



State of **Linux** in the public cloud

Annual review

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Executive summary



More and more workloads are moving to public cloud environments—and the majority of organizations are employing a hybrid cloud strategy. In its internal annual Linux® market study in 2025, Red Hat found that of the 1,200 survey participants, 73% are taking a hybrid strategy—a combination of on-premise and cloud environments with workloads and data migrating between them. This hybrid model gives organizations the flexibility they need to evolve, adapt, and make purposeful IT decisions based on their organizational objectives instead of infrastructure requirements.

While hyperscalers such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud dominate public cloud deployments, 63% of Linux systems remain on premise, reflecting a gradual, strategic migration. In the survey, 54% of organizations prefer enterprise-grade Linux distributions optimized for cross-platform portability to scale resources, maintain security, remain adaptable, and avoid cloud vendor lock-in. Survey results highlight the criteria organizations use to confidently support critical cloud workloads.

Organizations prioritize integrated management, faster time to market, and a security-focused platform. Accordingly, cloud-based Linux workloads are expected to grow from 37% to 45% in 2026.



Key decision points when moving to the cloud

Regardless of why organizations move workloads to the cloud—whether for scalability, faster time to market, or financial flexibility—their approach to selecting a public cloud Linux operating system (OS) is clear. More than half (54%) of respondents prefer an enterprise-grade Linux distribution optimized for hybrid and multicloud environments over a cloud-specific or workload-defined option. As workloads spread across multiple clouds, this choice ensures portability when business or technical requirements change.



Preferred selection approach on public cloud

(Select one)

N=1,200

54%

Select a best-in-class Linux distribution optimized for hybrid and multicloud

27%

Select a Linux distribution developed and delivered by a specific cloud provider

19%

Select a Linux distribution required by the application provider

Figure 1. More than half of respondents said they are looking for a Linux distribution beyond those offered directly from cloud providers.



Beyond portability, top cloud deployment factors include feature availability and support quality. Because cloud features vary while specific workload requirements remain clear, organizations often adopt a multicloud strategy to select the best cloud for each project.

The next most common factor affecting deployment decisions is quality support. Access to experienced Linux professionals is critical during urgent escalations. Relying on professional support also lowers total cost of ownership (TCO) by reducing the staff and time required to troubleshoot and fix issues.

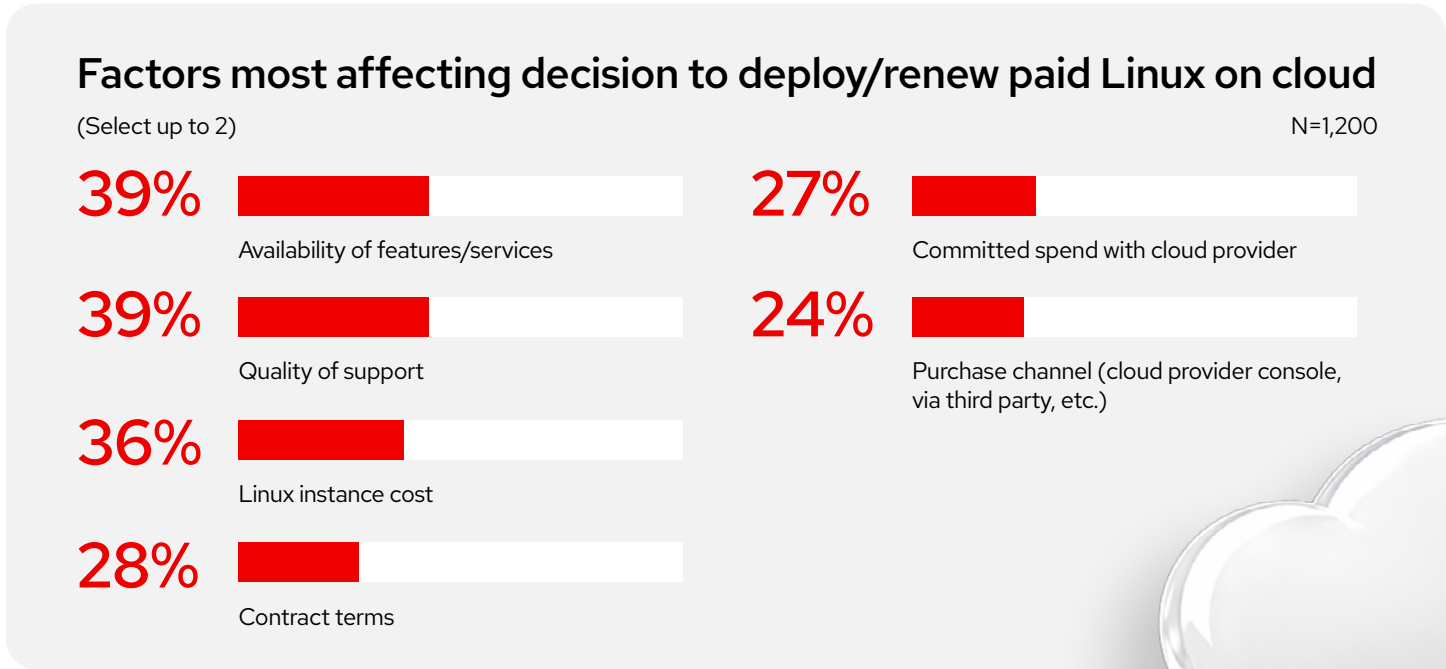
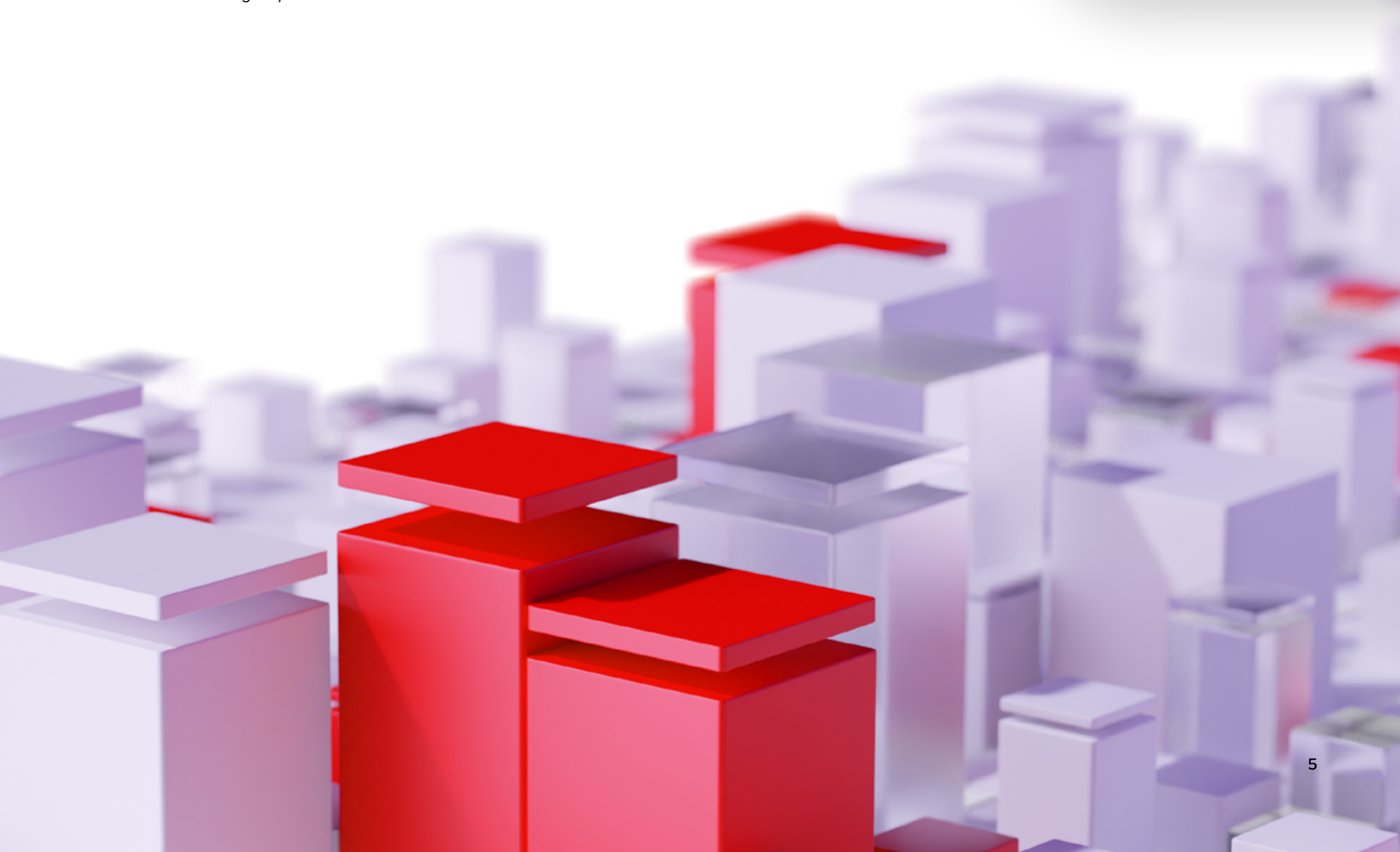


Figure 2. Availability of features and services and quality of support were the factors most affecting respondents' decisions around their choice of Linux.



Respondents ranked security and compliance as the top priority (48%) to integrate with their Linux distribution by default. This aligns with [Flexera's 2025 State of the Cloud report](#), which notes that 77% of organizations cite security as a top cloud challenge.

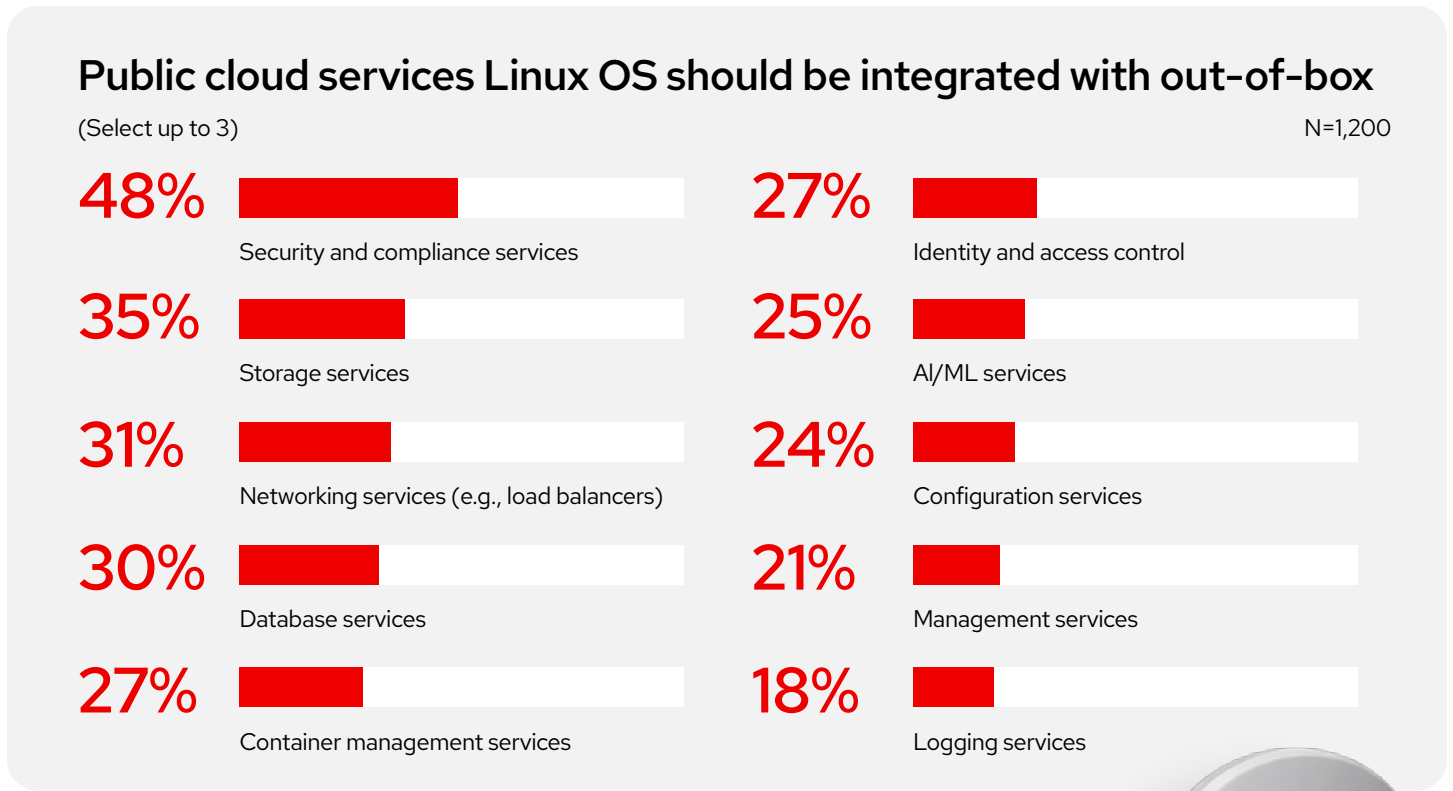
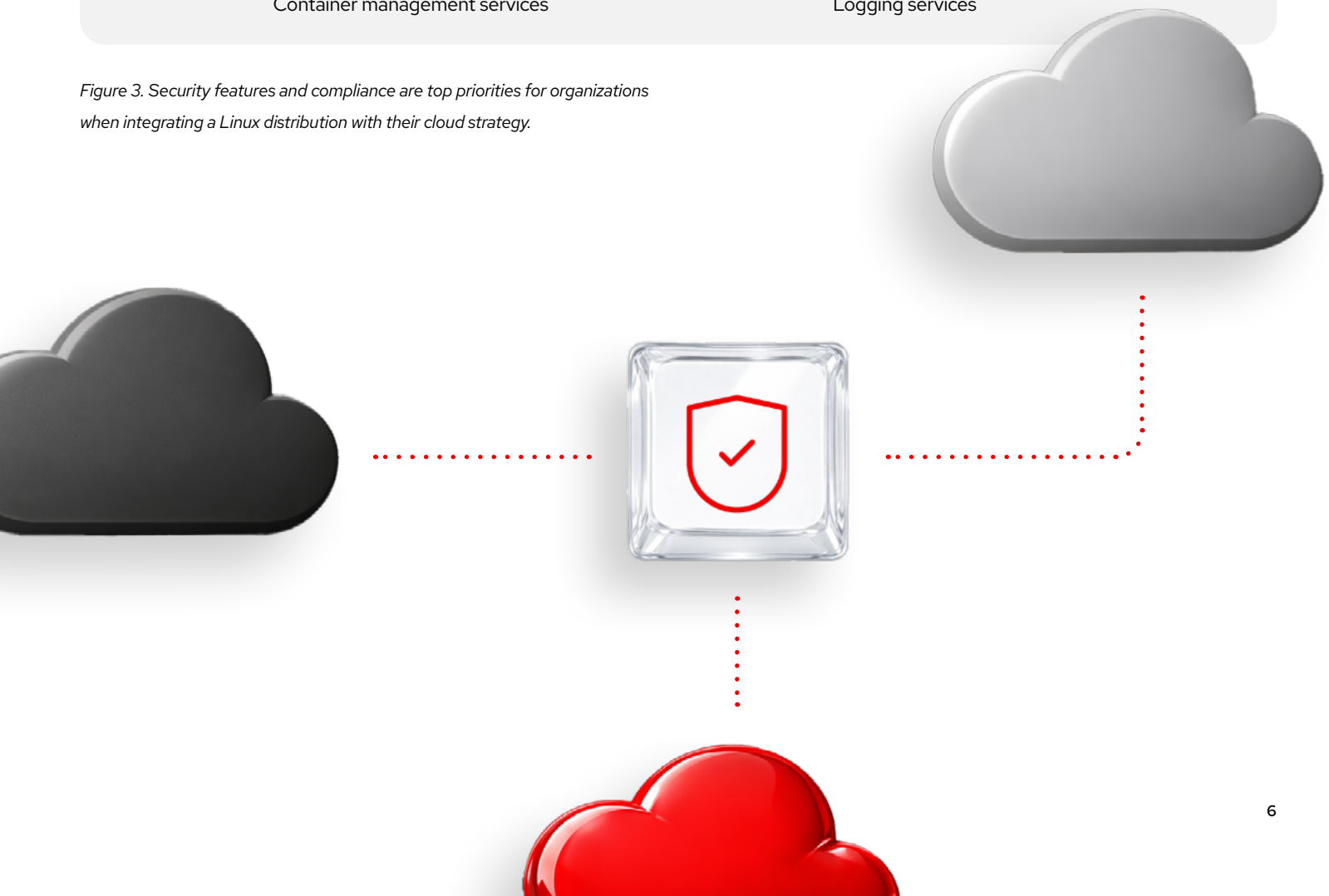


Figure 3. Security features and compliance are top priorities for organizations when integrating a Linux distribution with their cloud strategy.



Measuring integration success between the Linux OS and cloud providers determines ongoing cloud selection and usage decisions. Survey respondents ranked easy integration with cloud providers' management tools highest (44%), followed by high application performance. Both top responses highlight a desire for faster time to market.

Metrics used to measure Linux OS integration with cloud platform

(Select all that apply)

N=1,152

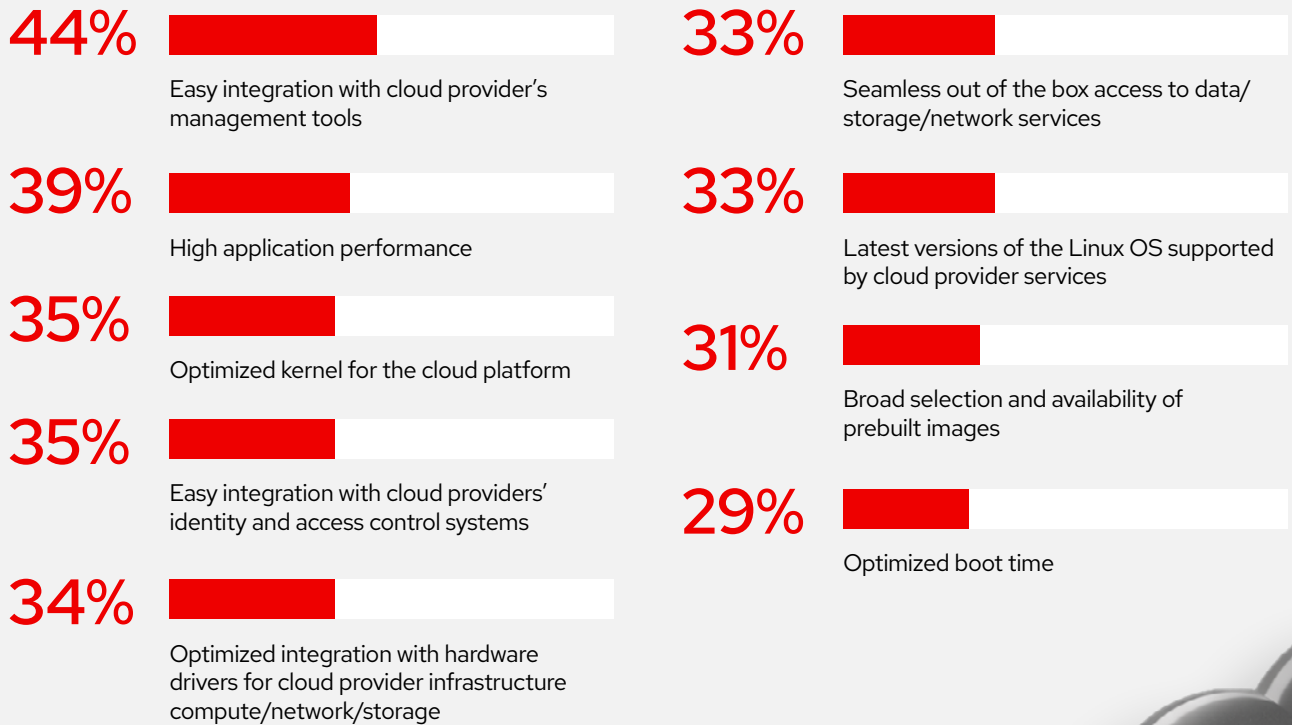


Figure 4. How easy it is to integrate a Linux OS with a chosen cloud provider's management tools is a top priority when selecting a Linux OS.

Preconfigured with each cloud provider's specific tools, Red Hat® Enterprise Linux provides ready-to-run images on AWS, Microsoft Azure, and Google Cloud. Joint engineering allows you to see your Red Hat Enterprise Linux estate along with the rest of your services in your cloud provider dashboard for a more unified view of your usage.

[Learn more](#) →

The Red Hat perspective

Selecting and deploying public cloud workloads is a strategic choice. Whether launching new workloads or migrating from on-premise environments, organizations must remain adaptable and prepare to port them across clouds. The right Linux OS simplifies this process. Red Hat Enterprise Linux offers capabilities that accelerate open hybrid cloud strategies by streamlining migrations to modern infrastructure.

Security, cloud integration, and faster time to market remain key considerations. Running critical applications on Red Hat Enterprise Linux across the open hybrid cloud provides a smooth, scalable foundation. Built-in, cloud-specific configurations help users build, deploy, and manage workloads in the cloud. Integrated management tools speed operations and simplify observability, while comprehensive security tools assist in mitigating risks and reducing downtime.



Deployment preferences

As organizations move to the cloud, how they procure software is changing. For deploying public cloud Linux workloads, 62% of respondents prefer either the Linux vendor or the cloud provider marketplace for procurement, with a slight preference for the Linux vendor.

Preferred procurement source on the public cloud

(Select one)

N=1,200

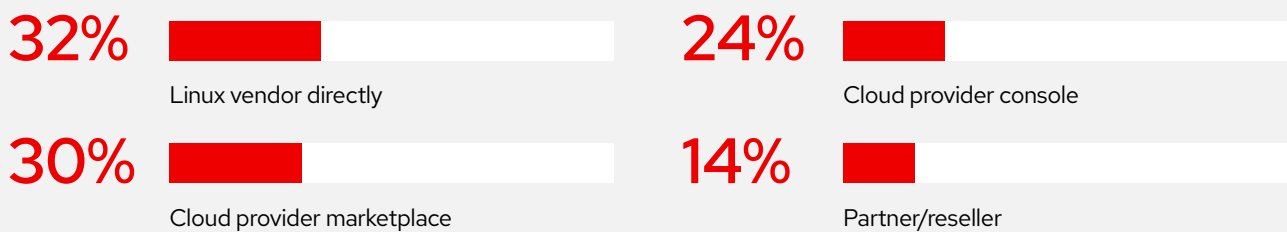


Figure 5. Linux vendors and cloud provider marketplaces are the top preferred procurement methods for public cloud workloads.

Nearly all respondents (97%) have migrated workloads to the cloud or plan to do so. Rehosting—which is also known as lift and shift (moving applications as is)—remains the most common migration method (38%), indicating that many organizations use virtual machines (VMs) for cloud workloads rather than refactoring for containers. While often linked, cloud migration and containerization are independent projects that can happen simultaneously or asynchronously based on business needs.

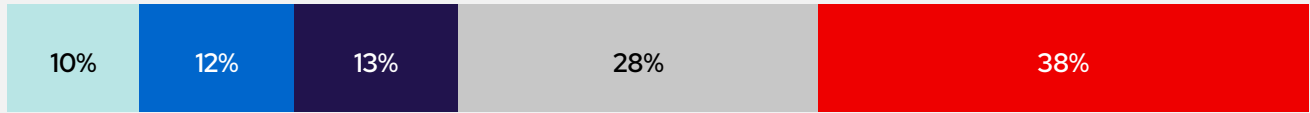


% of Linux workload migrations*

(Enter a percentage)

N=1,132

97% of respondents indicate a migration to the public cloud



- Lift and shift from on premise to cloud (little or no change to application)
- Replatform from on premise to cloud (some change to application)
- Refactor/rearchitect to containers
- Refactor/rearchitect to functions as a service
- Retire and replace (build a new cloud native workload that surpasses the capability of the legacy on-premise application)

*Base: Excludes "None, no migrations to the public cloud" and "Don't know"



Figure 6. Lift and shift remains the most common method of migration, indicating a preference for VMs over containerization when moving to the cloud.

Because workloads move between environments, portability is essential for application management. While most migrations go from on-premise environments to the cloud or between clouds, some involve repatriation—moving workloads from public clouds back to on-premise datacenters, private clouds, or colocation facilities. Repatriation has declined since 2022, accounting for only 14% of Linux workloads in this year's survey. This occurred most often in small and medium-sized businesses, usually caused by unpredictable or suboptimal application performance and availability.



Factors that determined repatriation

(Select up to 2)

N=458

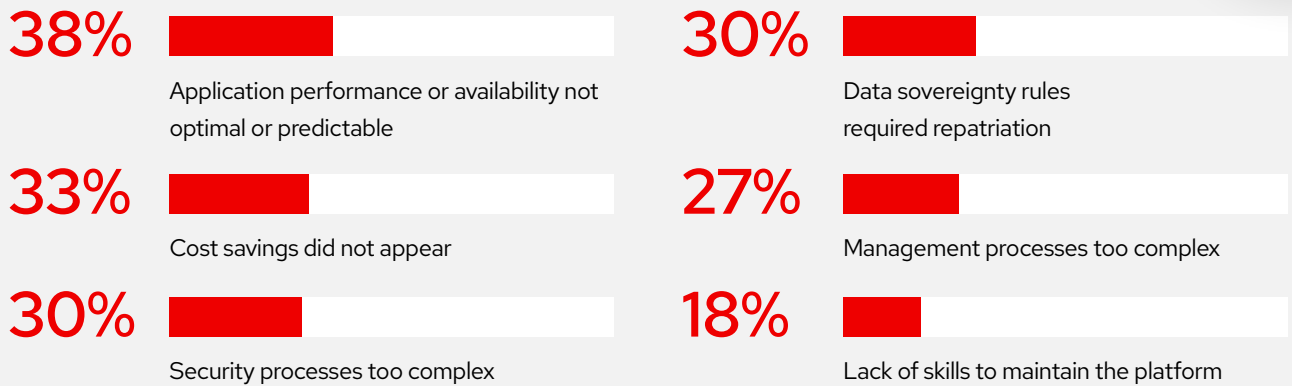


Figure 7. Suboptimal application performance or availability are top factors that determine repatriation.

% of Linux workload repatriated

N=1,158

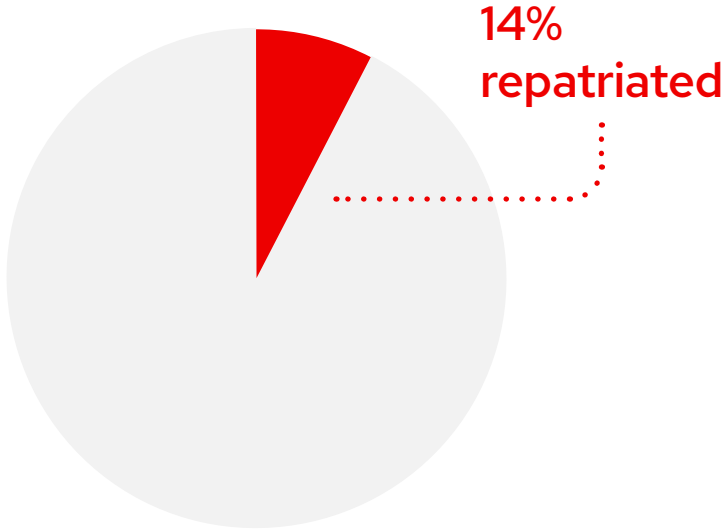


Figure 8. Workload repatriation has declined since 2022, though it still accounts for 14% of Linux workloads in this year's survey.

Your OS can serve as a unifying foundation across on-site and cloud infrastructure, diverse hardware and software, and traditional and cloud-ready applications. Security, management, portability, and lifecycle planning all start with your OS.

Read the e-book:
[Why your operating system still matters](#) →

The Red Hat perspective

Which Linux OS you choose matters more than where you procure it. OSes jointly engineered with cloud providers can perform just as reliably as cloud provider-native options. Strategically choosing the OS can eliminate cloud vendor lock-in and provide a consistent Linux foundation across multicloud and on-premise environments. Red Hat Enterprise Linux delivers a stable, flexible, and high-performance platform across clouds, letting organizations share resources across on-premise and cloud teams.

Lift and shift remains a prominent migration approach, highlighting the continued use of VMs in the cloud. With Red Hat Enterprise Linux, organizations can keep running RPM Package Manager (RPM)-based systems or begin their container journey using [image mode](#).

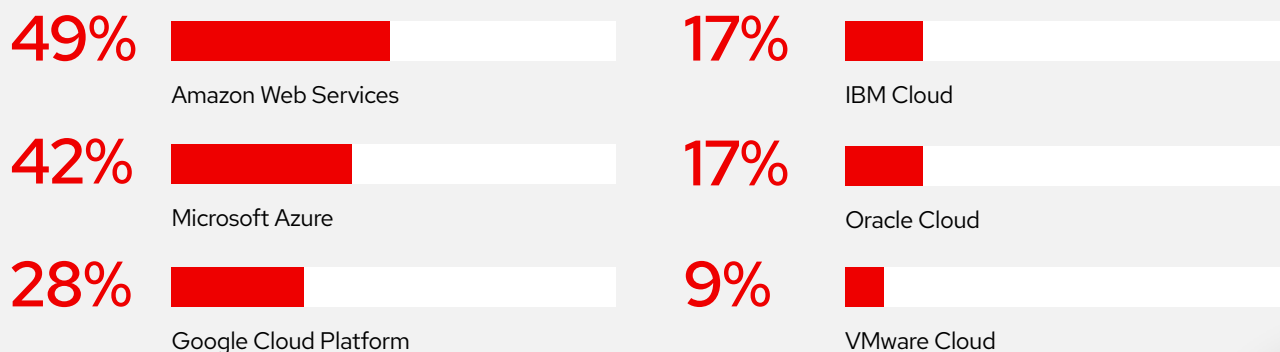
Hybrid cloud is the most prominent environment

Despite growing interest in regional and sovereign clouds—caused by supply chain instability, cybersecurity threats, and shifting geopolitics—global hyperscalers remain the top deployment choice. Respondents' preferred cloud providers are AWS (49%), Microsoft Azure (42%), and Google Cloud (28%), averaging 1.63 public clouds per organization.

Public cloud platforms on which Linux workloads are deployed

(Select all that apply)

N=1,152



Mean number of clouds deployed: 1.63

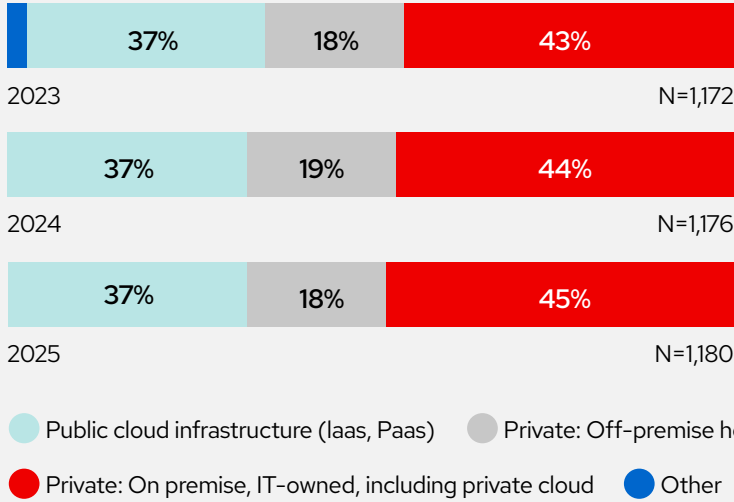
Figure 9. Global hyperscalers remain the most popular choice for Linux cloud deployments, with AWS leading the market.

Most Linux systems (63%) still reside on private infrastructure (for example, traditional on-premise environments and private clouds). Full cloud migration can take years, and organizations often have valid reasons to keep certain workloads on premise.

Hybrid Linux deployments remain the most common. A hybrid approach is used by 73% of respondents, who deploy 24–49% of instances on the cloud. Only 11% keep most deployments in their datacenter.

% of total Linux instances on each infrastructure

(Enter a percentage)



In 2025:

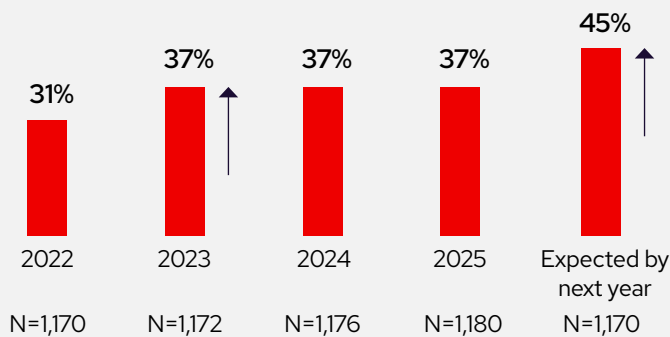
- 11% of respondents deploy the majority of their instances in the datacenter (between 0-24%).
- 73% of respondents deploy instances in a hybrid environment (with 24-49% on the cloud).
- 16% of respondents deploy the majority of instances on the public cloud (between 50-100%).

Figure 10. The percentage of Linux instances that are run on the public cloud has remained stable over the past 3 years.

Organizations expect similar migration and deployment patterns over the next 2 years, but anticipate a significant increase in cloud-based Linux workloads. While cloud deployment percentages have remained consistent since 2023, usage is expected to grow from 37% today to 45% next year.

% of Linux workloads running on cloud: today and expected by next year

(Enter a percentage)



Arrows: Significantly higher/lower than prior column



Figure 11. Expected growth of Linux workloads in the cloud reflects the ongoing shift toward hybrid environments, anticipating a rise from 37% to 45% in the next year.

This growth is partially fueled by gen AI workloads, which require readily available accelerator hardware—for example, graphics processing units (GPUs) and tensor processing units (TPUs)—heavily deployed by cloud providers. Today, 32% of gen AI applications require specialized hardware and are deploying in the public cloud at nearly the same rate as on premise across both development and production instances.



% of gen AI apps on each infrastructure

(Enter a percentage)

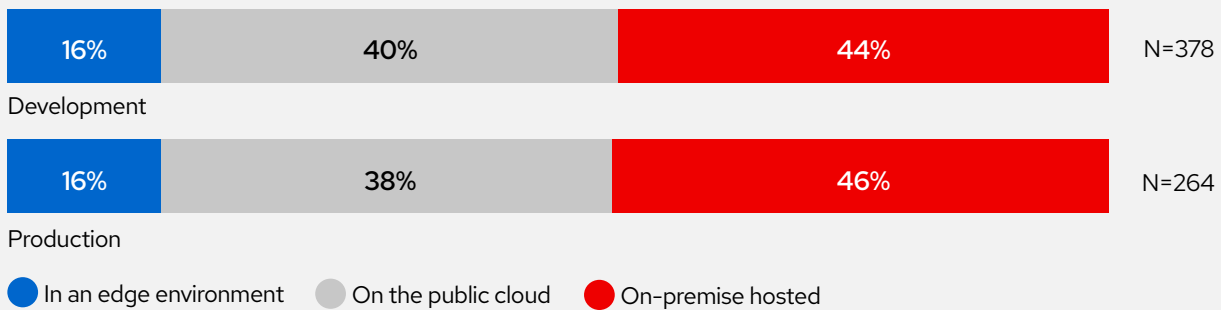


Figure 12. Gen AI applications are nearly equally deployed for development and production in the public cloud.

% of gen AI apps requiring specialized accelerated hardware

N=436

32% of gen AI apps



Figure 13. Part of the reason for the shift toward the cloud in gen AI workloads is the requirement for specialized hardware to run them.



Further validating the hybrid cloud strategy, 64% of respondents reported their last significant Linux OS deployment spanned both the datacenter and public cloud. This rises to 71% for business-critical workloads. Overall, hybrid deployments have increased 4% since 2024.

Last significant Linux OS deployment: platform on which Linux OS run

(Select one)

N=1,200

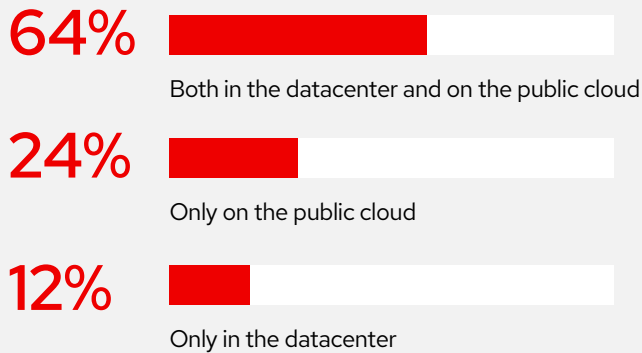


Figure 14. Most organizations surveyed reported their last significant Linux OS deployment was in a hybrid environment.

Red Hat Enterprise Linux is available through certified cloud provider marketplaces including AWS, Microsoft Azure, Google Cloud, and more than 1,400 regional cloud service providers worldwide.

[Red Hat Enterprise Linux for AWS →](#)

[Red Hat Enterprise Linux for Azure →](#)

[Red Hat Enterprise Linux for Google Cloud →](#)




The Red Hat perspective

Despite growing interest in sovereign clouds due to geopolitical and cybersecurity concerns, global hyperscalers such as AWS, Microsoft Azure, and Google Cloud remain the dominant cloud choices, while 63% of Linux systems still reside on private infrastructure. A hybrid approach is the prevailing strategy, used by 73% of organizations, with a trend toward deploying critical and gen AI workloads requiring accelerator hardware across both datacenters and public clouds. Organizations expect a significant shift in 2026, projecting cloud-based Linux workloads will rise from 37% to 45% as hybrid deployments continue to gain momentum.



Conclusion



While enterprises are shifting to the public cloud, the path forward relies on the flexibility of a hybrid model rather than abandoning private infrastructure. Prioritizing an enterprise-grade Linux distribution helps organizations maintain the consistent user experience, portability, and security focus needed to navigate a multicloud landscape without cloud vendor lock-in.

Red Hat Enterprise Linux provides a consistent experience across all environments, delivering faster time to market, reliable performance, and the scalability for critical and gen AI workloads wherever they reside. Red Hat provides enterprise Linux solutions, expert resources, tools, and services to help organizations succeed in the cloud.

[Contact Red Hat](#) →



2025 Linux market study: Methodology and firmographics

A total of 1,200 IT professionals, across all major industries and from 9 countries spanning all major geographic areas, participated in this research survey. Management Insight Technologies selected participants based on technology experience and knowledge, and all respondents had Linux experience.

Management Insight Technologies conducted a series of phone interviews and web-based surveys, where respondents were asked a variety of questions about how their organizations were using Linux in their infrastructure and what considerations were used to select Linux distributions. These surveys were conducted in April and May, 2025.

For more information about the methodology of this data, contact marketintelligence@redhat.com.

Region	Respondent type	Company size
North America – 42%	IT decision makers (CTO, CIO, Director) – 40%	Small/medium business (500–999) – 9%
EMEA – 25%	IT influencers (architect, IT operations) – 40%	Upper mid-market (1,000–4,999) – 41%
APAC – 25%	Developers – 20%	Enterprise (5,000+) – 50%
LATAM – 8%		
Industry	IT budget	Linux OS Status
Technology – 22%	Less than \$100K – 0%	Deployed in production & dev/test – 78%
Financial Services – 18%	\$100K – less than \$250K – 4%	Deployed only for production – 16%
Manufacturing/mining/energy – 15%	\$250K – less than \$500K – 7%	Deployed only for dev/test – 4%
Retail/wholesale/distribution – 11%	\$500K – less than \$1M – 14%	Active pilot or evaluation – 1%
Business/professional services – 9%	\$1M – less than \$2.5M – 18%	Consider for future – 1%
Health care – 8%	\$2.5M – less than \$5M – 18%	
Public sector – 7%	\$5M – less than \$10M – 13%	
Telecommunications – 4%	\$10M – less than \$20M – 10%	
Entertainment/media/advertising – 2%	\$20M – less than \$50M – 7%	
Consumer/personal services – 2%	\$50M+ – 7%	
Other – 2%	Cannot discuss – 1%	
	Do not know – 1%	

