April 2024 | Guide

Nutanix Enterprise Cloud Index Report: Financial Services

NUTANIX

Table of Contents

Hybrid Multicloud Adoption Pegged for Growth Amid Security, Sustainability, AI and Cost Priorities

About This Report: Background and Research Goals

For the sixth consecutive year, Nutanix commissioned a global research study on the state of enterprise cloud deployments, IT infrastructure, and data management. In December 2023, U.K. researcher Vanson Bourne surveyed 1,500 IT and DevOps/platform engineering decision-makers worldwide. The respondents represented diverse industries, business sizes, and geographies, including North and South America; Europe, the Middle East, and Africa (EMEA); and the Asia-Pacific-Japan (APJ) region.

This report supplements the global 6th Annual Enterprise Cloud Index master report and focuses on cloud deployments in the financial services and insurance industry. It highlights current adoption levels and the technology plans, priorities, challenges, and experiences of IT professionals in healthcare companies worldwide and how they compare to the full global response pool and other industries.

Financial Services: Findings At-A-Glance

01. Cloud growth areas

While hybrid multicloud growth was flat last year, it's gearing up to nearly triple in the next three years and become the dominant IT operating model among FSI respondents. The exclusive use of one or more public cloud platforms as IT infrastructure is also poised to grow moderately. While these gains will come largely at the expense of private infrastructure, those decreases will be mostly in on-premises datacenters; interestingly hosted datacenter usage is expected to enjoy healthy growth.

02. IT priorities

Security-related issues—in particular, protecting against ransomware and other malware—ranked consistently high in FSI respondents' priorities, investments, and challenges. Sustainability issues, however, showed a mixed picture: while they were the top-ranked criterion for infrastructure purchasing, they placed last as a priority for CIOs, CTOs, and business leaders and received the least "significant" investment. Additionally, this sector emphasized controlling IT costs far more than other industries.

03. Application mobility drivers

Nearly all companies in this sector said they had moved one or more applications to a different infrastructure in the past year. The main reasons were to enhance application and data access performance, improve their security posture, and bolster compliance with existing and changing regulatory mandates.

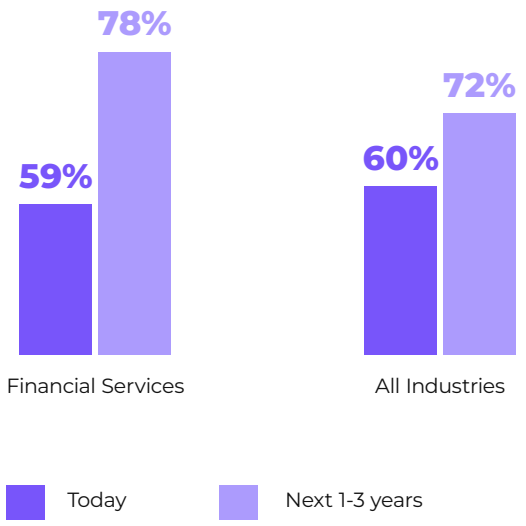
01. Key Findings

The financial services industry accelerates hybrid multicloud adoption: The expected new industry standard.

While hybrid multicloud saw flat growth last year, respondents now suggest a significant surge, anticipating a roughly threefold increase over the next three years. This trend positions hybrid multicloud as the leading IT operating model among financial services organizations.

Currently, **59%** of surveyed financial services companies utilize multiple IT environments, combining private datacenters with public clouds or relying solely on multiple public clouds (as illustrated in Figure 1). These respondents anticipate a substantial expansion in their use of diverse environments, expecting an increase of 19 percentage points over the next three years.

Figure 1: Current and Planned Use of Multiple IT Environments

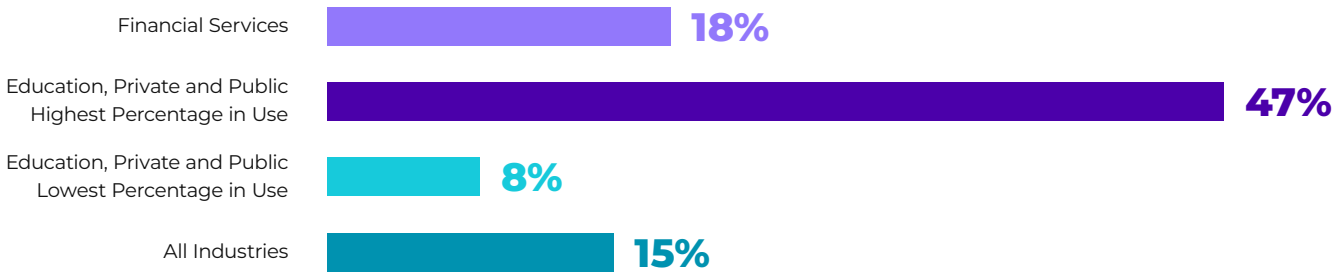


Note that the data in Figure 1 considers all private infrastructure in use—whether on-premises, in a hosted service provider's datacenter, or both—as a single operating model. If counting on-premises infrastructure and hosted infrastructure as two separate models, the percentage of financial services respondents using multiple IT environments today jumps to **89%** (a significant increase over last year's **64%**).

Although delayed last year, hybrid multicloud adoption in financial services is poised for takeoff and expected to dominate by 2027.

Hybrid multicloud, characterized by integrating private infrastructure with two or more public cloud platforms, is anticipated to see the most significant growth among ECI survey respondents. In the previous year's survey, **20%** of financial services enterprises reported adopting this model, which is slightly higher than this year's reported usage at **18%**. Nevertheless, the adoption of hybrid multicloud in the financial services sector remains marginally above the global average, which currently stands at **15%**—an increase from **12%** last year (Figure 2)

Figure 2. Comparative Hybrid Multicloud Usage Today*

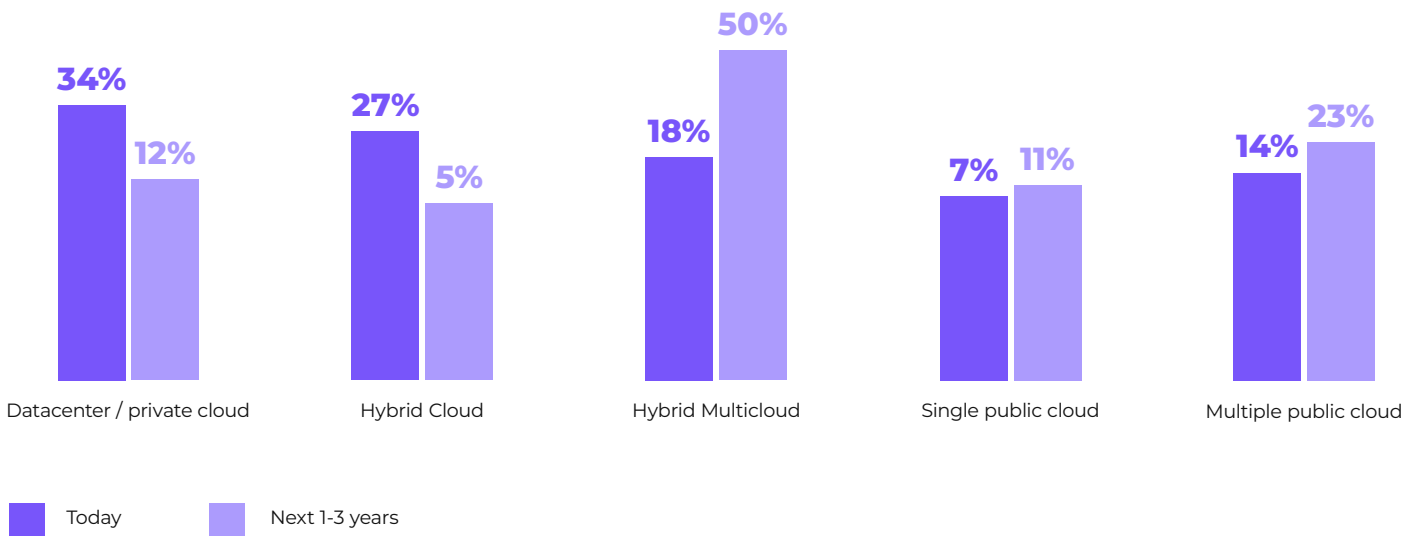


*Percentage of respondents in each group currently using private IT infrastructure in combination with two or more public cloud platforms

The significant shift in planned IT infrastructure models from last year highlights the notable increase in the adoption of hybrid multicloud solutions over purely hybrid cloud systems. This evolution reflects the strategic deployment by financial services industries of diverse cloud environments tailored for specific operational, cost, compliance, and control requirements.

Over the next one to three years, hybrid multicloud is projected to become the leading IT model in the financial services sector, with anticipated adoption rate of **50%** among surveyed organizations (as depicted in Figure 3A). Meanwhile, the use of multiple public clouds without private infrastructure is expected to emerge as the second most prevalent model, accounting for **23%** of responses. Additionally, a modest increase is forecasted in the reliance on a single public cloud as the sole IT infrastructure for some companies.

Figure 3A. Financial Services IT Operating Models in Use and Planned



Single Response Allowed | Figures may not total 100% due to rounding

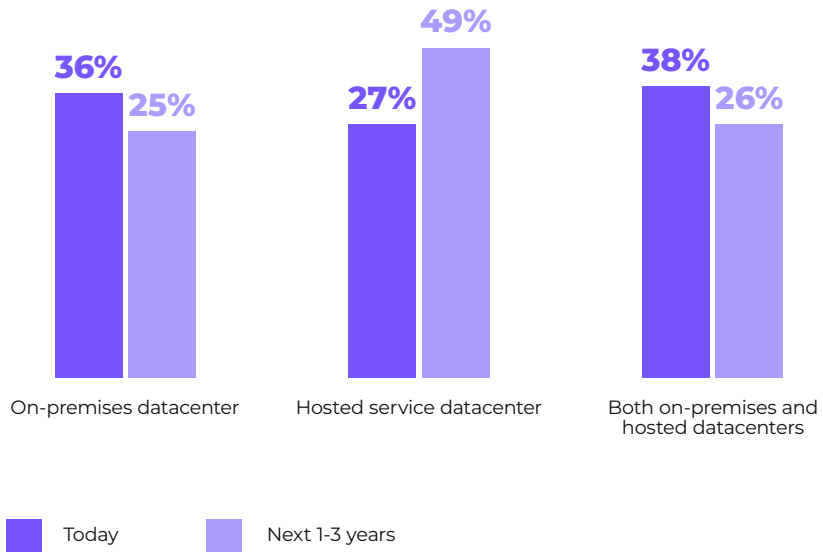
Hybrid multicloud deployments are expected to decrease reliance on datacenter/private cloud and hybrid cloud (private infrastructure plus a single public cloud platform), as indicated in the figure.

Financial services are poised for a nearly threefold increase in hybrid multicloud usage, projected to reach **50%** by 2027. This growth significantly surpasses the projections among global cross-industry respondents, where only **35%** anticipate adopting this IT operating model by the same year, up from **15%** today.

It's important to highlight trends concerning private infrastructure usage, labeled as "Datacenter/ private cloud" in Figure 3A. We anticipate specific decreases in the use of on-premises, self-managed datacenter infrastructure and in combined usage of on-premise and hosted-service datacenters.

In contrast, the exclusive reliance on hosted datacenter services—where enterprises outsource both the datacenter facility and its management to a third party—is projected to increase by 22 percentage points, as shown in Figure 3B. The growth in hosted services is a big change from last year where it was seen trending down. These trends suggest a shift in the nature of private infrastructure rather than a move away from it towards public cloud services.

Figure 3B. Private Infrastructure Breakdown



Single Response Allowed | Figures may not total 100% due to rounding

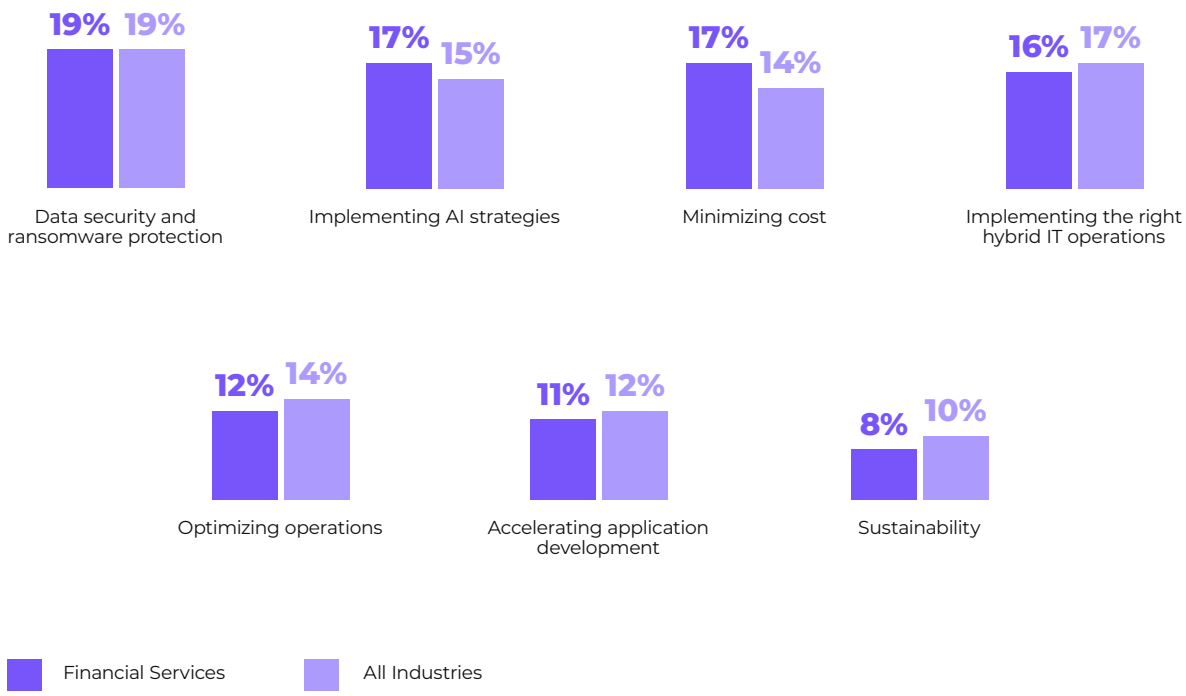
The surge in hybrid multicloud and other mixed operating models is fueled by the increasing adoption of 'cloud-smart' strategies.. These strategies involve enterprises strategically selecting the optimal cloud environment for each application or workload. A significant majority of respondents, both from financial services organizations (**88%**) and global enterprises (**90%**), confirm their commitment to cloud-smart deployment philosophies. Hybrid multicloud's appeal lies in its ability to offer diverse cost, billing, and deployment options, empowering digital enterprises with the flexibility to enhance application performance, bolster security, accelerate time to market, and optimize IT expenditures.

02. Key Findings

How are FinServ CIOs thinking about infrastructure priorities? Cybersecurity remains paramount, yet emphasis on AI investment and managing overall costs sit closely behind.

The key insight in Figure 4 is the range of competing priorities IT leadership is tackling in evolving IT environments, all intensifying at comparable rates, particularly in Security, Data & AI, and costs and hybrid multicloud.

Figure 4. CIO/CTO/Leadership Priorities



Single Response Allowed | Figures may not total 100% due to rounding

Data Security and Rasomware

Chief among these priorities is the continued prioritization on and investment in cybersecurity for financial services. This trend is consistent throughout our findings across the ECI report responses. The sector remains a prime target for cybercriminals, with a significant increase in ransomware attacks. Ransomware and the use of stolen credentials are particularly common in this industry, often crippling financial institutions, disrupting operations, and eroding customer trust. According to The SANS Institute, the number of instances of ransomware attacks increased by about **73%** from 2022 to 2023.

In fact, **99%** of ECI financial services respondents said they had experienced a ransomware attack at some point in the past three years, and **89%** agreed that their organizations had room for improvement when it came to their ability to protect against such attacks. Half of the respondents (**50%**) reported that their organizations required a few days or a few weeks to fully restore operations following the incident(s).

Another **12%** said that while operations were mostly restored within a few days or weeks, the impact(s) of the attack on the enterprise lasted beyond the restoration of daily operations.

As financial services increasingly embrace hybrid multicloud environments, attack surfaces expand, necessitating robust and holistic cybersecurity measures to mitigate these evolving threats. This trend is causing enterprises to continually rethink how best to protect themselves. Rapid recovery capabilities have become essential, leveraging solutions such as air gap backups and immutable storage to ensure data integrity and swift restoration in the event of an attack.

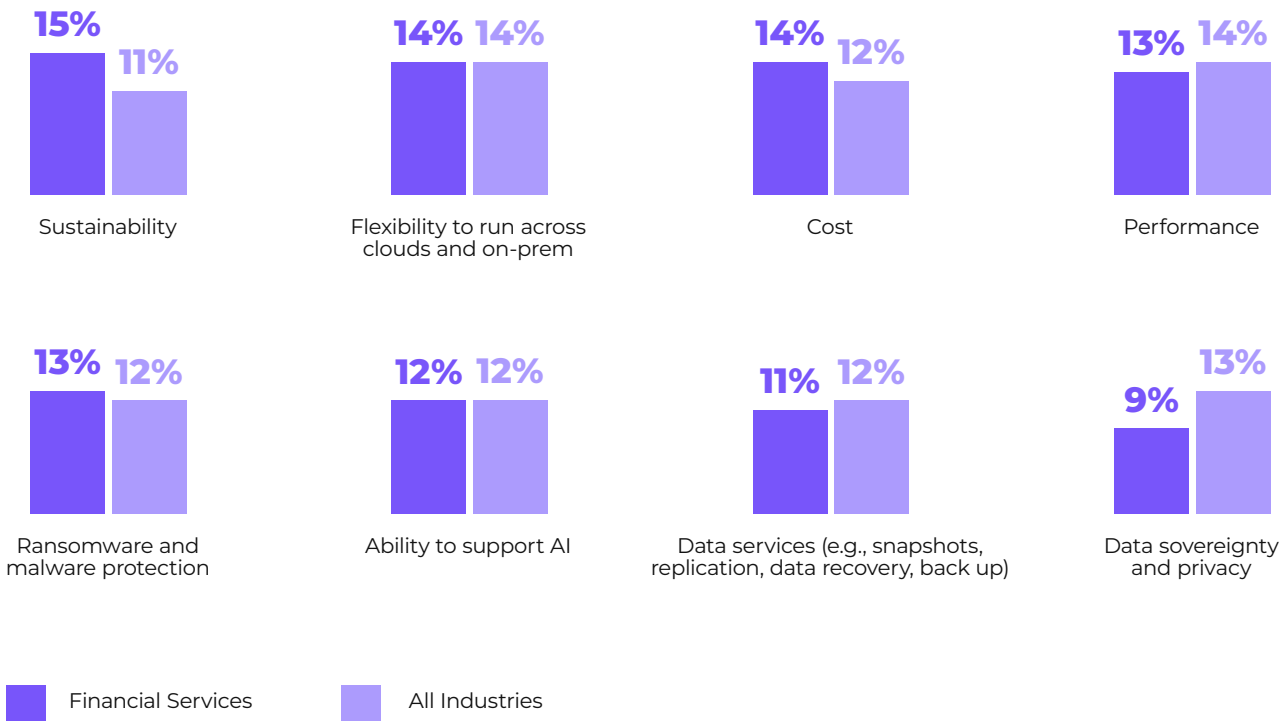
03. Key Findings

FinServ companies' current criteria for choosing clouds.

For financial service companies selecting cloud services (private, hybrid, or public), flexibility, security, and data capabilities have consistently been key criteria this year and last. Notably, the focus on sustainability and performance has shifted significantly in recent criteria about new environments, with a marked increase in cost considerations from the previous year.

When ECI respondents were asked to identify the single most important factor influencing their IT infrastructure purchasing decisions, a diverse range of answers emerged, reflecting a broad spectrum of corporate priorities (Figure 5). Among those in the financial sector, sustainability emerged as the top criterion (**15%**), closely followed by the flexibility to manage workloads across various on-premises and cloud infrastructures (**14%**), and cost considerations (**14%**). This emphasis differs markedly from other sectors and the global response pool, where sustainability and cost were generally ranked as less critical criteria.

Figure 5. Top-Ranking Infrastructure Decision Criteria



Single Response Allowed | Figures may not total 100% due to rounding

Containerization, the process of virtualizing software applications to run across any IT or cloud environment, helps enable the flexibility necessary for managing mixed environments. This capability is crucial, as it was ranked the second most important criterion in purchasing decisions.

As a foundational element of hybrid multicloud strategies, containerization facilitates the seamless portability of applications across varied infrastructures, aligning closely with nearly all respondents' cloud strategies.

In the financial sector, a significant **57%** of respondents reported that they had containerized **50%** or more of their applications. Additionally, **31%** have containerized between **25%** and **49%** of their applications, while only **1%** indicated that they had not containerized any applications.

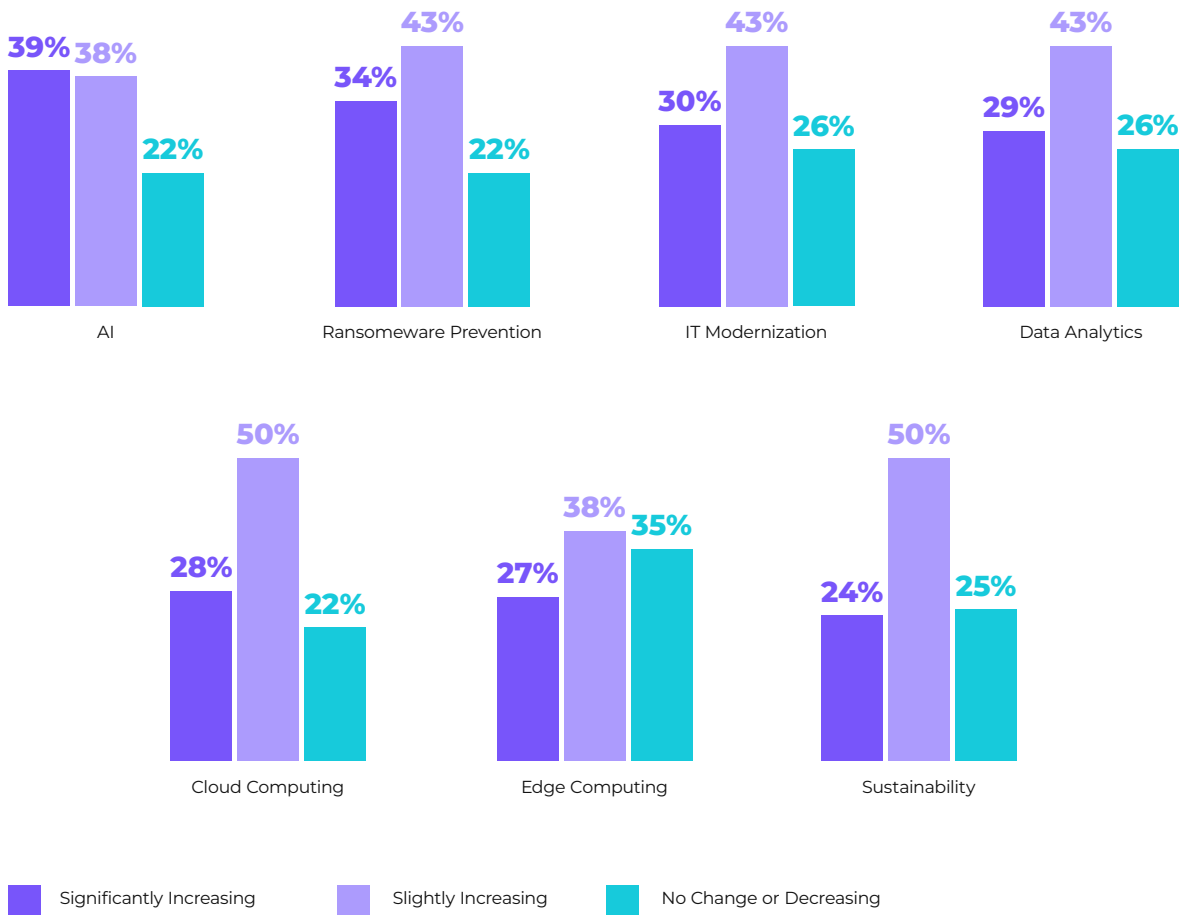
04. Key Findings

Where is FinServ infrastructure investment headed?

Financial services institutions undergoing rapid digital transformation face a convergence of investment priorities, as identified by CIO/CTO leadership. As seen in Figure 6, as hybrid multicloud environments expand, it is no surprise that infrastructure and workloads are intensifying at comparable rates. Notably, cloud (**78%**), data and AI (**77%**), and ransomware protection (**77%**) are experiencing significant growth.

Although sustainability is frequently cited by financial sector respondents as a critical purchasing criterion, a relatively small percentage of institutions plan to significantly increase investments in this area next year (Figure 6). The largest projected increases in IT budgets are for AI (**39%**), followed by ransomware prevention (**34%**) and IT modernization (**30%**). Overall, **78%** of respondents intend to boost their spending on cloud computing, with **77%** planning increases for AI and ransomware protection.

Figure 6. Top Financial Services IT Investment Plans for the Next 12 Months



Multiple Response Allowed

AI has broad applicability in the financial services sector, and respondents consider it both a priority and a challenge.

Figure 5 and Figure 6 both highlight AI as a top investment area for most financial services leaders next year. Furthermore, as seen in Figure 4, implementing AI strategies while minimizing costs ranks as a top priority for CIOs/CTOs and business leaders, second only to security concerns. Despite its priority status, **81%** of this group find running AI challenging, with **32%** considering it a significant hurdle.

Why the interest in AI?

While AI is really just gaining prominence in customer discourse, it's been integral to Financial Services for decades, with varying levels of maturity and implementation. What's changed? The significant shift for the financial services industry is the transition from rule-based AI/ML to inference-based AI. Some of the larger questions about GenAI infrastructure in the industry appear to be how it gets used and where LLMs and data reside.

Respondents mentioned various applications they've already deployed or are considering, many of which are related to improving business decision-making, enhancing customer experiences, and reducing risk.

For instance,, a senior IT manager in the financial sector said his company uses AI to "analyze user interests and preferences to provide personalized product recommendations and suggestions [that] increase user satisfaction and sales."

Similarly, a mid-level IT manager said that AI enables his company to "process large amounts of financial data and analyze trends, patterns and forecasts...[for] more informed decisions."

Risk Reduction and Compliance

AI also provides opportunities to reduce corporate risk, whether that risk has to do with lending or cybersecurity.

"We can make more accurate credit assessments, reduce the risk of some customers defaulting on loans, and improve prospecting for potential customers," said a mid-level platform engineering/DevOps manager.

Added a mid-level engineering manager, "We can automate routine data processing and reporting, allowing us to comply with regulatory requirements more quickly and accurately and reducing the risk of breaches."

Ethical Concerns

However, the broader implications of AI, including ethics and privacy concerns related to customer data and biometrics, remain uncertain. This uncertainty is echoed by **84%** of financial services respondents who expressed concerns about AI-related data privacy, mirroring concerns from **88%** of the global respondents.

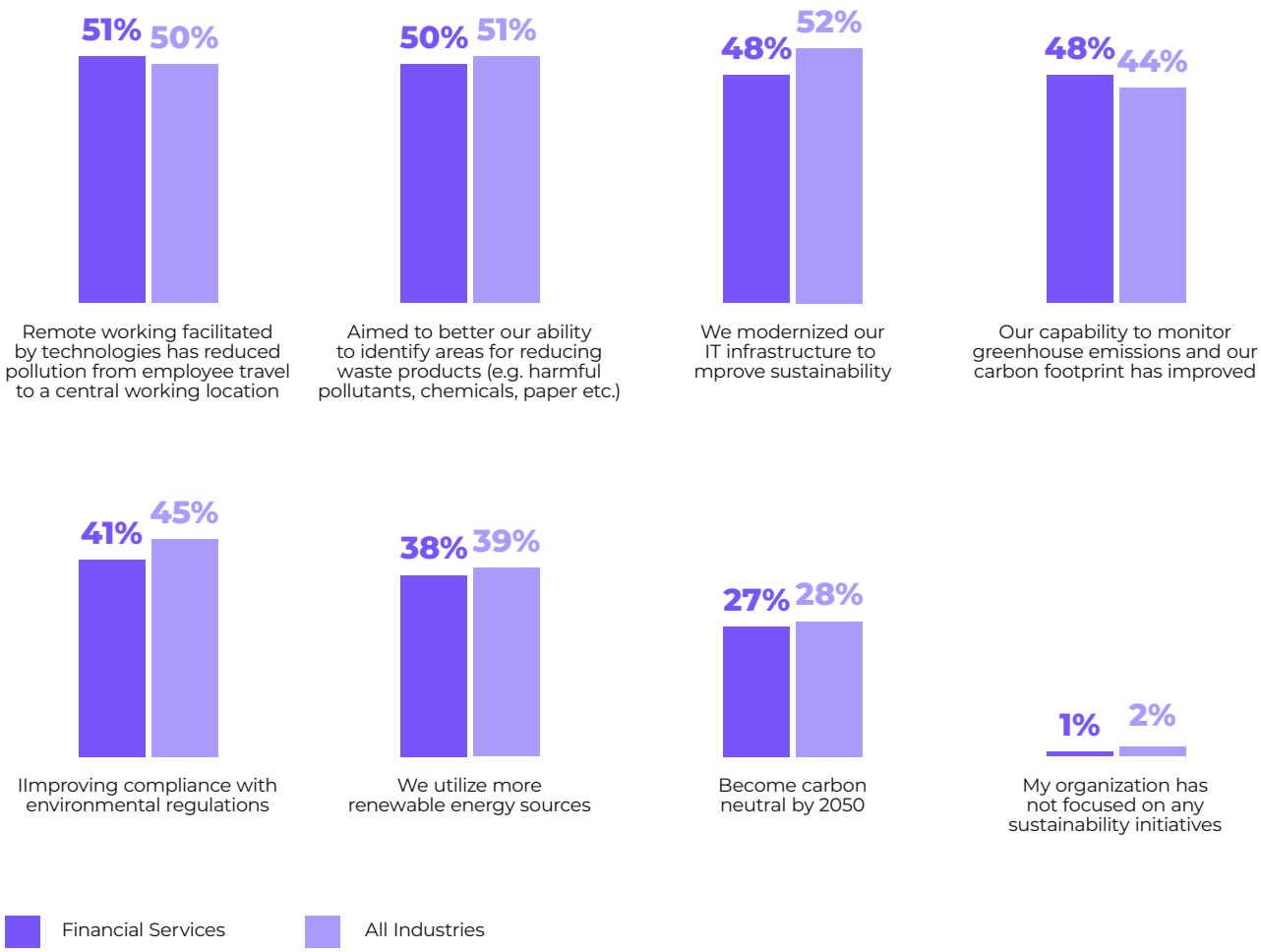
Sustainability A Priority But Lower Investment

As sustainability becomes a key criterion for selecting infrastructure, initial improvements are largely driven by enhanced monitoring and processes that assess impacts. IT modernization has also facilitated these efforts. Additionally, significant gains have been achieved by reducing employee travel and remote work.

Regarding sustainability progress, strategies in this area tend to have many facets and touch many parts of an organization, with IT being a significant component. As IT is a huge power consumer, it's often the first department to adopt concrete sustainability and conservation measures. ECI financial respondents indicated that during the past year, remote work initiatives for reducing travel-related pollution was the greatest focus of their sustainability efforts, followed by identifying areas for reducing waste products (Figure 7).

Only **1%** of financial respondents and **2%** of all respondents said they had not focused on any sustainability initiatives in the past year.

Figure 7. Focus of Sustainability Initiatives in the Past 12 Months



Multiple Response Allowed

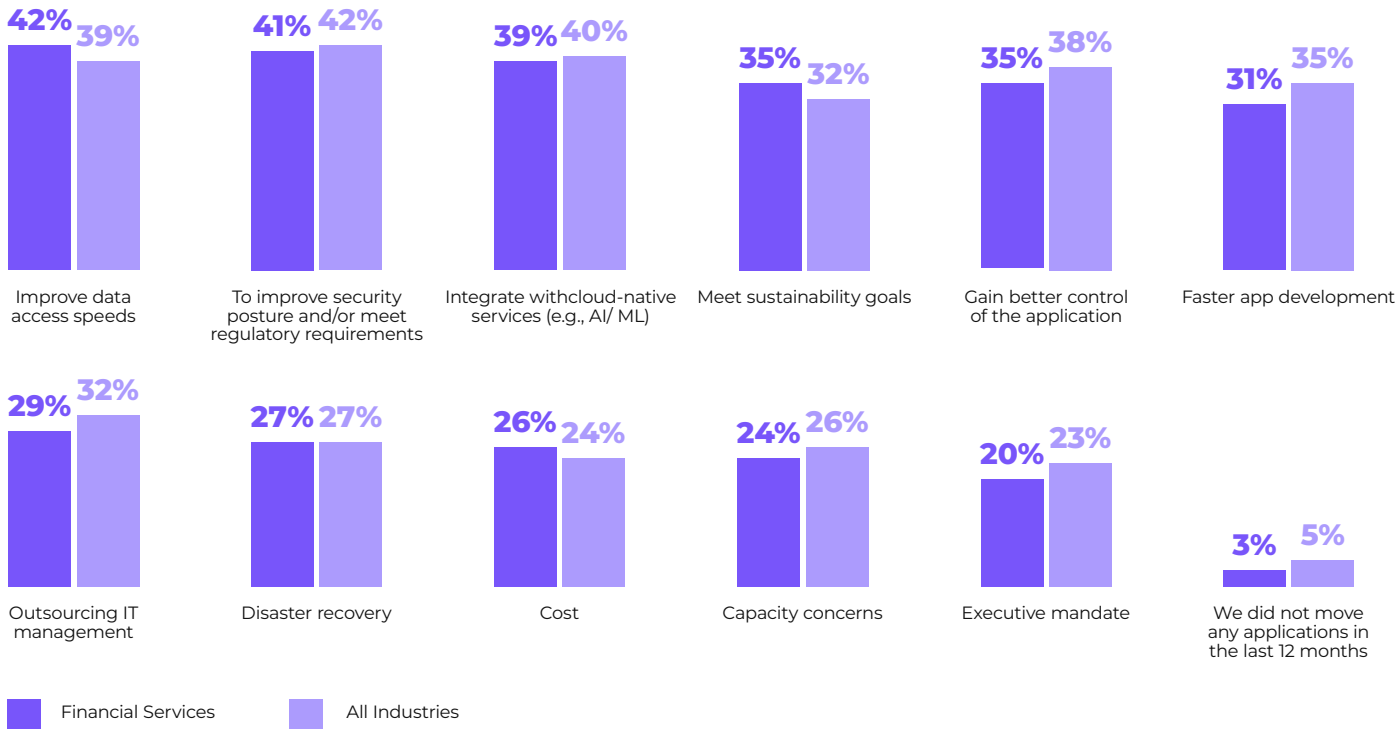
05. Key Findings

Applications trends: The desire to improve data access performance, security, and regulatory compliance are why financial enterprises relocate applications to a different infrastructure.

Nearly all respondents—**97%** in the financial services group and **95%** globally—said they had moved one or more applications to a different IT infrastructure in the past 12 months (Figure 8), creating a need for simple and flexible inter-cloud workload and application portability. Application movement in financial services was motivated most often by a desire to enhance performance/data access speeds (**42%**), followed by improving security and regulatory compliance (**41%**), as the figure indicates.

The primary reasons for application relocation—performance, security, cloud-native integration, and sustainability—remained constant from the previous year's 5th Annual ECI, though with slightly lower percentages. However, there were moderate increases in mentions of gaining control over applications, reducing costs, and speeding up development

Figure 8. Reasons for Moving Applications to Different Infrastructure



Multiple Response Allowed

Security and operational resilancy continue to be driving factors for workload placement.

Improving security posture involves meeting regulatory requirements for managing and storing data. Current global compliance initiatives are reviewing how the cloud affects the FinServ industry's stability. An especially thorough and stringent set of laws and regulations apply in the European Union pursuant to the European Union Digital Operational Resilience Act (DORA). DORA, which aims to minimize potential systemic risks associated with increased outsourcing practices, is now a top priority for CIOs across EU and global banks operating in the region. It has made operational risk and cyber-security a leading priority that is now no less as critical as Dodd-Frank and Basel were to capital risk to Globally Systemic Important Banks (G-SIBs).

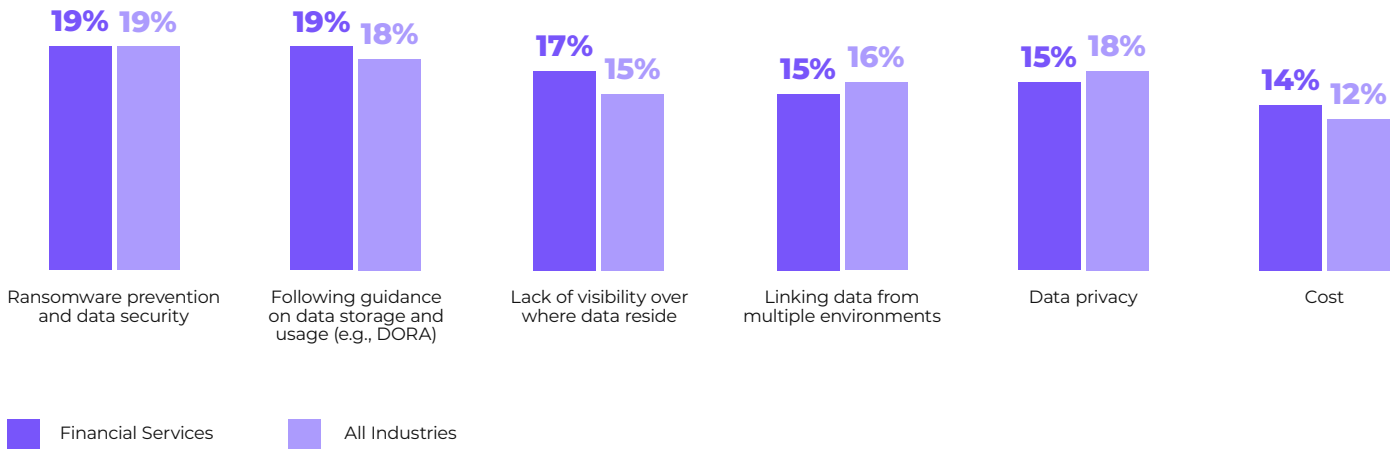
06. Key Findings

The top-ranked challenges in financial services IT departments are security-related.

Managing multiple IT environments presents significant operational challenges, such as interoperability and consistency issues (Figures 9 and 10). These challenges can impact an organization's ability to uniformly apply and enforce security, privacy, and compliance policies across different infrastructures, leading to duplicated efforts.

Among financial services respondents, ransomware prevention/data security and adherence to data storage/usage guidelines, like DORA, were both cited as the top data management challenges today, each by **19%** of participants (Figure 9).

Figure 9. Biggest Data Management Challenge in Your Organization



Single Response Allowed | Figures may not total 100% due to rounding

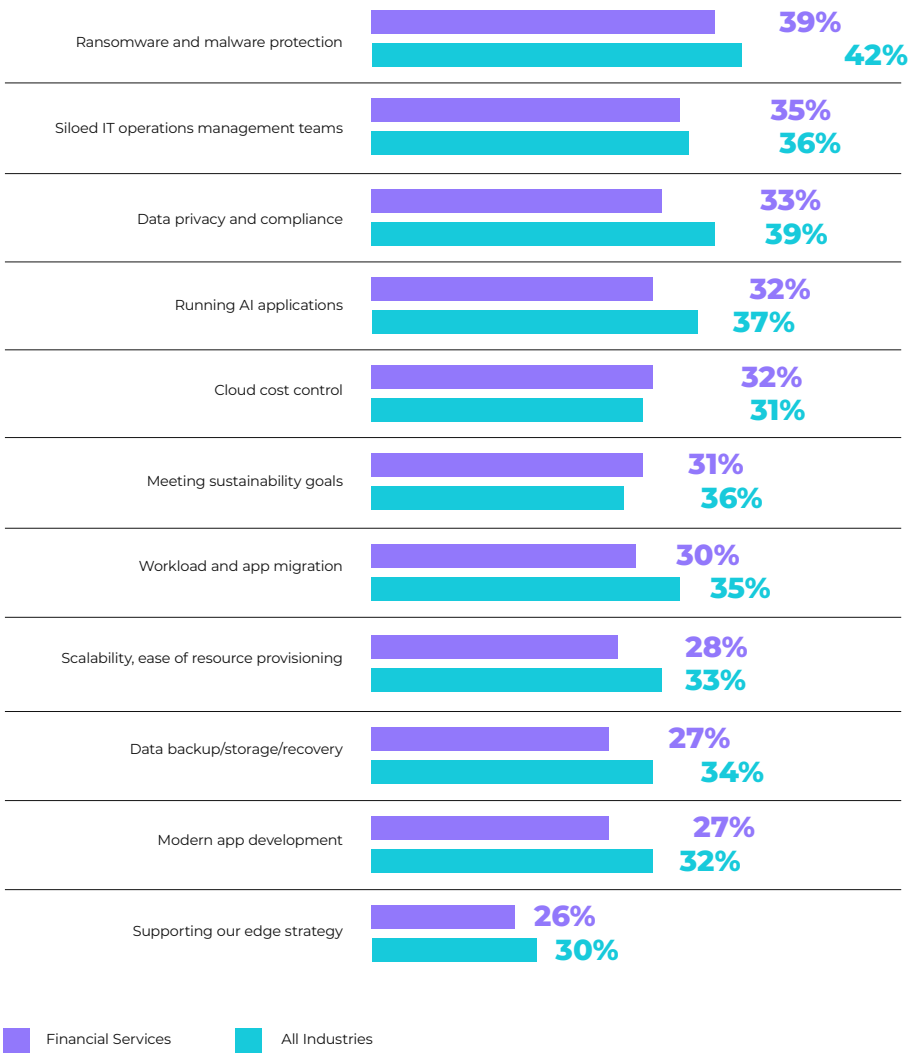
Mixed IT environments, such as hybrid cloud, hybrid multicloud, and multiple public clouds, involve different foundational IT platforms and provider solutions that are inherently incompatible with each other. This complexity underscores the need for integrated, universal data management and monitoring tools. Such tools abstract away the underlying technology and complexity, empowering IT personnel to efficiently operate the diverse infrastructures.

Emerging cloud-agnostic tools are helping to ensure interoperability among heterogeneous platforms, while also fostering consistency in operations and security policy-setting and enforcement. By unifying environments in this way, enterprises can avoid costly security breaches, data loss, resource overprovisioning, and redundant operations, all while streamlining the required IT skillsets for managing the infrastructure.

In comparison to last year, there has been a notable improvement in interoperability among disparate infrastructures. More than half (**52%)** of financial services respondents this year reported that all their IT environments were fully interoperable, up from just **33%** last year. This figure slightly exceeds the global 6th Annual ECI average (**49%**). The jump can likely be attributed in large part to industry progress in the availability of integrated multicloud tools and the financial sector's comparatively rapid deployment of them.

When the IT challenge question was expanded to include more general IT functions with multiple responses allowed, ransomware/malware prevention was again mentioned most often as a "significant" challenge (**39%**), followed by difficulties arising from having IT operations and management teams functioning independently in a so-called "siloed" fashion (**35%**), as shown in Figure 10.

Figure 10. IT Functions Considered a 'Significant' Challenge



Multiple Response Allowed

Summary and Outlook

Infrastructure Trends

The findings from the 6th Annual ECI indicate a notable increase in mixed-IT infrastructure, spanning private datacenters, public clouds, and edge locations. For instance, when counting on-premises private datacenters and hosted private datacenters as two separate environments, mixed IT usage jumped from **64%** last year to **89%** among financial services respondents this year.

Even when considering all private datacenter infrastructure, regardless of where it runs and who manages it, as a single operating model, the financial sector's use of mixed IT environments still grew from **44%** last year to **59%** this year, which was largely in line with the full global response pool (**60%**).

Although hybrid multicloud growth in this group was static over the past year, respondents said they plan to nearly triple adoption in the next three years, when this model—which combines private infrastructure with two or more public cloud platforms—will dominate. They also expect the exclusive use of one or more public cloud platforms as IT infrastructure to grow moderately.

While these advancements are expected to come largely at the expense of private infrastructure, the declines will be mostly in on-premises datacenters. The use of datacenters in the form of hosted services, by contrast, is expected to enjoy healthy growth, from **27%** penetration today to **49%** in three years.

Variable Sustainability Priorities

When asked to pinpoint the single most important factor driving their IT infrastructure purchasing decisions, respondents from the financial sector most often chose sustainability (**15%**). However, when considering investment increases – with multiple responses allowed – the smallest percentage (**24%**) said they were significantly increasing investments in sustainability in the coming year. In contrast, **39%** in the financial sector who said significant investment increases were on the drawing board for AI, mentioned most often.

Similarly, when asked what they thought was the single most important priority for their companies' CIOs/CTOs and business leadership, sustainability came up last (**8%**), while ransomware prevention was mentioned most often as the top priority (**19%**).

Nevertheless, nearly all financial sector respondents (**99%**), said they had taken some sustainability measures in the past year. Most often, they mentioned remote work to reduce travel-related pollution as the greatest focus of their sustainability efforts, followed by identifying areas for reducing waste products. following data security/ransomware prevention.

The Cost Factor Anomaly

In general, cost has become less of a priority among the full global response base over the past several years, as the value and volume of corporate data continues to skyrocket, and data management, security, protection, synchronization, and backup/recovery move top of mind. In this regard, however, 6th Annual financial sector respondents were an anomaly, citing cost more frequently than the norm as a driver of infrastructure decisions and application mobility.

For instance, while last year just **8%** of respondents in this industry said cost was their number one purchase criterion, this figure increased to **14%** this year. This constituted the largest number of mentions following sustainability.

Moreover, minimizing cost was the second most frequently mentioned top priority for CIO/CTO/leadership, following data security/ransomware prevention.

Interestingly, while cost was the least common reason to move an application(s) to another infrastructure last year in the financial sector, it rose in the rankings this year, surpassing both capacity concerns and the need to follow an executive mandate as application mobility drivers.

Coping with Complexity

The growing prevalence of mixed-IT models, particularly the rise of hybrid multicloud, in the financial services sector shows that applications and data will continue to favor diversity and movement. Accordingly, IT organizations in this industry and elsewhere are wise to design their IT environments with a focus on facilitating application portability, cloud interoperability, and unified operations across all infrastructures.

Designing an IT modernization roadmap that prioritizes comprehensive, cross-cloud data visibility, flexible workload movement, and integrated management will be a key success factor for hybrid multicloud operations. Technologies such as containerization play a significant role in facilitating application migration and mobility, and deployments are well under way among financial services ECI respondents.

Moreover, adopting management tools that operate consistently regardless of where data and applications run and AI-driven operational automation will help facilitate the “any application, any infrastructure” goals of enterprise cloud-smart initiatives.

6thAnnualFinserveECIReport-FY24Q4 06/11/2024