

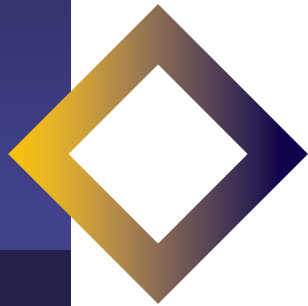
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DEVOPS AND THE PUBLIC CLOUD:
Selecting the Right
Cloud Provider

Q4 • 2022

COMMISSIONED BY  **linode**
Akamai Cloud Computing



CONTENTS

EXECUTIVE SUMMARY	3
CLOUD USAGE EXPECTATIONS REMAIN CONSTANT	4
MULTICLOUD DEPLOYMENT SIGNIFICANT TODAY	5
WORKLOADS ACROSS THE HYBRID CLOUD	6
ADDING CLOUD PROVIDERS TO THE MIX	7
WHY THINK ABOUT DIVERSIFICATION?	9
WHY CUSTOMERS EMBRACE MULTIPLE PROVIDERS	10
KEY CAPABILITIES DRIVING CLOUD PROVIDER SELECTION	12
CUSTOMERS STILL DON'T LIKE TO COMPETE WITH CLOUD PROVIDERS	16
THE TECHSTRONG RESEARCH VIEW	17
SURVEY DEMOGRAPHICS	18
ABOUT TECHSTRONG RESEARCH	19



Executive Summary

IN THE Q4 2022 DevOps and the Public Cloud survey, the focus is on how organizations are preparing for the inevitable multicloud future and how that will impact the selection of cloud providers. As cloud services mature and more cloud providers can provide basic infrastructure as a service (IaaS) capabilities, organizations have more choice in deploying workloads and increasingly want to move workloads between providers. Techstrong Research surveyed over 550 development professionals, managers and senior leaders from over 50 countries across 20 industries.

Less than two decades after the first public cloud platforms emerged, the public cloud has become the preferred platform for new applications. With the variety of cloud providers that can meet basic IaaS requirements, enterprises embrace multicloud environments to optimize performance, provide

the best platform for the application, and decrease their reliance on a single provider. Our research and analysis found that organizations continue to evolve their cloud selection criteria:

1 **Businesses of All Sizes Expect Portability of Workloads:**

In this survey, we asked respondents about their views on portability. Based on the response, DevOps professionals clearly want the portability of workloads. They aren't clear about the specific use case and how they will use portability, but they know they need it.

2 **Infrastructure Capabilities are Table Stakes:**

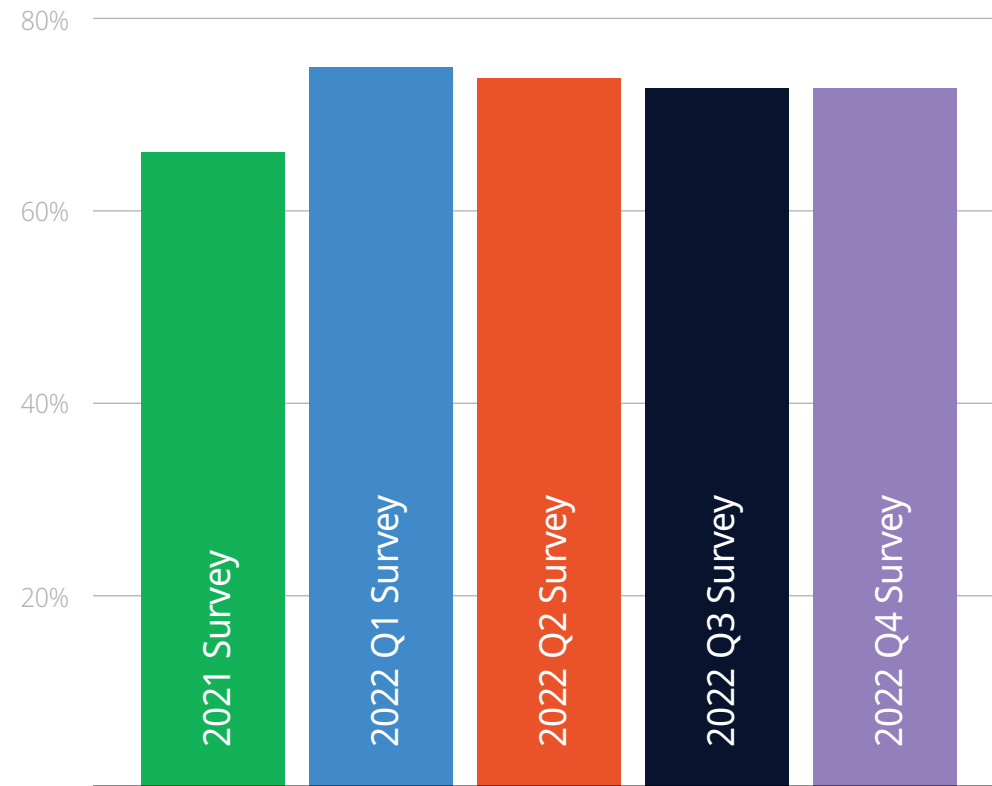
Respondents have consistently told us that foundational infrastructure services, like storage, compute, managed databases and managed containers remain critical. Furthermore they want these capabilities across the globe delivered by a robust network. These are the building blocks for the applications deployed on these platforms.

3 **Application Support Will Drive the Decision:** As organizations have a choice of cloud providers, specifically supporting their workloads will drive their selection. They need global scale, core primitive support, content delivery and the ability to support edge use cases. If a provider does not meet the requirements of the workload, they'll find one that does.

Cloud Usage Expectations Remain Constant

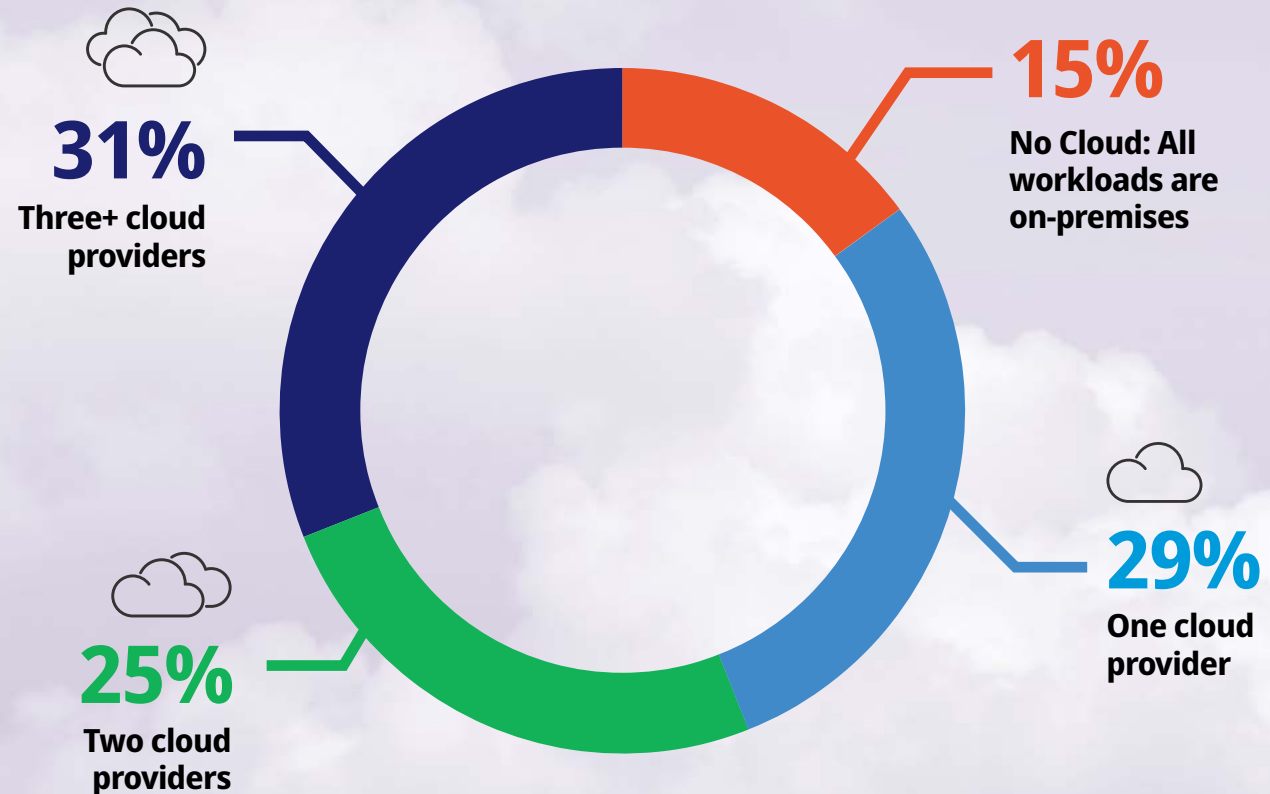
DevOps professionals expect more than 70% of IT infrastructure to be cloud-based in a year. This has been consistent (between 66% and 75%) for over a year, indicating that the cloud is the preferred platform for modern workloads (cloud-native, containers, etc.). DevOps professionals are on the front end of innovation, so they want a robust platform to support their infrastructure requirements. They tend to disregard legacy applications running on-premises, which will continue for the foreseeable future. But we are clearly heading into a cloud-based future.

What percentage of your IT infrastructure will be cloud-based one year from now?



Multicloud Deployment Significant Today

No one will argue that the future of computing will be cloud-based. What's clear through this survey is that the future involves multiple cloud providers. A recent Techstrong Research poll indicated that 30% of the respondents used three or more cloud providers, and another 25% used two providers. There is no question that those numbers will increase in the coming years. The prevailing question is not whether to multicloud, rather how to select which providers to use.

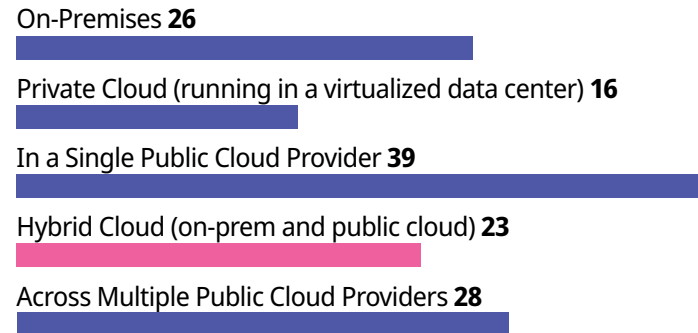


Workloads Across the Hybrid Cloud

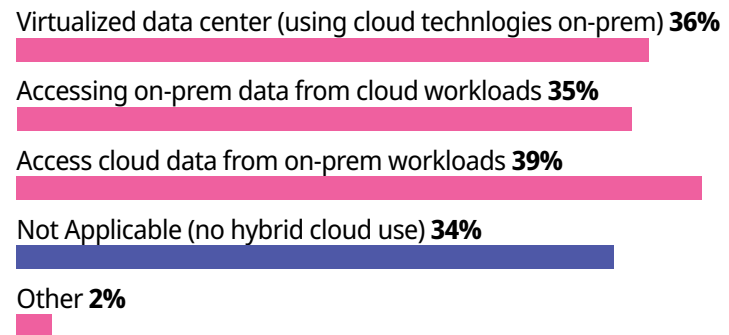
When we dig into where organizations deploy current workloads, the consensus is... there is no consensus. We see workloads deployed across single cloud providers, multiple providers, hybrid environments, as well as on-premises. The real laggard is the private cloud, which we asked about for the first time in this survey. The bottom line is that cloud deployment models are all over the place with no real consistency.

As we realize that workloads and data will remain on-premises for a long time, we want to understand which hybrid cloud use cases are most prevalent. Do organizations want to utilize cloud technologies on-premises, or do they want to access on-premises data from the cloud? Do they want to access cloud data from on-premises systems? In looking at the data, once again there is no clear consensus. The respondents have all the hybrid cloud use cases in play, which makes sense. Why choose a specific use case when organizations can use the deployment model that makes sense for their application?

Where are your current workloads located? (Average Number)



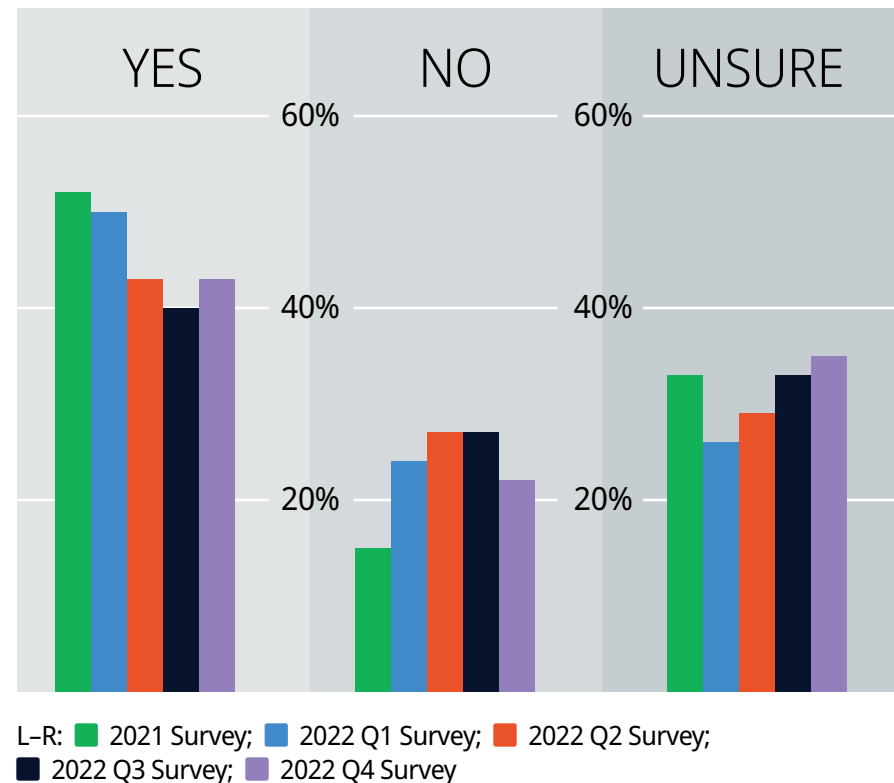
If you are using hybrid cloud what use cases are in use?



Adding Cloud Providers to the Mix

Even as the top cloud providers continue to dominate market share, more respondents are considering adding one or more cloud providers than in our previous surveys – a data point that continues to validate the multicloud future. Most interestingly, the “not considering adding a provider” response was down to a low for Q4 2022. We believe this reflects the increasing maturity of the cloud environment and the realization of the advantages of using multiple cloud providers and the continued fear of cloud provider lock-in.

Are you considering adding one or more cloud infrastructure providers over the next 12 months?



Shopping Around...

We asked a new question in the Q4 2022 survey about whether customers are shopping workloads amongst the providers. The answer is a resounding yes, primarily through relationships with existing cloud providers (47%). Working through a channel partner (17%) and using a formal RFP (15%) provides alternative means to shop the workloads. What's clear is that incumbency does not mean an automatic selection. The respondents openness to additional providers represents an opening for a smaller but more nimble cloud provider that may not have all of the services and features of the hyperscalers but can excel in specific use cases.



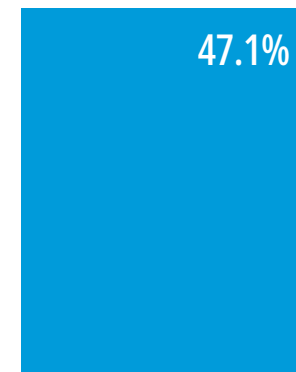
Are you shopping new workloads between cloud providers?



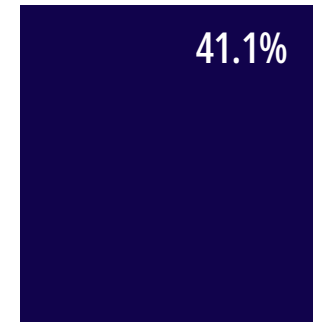
YES, via a formal RFP/
competitive bidding process



YES, through a channel partner



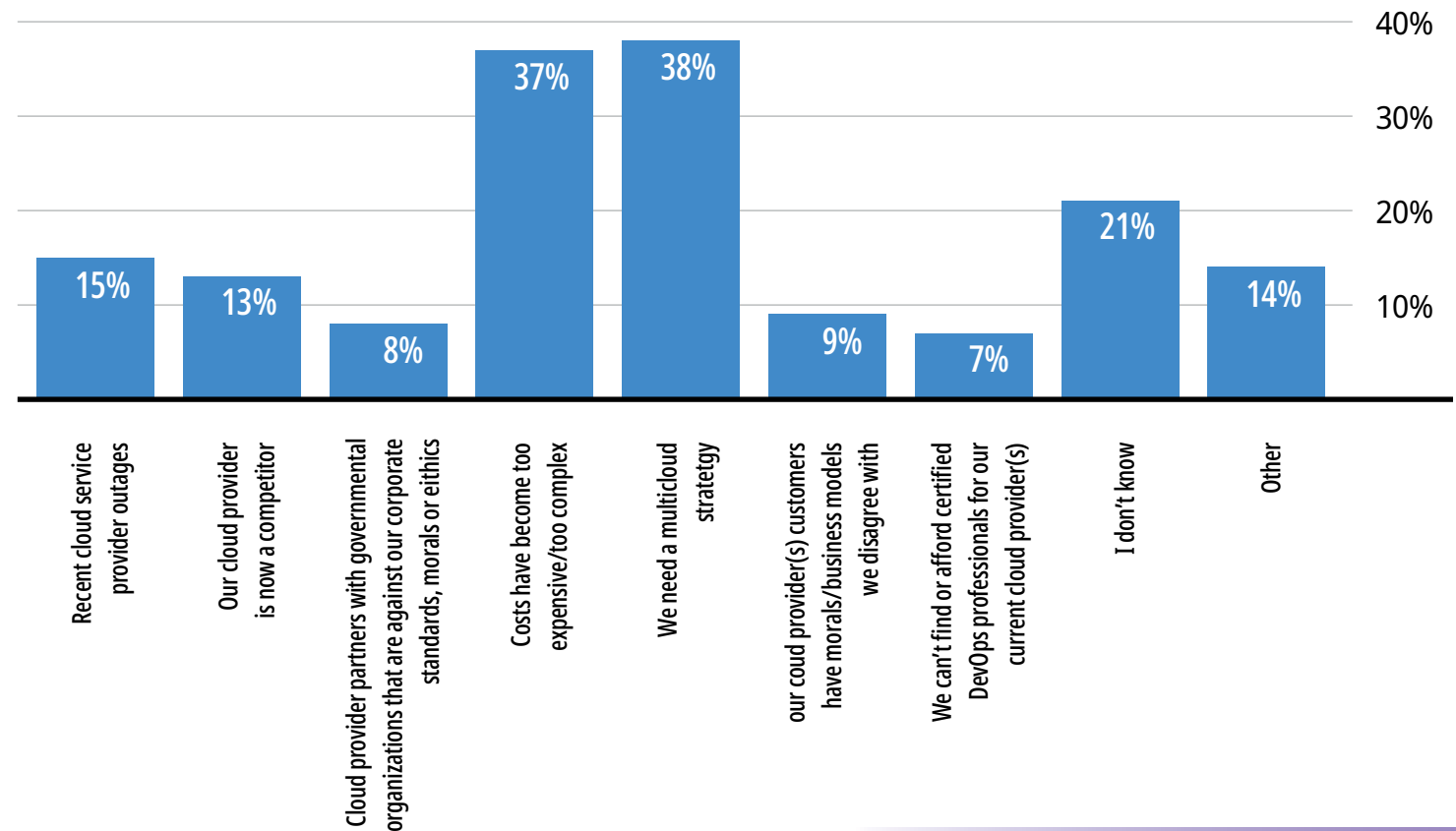
YES, through existing
relationships with cloud providers



NO

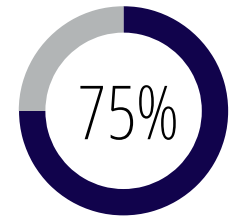
Why think about diversification?

In the most recent survey, respondents are still primarily concerned with reducing their reliance on a single cloud provider (38% of respondents) and driving down costs (37%). We added a new option in the Q4 2022 survey for “don’t know,” to try to determine if there are times that DevOps personnel do not participate in the cloud provider selection. Given 21% of the respondents didn’t know why additional cloud providers are being considered, we’d say that’s the case.

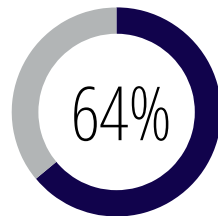


Why Customers Embrace Multiple Providers

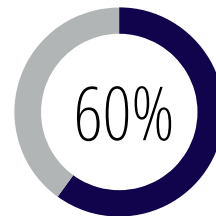
Given the openness of DevOps professionals to utilize multiple cloud services, let's dig a little into the key factors for why they'd want to move. Predictably, better price/performance ranks as the most popular (7.5 out of 10), with more open infrastructure (6.4) and less complexity (6.0) close behind. Multicloud support is a new option we added in this quarter's report, and it ranked higher (5.4) than better support and complying with regulations. Yet another data point to validate customer's desire to use the provider most applicable to the workload.



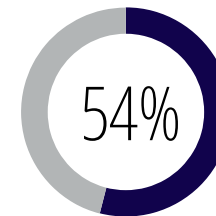
Better price/performance



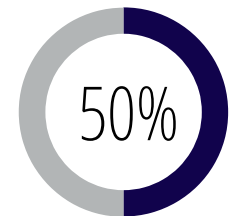
More Open Infrastructure



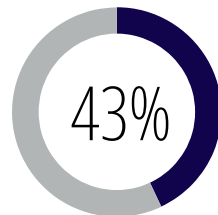
Less Complexity



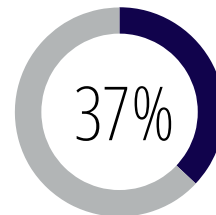
Multi-cloud friendly (avoid provider lock-in)



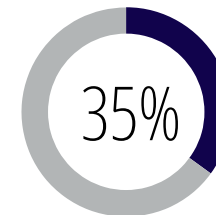
Better Support



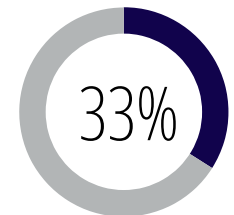
Address security or disaster recovery needs



Comply with local/regional data regulations



Diversify Budget



Not a direct competitor to me or my employer

Supporting multiple clouds provides an opportunity to move workloads between cloud providers. We asked the respondents a few questions specifically about portability; a significant majority believe portability is essential. 84% believe their cloud provider should support moving workloads between providers. 92% expect the provider to support standards that facilitate portability. Finally, 86% want to be able to run the same workload in multiple clouds simultaneously. 87% want to move workloads to optimize cost, and 83% want to be able to move workloads to improve performance.

The fact that over 80% of respondents agreed with all of the portability use cases means it's safe to say they want portability, even if they don't know why. To be clear, many cloud providers prefer to lock customers into their environment, and supporting portability counters that goal. But in our experience, market forces prevail and providers offering customers more options and support for portability will be able to differentiate on that.

Regarding portability, do you agree or disagree with the following statements?

It's important that my cloud provider(s) support moving workloads between providers



I expect my cloud provider(s) to support standards that facilitate portability



I want to be able to run the same workload(s) in multiple clouds simultaneously (resilience, global coverage, peak usage, etc.)



I want to move workloads between cloud providers to optimize cost.



I want to move workloads between cloud providers to improve performance

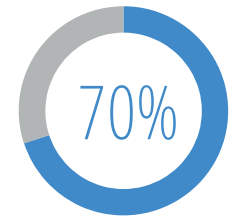


■ Agree ■ Disagree

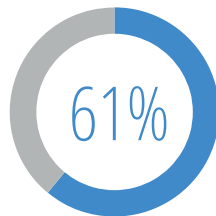
Key Capabilities Driving Cloud Provider Selection

As organizations look to choose the right provider for their specific use cases, we wanted to understand which characteristics are most important. Not surprisingly, 99.99% availability (70%), flexibility in developer support (full-featured API, CLI) (61%), and 24/7/365 support (59%) were the top-rated criteria. We were surprised last quarter that international security and compliance certifications ranked so highly, but that remained the case this quarter (58%). Compliance remains a thing, if only to get ahead of the inevitable scrutiny of the auditors.

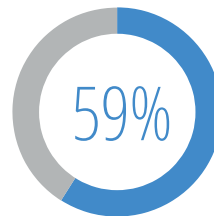
What criteria are most important to you in your choice of a cloud infrastructure provider?



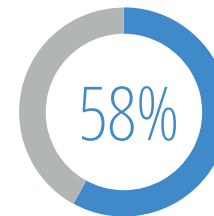
Minimum 99.99% availability



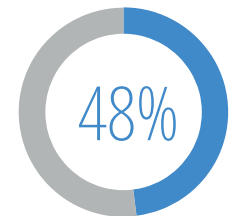
Full-featured API, CLI, and intuitive cloud manager interface



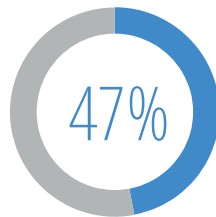
24/7/365 non-tier worldwide support



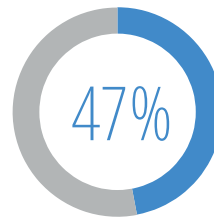
Certified on International Security and Compliance Standards



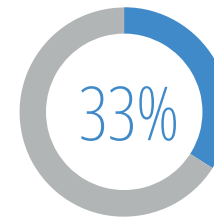
Global Cloud Network (Data Centers worldwide)



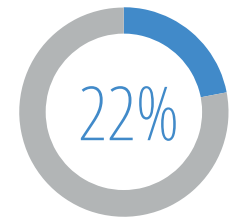
Core Infrastructure Primitives (to accomplish 90% of my most common workloads)



Extensive technical documentation



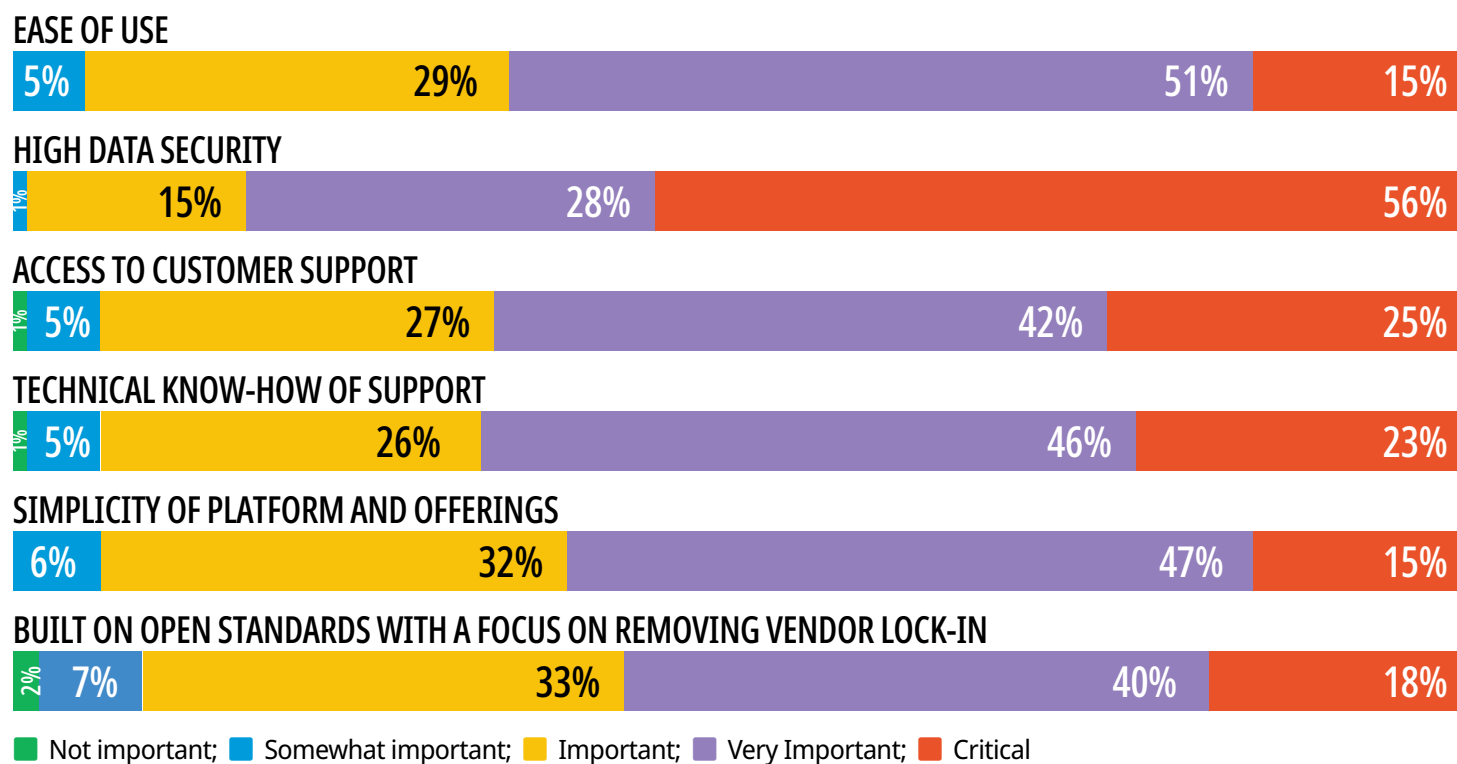
Industry-comparative hardware resources



One-click marketplace of third-party apps

Digging a little deeper into the most critical characteristics of cloud providers, we found the same relative priority as in last quarter's survey. High data security remains the most critical, as 83% of respondents believe it is very important or critical. DevOps professionals also look for developer-centric characteristics, including technical know-how of support (69%), access to customer support (67%) and ease of use (66%), also rating as very important or critical.

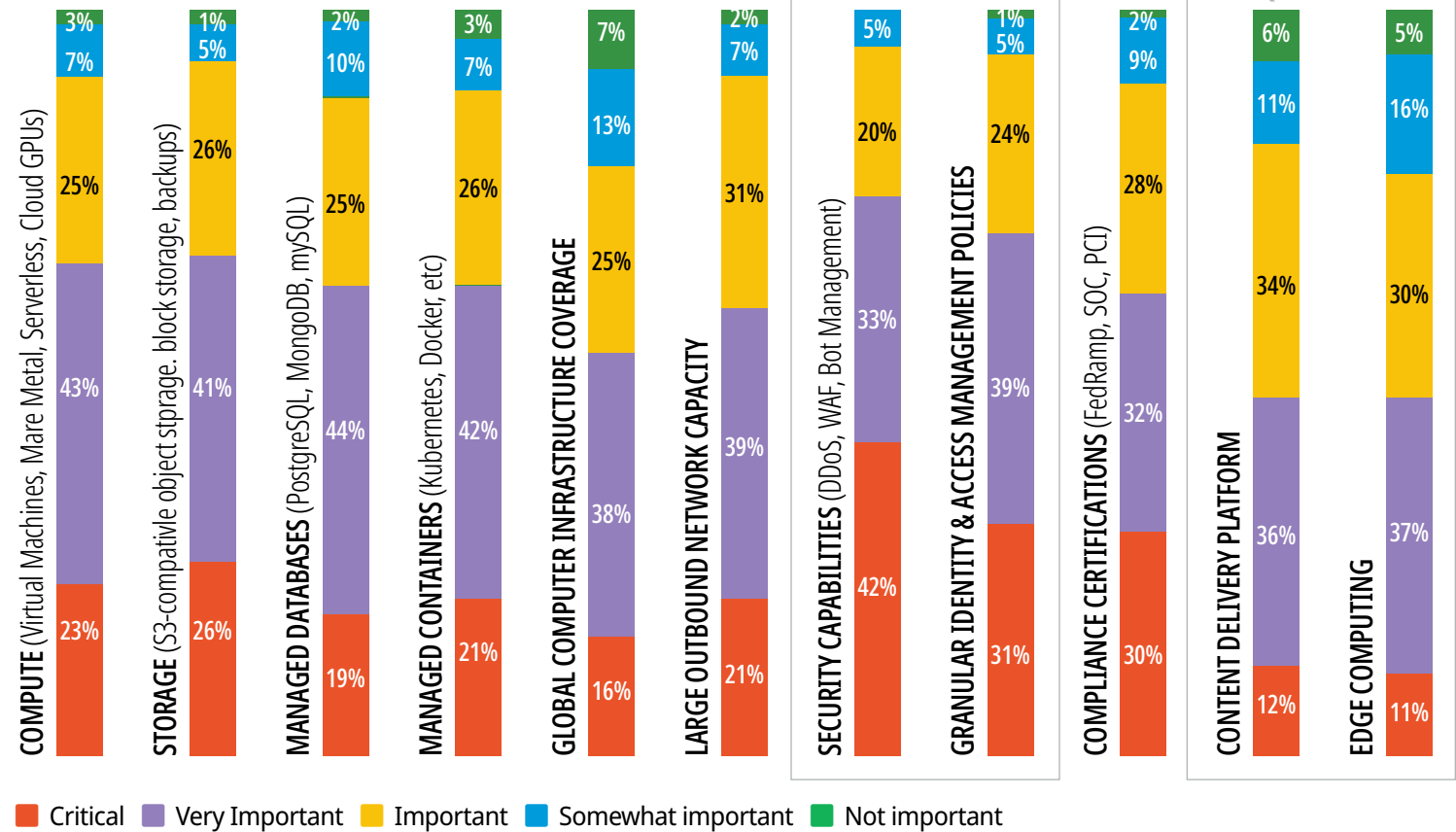
We'll reiterate the point made in last quarter's report. Once organizations know their data will be safe, they are looking for a development-friendly platform providing openness, ease of use and support to meet the increased demands for their critical use cases.



As enterprises look to choose providers that can best serve their workloads, technical capabilities make a difference. We've been asking which capabilities DevOps professionals expect for the past year, and although the numbers shift a bit from quarter to quarter, for the most part the ranking has remained the same. Security tops the list and has for each of our surveys. 75% of respondents rate security capabilities as very important or critical, and granular identity management is close behind (70%). After that, DevOps pros expect foundational cloud services: compute (66% critical or very important), storage (67%), managed database (63%) and managed container services (63%).

Following up on the additional capabilities we added to the choices last quarter, outbound network capacity, content delivery and edge computing capabilities continue to be expected from the cloud provider. In Q4 2022, 91% of respondents believe that having large outbound network capacity is important, very important or critical. Offering a content delivery platform (82% ranked this as important or greater) and global compute infrastructure (79%) are also rated highly.

How important are the following capabilities when selecting a cloud provider?

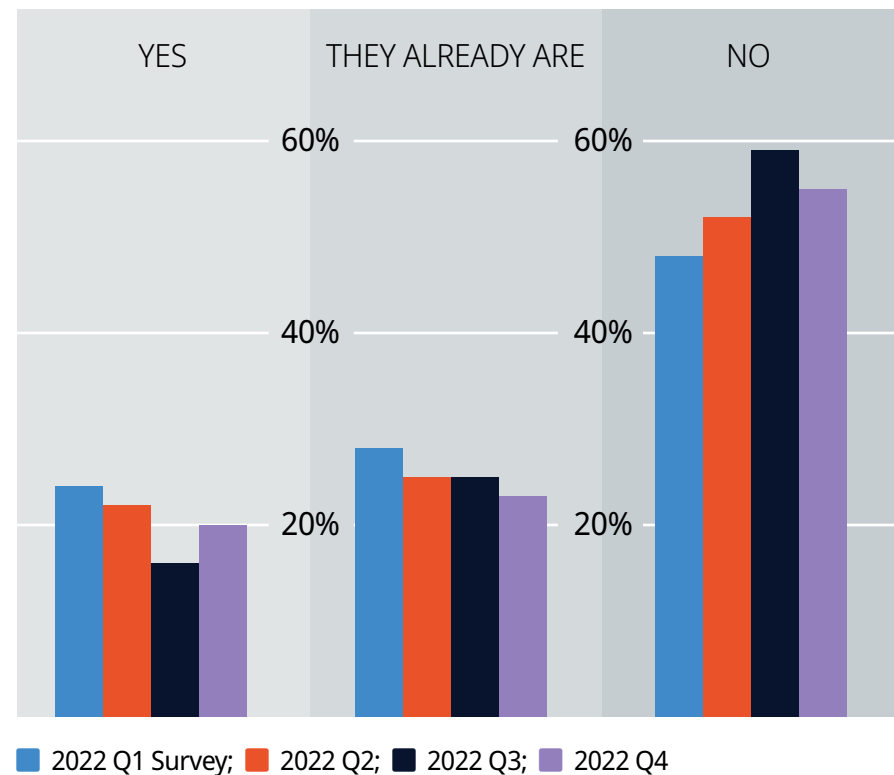


We can't stress enough the importance of having a solid technical foundation for any workload. But then the differences come into play, whether it's supporting a specific application stack, especially around cloud-native technologies, having a global delivery platform to deliver low-latency mass-market applications or possibly having robust edge computing infrastructure to support new and innovative applications. As IaaS continues to commoditize, it will be the application-specific capabilities that will drive cloud provider selection.

Customers Still Don't Like to Compete with Cloud Providers

The 2022 Q4 quarterly survey is consistent with our previous surveys. 43% of the respondents are either already competing with their cloud provider or are concerned the competition is coming. That is an increase of 2 points over the Q3 2022 survey. It doesn't seem to be impacting the growth or market share of the leading hyperscalers. Although, as IaaS continues to commoditize for general use cases, this may not remain the case.

Are you afraid that your cloud services provider will become a competitor?



The Techstrong Research View

OUR FOURTH QUARTERLY DevOps and the Public Cloud report in 2022 underscores the themes of commoditizing IaaS, increasing multicloud deployments and value-added services driving cloud provider selection. First, we expect hyperscalers to maintain their market share as they cater to organizations migrating to the cloud with generic workloads. That said, the magnitude of the cloud opportunity is massive and continues to grow.

Second, we already see significant multicloud implementations and they are only going to grow. It's not a matter of if, or even when; it's about how many cloud providers your typical enterprise will use. Alternative cloud providers will need to specialize in supporting certain types of workloads to compete with the hyperscalers.

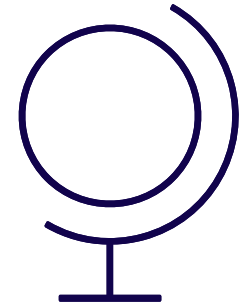
Last quarter, we made the case that global reach and scale were critical success factors in enabling customers to roll out workloads. We also noted developers were taking a much more significant role in the selection of the providers, and their selection criteria reflected that.

Lastly, our focus on multicloud and portability reflects that it's not an either-or position. A recent Techstrong Research poll indicated that 31% of respondents use three or more cloud providers and another 25% use two providers. This trend will continue forcing customers to factor in the ease of migrating workloads and supporting existing applications as key selection criteria moving forward.

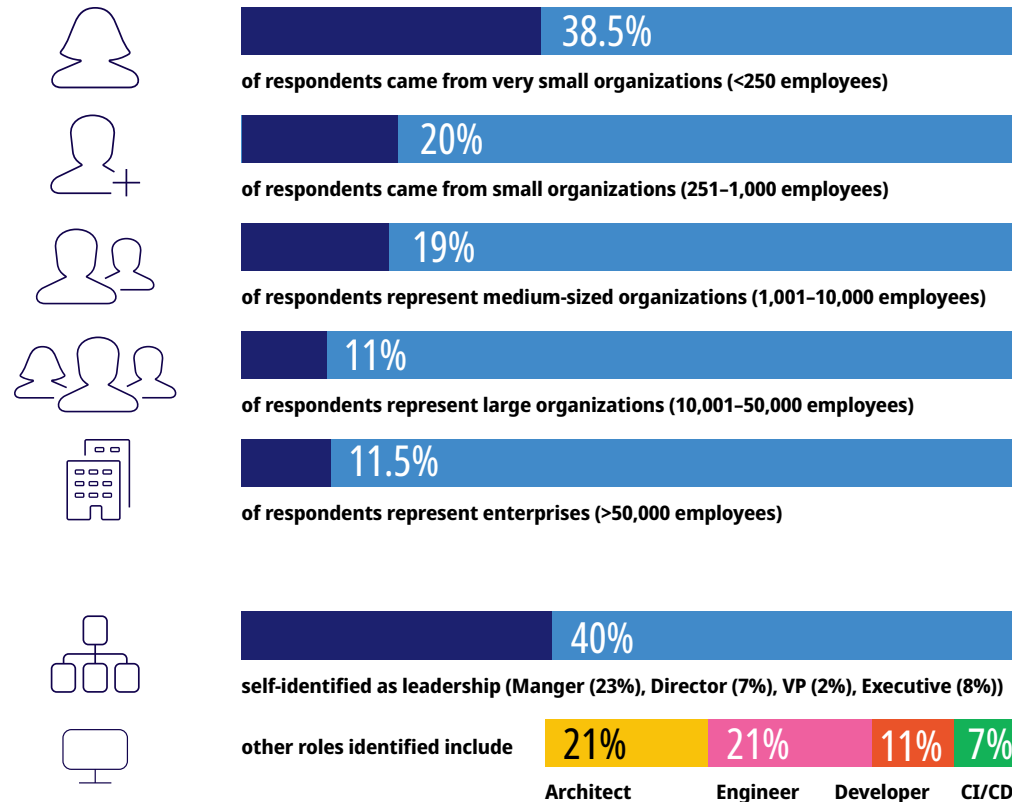
Overall, the cloud ecosystem is alive and well, and enterprises will have a variety of choices to support their new and innovative workloads. They will not be scared to deploy workloads in multiple providers, nor should they be.

Survey demographics

Techstrong Research conducted a global study on the use of distributed cloud in DevOps environments. The survey was conducted during July and August of 2022. A total of 549 individual contributors, managers and executives involved with DevOps distributed cloud procurement, operations and strategy completed the survey.

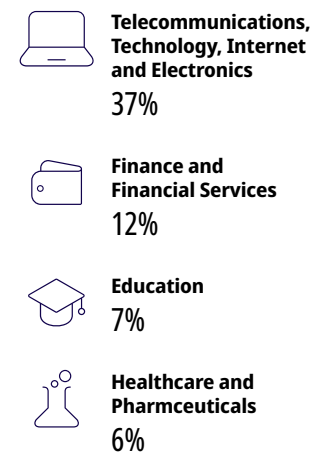


Respondents hold a variety of roles and come from a broad range of organizational sizes:



Survey responses came from a global cross-section of 89 countries in three major regions: **North America (36%), APAC (31%), Europe (10%)** and **LATAM (5%)**.

Twenty industries were surveyed, including:



About the author



MIKE ROTHMAN is the GM of Techstrong Research, bringing 30+ years of experience as a research analyst and security leader and is recognized as a voice of reason for business leaders in an often over-hyped and extremely complex security industry. For the past 10 years, his research has focused on cloud security and most recently DevSecOps and securing cloud-native environments, helping organizations navigate this disruptive migration without compromising on information and infrastructure protection. Mike also serves as Chief Strategy Officer for Techstrong Group and appears frequently at industry conferences and on the various Techstrong TV streaming video programs.

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About Techstrong Research

Techstrong Research accelerates the adoption of disruptive technologies that drive business outcomes and provide actionable strategies in rapidly changing markets. We are the only organization serving the needs of IT leaders, practitioners and the industry ecosystem with research, analysis, content, events and education. We bring deep knowledge about today's leading technologies such as DevOps, cloud, data and AI/ML, security/governance initiatives and supporting infrastructure. We offer our customers a holistic business perspective essential to adapt and thrive in the digital economy. The Techstrong Research team has the knowledge, experience and credibility earned by working with hundreds of businesses across many industries to provide consulting, thought leadership and research services.

Techstrong Research is relentlessly focused on the business outcomes of disruptive technologies.

