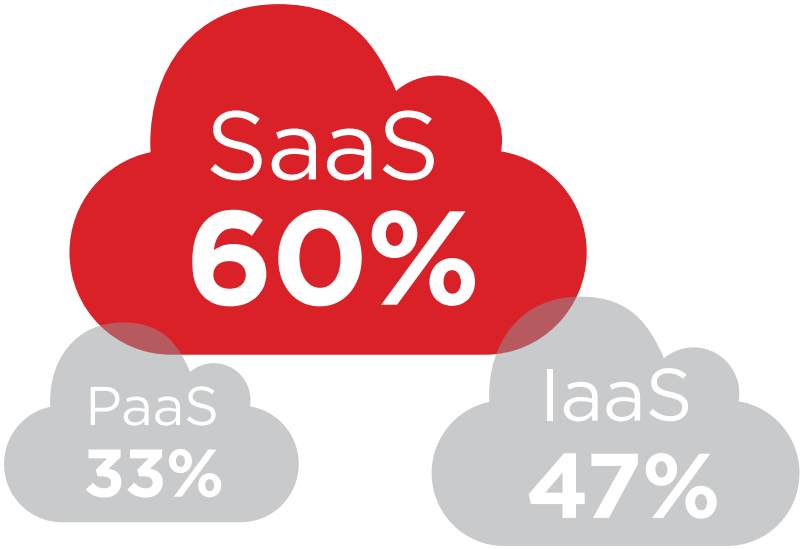


Q: What cloud deployment model is your organization using?

CLOUD SERVICE DELIVERY & PROVIDERS

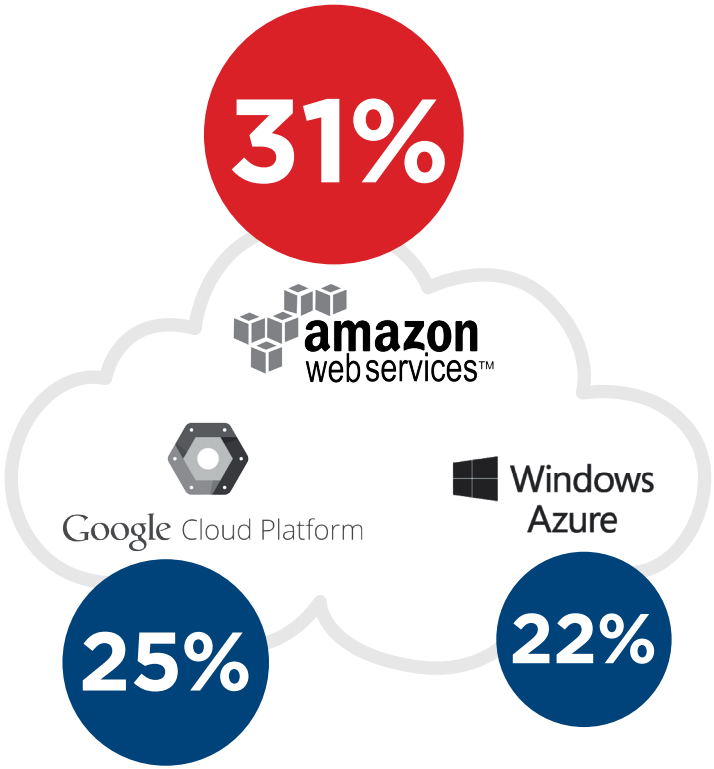
The vast majority of respondents (60%) uses SaaS models, followed by IaaS (47%) and PaaS (33%) as their cloud service delivery model.

cloud service delivery models



Q: What cloud service delivery model(s) is your organization using?

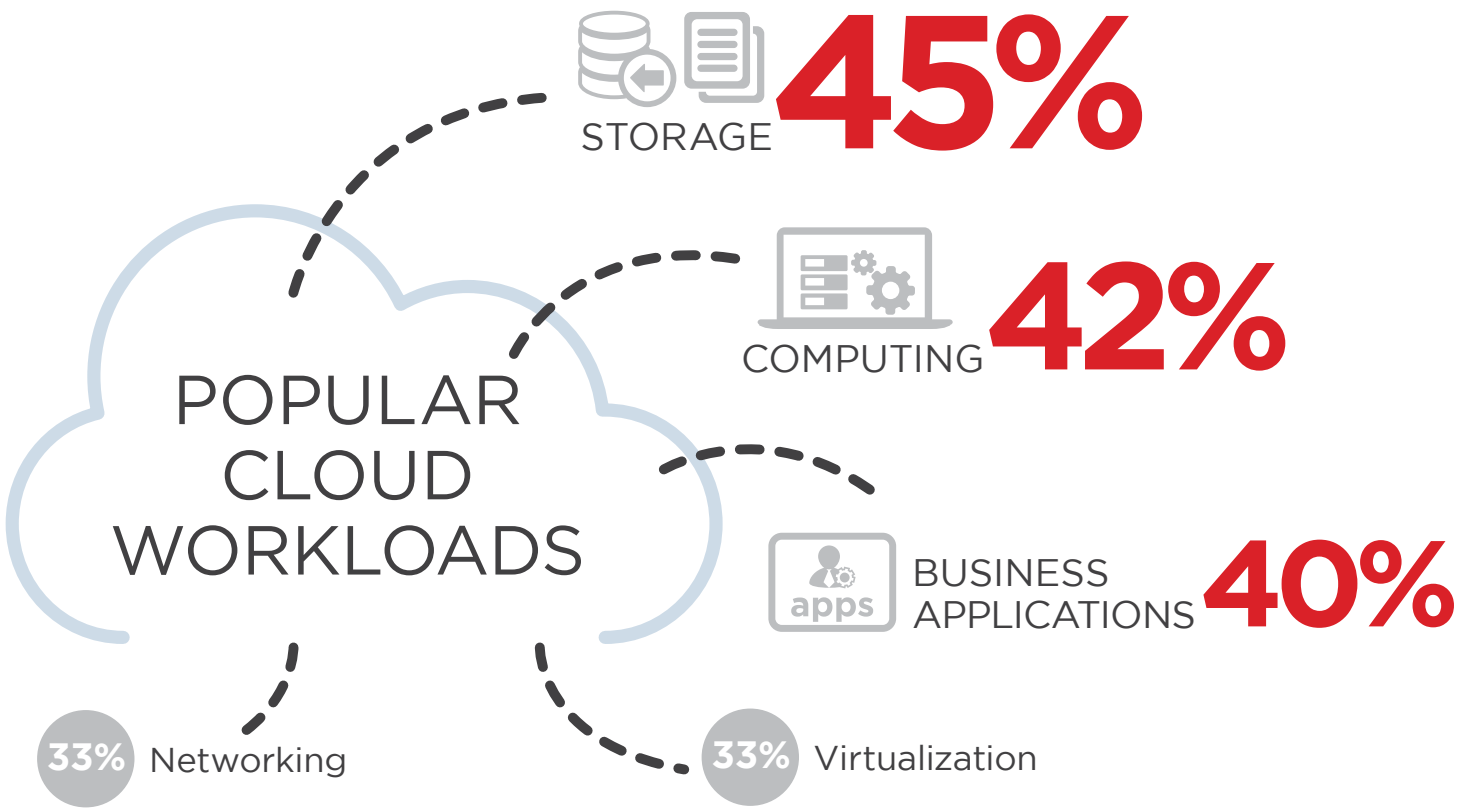
Amazon AWS is the big fish in the cloud infrastructure services pond, used by over a third of respondents. Google and Microsoft Azure follow with 25% and 22% respectively.



Q: What public cloud provider(s) do you currently use?

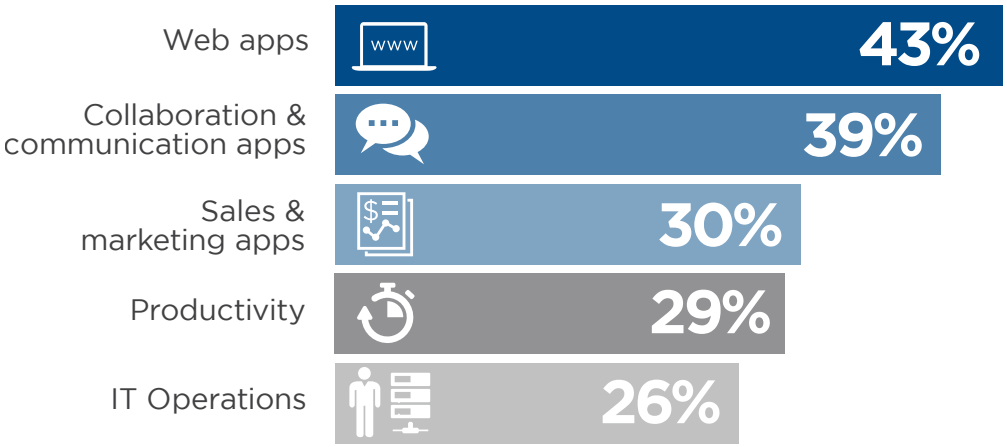
WORKLOADS IN THE CLOUD

The most popular cloud workloads deployed by companies are storage (45%), computing (42%) and business applications (40%).



Q: What services & workloads is your organization deploying in the cloud?

MOST POPULAR CLOUD APPS



Q: What types of business applications is your organization deploying in the cloud?

Web applications (43%), collaboration & communication apps (39%), and sales & marketing apps (30%) are the most common apps deployed in cloud environments.

Application development / testing 24% | Disaster recovery / storage / archiving 23% | HR 22% | Business intelligence / analytics 20% | Content management 18% | Custom business applications 18% | Finance & accounting 18% | Supply chain management 9% | Not Sure / Other 19% |

MOST POPULAR CLOUD APPS

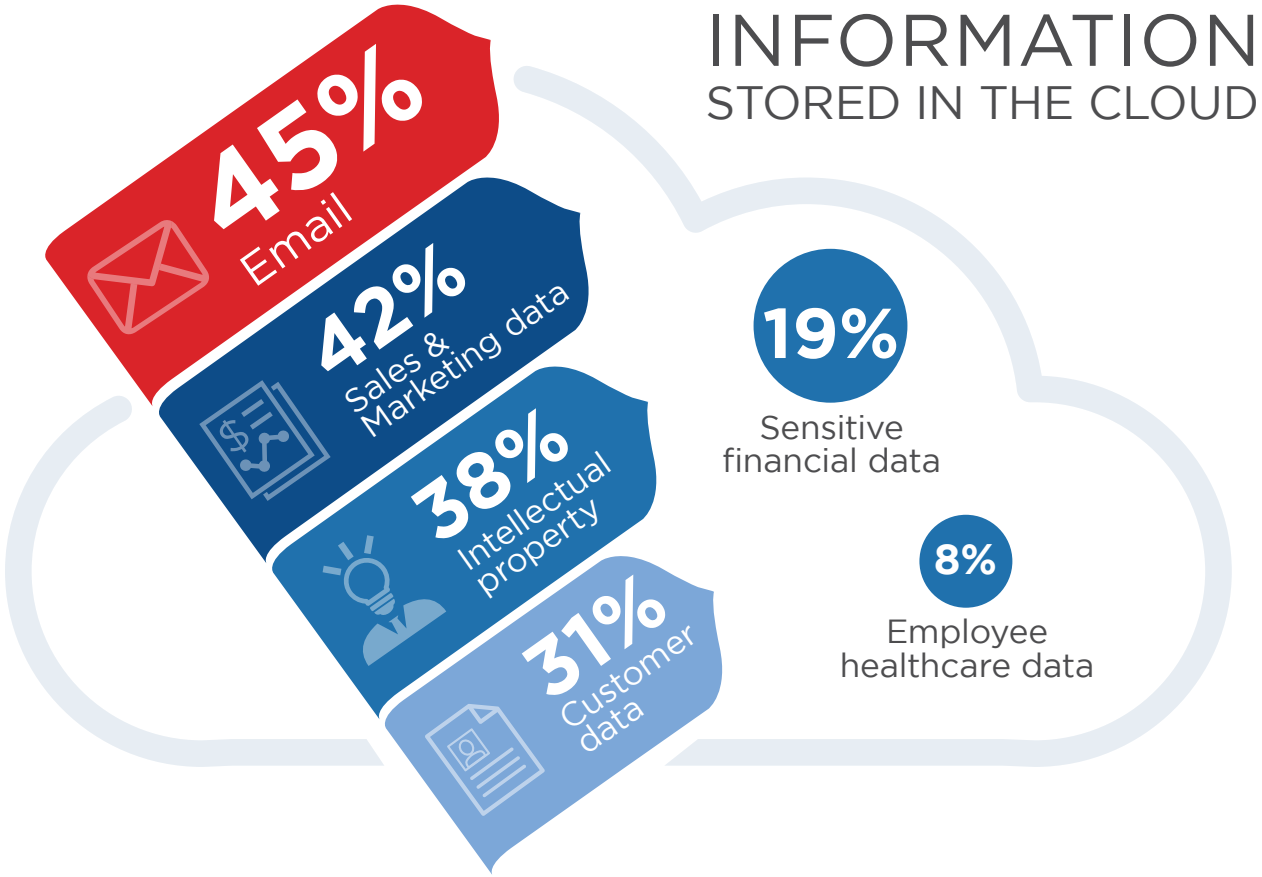
Salesforce is leading the way in existing deployments (22%), but Office 365 is making significant headway – currently at 16% deployment among our respondents but it is the cloud service of most future interest (29%). On the File Sharing & Sync side, Dropbox (13%) has a commanding lead over Box (6%) in current deployments but Box is catching up in future interest.

CURRENTLY DEPLOYED		FUTURE DEPLOYMENT
22%	Salesforce	15%
16%	Microsoft Office 365	29%
16%	Google Apps	13%
16%	Microsoft Exchange	13%
13%	Dropbox	4%
7%	Service Now	10%
6%	Box	8%
3%	Workday	8%

Q: Which of the following cloud applications are deployed or will be deployed in your organization?

CORPORATE DATA IN THE CLOUD

Email is the most frequently stored corporate information in the cloud (45%), followed by sales & marketing data (42%), intellectual property (38%) and customer data (31%). Few organizations store sensitive financial data (19%) or employee healthcare data (8%) in the cloud.

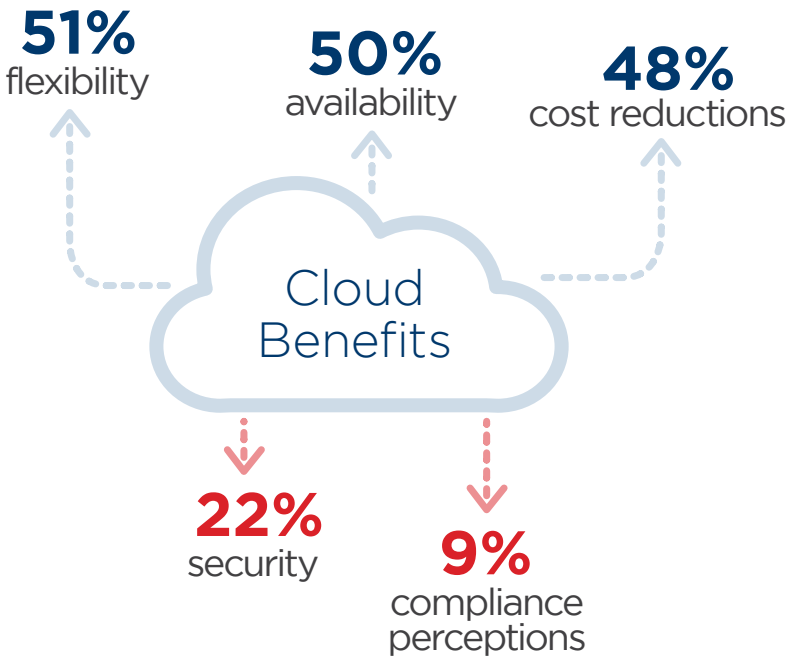


Q: What types of corporate information do you store in the cloud?

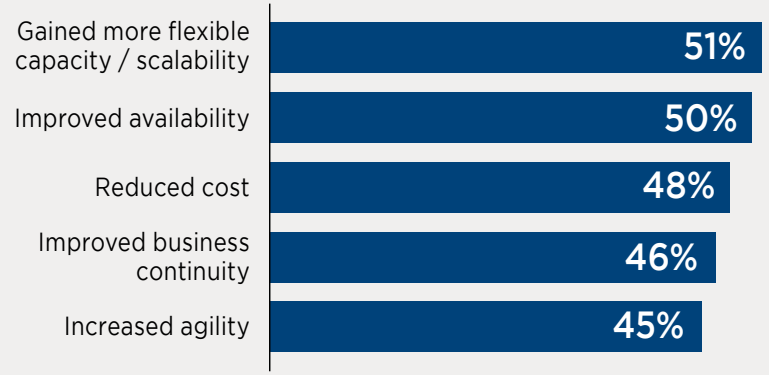
CLOUD BENEFITS & SHORTCOMINGS

There has been much hype around the benefits of moving to the cloud. We dug deeper to uncover the truth - cloud is delivering on its promise of flexibility (51%), availability (50%) and much talked about cost reductions (48%).

Where is cloud falling short? Security (22%) and regulatory compliance (9%).



EXPERIENCED CLOUD BENEFITS



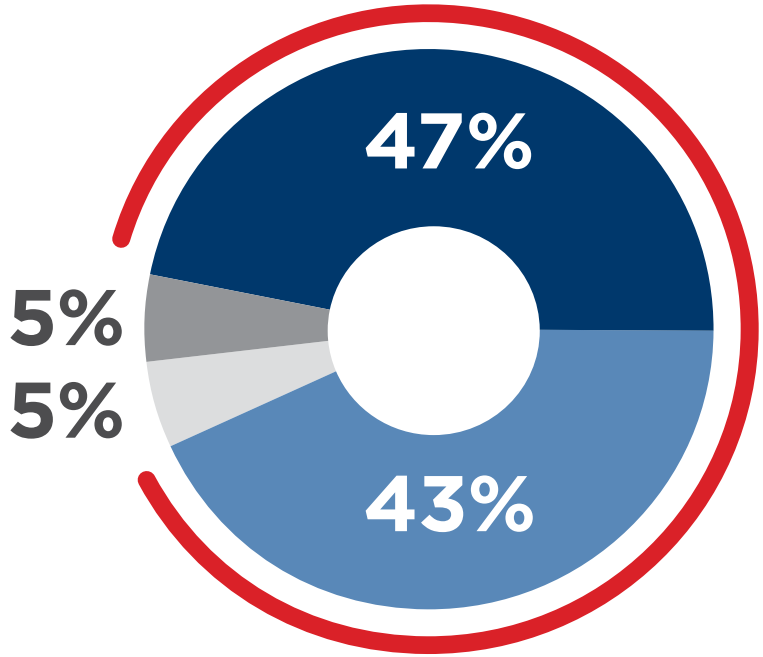
Increased efficiency 41% | Moved expenses from fixed CAPEX (purchase) to variable OPEX (rental / subscription) 38% | Accelerated deployment and provisioning 38% | Increased employee productivity 31% | Increased geographic reach 28% | Accelerated timetomarket 28% | Reduced complexity 27% | Improved performance 27% | Align cost model with usage 26% | Improved security 22% | Improved regulatory compliance 9% | Not Sure / Other 3% | None 1%

Q: What benefits have you received from your cloud deployment?


CLOUD SECURITY RISKS

SECURITY CONCERNS

An overwhelming majority of 90% of organizations are very or moderately concerned about public cloud security. Today, security is the single biggest factor holding back faster adoption of cloud computing.



90%

organizations have security concerns

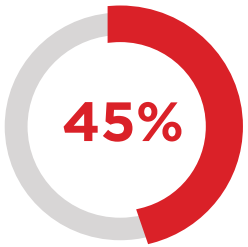
- Very concerned
- Moderately concerned
- Not at all concerned
- Not sure

Q: Please rate your level of overall security concern related to adopting public cloud computing

BARRIERS TO CLOUD ADOPTION

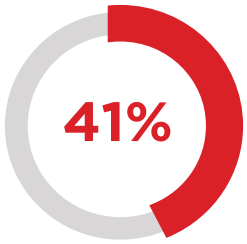
It's clear that IT teams have security top of mind. General security concerns (45%), data loss & leakage risks (41%), and loss of control (31%) continue to top the list of barriers holding back further cloud adoption.

#1



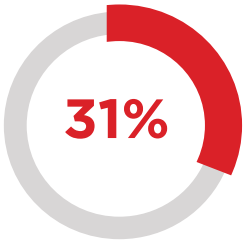
General security concerns

#2



Data loss & leakage risks

#3



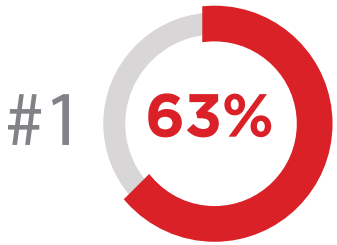
Loss of control

Legal & regulatory compliance 29% | Integration with existing IT environment 29% | Lack of maturity of cloud service models 21% | Internal resistance and inertia 19% | Lack of transparency and visibility 19% | Fear of vendor lock-in 19% | Lack of resources and expertise 16% | Cost / Lack of ROI 14% | Management complexity 13% | Performance of apps in the cloud 13% | Lack of management buy-in 11% | Dissatisfaction with cloud service offerings / performance / pricing 11% | Lack of customizability 10% | Availability 9% | & tracking issues 8% | Lack of support by cloud provider 8% | Not sure / Other 16%

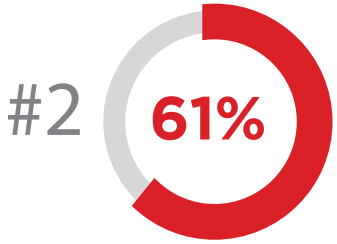
Q: What are the biggest barriers holding back cloud adoption in your organization?

SECURITY THREATS IN PUBLIC CLOUDS

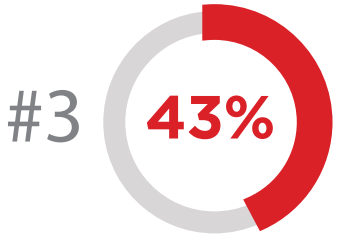
The biggest cloud security concerns include unauthorized access (63%) through misuse of employee credentials and improper access controls, hijacking of accounts (61%), and malicious insiders (43%). Malware, denial of service attacks, and other direct attacks against the cloud provider rank lower on the list of concerns.



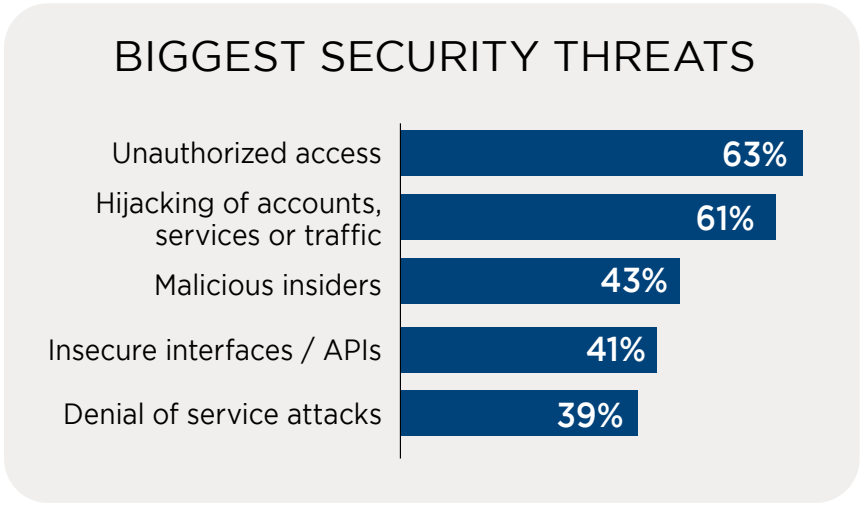
Unauthorized access



Hijacking of accounts



Malicious insiders



Malware injection 33% | Abuse of cloud services 33% | Shared memory attacks 24% | Theft of service 23% | Cross VM side channel attacks 22% | Lost mobile devices 18% | Natural disasters 7%

Q: What do you consider the biggest security threats in public clouds?

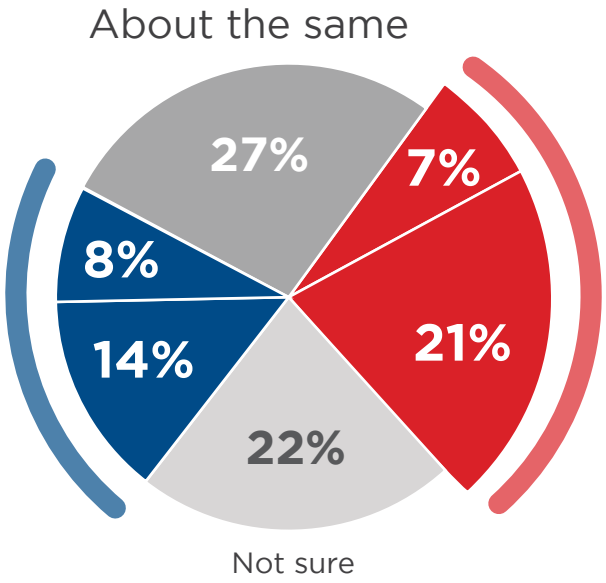
SECURITY BREACHES IN PUBLIC CLOUDS

About one third of enterprises have experienced more security breaches with the public cloud than with on-premise applications. Only 22% say the number of cloud security breaches is lower.

22%

Lower risk of security breaches compared to on-premise

Significantly lower (8%)
Somewhat lower (14%)



28%

Higher risk of security breaches compared to on-premise

Significantly higher (7%)
Somewhat higher (21%)

Q: How does the number of security breaches you experienced in a public cloud compare to your traditional IT environment?

SECURITY OF PUBLIC CLOUD APPS

Despite SaaS providers' significant investments in security, 36% of respondents believe that major cloud apps such as Salesforce and Office 365 are less secure than on-premise applications. Only 12 % believe these apps are more secure.

12% More secure than our internal apps

36% Less secure than our internal apps

28% About the same

13% Not sure

11% We don't use any public cloud apps

Q: Do you believe well-known public cloud apps like Salesforce and Office 365 are more or less secure than your internally hosted applications?

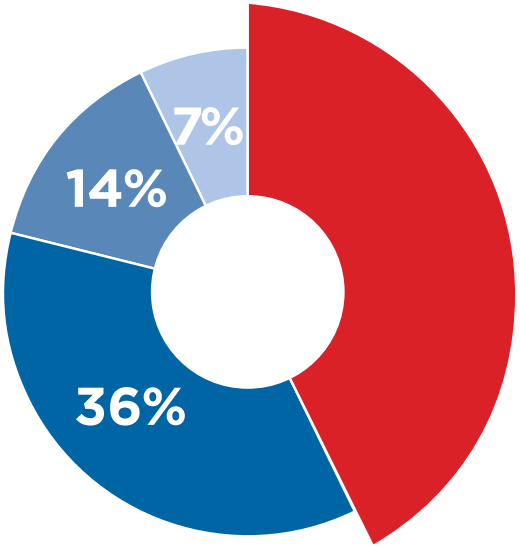
PERSONAL STORAGE CONCERNS

Almost 80% of managers are concerned about personal cloud storage services operated by employees or visitors, and the risk they pose regarding data privacy and leakage. This underscores the need for better visibility into data leaving the network.

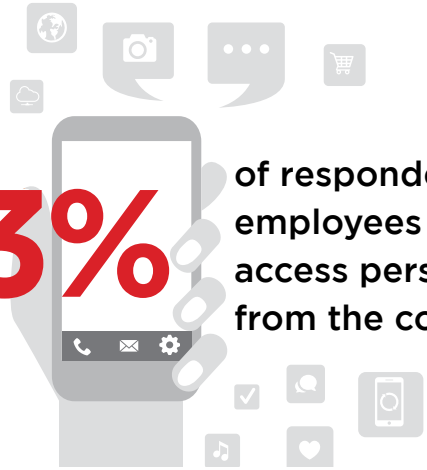
78% | Yes
12% | No
11% | Not sure

Q: Is management concerned about data security and privacy of personal cloud storage services?

Employee access to personal cloud storage services



Yes
No
We don't have a policy
Not sure



43% **of respondents confirm that employees are allowed to access personal storage services from the corporate network.**

Q: Are employees allowed to access personal cloud storage services from the company's network?


CLOUD SECURITY SOLUTIONS

KEY FACTORS FOR CLOUD SECURITY

Consistent security across IT infrastructures (60%) and continuous protection (58%) are the most important factors for protecting cloud environments.

60% Consistent security with other IT infrastructure

58% Continuous protection

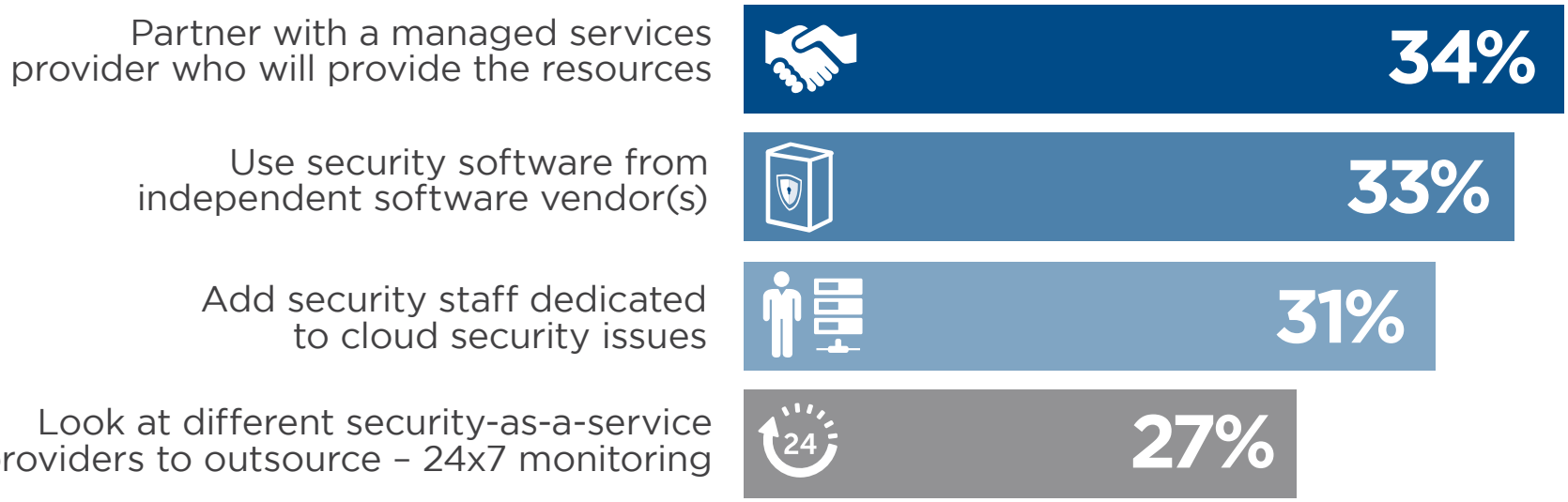
26% Affordability

7% No new security resources required

Q: What is the most important factor for protecting your cloud infrastructure?

SECURITY CHOICES

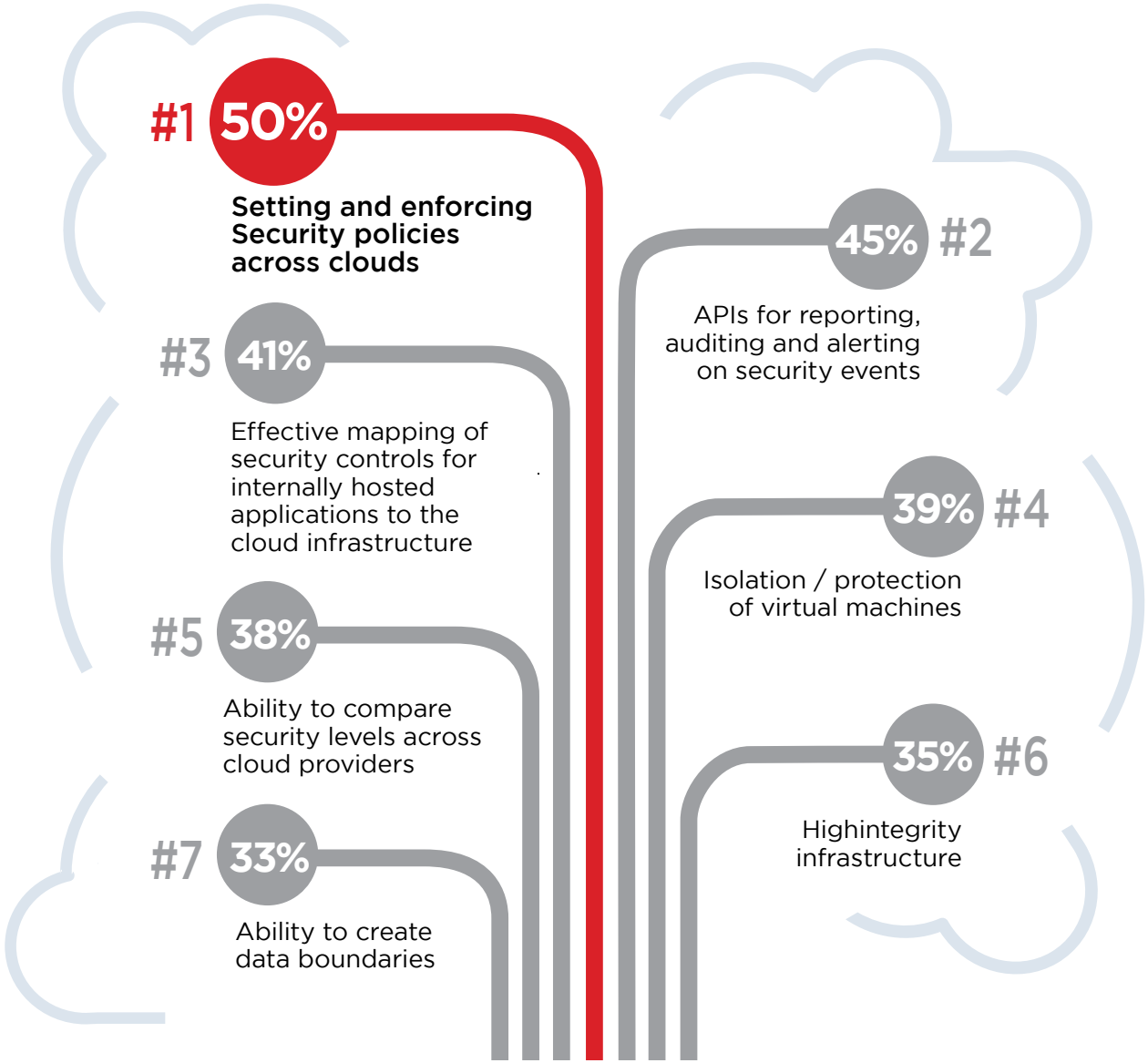
To address companies' security needs when moving to the cloud, partnering with managed service providers ranks highest (34%), followed by using security software (33%), and adding IT staff to deal with cloud security issues (31%).



Q: When moving to the cloud, how do you plan to handle your security needs?

CLOUD CONFIDENCE BUILDERS

The most popular method to close the cloud security gap is the ability to set and enforce consistent cloud security policies (50%).

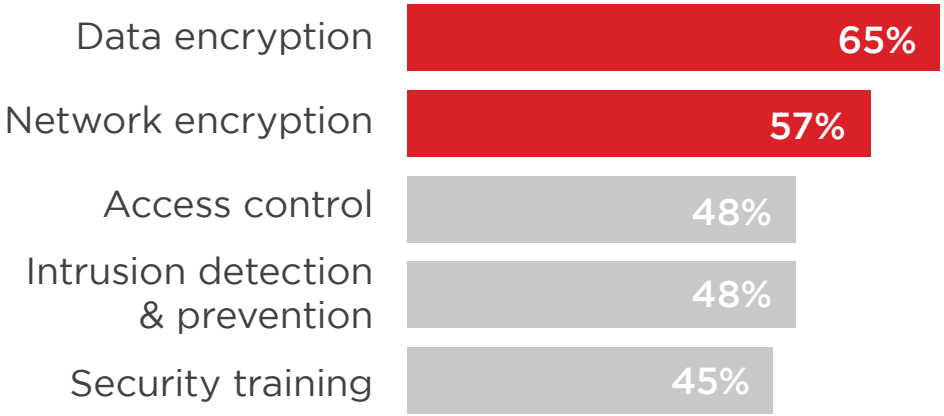


Q: Which of the following would most increase your confidence in adopting public clouds?

TECHNOLOGIES TO PROTECT DATA

Encryption of data at rest (65%) and in motion (57%) tops the list of most effective security controls for data protection in the cloud. This is followed by access control (48%), intrusion detection and prevention (IDP) (48%), and security training & awareness (45%).

Encryption is most effective for data protection

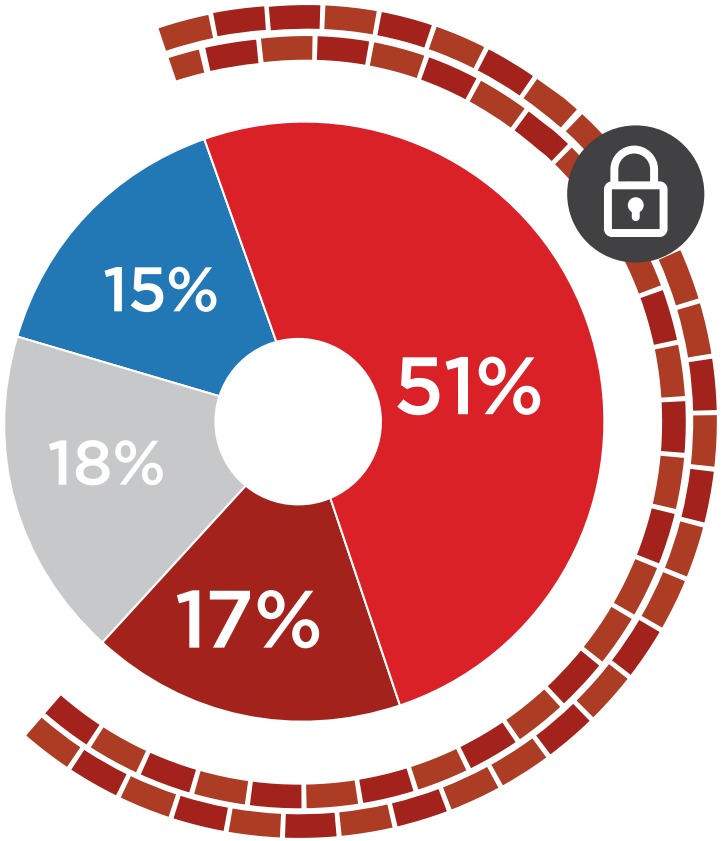


Data leakage prevention 41% | Firewalls / NAC 40% |
Log management and analytics 39% Network monitoring 36% |
Endpoint security controls 36% | Antivirus / Antimalware 36% |
Single sign-on/ user authentication 36% | Patch management 30% |
Employee usage monitoring 28% | Mobile device management (MDM) 27% |
Database scanning and monitoring 22% | Cyber forensics 21% |
Content filtering 21% | Not sure / Other 12%

Q: What security technologies and controls are most effective to protect data in the cloud?

PERIMETER SECURITY FALLS SHORT

68% of respondents say that perimeter-based security is not the whole answer to securing cloud infrastructure. The increasing frequency and success of attacks bypassing the network perimeter (and the fact that corporate data is increasingly residing outside of the perimeter) underscores the need for additional layers of defense.



68%

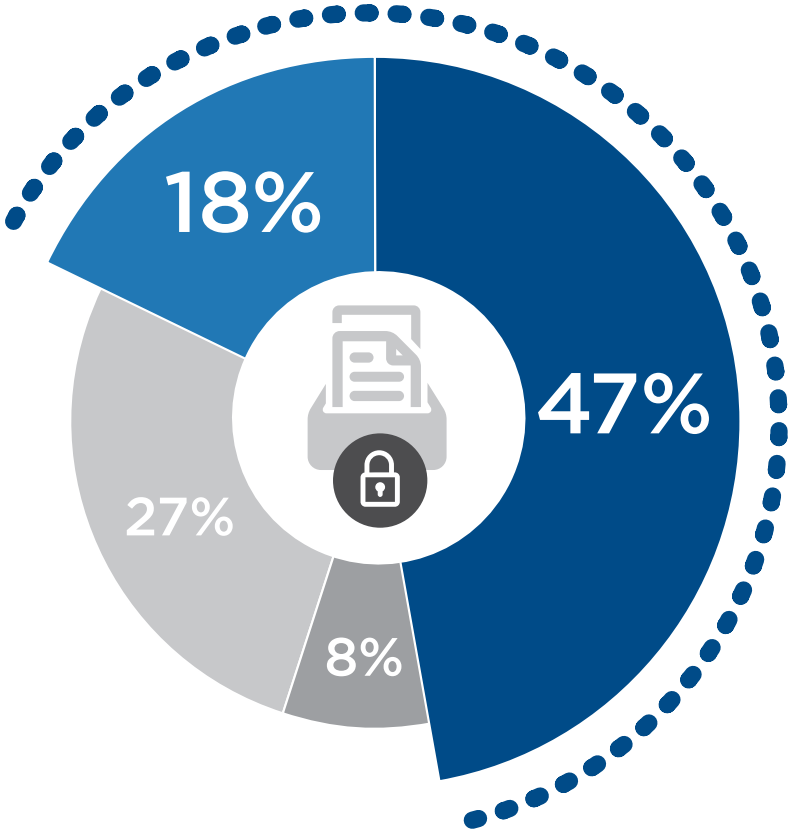
say perimeter-based security is not the whole answer to cloud security

- Effective
- Somewhat effective
- Ineffective
- Not sure

Q: How effective are perimeter-based security models in public or private clouds?

PROTECTING THE WORKLOAD

65% of respondents say that protecting the workload is at least somewhat effective. This finding confirms the shift from focusing on attack prevention and perimeter security toward defense in depth and advanced data protection methods such as encryption.



65%

say that protecting the workload is effective or somewhat effective

- Effective
- Somewhat effective
- Ineffective
- Not sure

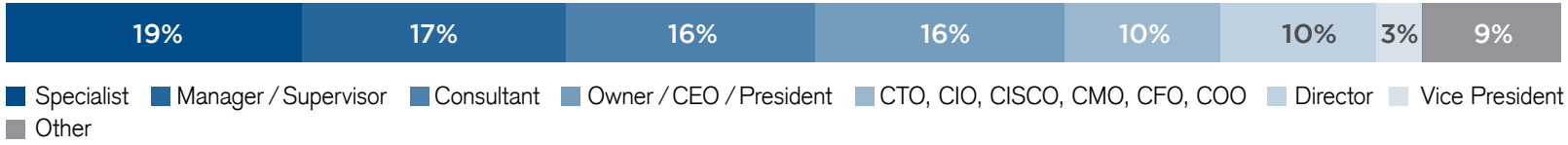
Q: Is moving security from the perimeter to the workload an effective model for private or public cloud implementations?

METHODOLOGY & DEMOGRAPHICS

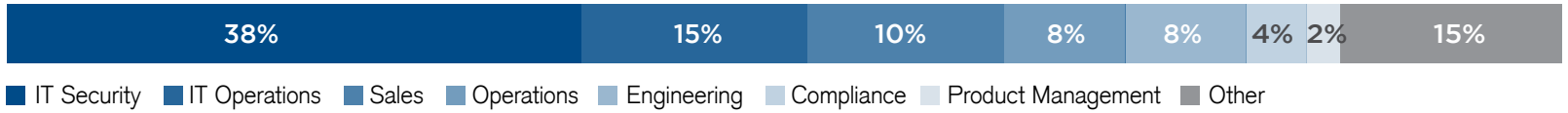
The Cloud Security Spotlight Report is based on the results of a comprehensive survey of 1,010 professionals across a broad cross-section of organizations about their adoption of cloud computing and security related concerns and practices.

The 1,010 respondents range from technical executives to managers and practitioners, and they represent organizations of varying sizes across many industries. Their answers provide a comprehensive perspective on the state of cloud security today.

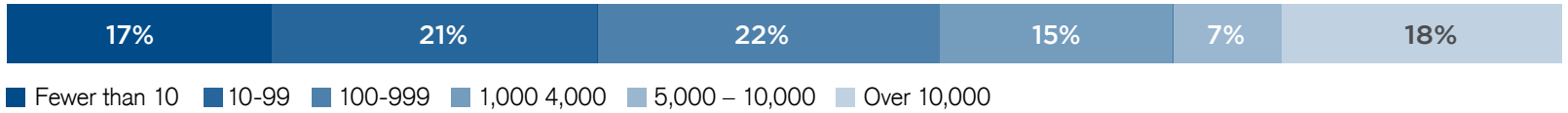
CAREER LEVEL



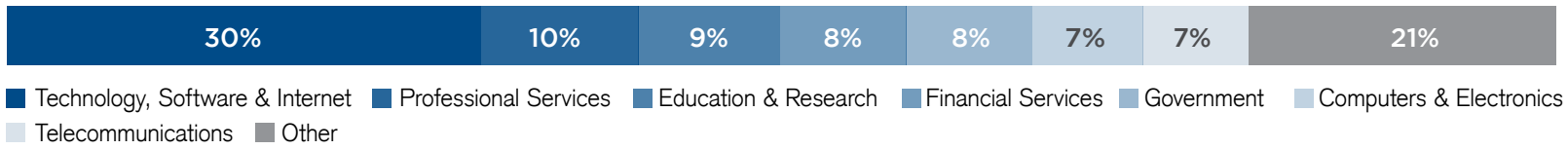
DEPARTMENT



COMPANY SIZE



INDUSTRY



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www.AlienVault.com

AlienVault™ is the champion of mid-size organizations that lack sufficient staff, security expertise, technology or budget to defend against modern threats. Our Unified Security Management™ (USM) platform provides all of the essential security controls required for complete security visibility, and is designed to enable any IT or security practitioner to benefit from results on day one. Powered by the latest AlienVault Labs Threat Intelligence and the Open Threat Exchange™—the world's largest crowd-sourced threat intelligence exchange—AlienVault USM delivers a unified, simple and affordable solution for threat detection and compliance management. Follow us on Twitter @AlienVault.

OTHER RESOURCES

WHITEPAPER

AWS SECURITY BEST PRACTICES

Amazon Web Services is one of the most secure public cloud platforms available, with deep datacenter security and many user-accessible security features. But, don't forget that you are still responsible for everything you deploy on top of AWS, and for properly configuring AWS security features. This paper covers AWS security best practices to get you started and focus your efforts as you begin to develop a comprehensive cloud security strategy

LEARN MORE

ALIENVAULT USM FOR AWS

AlienVault Unified Security Management (USM) for AWS is a unified security platform providing threat detection, incident response, and compliance management for AWS environments. With the essential security capabilities built in – Asset Discovery, AWS Infrastructure Assessment, Vulnerability Assessment, CloudTrail Monitoring and Alerting, S3 and ELB Access Log Monitoring and Alerting, Log Management, and Event Correlation – you quickly identify and respond to malicious behavior and insecure configurations in AWS environments, as well as meet compliance requirements for PCI DAA, HIPAA, FISMA, GLBA and ISO 27002. This AWS-native solution is purpose-built for the Amazon "Shared Responsibility" security model, and simplifies the monitoring of AWS' built-in security features like CloudTrail and Security Groups for immediate threat detection.