Achieving Better Control in a Multi-Cloud Estate

vmware®

Table of contents

Preface

Throughout the year, the VMware Research and Insights organization partners with independent, third-party research institutions to interview thousands of IT executives, practitioners and developers on the most urgent technology issues facing enterprises today. From March to June 2022, VMware interviewed more than 2,100 technology execs and decision makers regarding key topics, including the effect of multi-cloud adoption on their business. This brief explores those findings in more detail.

Introduction

As we enter the second half of 2022, technology leaders are continuing to disperse their infrastructure across multiple clouds for a plethora of reasons, while more than half now say they are operating more modern apps than traditional apps. Individual lines of business have a hand in driving this change, with cloud configurations varying from team to team within some organizations. As a result, security has become a key goal as tech execs seek to gain visibility and control over their multi-cloud estate. We surveyed more than 2,100 global technology leaders to determine what their organizations are prioritizing, and these are some key findings.

1. VMware. "VMware FY23 H1 Benchmark; N=1080 Enterprise (5000+ employee) Technology Decision Makers." March-June 2022.

Part 1: Distributed infrastructure continues to gain traction

While only a few short years ago many companies were just starting to branch into one public cloud, using multiple public clouds has overwhelmingly become the norm. Eighty-seven percent of IT leaders now report[1] they are using at least two public clouds, climbing 13 percent year over year.[2]

"How many different public clouds do you build, manage or run applications in today?"

	2021	2022
1	26%	13%
2	47%	66%
3-4	18%	16%
5-7	6%	4%
8+	2%	1%

1. VMware. "VMware FY23 H1 Benchmark; N=1080 Enterprise (5000+ employee) Technology Decision Makers." March-June 2022.
2. VMware. "VMware FY22 H2 Benchmark; N=557 Enterprise (5000+ employee) Technology Decision Makers." August 2021.

Likewise, organizations continued to diversify their application deployments across environments. In 2021, 75 percent of respondents deployed applications on private cloud, public cloud, edge and colocation deployments,[3] and in 2022 that number rose to 80 percent.[4] Moreover, developer teams report that modern apps built to run on any cloud overtook traditional apps in 2022, rising 6 percent year over year to 51 percent.

"Considering all of your organization's applications, approximately what percentage is traditional versus modern applications today?"		
	2021[5]	2022[6]
Modern Applications	45%	51%
Traditional Applications	55%	49%

3. VMware . "VMware FY22 H1 Benchmark, N=1178 Technology Decision Makers ." March-June 2021.

4. VMware. "VMware FY23 H1 Benchmark; N=1765 Technology Decision Makers." March-June 2022.

5. VMware. "VMware FY22 H1 Benchmark, N=184 Developer Technology Decision Makers." March-June 2021.

6. VMware. "VMware FY23 H1 Benchmark; N=353 Developer Technology Decision Makers." March-June 2022.

"It's transforming the way we are working. It requires a different mindset about the design of the best components that allow maximum reusability and independence, and we don't have to build it all ourselves."
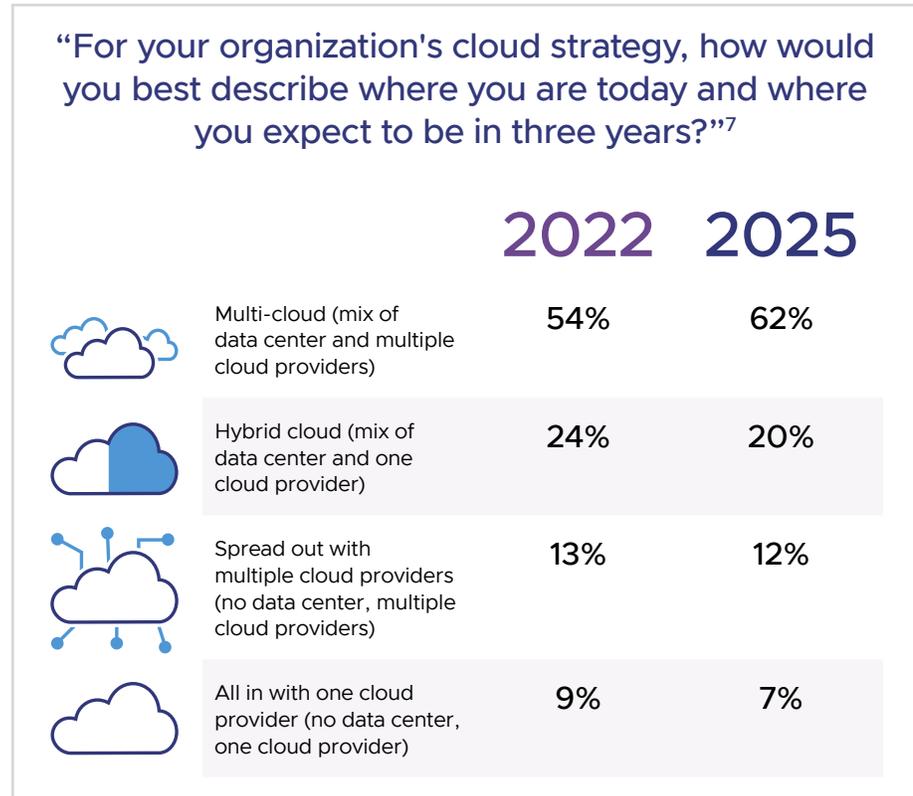
Mark Leonard
Director of Global
Business Development
Drax Group

Drax Group transforms the way they work

UK-based energy company Drax Group needed to modernize and simplify their infrastructure, adopt and run Kubernetes consistently, and improve the developer experience. To achieve this, they implemented VMware Tanzu® products to deploy and operate cloud-native applications and manage their Kubernetes infrastructure.

As a result, the company now delivers improved functionality more quickly and cost effectively. They've also exposed themselves to less risk, saw significant cost savings, better user experiences, and have been able to deliver requirements in a timely manner. Furthermore, their development team has experienced increased productivity, enhanced skills and new opportunities.

Looking ahead, respondents predicted that their use of multiple public clouds will grow between now and 2025.

"For your organization's cloud strategy, how would you best describe where you are today and where you expect to be in three years?"[7]

		2022	2025
	Multi-cloud (mix of data center and multiple cloud providers)	54%	62%
	Hybrid cloud (mix of data center and one cloud provider)	24%	20%
	Spread out with multiple cloud providers (no data center, multiple cloud providers)	13%	12%
	All in with one cloud provider (no data center, one cloud provider)	9%	7%

7. VMware. "VMware FY23 H1 Benchmark; N=1800 Technology Decision Makers." March-June 2022.

Part 2: Flexibility drives multi-cloud adoption

Tech execs shared a number of reasons for adopting multiple clouds, but two points stood out. First, organizations are still feeling a great deal of uncertainty about the state of the market, and second, different teams and lines of business are facing unique needs. The flexibility of using multiple providers allows companies to satisfy a wide array of requirements.

The majority of IT execs we surveyed said that 2022 has been just as unpredictable as 2020, and reported that scaling applications has been tricky due to fluctuating demand.

62%

of IT execs say that, so far, 2022 has been just as unpredictable for their businesses as 2020 was.[8]

77%

of IT execs say that they struggle with scaling applications to meet changing levels of demand.[9]

Companies are finding that individual teams at their organization are using multiple cloud providers. There are varying reasons, with some of the most common being improved IT infrastructure flexibility, improved disaster recovery and business continuity, and access to a broader range of apps and services.
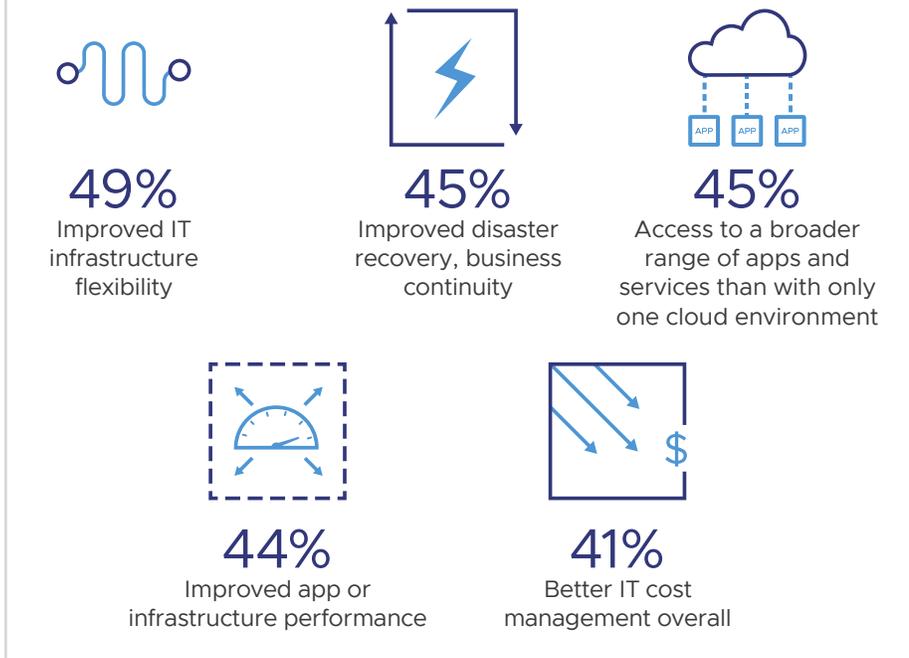
85%

of IT execs say there are teams at their company that commonly use more than one public cloud provider.[10]

---

8. VMware. "VMware FY23 Q2 Executive Pulse; N=456 Enterprise Technology Executives." March-June 2022.

9. Ibid.

10. Ibid.

"Why are teams using more than one public provider?"[11]

49%
Improved IT infrastructure flexibility

45%
Improved disaster recovery, business continuity

45%
Access to a broader range of apps and services than with only one cloud environment

44%
Improved app or infrastructure performance

41%
Better IT cost management overall

Respondents also told us that the cloud initiatives aren't exclusively being funded or managed from within IT. According to our survey, about one third of budgets backing strategic IT initiatives in 2022 are funded outside of IT.

"What percent of the budget for this initiative is from internal IT budgets? What percentage is from outside IT (e.g., business units, etc.)?"[12]

33%
Outside IT

67%
Internal IT

11. VMware. "VMware FY23 Q2 Executive Pulse; N=456 Enterprise Technology Executives." March-June 2022.

12. VMware. "VMware FY23 H1 Benchmark; N=1754 Technology Decision Makers." March-June 2022.

"Because we actually deliver real capabilities to users in production and have demonstrated our ability to turn around features and release in weeks, rather than months, our stakeholders can see that how we're doing software differently actually works."

Oscar Chacon
First Lieutenant
U.S. Space Force

U.S. Space Force portfolio team drives change

The U.S. Space Force is the space service branch of the U.S. Armed Forces and the world's first and only independent space force. Historically, leadership was hesitant to use agile software delivery, thinking it was only for one-off apps and could not be successfully applied to complex war-fighting capabilities.

The Space Force applied VMware Tanzu products and services to modernize with new agile software solutions for the warfighters of both today and tomorrow. The force implemented 12 integrated applications by 2022, there are shorter feedback loops and cloud native greenfield apps have been developed in an agile manner. As a result, there is more advocacy from leadership based on the overall success of the portfolio team.

Demonstrating how crucial cloud strategy has become, 46 percent of respondents said that IT and lines of business were co-owning cloud strategy, showing a greater buy-in from organizations as a whole. Non-IT departments that are most likely to be influential when it comes to multi-cloud were operations, administration/management, and accounting/finance.
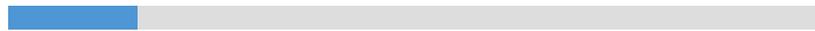
"Which statement best describes the level of control that team(s) have for your organization's cloud strategy?"[13]

37% Central IT owns the cloud strategy

46% Central IT and Lines of Business co-own the cloud strategy

16% Some product teams and Lines of Business have a cloud strategy but not the organization overall

13. VMware. "VMware FY23 Q2 Executive Pulse; N=456 Enterprise Technology Executives." March-June 2022.
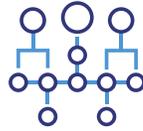
> **"Which departments outside of IT are most influential in developing your multi-cloud strategy? (top answers)"[14]**
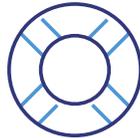>
> **38%**
> Operations
>
> **35%**
> Administration/
> Management
>
> **32%**
> Accounting/
> Finance
>
> **27%**
> Customer Service/
> Support
>
> **25%**
> Research and
> Development

14. VMware. "VMware FY23 H1 Benchmark; N=1449 Technology Decision Makers." March-June 2022.

Toast gains visibility with CloudHealth by VMware Suite

Restaurant technology company Toast provides needed visibility into and control of their distributed cloud infrastructure and realized they needed a third-party tool that could help them spend more wisely.

They turned to CloudHealth® by VMware Suite and implemented a range of reports to track everything from cost to utilization. Each report provides valuable insight into a different key area. Ultimately, due to the level of detail in Toast's reports, CloudHealth helps break down and communicate critical information, improving general data hygiene and eliminating wasted time and effort.

Part 3: Security is paramount as gaps between environments pose new risk

As companies continue to host their infrastructure among multiple clouds, and with specific teams using their own unique mix of public cloud services, respondents told us that security is a top priority. IT leaders are keen to make security a key component of their cloud strategy with 88 percent of respondents saying they are expanding disaster recovery and risk mitigation policies in 2022.

Almost two-thirds reported that they expect a data breach will target the weaknesses between their distributed application environments, and that fear is warranted, as more than half reported that their organization had already experienced at least one breach in 2022.

88%
of IT execs say they are expanding their disaster recovery and risk mitigation policies in 2022.[15]

63%
anticipate that a data breach will target the weaknesses between application environments in 2022.

55%
say their organization has experienced at least one breach in 2022.

15. VMware. "VMware FY23 Q2 Executive Pulse; N=456 Enterprise Technology Executives." March-June 2022.

Visibility is a key factor in mitigating risks for respondents. When asked about their highest cloud security priority, 40 percent cited a need to have real-time visibility and compliance posture of all their apps. Piggybacking on that, 35 percent said they were prioritizing real-time alerts for security events, changes and risks regarding their entire app portfolio.

"Which of the following is the highest cloud security priority on your IT agenda in 2022 (if any)?"[16]

40% The ability to get real-time visibility into the security and compliance posture of all apps based on best practices and/or industry standards

35% The ability to receive real-time alerts for security events, changes and risks related to the total application portfolio
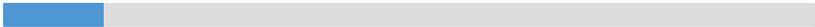
13% The ability to automatically remediate potential risks based on access, app, infrastructure or other misconfigurations across platforms
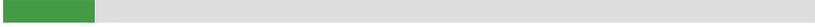
12% The ability to prioritize security violations across platforms based on quantifiable risks

16. VMware. "VMware FY23 Q2 Executive Pulse; N=456 Enterprise Technology Executives." March–June 2022.

Part 4: Achieving improved control across clouds

One way respondents are improving visibility and control across clouds is by upskilling their talent, prioritizing infrastructure and operations (I&O) skills that improve their teams' expertise in visibility and controlling deployments across all platforms.

How is your organization prioritizing training around the following skills for your infrastructure and operations team?[17]

77%

are prioritizing continuous integration (CI) / continuous deployment (CD) platforms to continuously build and deploy applications in rapid succession.

75%

are prioritizing backup, recovery and high availability for resilience across clouds and protected data.

75%

are prioritizing managed cloud databases, leveraging services to optimize database administration for efficiency and resilience.

73%

are prioritizing application performance monitoring (APM) tools to understand the performance characteristics of their applications deployed across cloud infrastructure-as-a-service (IaaS) environments.

72%
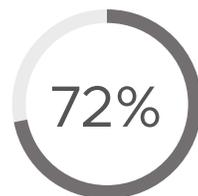
are prioritizing cloud cost management and optimization skills to identify and remediate wastage across clouds.

17. VMware. "VMware FY23 Q2 Executive Pulse; N=456 Enterprise Technology Executives." March-June 2022.

Organizations focused on upskilling talent who use VMware have reported improved KPIs from their multi-cloud ops initiatives. From improved efficiency and lower cost to security gains, organizations in this segment, those using VMware and upleveling talent for multi-cloud, recorded a number of benefits (average level of improvements shown below).[18]

26%

less IT labor time spent on infrastructure

26%

less total cost of operating infrastructure

25%

less time/effort to provision compute resources (virtual machines, containers, etc.)

23%

less downtime of tier one applications

23%

less number of (less severity of) security incidents

22%

faster to move workloads between public clouds and data center

18. VMware. "VMware FY23 H1 Benchmark; N=51 Technology Decision Makers pursuing multi-cloud operations initiatives, using VMware currently, focused on skills gaps as a key challenge, and citing benefits from recent multi-cloud operations initiatives. Average improvement levels shown per the segment." March-June 2022.

Conclusion: Transforming the process—from developer to cloud

To win in the market today, you need to transform how you build, deliver and run your applications—on whatever cloud you choose.

This kind of transformation at enterprise scale isn't easy. But with VMware, you can turn to a partner you know and trust to help rethink the way your business operates and turn it into a next-generation digital enterprise. According to the enterprise respondents interviewed in our 2022 Workloads study, VMware is, the number one, most trusted provider in the market for control of all workloads regardless of the deployment environment. VMware supported the world's largest companies in virtualizing their data center, and now we're leading you through the next stage of your transformation: modernizing and optimizing infrastructure, operations and applications for today's multi-cloud environment.

To learn more, visit tanzu.vmware.com.

Methodology and Endnotes

The **VMware FY23 H1 Benchmark** study was fielded on behalf of VMware by Management Insight Technologies between March 2022 and May 2022. The custom research was conducted in North America (U.S. and Canada), Western Europe (U.K., Germany and France) and APAC (Australia, New Zealand, Japan, India and China) using a combination of web and telephone interviews. Responses were collected from 1,700 IT leaders, IT decision-makers and developers who specialize in decision making for application workloads and infrastructure deployments. The sample targeted 10 percent small to mid-size businesses (2-999 employees), 30 percent commercial (1,000-4,999 employees), and 60 percent enterprise (5,000+ employees).

The **VMware Executive Pulse Q2** study was fielded between May 2022 and June 2022 on behalf of VMware by Qualtrics. Custom research was conducted in the Americas (Argentina, Brazil, Canada, Mexico, U.S.), Europe (Belgium, France, Germany, Italy, the Netherlands, U.K., Spain, Sweden, Russia) and Asia Pacific (Australia, China, India, Japan, Singapore) using web-based surveys. Responses were collected from 456 C-Suite and senior technology decision-maker respondents involved in app and infrastructure platform decisions, with a balance of VMware and non-VMware customers. The sample targeted 49 percent commercial (1,000-4,999 employees), and 51 percent large enterprise (5,000+ employees).