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## RESEARCH HIGHLIGHTS

# HYBRID CLOUD TRENDS

*Strategies for Optimizing On-premises  
and Public Cloud Infrastructure*

Prepared for Equinix

MAY 2020

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## Research Objectives

Hybrid cloud is clearly becoming the default configuration for most organizations, combining growing public cloud usage (including off-premises hosting) with existing on-premises workloads. Organizations will continue to keep workloads on-premises for the foreseeable future, but increasingly recognize the importance of being able to integrate them with off-premises cloud workloads.

In order to gain more insight into these trends, ESG surveyed 358 IT professionals at organizations in North America (U.S. and Canada) responsible for evaluating, purchasing, and managing the technologies underlying their organization's on-premises and cloud-based infrastructure. Among other things, this study sought to determine:

- What exactly is the balance of on-premises and off-premises workloads?
- Will the on-premises, infrastructure-first mindset of many hybrid cloud strategies start to shift toward a public cloud-based orientation?
- What are the requirements for automation and management in a hybrid cloud ecosystem?
- How long will hybrid cloud be the operating model for organizations?


Survey participants represented a wide range of industries including manufacturing, financial services, healthcare, communications and media, retail, government, and business services. For more details, please see the Research Methodology and Respondent Demographics sections of this report.



## Key Research Findings

- 1. Momentum swings towards hybrid approach, but on-premises matters.** Cloud will not be an either/or choice for most organizations for many years, and as a result, there has been significant growth in commitment to a hybrid cloud strategy. However, the majority of organizations still view on-premises as important. In fact, nearly nine of ten organizations expect to have a significant or measurable on-premises environment in three years.
- 2. On-premises integration is vital to hybrid cloud strategies.** Many organizations have an on-premises-first mindset as they begin to formulate their hybrid cloud strategies. When asked to identify the most important consideration in these decisions, more than half cited seamless compatibility with their on-premises infrastructure. Furthermore, nearly three-quarters of organizations stated that it was critical or very important that public cloud service providers offer solutions that integrate with their on-premises environments.
- 3. Clear alignment between hybrid cloud definitions and objectives.** Nearly two-thirds of respondents define hybrid cloud as the ability to manage applications and resources that span across or are located on-premises and off-premises. Not surprisingly, nearly half say that management software must manage across both on- and off-premises environments, while other key requirements include the ability to move applications seamlessly back and forth between on- and off-premises environments and the ability to deploy managed systems or applications both on- and off-premises.
- 4. Application migrations dictate hybrid cloud strategies, but no definitive approach has emerged.** When asked to identify the most difficult aspect of adopting public cloud services, six in ten organizations cited application migrations. Specifically, 31% reported the preparation work—including building the business case—for application migration with another 29% pointing to the process for redesigning and actually moving these applications to cloud-based platforms. As businesses prepare for the next wave of application migration, their preferences for migration patterns are split, which validates the idea that there is no one-size-fits-all approach.
- 5. Consistency desired for management and security spanning on-premises and public cloud resources.** When asked to compare systems management activities related to on-premises versus public cloud infrastructure, not surprisingly, the majority of respondents indicated public cloud management is more difficult. Similarly, nearly half of respondents view the management of resources spanning on- and off-premises as significantly or more difficult relative to other cloud computing tasks and initiatives.



A man with glasses and a blue shirt is looking at a tablet in a server room. The background shows rows of server racks with glowing lights and cables.

**Momentum swings  
towards hybrid approach,  
but on-premises matters.**

# As more applications are moved to public cloud services, the commitment to hybrid cloud strategies increases.

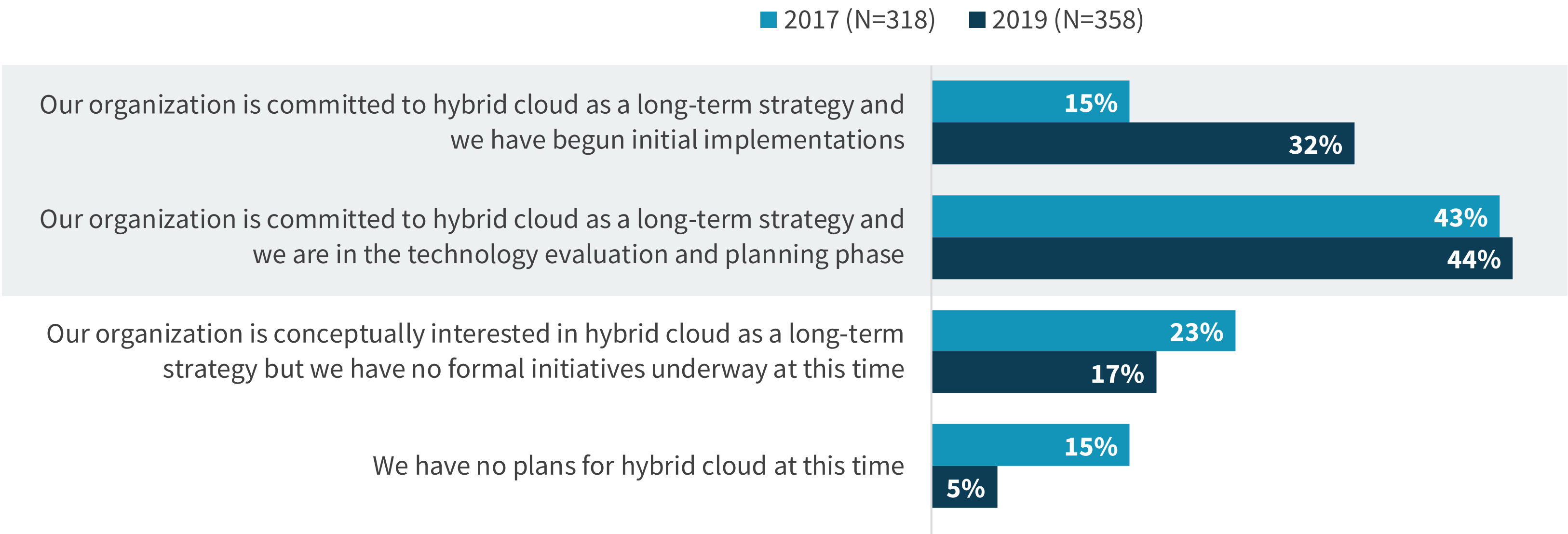
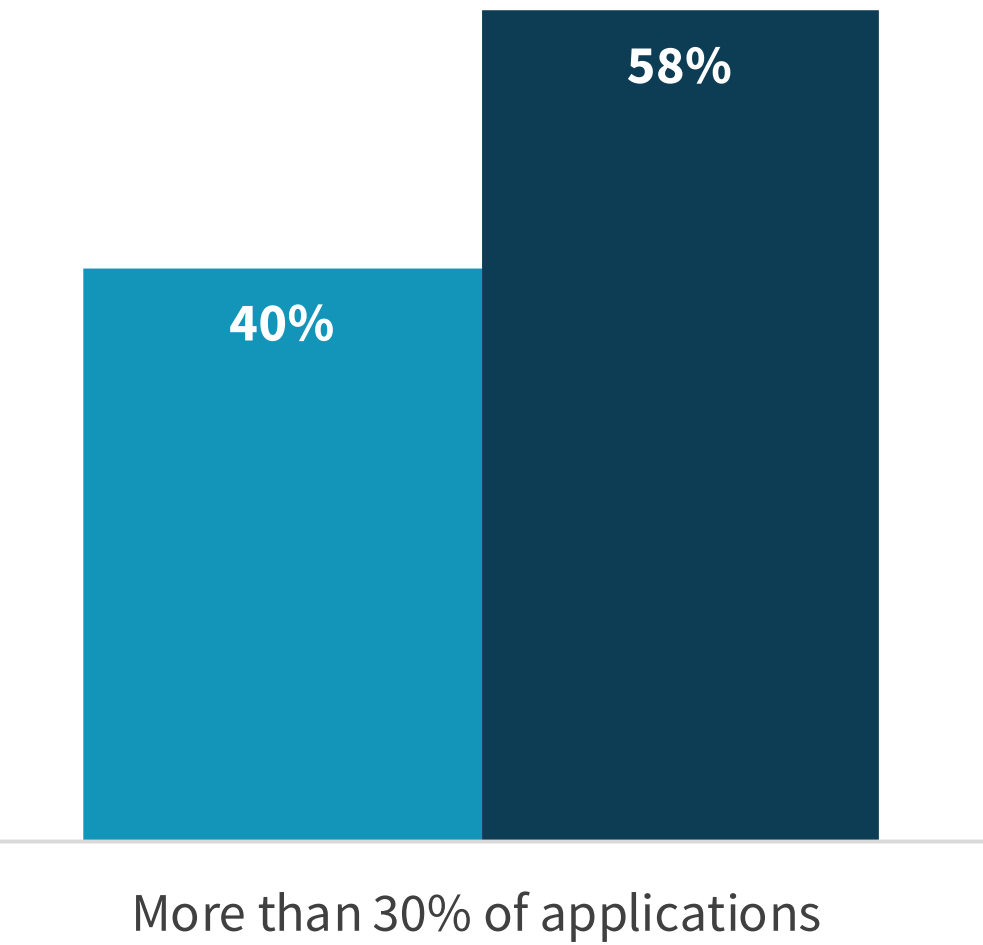
While adoption of public cloud services is nearly ubiquitous, the breadth of usage of these services is also increasing at an accelerated pace. Indeed, over the next two years, a 45% increase in the number of organizations running more than 30% of their production applications on public cloud infrastructure is expected.

However, cloud will not be an either/or choice for most organizations for many years, and as a result, there has been significant growth in commitment to a hybrid cloud strategy. Specifically, since 2017, the number of organizations committed to or interested in a **hybrid cloud strategy has increased from 81% to 93%.**

PERCENTAGE OF ORGANIZATIONS COMMITTED TO OR INTERESTED IN HYBRID CLOUD STRATEGIES



- Percentage of production applications/workloads run on public cloud infrastructure services today (N=309)
- Percentage of production applications/workloads run on public cloud infrastructure services 24 months from now (N=358)



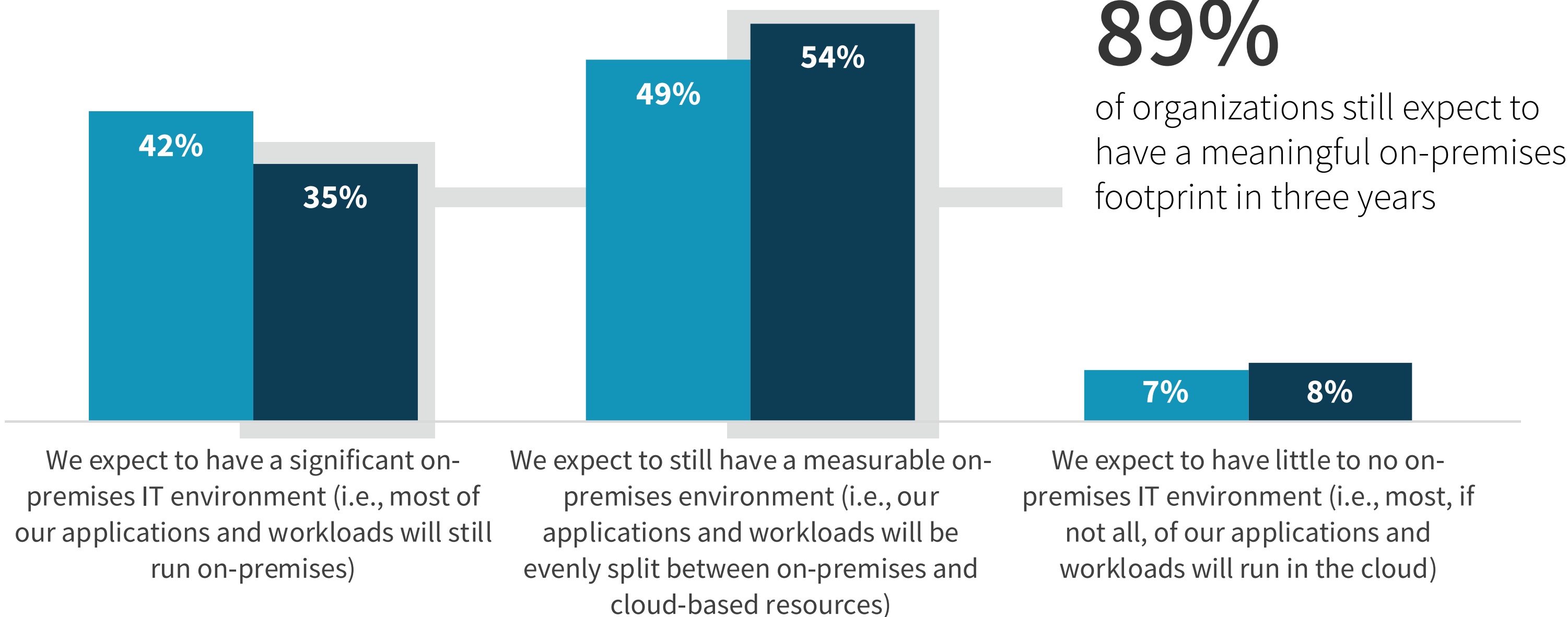


# On-premises still the tip of the spear for most hybrid cloud strategies at this point.



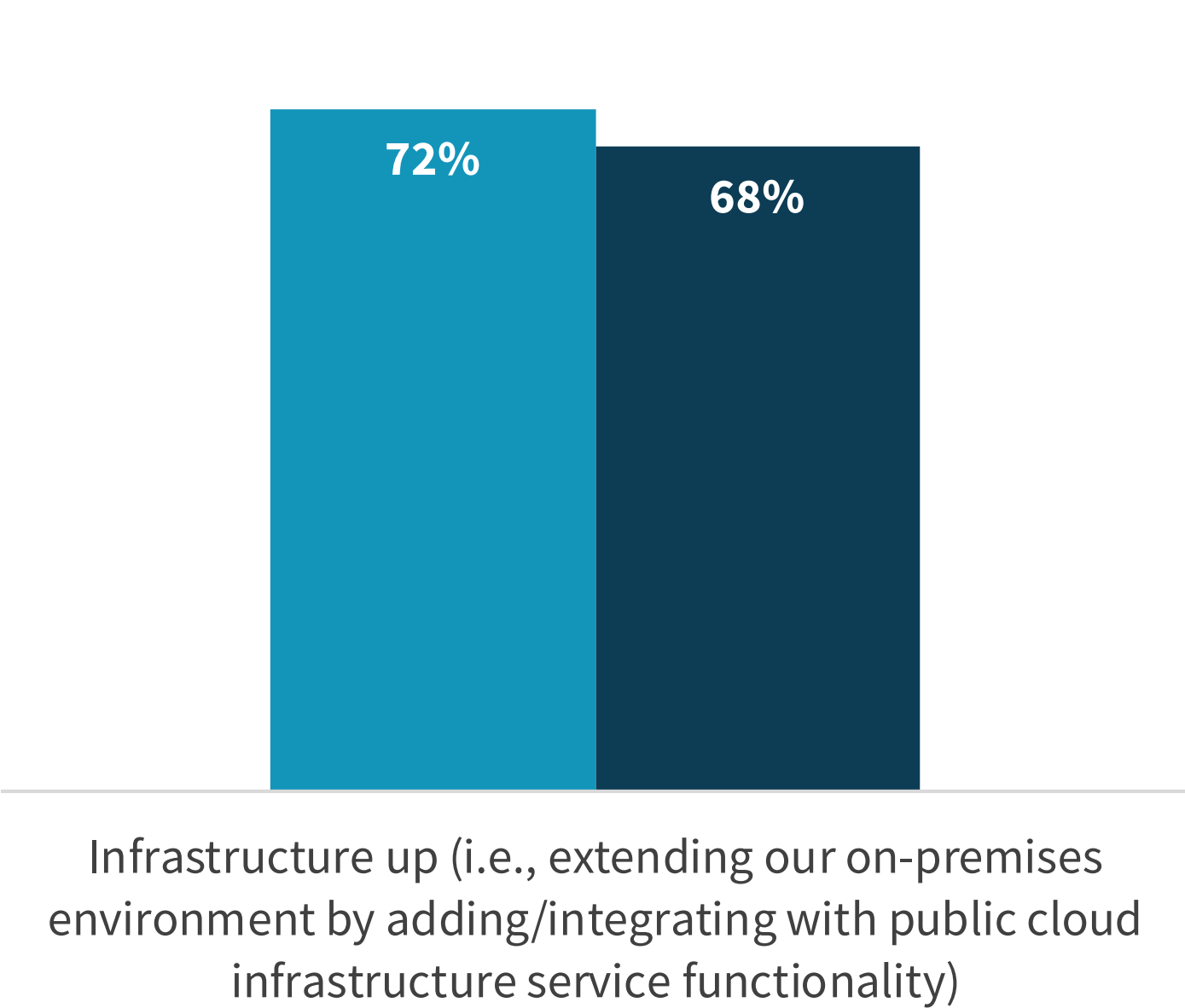
The majority of organizations still view on-premises as important. In fact, **nearly nine of ten organizations expect to have a significant (35%) or measurable (54%) on-premises environment in three years.**


■ 2017 (N=318) ■ 2019 (N=358)



In terms of organizations' approach to hybrid cloud, more than two-thirds (68%) plan to take an infrastructure-up approach in which they will look to extend their on-premises environment by integrating with public cloud infrastructure service functionality.

■ 2017 (N=261) ■ 2019 (N=314)





On-premises  
integration is vital  
to hybrid cloud  
strategies.



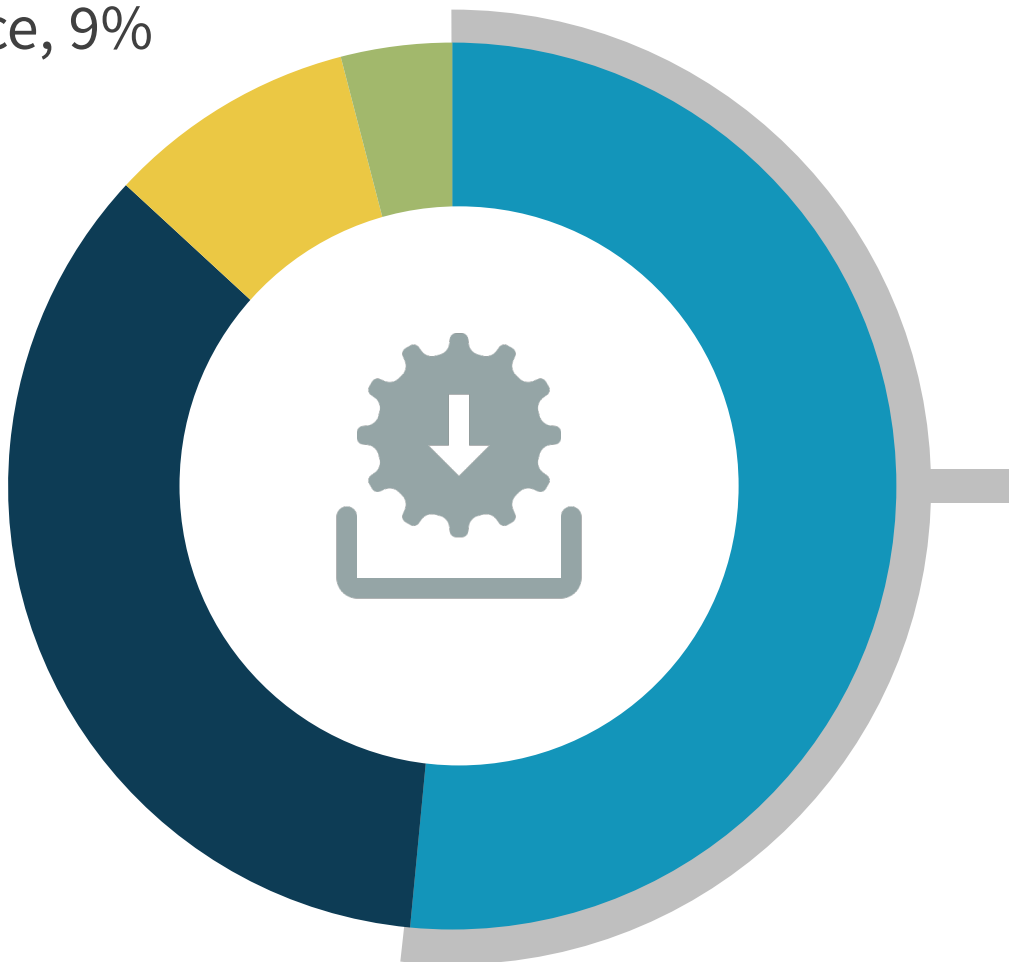
# On-premises integration is a hybrid cloud requirement for many.

Clearly many organizations have an on-premises-first mindset as they begin to formulate their hybrid cloud strategies. When asked to identify the most important consideration in these decisions, more than half (51%) cited seamless compatibility with their on-premises infrastructure.

Compatibility with our public cloud service provider(s) of choice, 9%

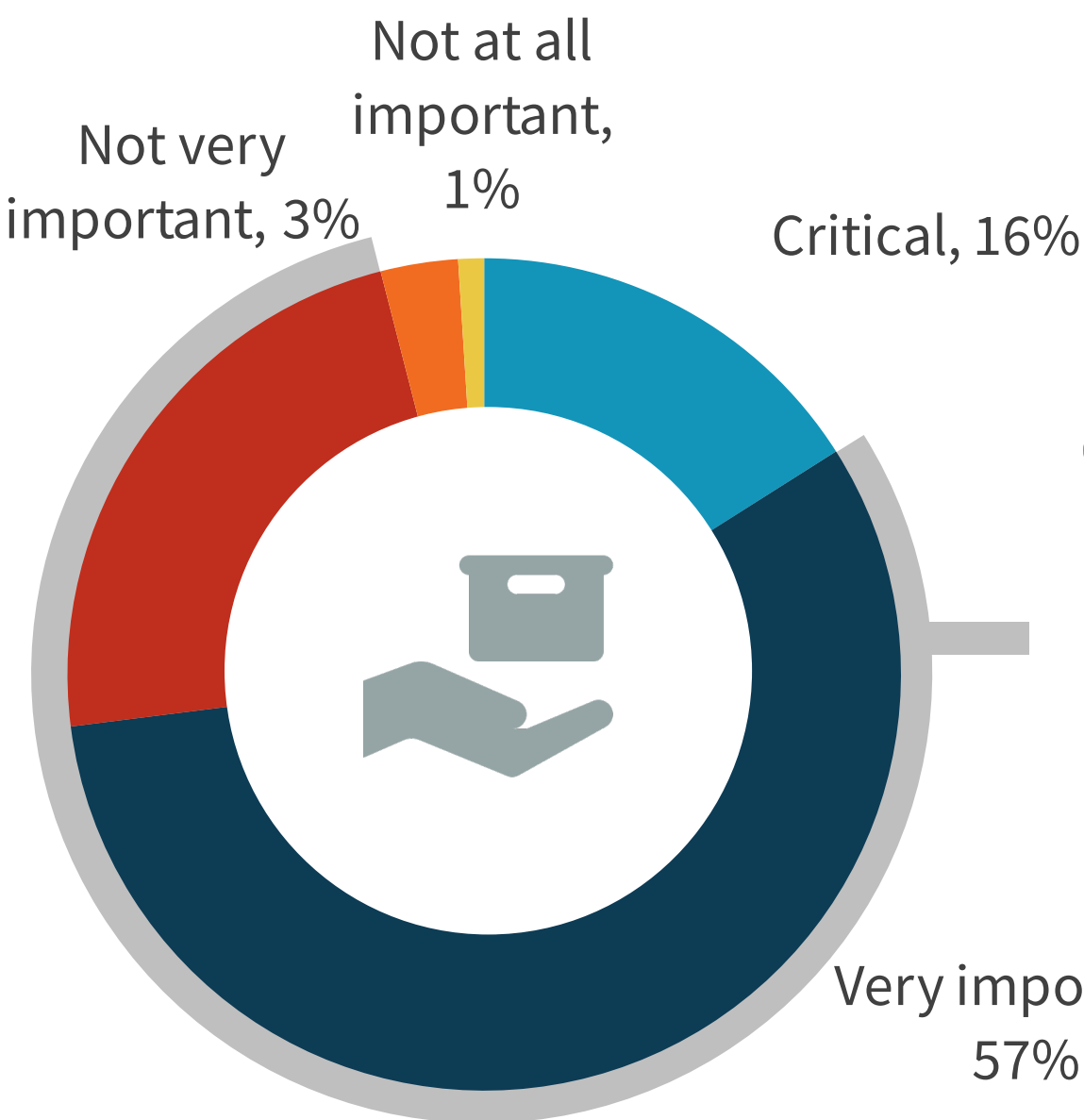
Don't know/too soon to tell, 4%

Support for our application development environment and tools, 35%



**51%**  
cited seamless compatibility with their on-premises infrastructure

Furthermore, nearly three-quarters of organizations stated that it was critical (16%) or very important (53%) that public cloud service providers offer solutions that integrate with their on-premises environments.



**96%**  
consider it important that public cloud vendors offer solutions that integrate with on-premises environments.





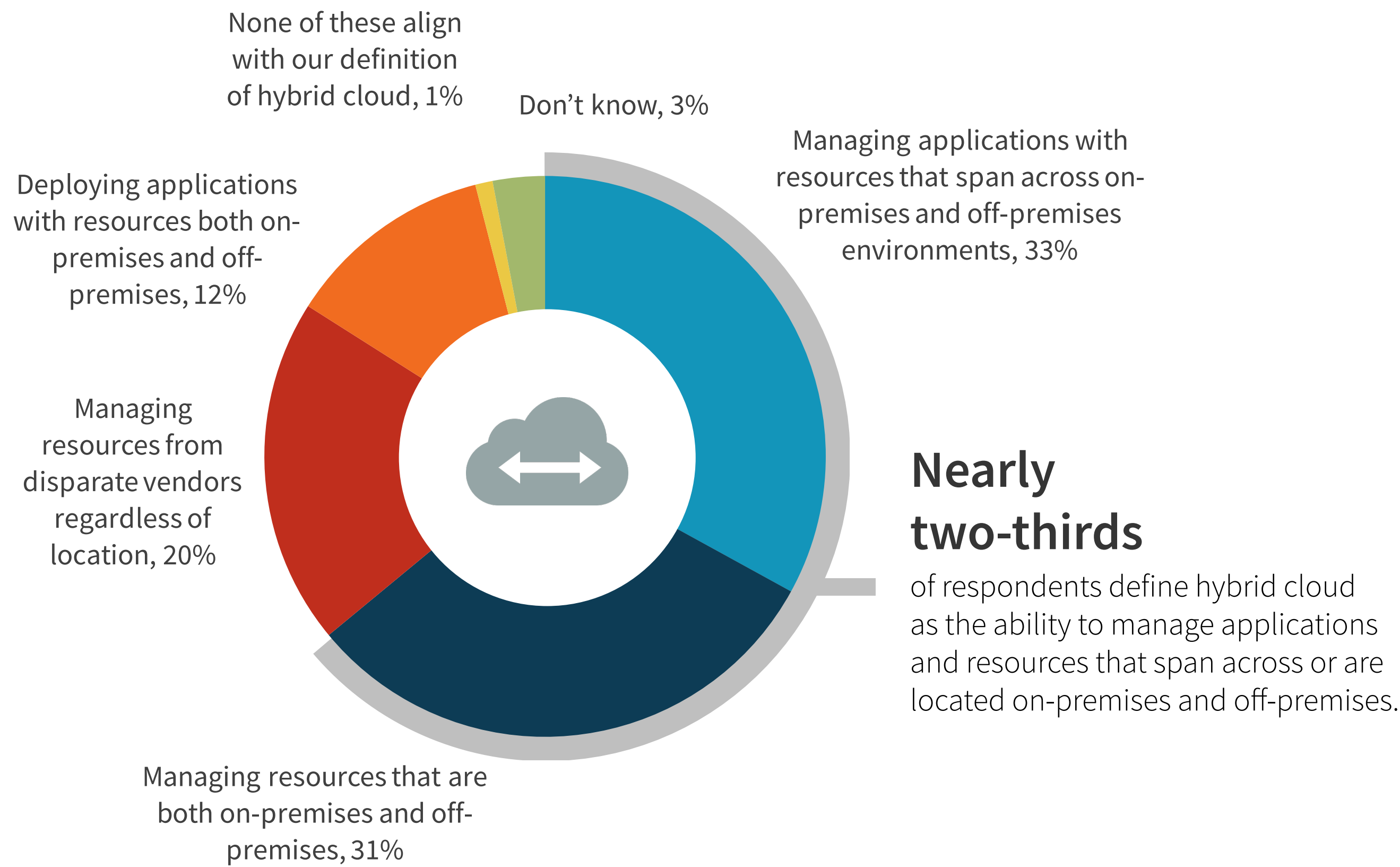
Clear alignment between  
hybrid cloud definitions  
and objectives.



# Federated management and bi-directional application movement most common hybrid requirements.

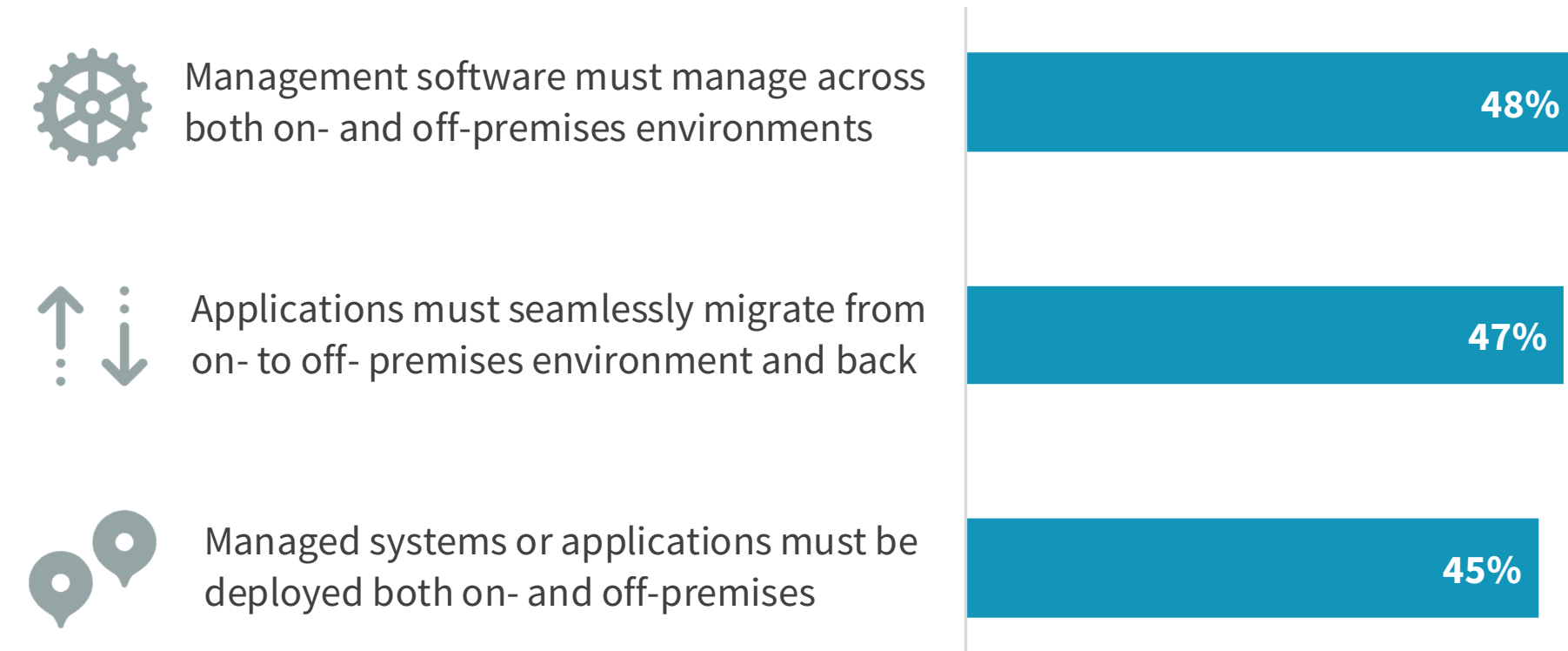
Hybrid cloud definitions vary based on IT market motivations and business goals, but when asked, nearly two-thirds of respondents define hybrid cloud as the ability to manage applications and resources that span across (33%) or are located (31%) on-premises and off-premises.

## DEFINING HYBRID CLOUD



Not surprisingly, this aligns closely with the most commonly identified hybrid cloud characteristics. Nearly half (48%) say that management software must manage across both on- and off-premises environments, while other key requirements include the ability to move applications seamlessly back and forth between on- and off-premises environments (47%) and the ability to deploy managed systems or applications both on- and off-premises (45%).

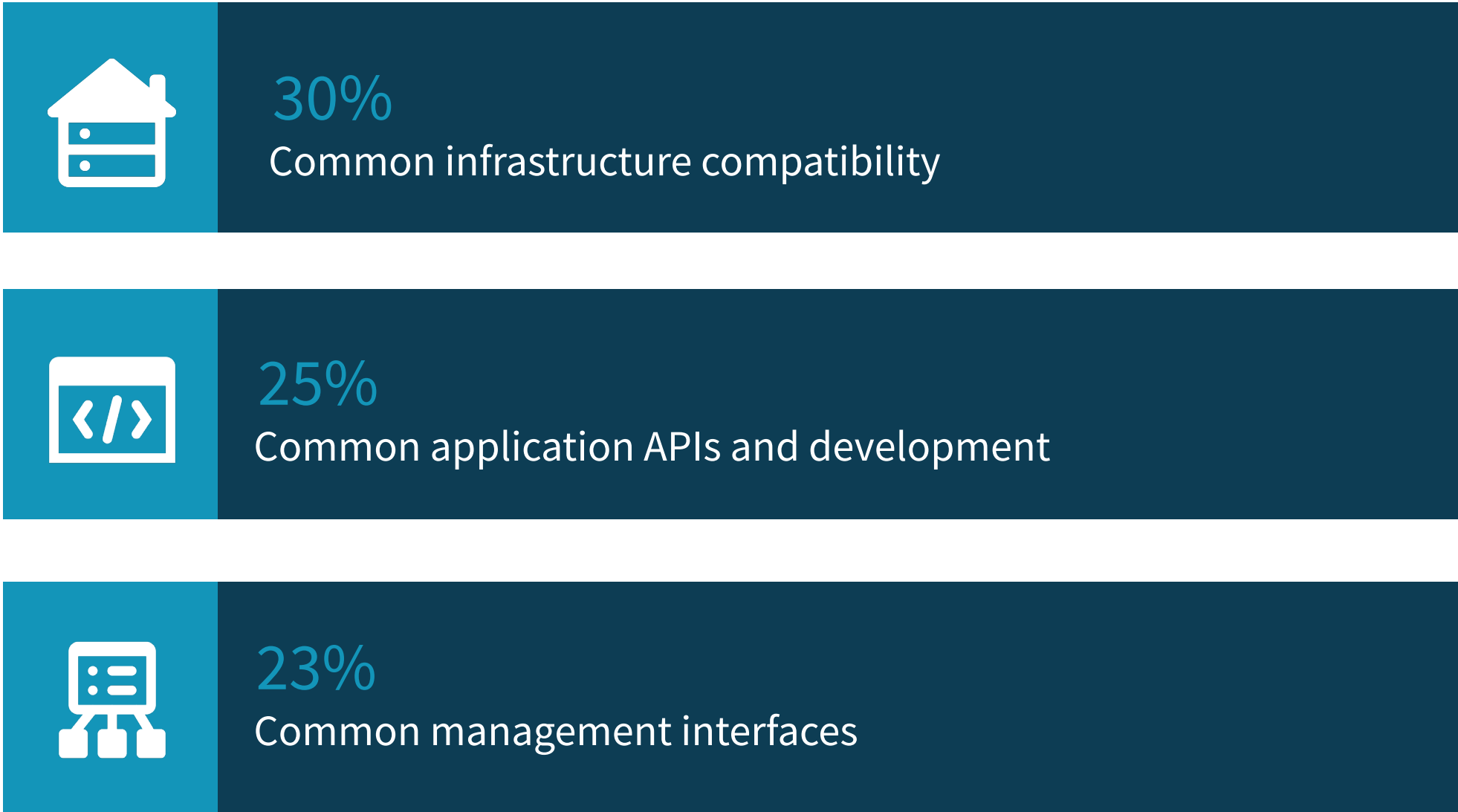
## TOP THREE HYBRID CLOUD REQUIREMENTS



## Infrastructure and application compatibility key hybrid cloud technology objectives.

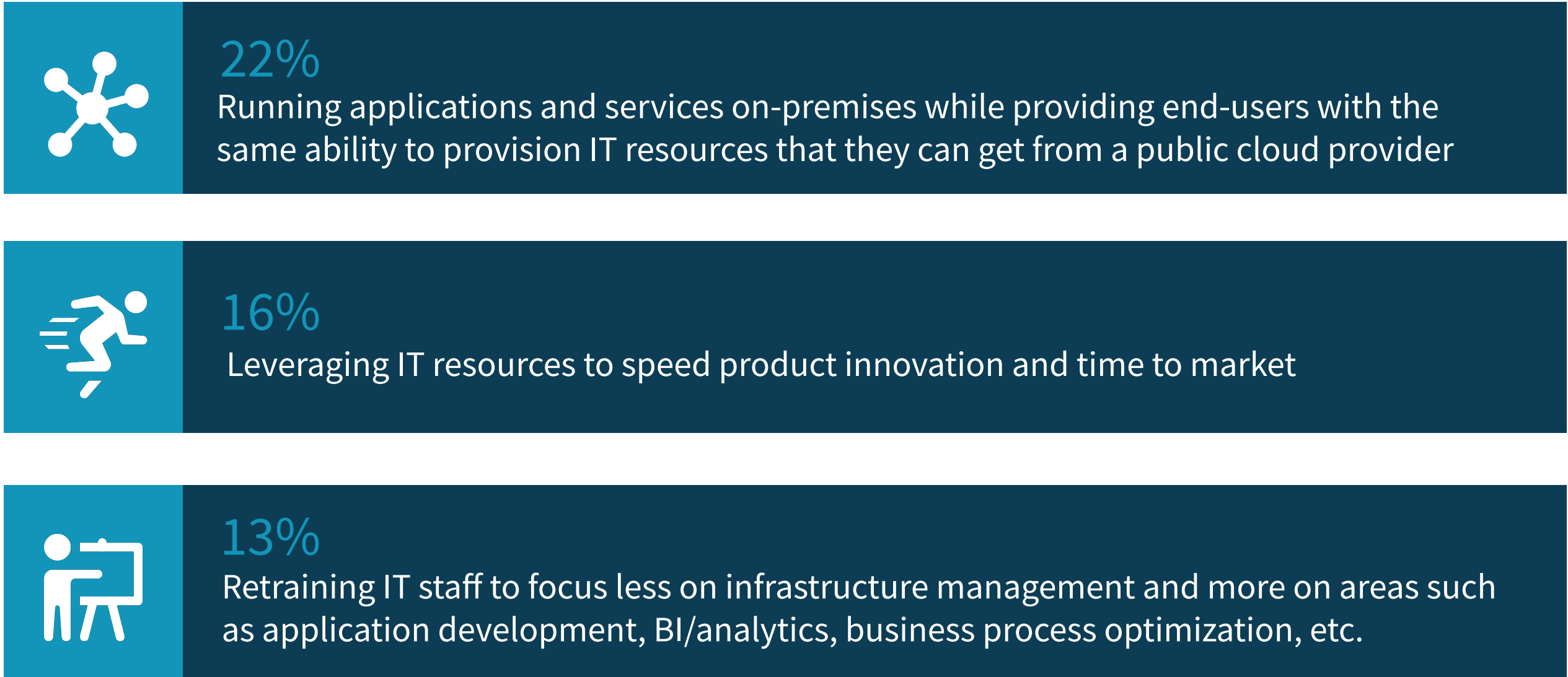
What are the technology and business goals organizations are looking to achieve with their hybrid cloud strategies? Consistent with the desire for integration of on-premises and public cloud resources, it makes sense that more than half of respondents identified common infrastructure compatibility (30%) or common application APIs and development (25%) as their organization’s main technical objective.

### TOP TECHNOLOGY OBJECTIVES FOR HYBRID CLOUD



From a business perspective, organizations view their hybrid cloud strategy as a way to replicate the cloud experience for their users. Specifically, more than one in five (22%) respondents point to providing end-users with the same ability to provision on-premises IT resources that they can get from a public cloud provider, while 16% believe applying cloud-like speed and agility to on-premises infrastructure will help drive both faster product innovation and reduced time to market.

### TOP BUSINESS OBJECTIVES FOR HYBRID CLOUD





An aerial photograph of a city, likely Los Angeles, with a dramatic sky filled with large, white, billowing clouds. Overlaid on the city and sky are numerous colorful, flowing lines in shades of red, orange, yellow, green, and blue. These lines appear to represent data flows, migration paths, or network connections, creating a sense of dynamic movement and complexity. The lines are most prominent in the lower half of the image, where they seem to originate from or pass through the city's urban landscape.

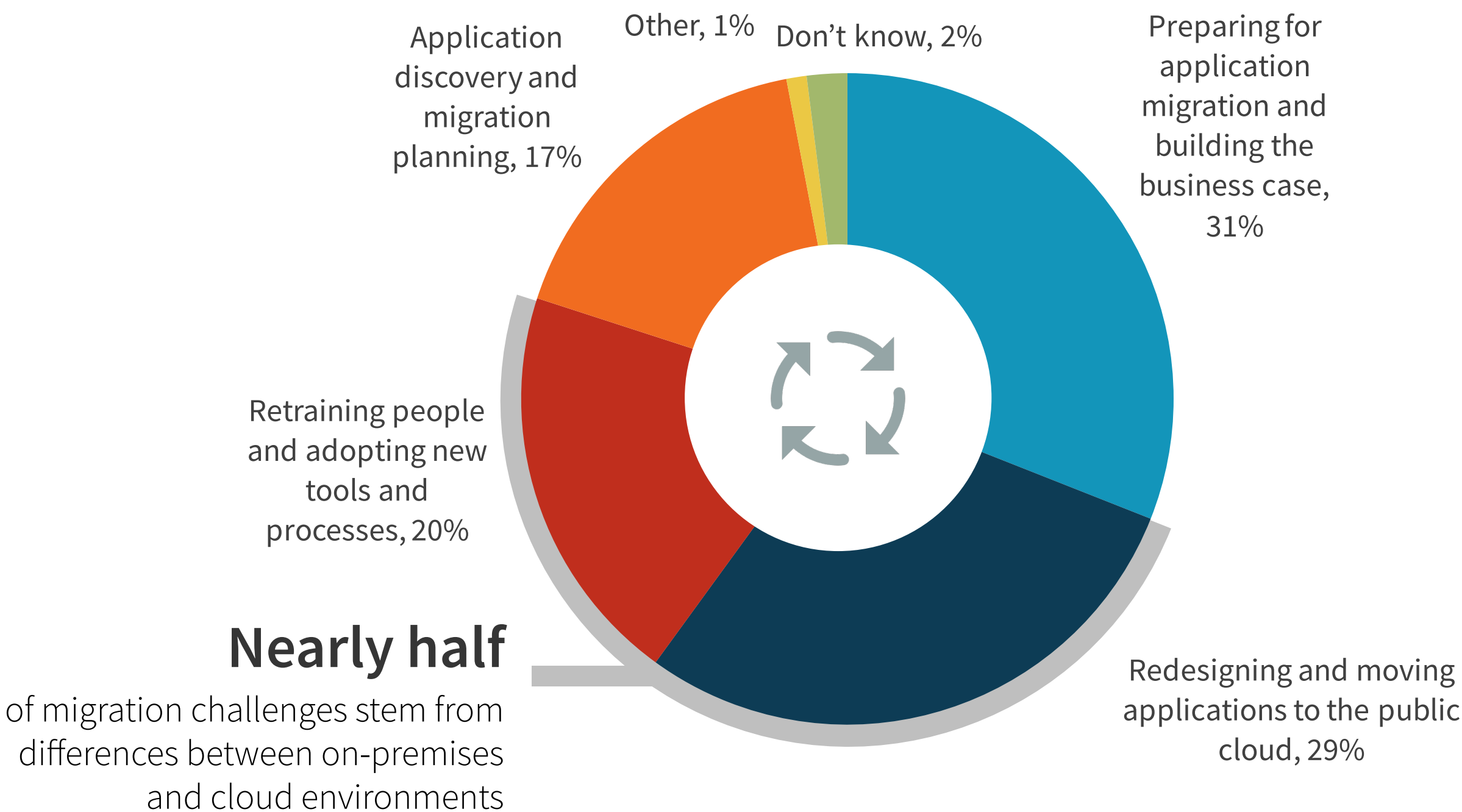
**Application migrations  
dictate hybrid cloud  
strategies, but no definitive  
approach has yet emerged.**



# Application considerations top the list of public cloud adoption hurdles, especially long migration efforts.

When asked to identify the most difficult aspect of adopting public cloud services, six in ten organizations cited application migrations. Specifically, 31% reported the preparation work—including building the business case—for application migration with another 29% pointing to the process for redesigning and actually moving these applications to cloud-based platforms.

MOST DIFFICULT ASPECT OF ADOPTING PUBLIC CLOUD SERVICES



The time it takes for migration also remains a barrier. Indeed, organizations report needing, on average, 27 days to refactor and migrate an application to public cloud services. At this rate, it would take 7.4 years for a business to migrate 100 applications.



27 days

to refactor and migrate an application to public cloud services



7.4 years

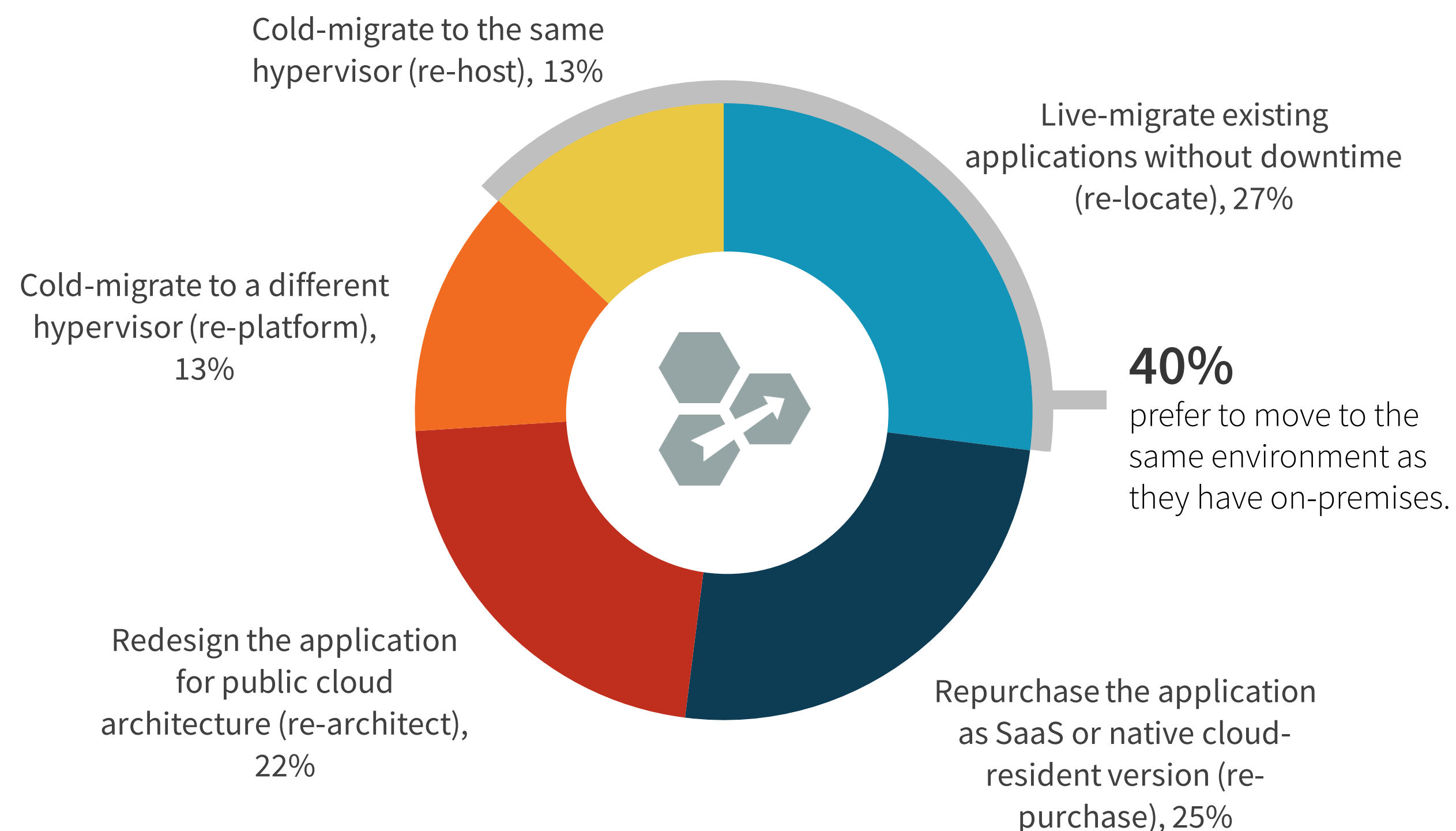
for a business to migrate 100 applications



## No one-size-fits-all approach to migrating applications to the cloud, but availability does slightly outweigh performance.





As businesses prepare for the next wave of application migrations, their preferences for migration patterns are split, which validates the idea that there is no one-size-fits-all approach. The two likeliest approaches going forward for organizations with hybrid cloud strategies include attempting to live-migrate applications without downtime (27%) or re-purchasing the cloud-native version (25%).

### PREFERRED MIGRATION PATHS TO PUBLIC CLOUD SERVICE USAGE



While both matter, high availability is a more common consideration than performance for public cloud application migrations.

### 75% of respondents expect public cloud infrastructure to provide high availability without having to re-design their applications

- 
**39%**  
 We expect to re-design applications to match performance, but public cloud infrastructure has to provide us with the same (or better) high availability
- 
**36%**  
 Public cloud infrastructure has to provide us with the same (or better) performance and high availability without any application changes
- 
**14%**  
 We expect to re-design applications to match high availability, but public cloud infrastructure has to provide us with the same (or better) performance
- 
**11%**  
 We expect to re-design applications to match both performance and high availability





**Consistency desired for  
management and security  
spanning on-premises and  
public cloud resources.**



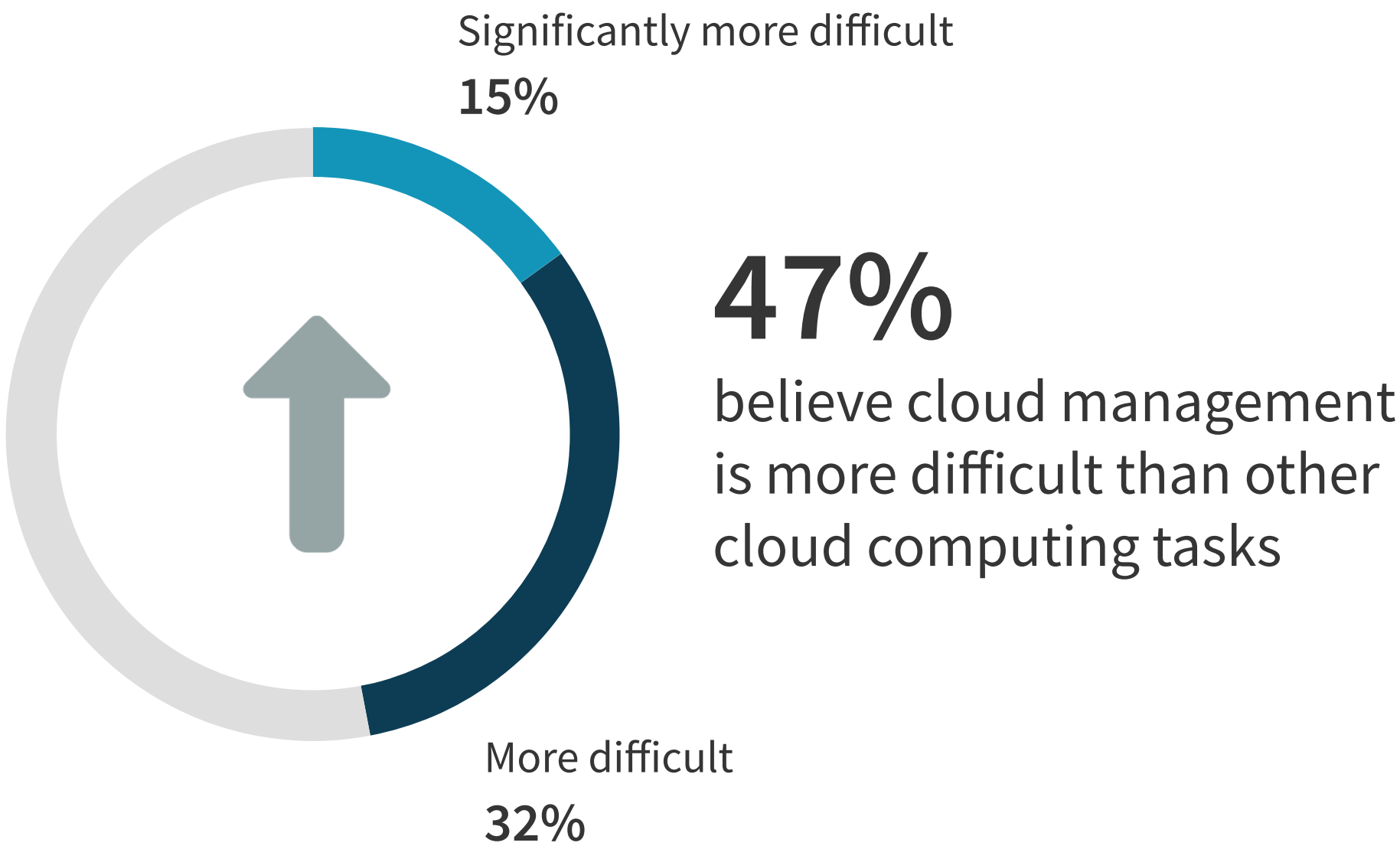
# Most view public cloud management as more difficult than on-premises, and at least as difficult as other cloud tasks.

Being the newer aspect of most hybrid cloud strategies, there are still obstacles organizations are fighting to overcome as they use—or attempt to use—public cloud services more pervasively, including systems management. When asked to compare systems management activities related to on-premises versus public cloud infrastructure, not surprisingly, the majority of respondents indicated public cloud management is much more (20%) or more (34%) difficult.



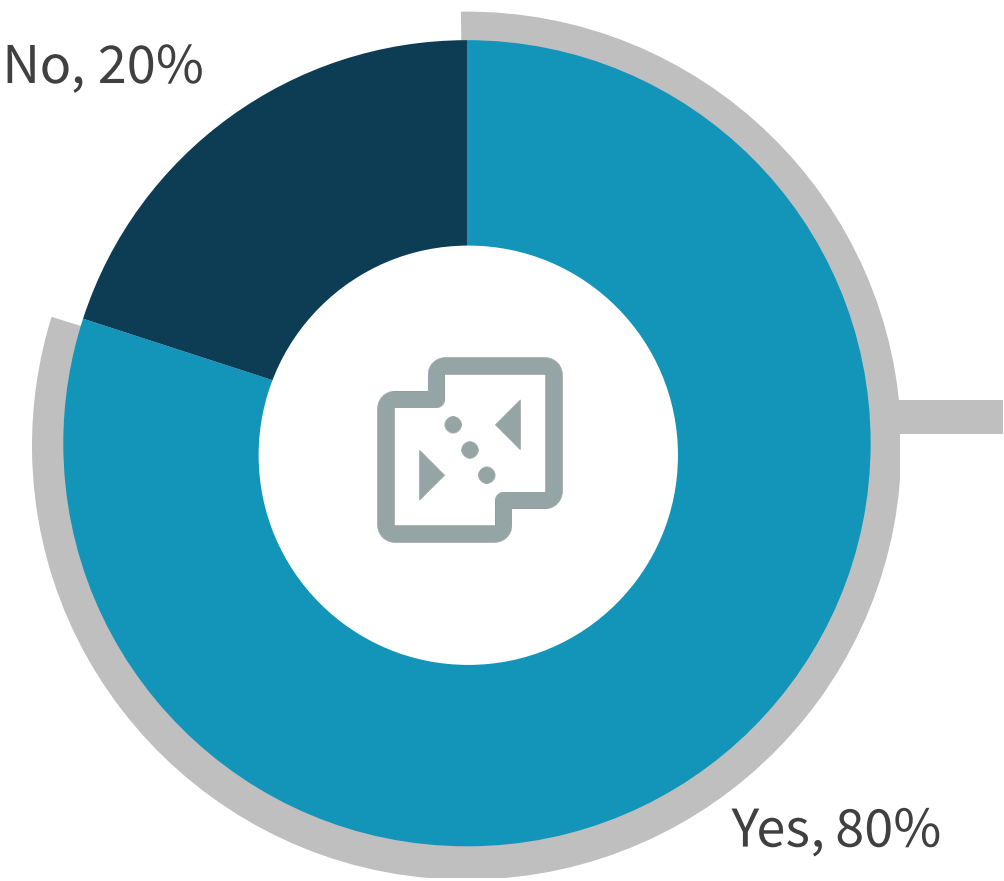
**54%**  
of respondents indicated public cloud management is more difficult

Similarly, nearly half of respondents view the management of resources spanning on- and off-premises as significantly or more difficult relative to other cloud computing tasks and initiatives.

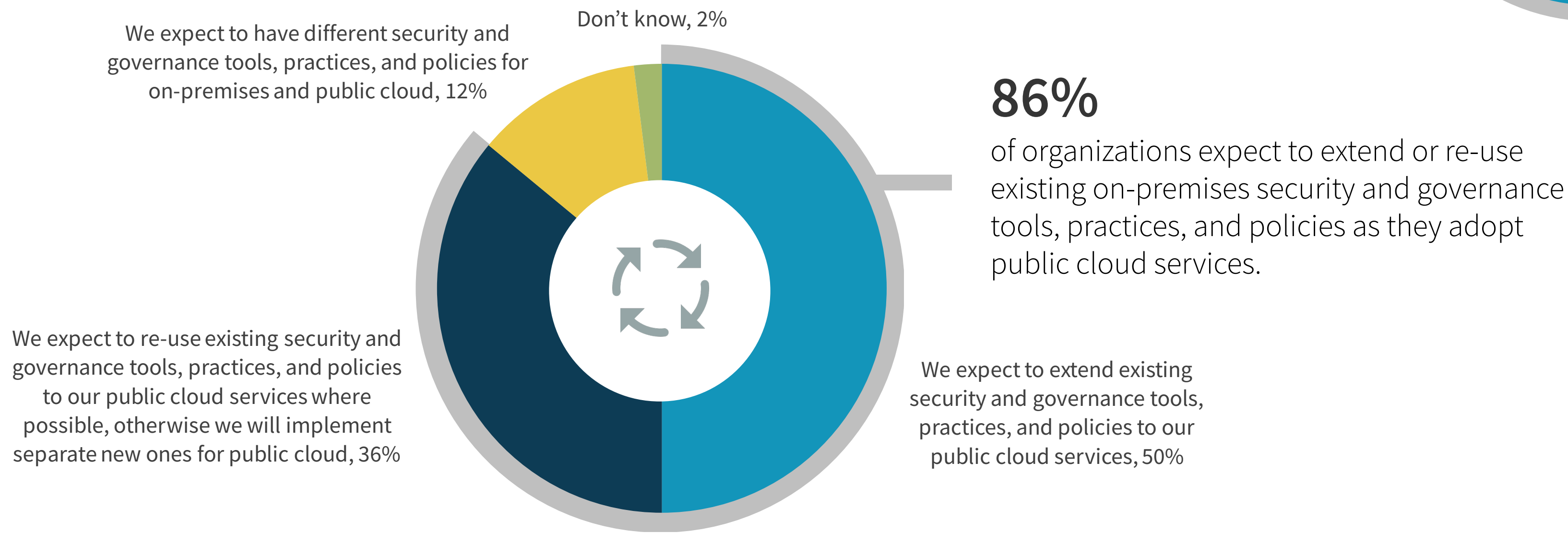


# While organizations are split on their likely hybrid cloud management strategy, the clear preference is an integrated solution.

Despite the fact that most organizations view public cloud systems management as more difficult, they are split between using disparate management tools for each environment or a unified management platform spanning both when it comes to their expected hybrid cloud management strategy. However, the clear management preference for three-quarters of respondents is an integrated solution from a single vendor.



**Three-quarters** of respondents prefer an integrated solution from a single vendor



**86%** of organizations expect to extend or re-use existing on-premises security and governance tools, practices, and policies as they adopt public cloud services.

Related to management considerations, the vast majority (86%) of organizations expect to extend or re-use existing on-premises security and governance tools, practices, and policies as they adopt public cloud services. At the other end of the spectrum, only 12% expect to have separate security and governance tools, practices, and policies for their on-premises and public cloud environments.



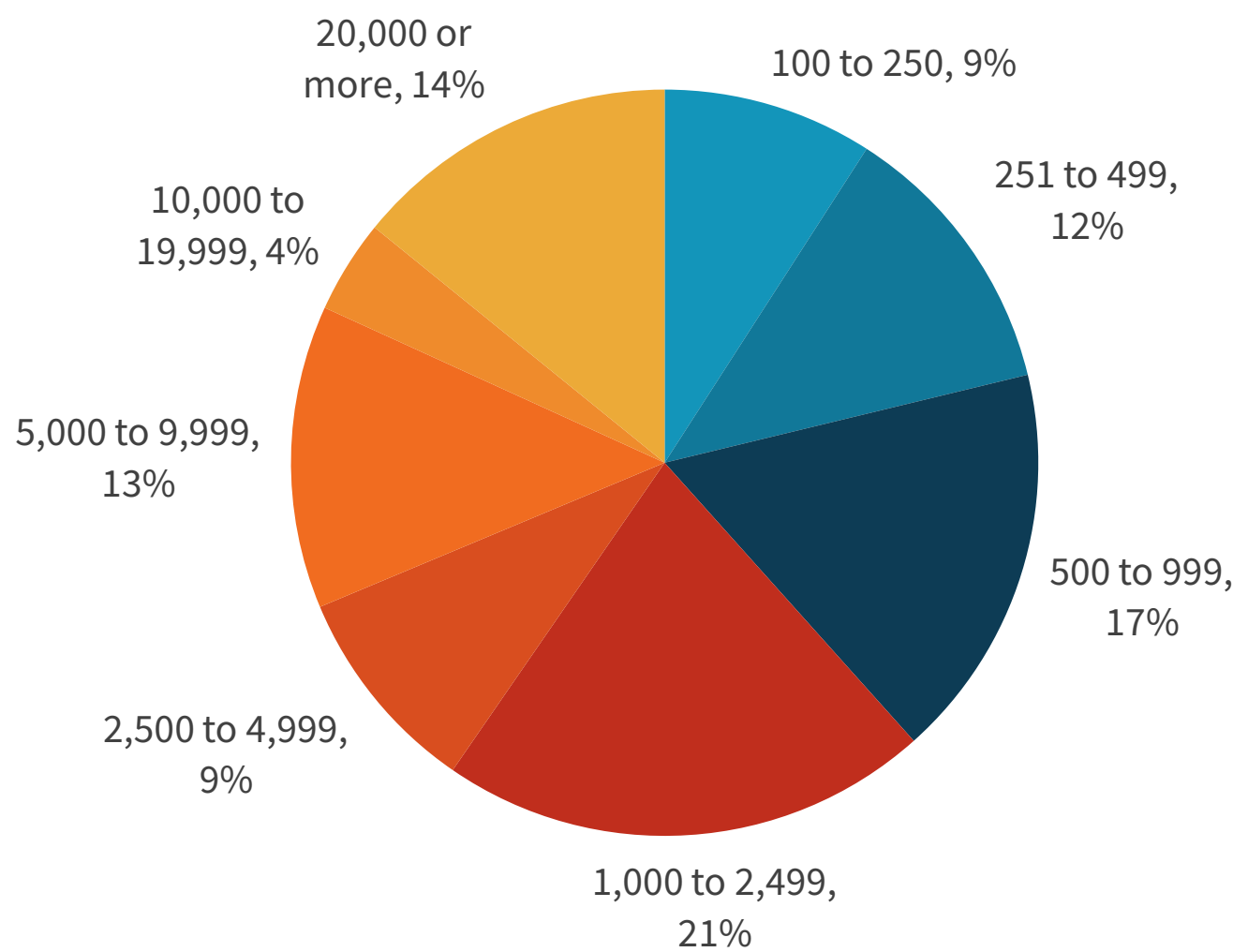
# Research Methodology

To gather data for this report, ESG conducted a comprehensive online survey of IT professionals from private- and public-sector organizations in North America (United States and Canada) between January 22, 2019 and January 30, 2019. To qualify for this survey, respondents were required to be IT professionals currently responsible for their organization’s on-premises and cloud-based infrastructure and the associated management software. All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

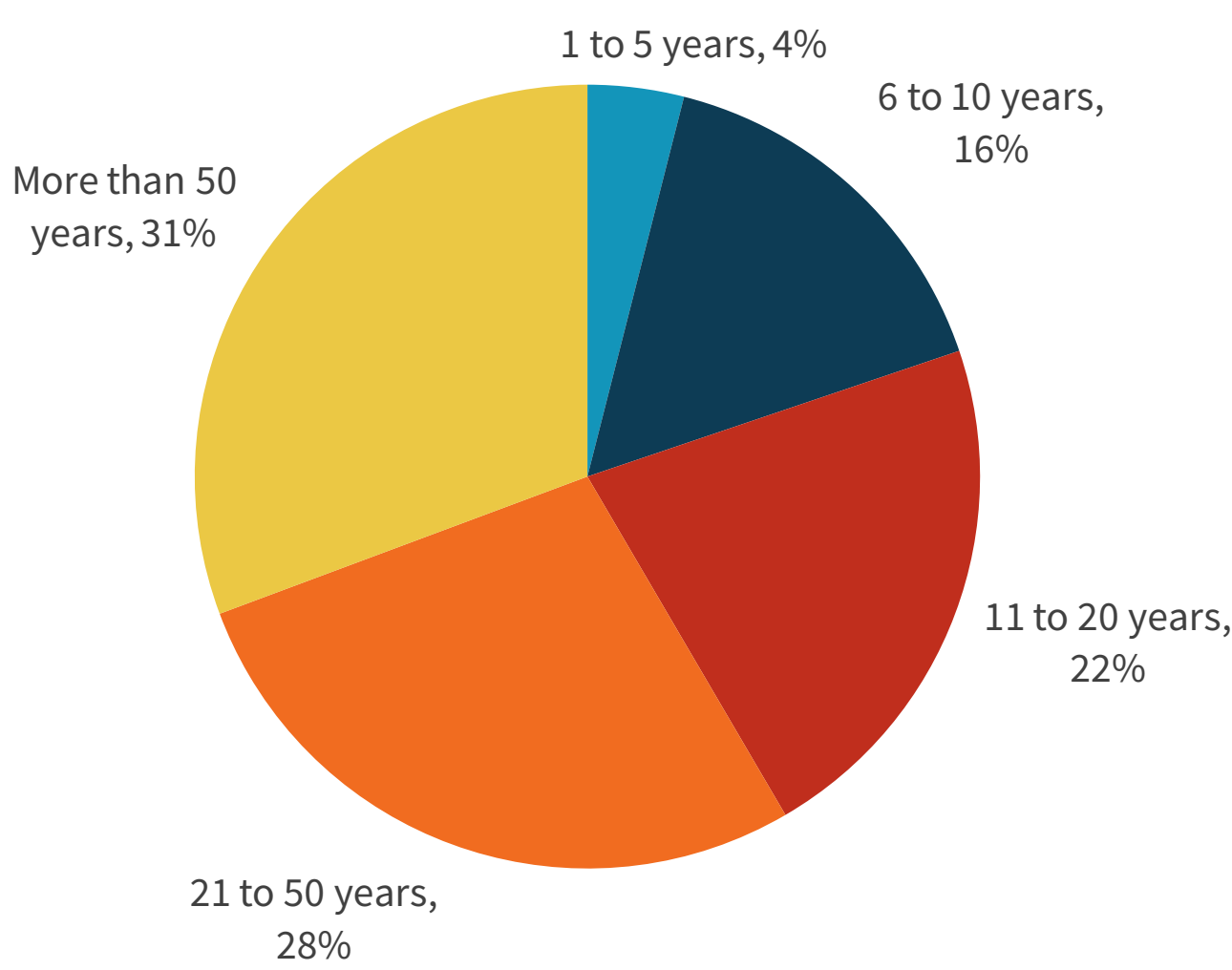
After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on a number of criteria) for data integrity, we were left with a final total sample of 358 IT and cybersecurity professionals.

# Respondent Demographics

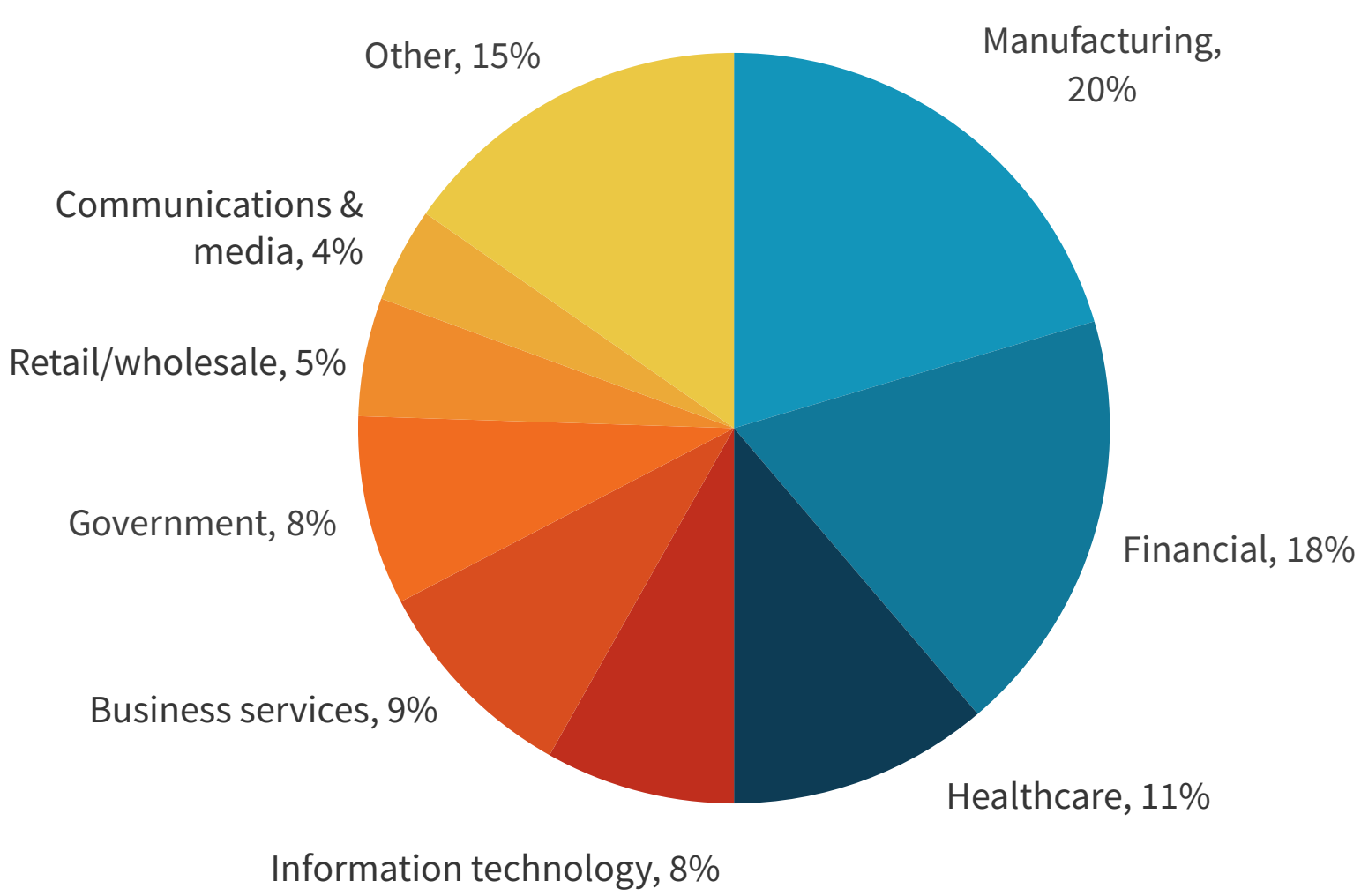
Respondents by Number of Employees



Respondents by Age of Organization



Respondents by Industry







Equinix is helping businesses execute on hybrid cloud strategies and deliver on the promise of cloud computing with an interconnection platform that enables global connectivity. A business's cloud strategy and execution are only as good as its connection, which is why businesses turn to Equinix to help deliver a reliable connection and performance as businesses embrace modern application architectures.

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