

Vanguard Report

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Best of Both Worlds

Empower Your On-Prem Cloud

S&P Global
Market Intelligence

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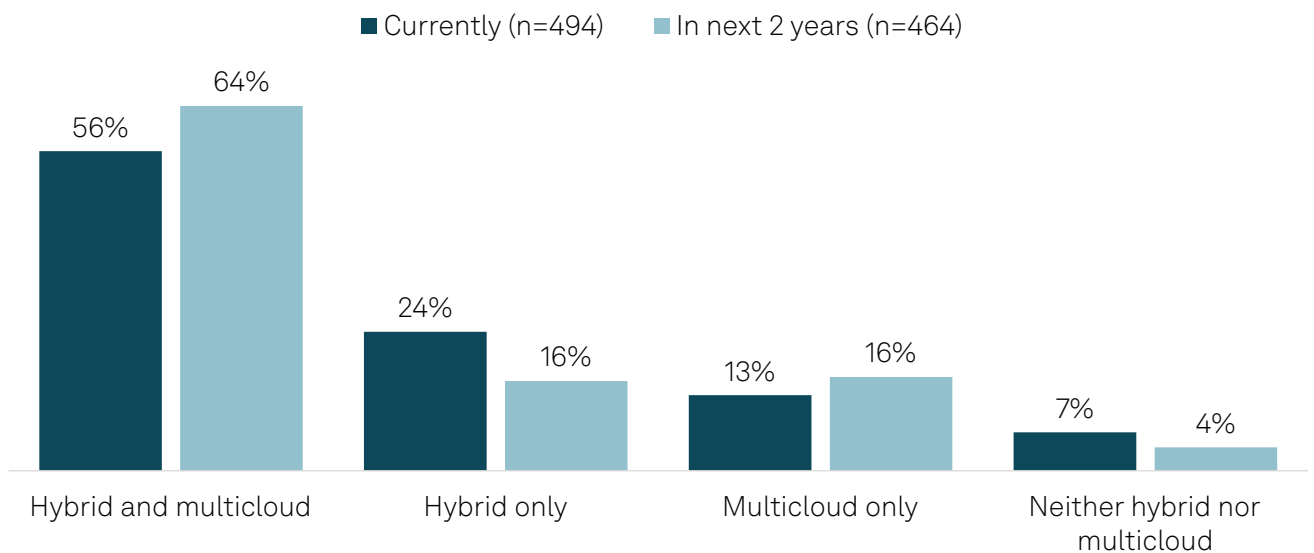
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Introduction

Our research shows private cloud adoption is growing. Why are companies choosing private over public cloud? Concerns about data privacy, protection, security and compliance play a role. Data gravity is also a factor, with the cost and latency of data transfer sometimes favoring private cloud deployments. At the same time, software innovations (hybrid control planes, modern deployment techniques, abstraction above the hardware virtualization layer into containers and Kubernetes orchestration) are making it possible to achieve the benefits of cloud operations on-premises without moving data off-premises.

As depicted in Figure 1, the great majority (80%) of organizations are retaining some on-premises infrastructure in their IT environments. Our research continues to show that adopting the cloud operating model is an ongoing journey as technology advances and operational demands change. It often begins with an immediate response to current problems or opportunities (e.g., on-premises IT capacity constraints, datacenter exit, modernization requirements) and then extends into a larger investment.

Figure 1: Cloud operating models today and in two years



Q: Which of the following best describes your organization's current cloud operating model?

Q: And which describes what your organization's cloud operating model will be two years from now?

Base: Current IaaS/PaaS/public cloud users and those planning to use IaaS/PaaS in the next year.

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Hybrid/Multicloud 2022.

The Take

On-premises private cloud environments aren't going anywhere. The challenge is to modernize them to facilitate a hybrid solution supporting private and public cloud operating models. This means giving developers self-service access to modern development environments and moving the focus of administration up into the application layer to optimize workload placement and management.

Enterprises have spoken, and they want a mix of on-premises and off-premises infrastructure for their data and workloads. Each workload is unique, with differing priorities in determining whether its data and processing are candidates for on- or off-premises deployment. Operational performance requirements (data latency, throughput and security), costs (platform and data transmission/storage volume), government and consumer data compliance concerns (data sovereignty and privacy), and IT skills all play a role in determining optimal workload placement.

In 2022, 451 Research survey data showed a significant uptick in on-premises deployment. Trends contributing to the renewed strength of on-prem private cloud include more mature flexible infrastructure offerings, IT organizations' desire for more predictable IT spending, concerns about moving data off-premises, cloud-native app modernization and the growing feasibility of "run-anywhere" applications.

Benefits of an empowered on-premises cloud

With the implementation of a modern cloud architecture and appropriate cloud management tools, on-premises private cloud provides a number of benefits. With a centralized platform, operating a multicloud management plane enables virtual machine (VM) mobility and provides dynamic container launch and teardown while increasing the security and governance of deployed Kubernetes clusters and reducing operational complexity.

The elimination of interdepartmental operational and data silos can support more efficient infrastructure usage, resulting in decreased operating costs and higher application performance while accommodating local data/system dependencies. With the right tools and deployment architecture, IT visibility and control is resident where it will deliver the most benefit, facilitating alert management and operational metrics collection.

Several issues are driving hybrid and multicloud strategies. In 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Hybrid/Multicloud 2022 survey (see Figure 2), respondents identified the three most important drivers as improving operational scalability, facilitating business agility and innovation, and migrating workloads and data across environments.

Figure 2: Key drivers of hybrid and multicloud strategies



Q. Which of the following are the most significant factors driving your organization's hybrid and multicloud strategy? Please select all that apply.

Base: Organizations with hybrid or multicloud as their current or future cloud operating model, abbreviated fielding (n=353).

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Hybrid/Multicloud 2022.

Don't dilute valuable IT skills, flex them

Hybrid environments allow organizations to access the best of both worlds, with dynamic access to scalable infrastructure and advanced services in the public cloud together with cost-efficient, secure, dedicated systems customizable to company needs in on-premises private clouds. IT teams can also experience increased productivity via advanced administrative services that enable operational efficiency and automation. On-prem DevOps tools offer a number of benefits including:

- Improved environment visibility (server/network/storage infrastructure).
- Improved workload deployment and operational management.
- More effective troubleshooting, fault isolation/resolution and outage prevention.
- A centralized multicloud container management plane to manage Kubernetes clusters.

IT organizations can leverage existing cloud operating knowledge to service hybrid cloud deployments. Many of the skills required to manage virtual environments are applicable to both private and public cloud operations. Whether Kubernetes clusters reside in a company-owned datacenter or in a hyperscale public cloud environment, the operational management requirements are similar. Teams can also innovate with minimal cost by leveraging spare capacity in their on-premises private clouds and scheduling experimental workloads when cloud usage is low, such as after hours or on weekends and holidays.

Supporting new workloads

IT environments must support multiple workload execution venues (private/public cloud, hybrid and multicloud), application packaging (VMs, containers, bare metal) and diverse systems with processing speed, storage and network throughput capacity optimized for different types of workloads. New workload types, such as generative AI, augmented/virtual reality and edge IoT, are driving changes in underlying IT infrastructure requirements, and organizations must consider optimal placement of these new workloads in conjunction with existing applications.

IT teams have choices about how they procure, deploy, integrate, manage and transform their digital infrastructure stacks. The “either/or” IT binaries of public vs. private cloud and on-premises vs. off-premises have moved to converged approaches of hybrid/multicloud IT estates that span private and public clouds. In 451 Research's Voice of the Enterprise: Digital Pulse, Workload Placement 2023 survey, nearly one-third of organizations expect modern on-premises IT environments to be the primary venue for their workloads within two years, thanks in large part to migration from legacy to modern on-premises IT environments.

Conclusion

The world moves at the pace of software, and there is no one-size-fits-all answer to workload placement. Businesses need to avoid accruing too much technical debt while building IT foundations that have both the strength and flexibility to service business needs and deliver lasting value to customers and internal teams.

Adopting the cloud operating model is a journey that evolves as technology and operating paradigms change. Chief benefits of this model include simpler administration, greater developer velocity, improved security, decreased costs, increased company agility and more effective skills transfer. These cloud benefits hold true whether deployed within private cloud, public cloud or a mix of the two. Diverse, distributed IT environments are increasingly the rule rather than the exception, and suppliers in every corner of the market are stretching their capabilities to thrive in this new paradigm.



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