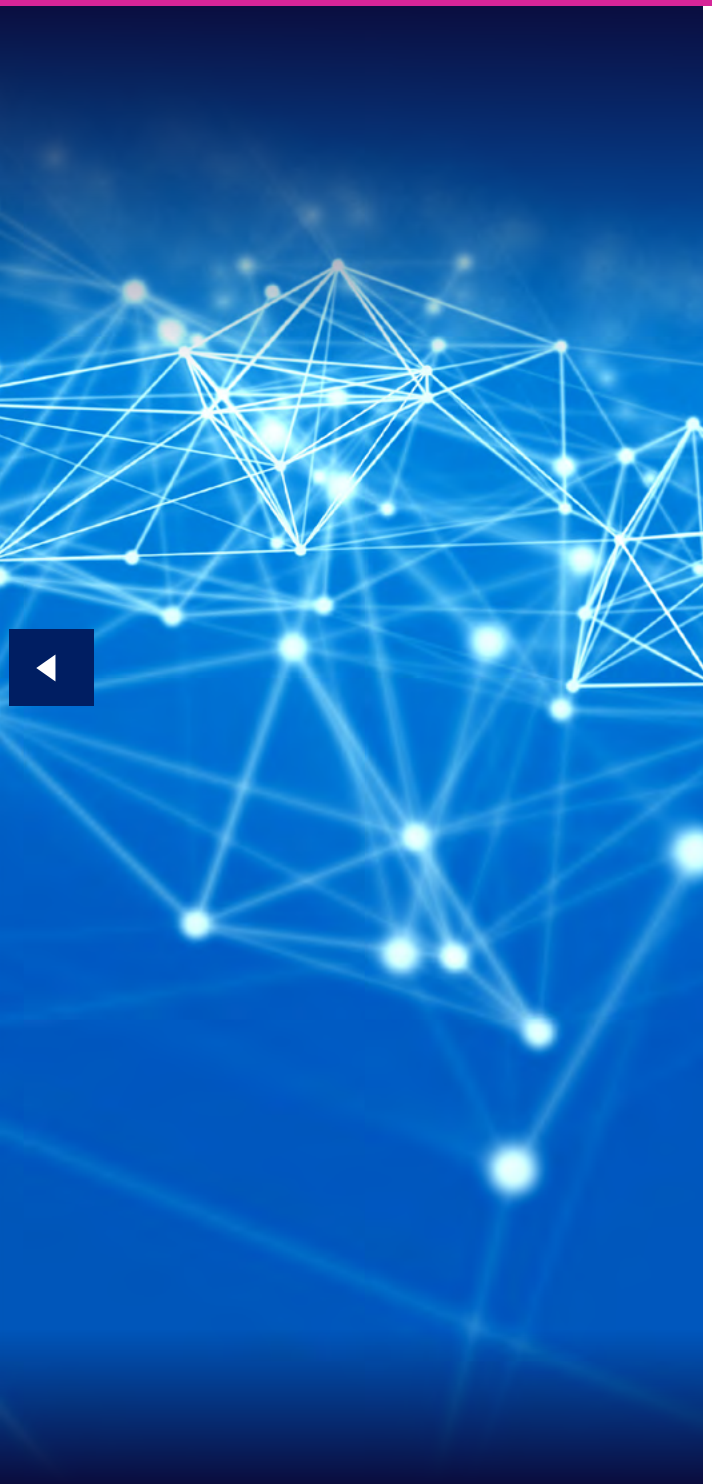
EBOOK

App Delivery Needs to Evolve:

The State of Hybrid Cloud Application Delivery

Survey reveals that organizations are moving to the cloud—but with mixed results.



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EXECUTIVE SUMMARY

In digital business, success depends on application performance. Organizations must deliver the best possible experiences for employees and customers while driving innovation and ensuring security. To meet these interrelated objectives, many enterprises are migrating application delivery to hybrid/multi-cloud environments and related techniques to achieve the kind of agility and resiliency formerly only found in public cloud providers.

By hosting their applications in more diverse environments, they seek benefits such as:

Availability and responsiveness – Faster application delivery is critical for ensuring the responsiveness and performance demanded by digital business customers.

Flexibility – Cloud environments make it possible to adapt more quickly to changing business needs, customer demand, and IT strategy.

Lower operational costs – By shifting to a more economical flexible licensing and pay-as-you-go models, organizations can redirect funds to innovation.

Greater visibility – With the right tools, organizations can achieve better visibility into end-to-end application security and performance than in a traditional on-premises data center.

But are businesses achieving these benefits?

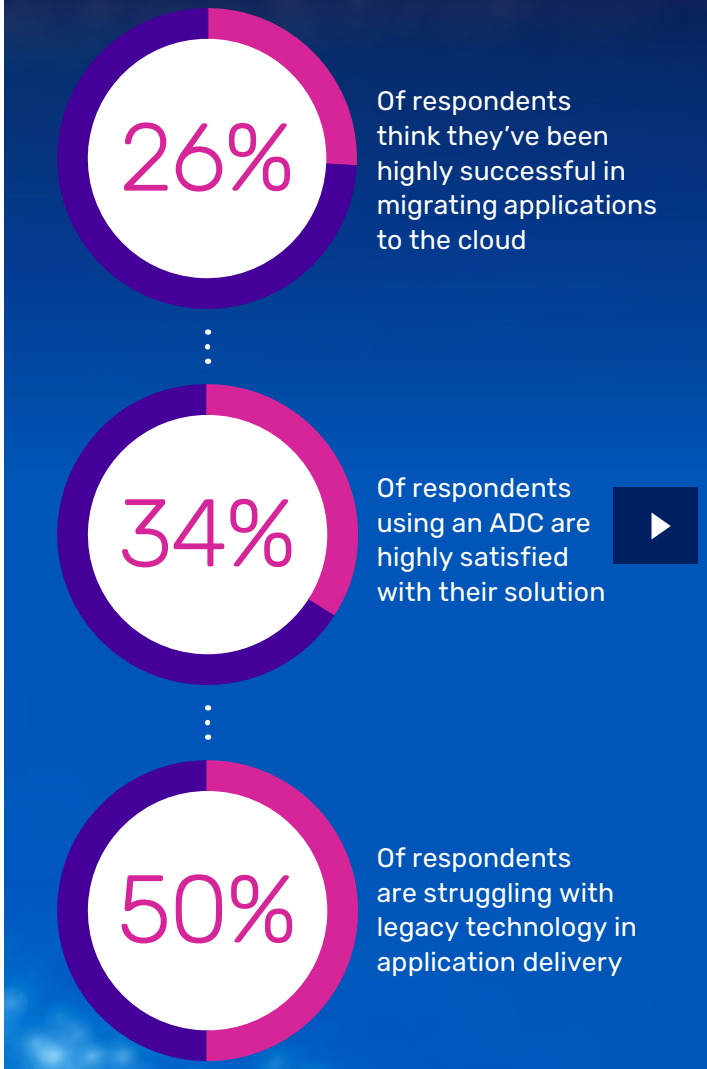
INTRODUCTION

A10 Networks and Gatepoint Research conducted a survey asking senior technology decision-makers about their experiences delivering applications in the cloud, including where their applications are primarily hosted; how they use their application delivery controller (ADC), and whether they're satisfied with it; and what application delivery capabilities they need to ensure that their business objectives are successful.[1]

Key takeaways:

- Only 26% of respondents think they've been highly successful in migrating applications to the cloud.
- In a related finding, only 34% of those using an ADC are highly satisfied with their solution.
- 50% are struggling with legacy technology in application delivery.
- Looking forward, the top application initiative for the coming year focuses on agility: moving to flexible software/scale-out solutions.
- Essential application delivery capabilities needed to ensure business success include faster troubleshooting, optimizing IT staff and resources, and analytics/application insights.

Taken as a whole, the survey captures a snapshot of the industry at a key inflection point in evolving digital infrastructure. To ensure the success of their move to hybrid and multi-cloud environments and deliver the best service for customers, organizations must overcome limitations of their current ADCs. Reducing the complexity of IT operations will be essential, especially as new technologies and evolving systems expand the skills required of IT staff. At the end of the day, the ADC will either enable digital success or impede it—depending on the choices IT leaders make now.



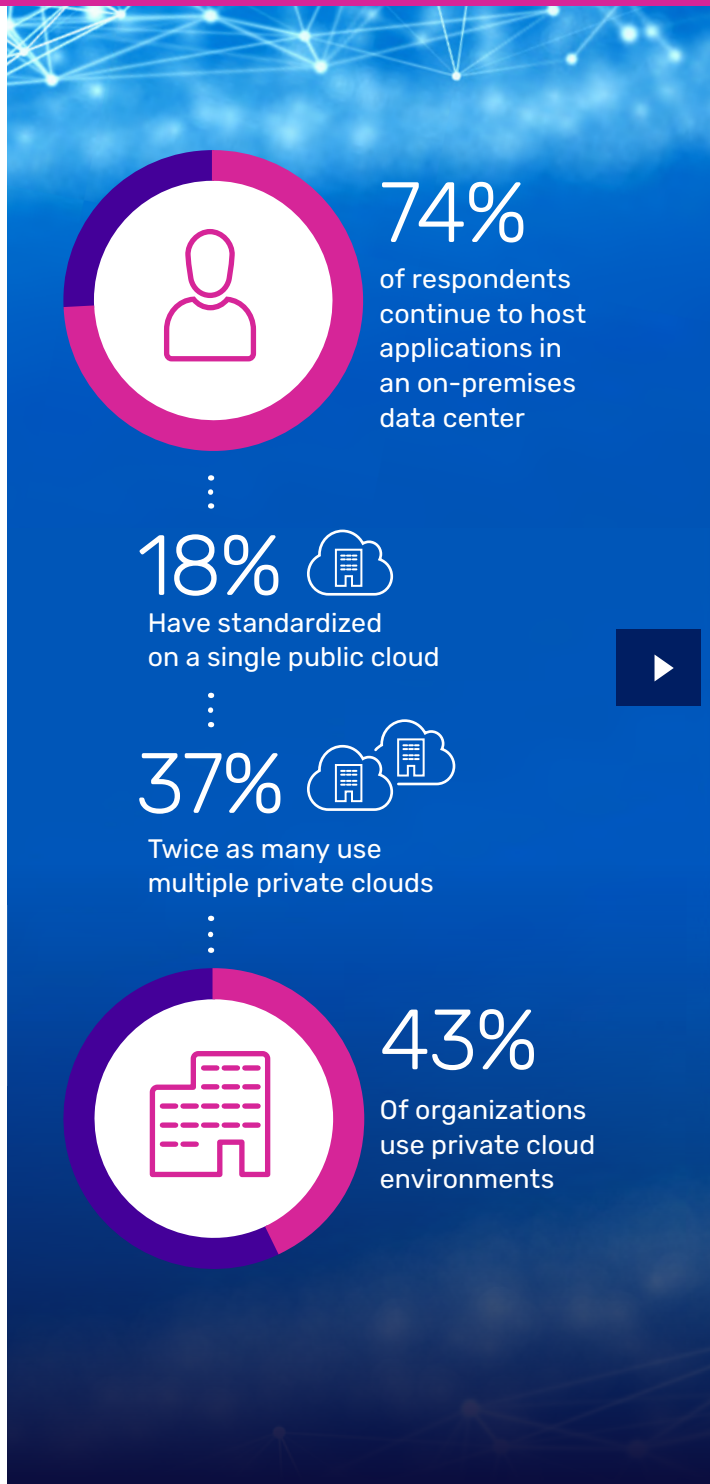
[1] *Between June and Sept 2021, Gatepoint Research invited selected executives to participate in a survey themed Modern Application Delivery Strategies for Hybrid Clouds. 11% CxO and VP titles, 19% directors and 70% managers. 100% of responders participated voluntarily; none were engaged using telemarketing.*

CLOUD TRANSFORMATION CONTINUES—BUT LEGACY ISN'T GOING ANYWHERE

Businesses are now hosting their applications in a variety of environments, both public and private. Despite the rapid rise of cloud services, 74% of respondents continue to host applications in an on-premises data center. Only 18% have standardized on a single public cloud, while more than twice as many (37%) use multiple private clouds. The popularity of this strategy is understandable as organizations address the requirements of different geographies and workloads; a given cloud might offer better performance in one region than another, while some applications might work better in specific vendor environments. Meanwhile, private clouds are highly popular, with 43% of organizations using these environments.

Taken together, the combination of environments reported by respondents show the prevalence of a hybrid approach in which an on-premises data center is leveraged in tandem with one or more types of clouds and vendors. While this hybrid/multi-cloud approach offers great flexibility to choose the ideal environment for each application, it also increases the complexity of application delivery. Organizations must be able to manage application delivery, and consistent policies, across heterogeneous environments, including requirements such as performance optimization, load balancing, and troubleshooting.

To prevent rising complexity, it also becomes crucial to gain unified visibility across environments while avoiding the need for multiple interfaces and solutions.



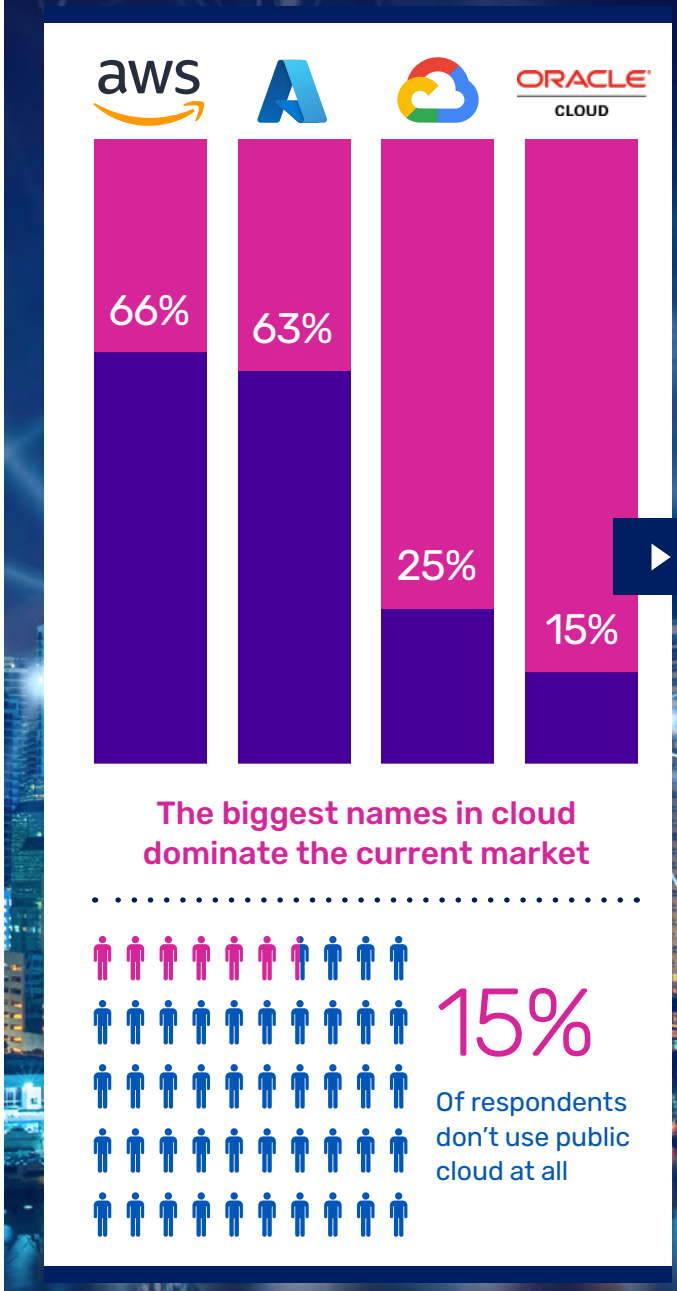
THERE'S ROOM FOR MORE THAN AMAZON WEB SERVICES, AZURE AND GOOGLE

It comes as no surprise that the biggest names in cloud dominate the current market. Amazon Web Services (AWS) is used by a full 66% of companies in the survey. Microsoft Azure follows close behind at 63% , showing considerable strength despite AWS's earlier start and initial position.

But Azure and AWS aren't the only providers in the market. Google registers a respectable 25% for Google Cloud Platform (GCP). Oracle Cloud Infrastructure has achieved a significant presence as well at 15%, showing that customers will look to other vendors with a long track record in enterprise and commercial technology that meet specific needs. By considering the full range of options, organizations can make the optimal choice for each application based on the provider's expertise, service level, pricing model, and relevant value-added features.

It's almost taken for granted that cloud is everywhere, but a full 15% of respondents don't use public cloud at all, perhaps for reasons of security, customization, privacy, or regulatory compliance. For example, an organization might be required to keep certain kinds of data within the same country where customers reside, or within its own on-premises systems.

In any case, this finding shows that common assumptions about the cloud market don't always match reality.



APPLICATION MIGRATION INITIATIVES SHOW MODERATE SUCCESS

Given the strategic importance of cloud migration, you'd expect that companies would be diligent in the planning and investment needed to achieve optimal results—but the survey results tell a different story. Only 26% of respondents said they had been highly successful in these efforts. This is up from 11% reported in a separate survey two years ago, an improvement to be sure, but only a gradual one, and still far short of expectations. Nearly one-fifth of organizations (19%) were neutral or worse in their assessment of the success of their migration.

These unimpressive results show a clear need for better planning. Not all applications are suitable for all clouds, or for the cloud in general. IT organizations need to make the right choices about the right environment and provider for each application. The migration process itself needs to be approached thoughtfully and methodically as well.

The more thought companies put into their cloud initiative, the more they'll get out of it.

NEW ADC USE CASES GAIN IMPORTANCE

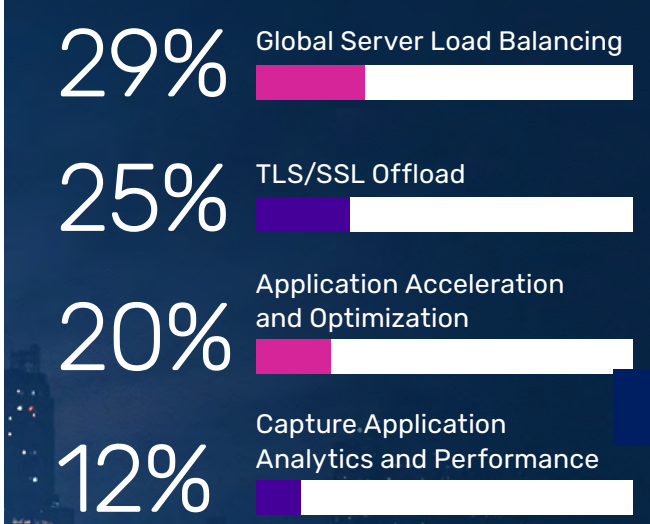
Asked how they use their ADC; respondents cited several traditional areas:

- **Global Server Load Balancing (GSLB) (29%)** – This function takes on increased importance in a hybrid/multi-cloud environment, as organizations need to go beyond traditional disaster recovery requirements to optimize traffic and ensure availability across multiple data centers and clouds.
- **TLS/SSL Offload (25%)** – With most online communications now being encrypted, organizations need a way to perform TLS/SSL encryption and decryption without straining server resources. By preventing bottlenecks, TLS/SSL offload makes it possible to ensure security and performance as well as helping keep up with newer standards.
- **Application Acceleration and Optimization (20%)** – This is essential for delivering an outstanding customer experience in competitive digital markets, and to keep employees fully productive and engaged. To address this need in new ways, 12% of respondents are using their ADC to capture application analytics and performance feedback for developers .

Beyond these baseline ADC functions, new use cases are on the rise. As cloud-native, microservice architectures transform the way applications are developed and delivered, 15% of respondents are using their ADC to control access to containerized applications. As a leading-edge use case, it's impossible to say how many more organizations might be using this type of functionality if their ADC offered it, but a commissioned report conducted by Forrester Consulting on behalf of Capital One offers a hint, finding that 86% of IT leaders have made it a priority to use containers for more applications.

With security a perennial and rising concern, 12% of organizations are using their ADC for authentication and CAPTCHA access controls—a feature common in public commercial environments that is now making its way into enterprise planning. And given that digital business runs on DevOps, 10% of respondents are using their ADC to support continuous integration/continuous delivery (CI/CD).

How respondents use their ADC



86%

Of IT leaders have made it a priority to use containers for more applications

ADC SATISFACTION SHOWS ROOM FOR IMPROVEMENT

As a critical element of digital business infrastructure, companies have a right to expect exceptional results from their ADC. Most fall short. Only a third (34%) of IT leaders are highly satisfied with their solution.

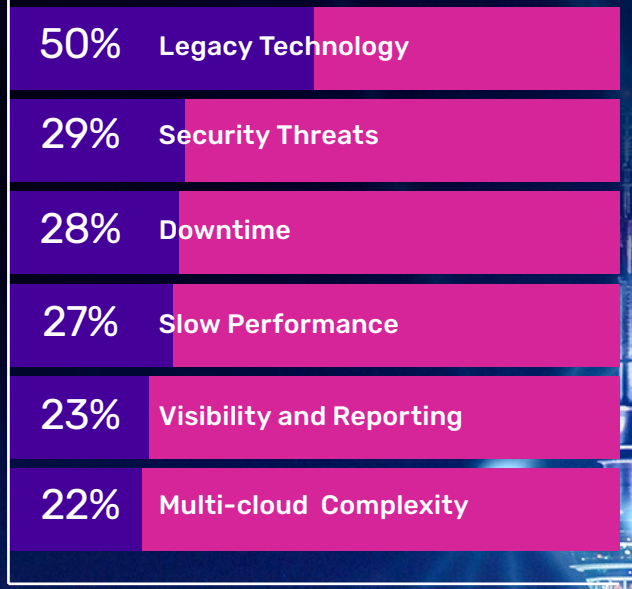
The reason for this disillusionment may include the limitations of older solutions that fail to meet the latest needs, such as observability, analytics, and feedback to DevOps. ADC requirements have changed over the years as companies adopt new technologies to support their business and employees. Meeting today's standards for an exceptional digital experience calls for a fully modern infrastructure.

Indeed, legacy technology is the most cited top application delivery challenge in the survey (50%). More than a quarter of respondents are also struggling with application security threats (29%), application downtime (28%), and slow applications (27%) — core ADC functions that should be taken for granted with even an older solution, but now face more demanding expectations and requirements. With rise of hybrid/multi-cloud, many also facing challenges with application visibility and reporting (23%) and multi-cloud complexity (22%).

34%

Only 1/3 of IT leaders are highly satisfied with their solution

Top application delivery challenges



NEW INITIATIVES AND NEW REQUIREMENTS FOCUS ON ADC MODERNIZATION

While organizations are pursuing a variety of application initiatives in the coming year, two objectives dominate the agenda:

- **Agility (48%)** – as organizations move to software/scale-out solutions for a faster response to shifting needs
- **Operational Efficiency (47%)** – through the deployment of hybrid cloud automation, management, and analytics capabilities

Both areas reflect the rising demands of digital markets and a growing need for automation needs. Organizations need to be able to deploy and deliver applications more flexibly and efficiently, avoid bogging down in manual tasks, and gain greater insight to ensure that fast-changing environments maintain performance and availability.

A similar story is told by the new application delivery capabilities needed to ensure successful business objectives.

- **Faster Troubleshooting/Root Cause Analysis (69%)** – One of the greatest areas of consensus in entire survey, this response reveals a key pain point in observability. Organizations have an urgent need for centralized management, analytics, and reporting to better understand their environment and its performance.
- **Automation to Optimize IT Staff and Resources (53%)** – The growing complexity of modern digital infrastructure has outpaced the skills development capability of today's IT organizations. Empowering staff with automation will be critical to ensure their effectiveness.
- **Analytics and Application Insights (52%)** – IT systems offer a wealth of data to guide performance optimization, troubleshooting, security, and more—but only if organizations have the tools and expertise.

All three of these top priorities show a drive to improve operations, reduce complexity, and avoid human error in more complex hybrid/multi-cloud environments. It's also worth noting the need for scripting and software agility to enable faster deployment (17%), a key to DevOps success. A competitive digital experience depends on both performance and innovation; an ADC must be able to support both.

Top Business Objective Priorities

69%
Faster Troubleshooting and Root Cause Analysis

53%
Automation to Optimize IT Staff and Resources

52%
Analytics and Application Insights

48%
Agility

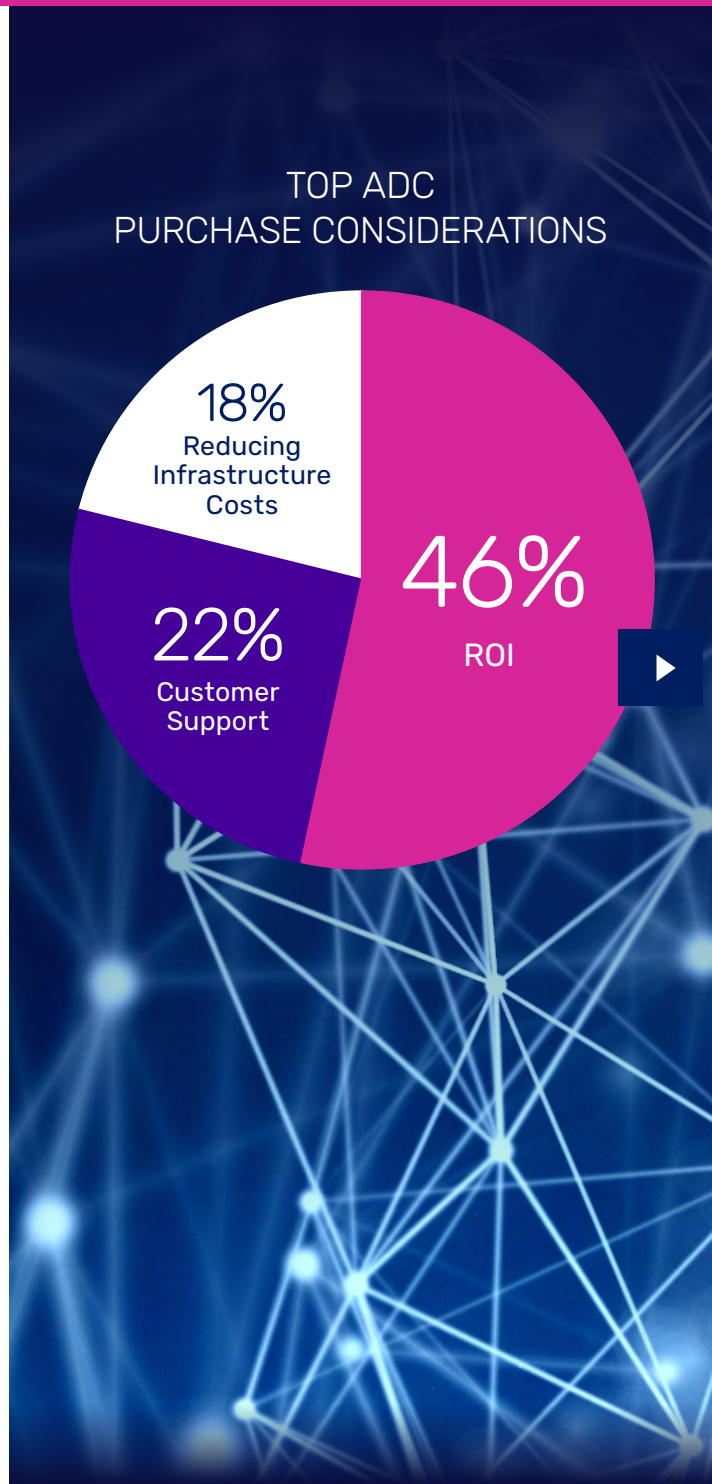
47%
Operational Efficiency

ROI IS KING

As organizations evaluate their next ADC solution, one consideration stands above all others: ROI (46%). Customer support, the next most common factor (22%), is closely related, helping ensure that companies can use their ADC effectively to unlock its full value. Reducing infrastructure costs (18%), another economic priority, completes the top-three factors. By comparison, extending an existing investment (2%), enhancing customer user experience (2%), and IT operational improvements (1%), while unquestionably valuable, drew only nominal attention—showing the overwhelming importance of the bottom line for ADC buyers.

Over time, ROI also depends on the lifetime value of a solution. It's equally important to avoid getting locked into a deployment model that no longer fits an organization's needs, and 9% of respondents cited flexible and portable licensing, a relatively new concept.

Choosing a solution with flexible licensing options, portability, and multiple form factors enable a solution for today, as well as a cost-effective future plan to minimize disruption and create digital resiliency.



NEXT STEPS TO ACHIEVE DIGITAL RESILIENCY

While moving to hybrid/multi-cloud environments can help companies achieve the application performance, business agility, and IT resiliency demanded by today's digital businesses and markets, many are struggling to realize these benefits.

As revealed in this survey, outdated application delivery infrastructure can make it difficult to address security threats, ensure availability, and deliver the best possible experience for customers and employees. But the survey also points to a path forward, as IT leaders recognize the potential of the latest application delivery capabilities to solve problems more quickly, empower staff for greater effectiveness, and put data to work to improve performance, security, and uptime throughout the infrastructure.

Read the latest IDC Technology Spotlight

Digital Resiliency and Hybrid Cloud Drive Need for Modern Application Delivery

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ABOUT A10 NETWORKS

A10 Networks (NYSE: ATEN) provides secure application services for on-premises, multi-cloud and edge-cloud environments at hyperscale. Our mission is to enable service providers and enterprises to deliver business-critical applications that are secure, available and efficient for multi-cloud transformation and 5G readiness. We deliver better business outcomes that support investment protection, new business models and help future-proof infrastructures, empowering our customers to provide the most secure and available digital experience. Founded in 2004, A10 Networks is based in San Jose, Calif. and serves customers globally.

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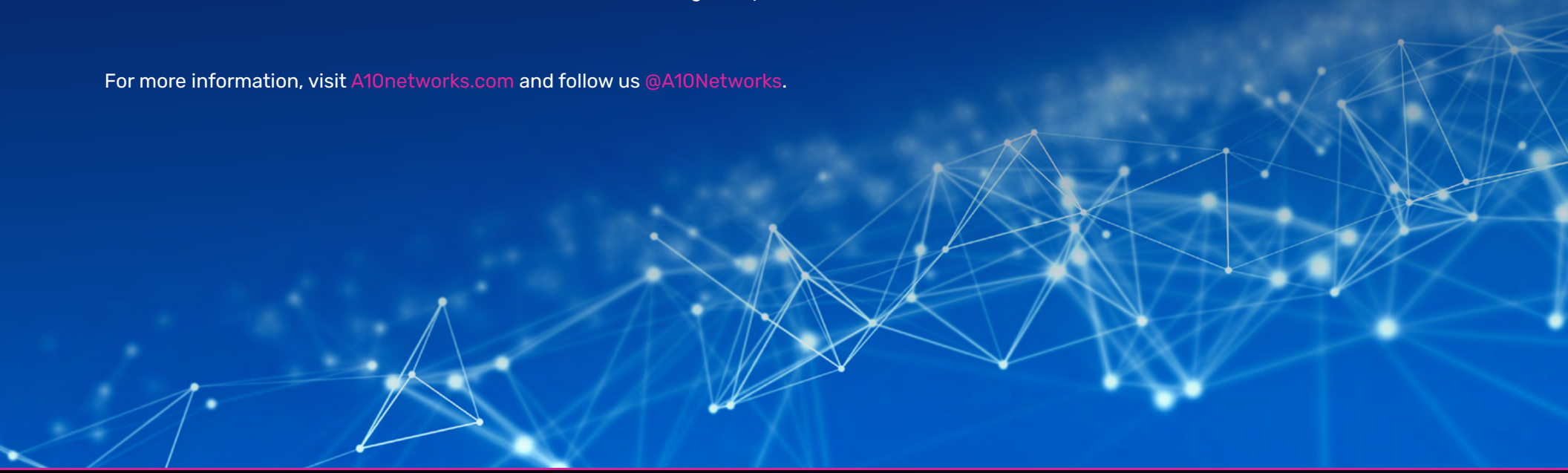

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