ESG RESEARCH INSIGHTS PAPER

The Digital Era Is Fueling Adoption of All-flash Object Storage

Digital Business Initiatives Demand Massive-capacity, High-performance Data Storage

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Executive Summary

Digital business initiatives are fueling an increased emphasis on creating, storing, and using data. This trend has led to increased adoption of all-flash object storage.

It may also help bolster organizations' viewpoints about their IT groups. Only 6% of the line-of-business executives surveyed by ESG said they viewed their company's IT group as a competitive differentiator for the business, while 25% regarded IT as a business inhibitor. Among the executives who believed their IT organization was inhibiting business success, 43% of them said it was because their workers were having difficulty accessing the data they needed for business operations and analysis.[1]

The Research Objectives of This Project

This study encompassed 205 IT professionals currently responsible for their organizations' storage decisions and forward-looking infrastructure strategies within enterprise organizations of 1,000 employees or more. The focus of the project involved:

- Investigating the adoption of, considerations for, and benefits delivered by all-flash object storage.
- Understanding the existing challenges with unstructured data generally and object storage specifically.
- Investigating the needs, features, sizing, and applicable/attractive workloads for all-flash object storage.

Report Conclusions

The key findings of this research can be summarized as follows:

- All-flash object storage is early in the adoption phase but will become pervasive. While 95% of respondents report using flash in object environments, only 23% of those respondents report using an all-flash storage solution today. Of those not using all-flash object storage today, 87% expect they will evaluate the technology in the next 12 months.
- More than three-quarters of respondents (77%) reported that digital initiatives and new workloads are driving their interest in all-flash object storage.
- More than three-quarters (77%) of respondents at organizations already using all-flash object storage claim it has either been a game changer for the organization (28%) or has had a high impact (49%).
- Users report a wide variety of benefits, identifying, on average, between six and seven realized benefits—including improving application development, accelerating AI/ML environments, empowering business intelligence/analytics, and/or increasing infrastructure performance and utilization while lowering total cost of ownership (TCO).

Strong Adoption with Growing Interest for All-flash Object Storage

Digital storage capacities continue to grow. In this study, 94% of the surveyed organizations reported that they maintain more than 1PB of active, primary unstructured data capacity, and 41% maintain more than 25PB. Given an average storage growth rate of 34% annually, these data sets will likely double *every two and a half years*.

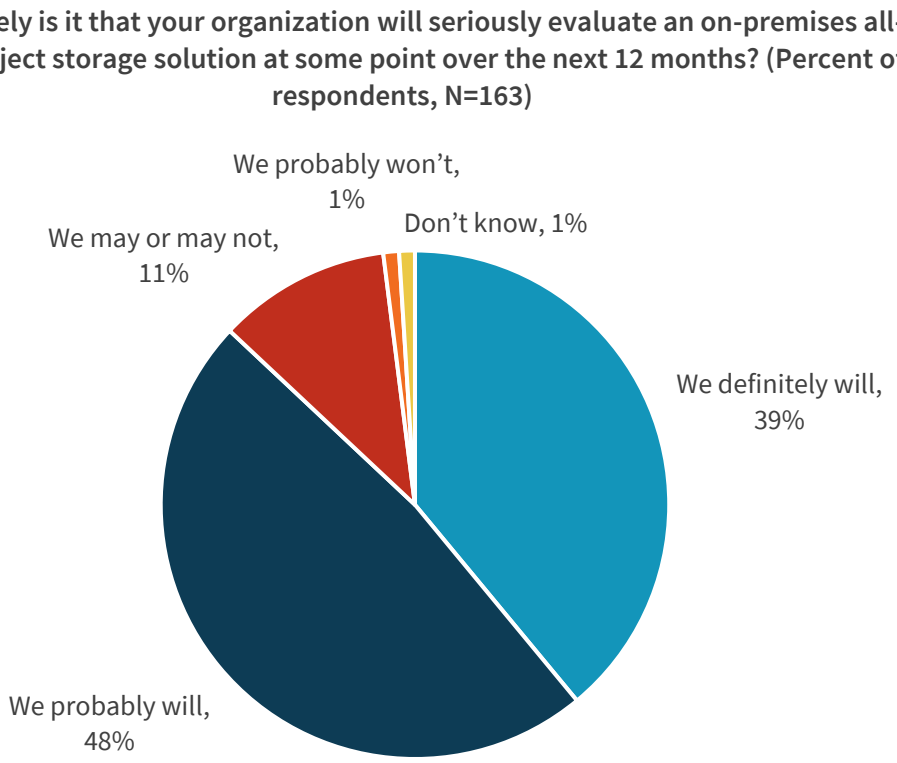
[1] Source: ESG Master Survey Results, *2019 Technology Spending Intentions Survey*, March 2019.

ESG observed a strong level of flash adoption in respondents' object storage environments. Nearly every participant (95%) reported that flash represents at least part of their on-premises object storage, and about a quarter (23%) of those have an all-flash object storage solution in operation.

Across represented industries, adoption was relatively lowest in healthcare, at 14%. But even in that sector, nearly half of the surveyed healthcare companies (49%) identified that they definitely would evaluate an on-premises, all-flash object storage solution in the next 12 months, a rate 26% higher than the overall average. The healthcare sector is catching up.

And among organizations in general that have not already deployed all-flash object storage, 87% expected that they will evaluate one in the next 12 months (see Figure 1).

Figure 1. Expectation to Evaluate All-flash Object Storage in the Next 12 Months



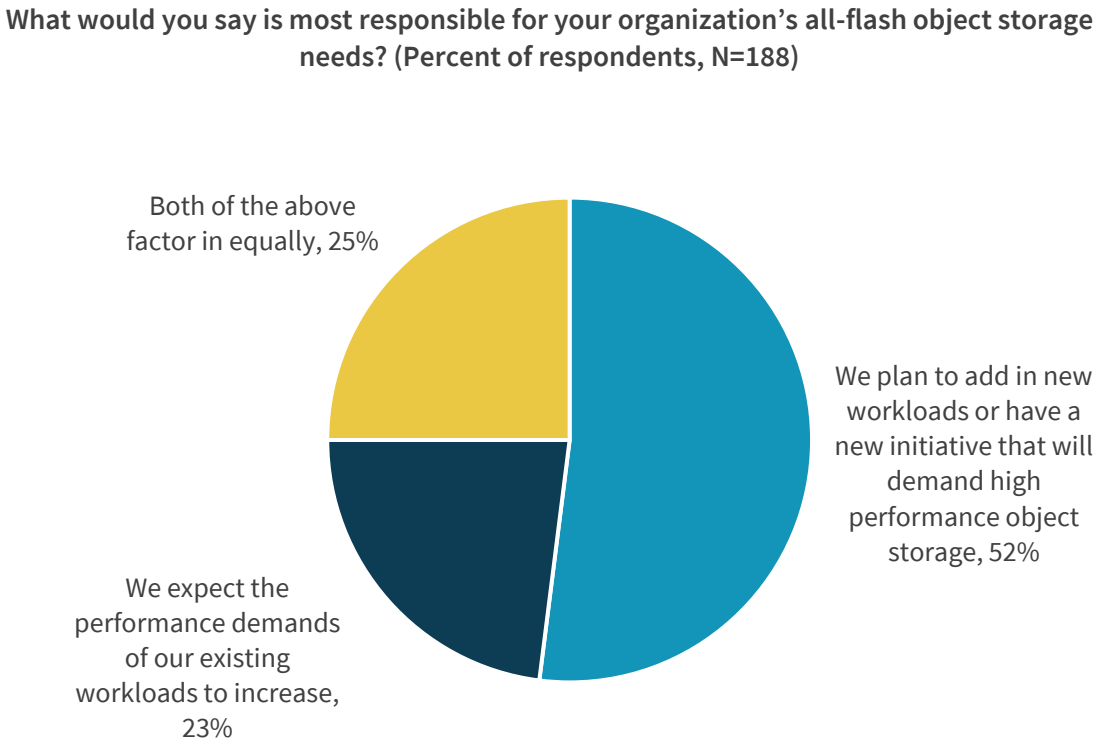
Source: Enterprise Strategy Group

New Workloads and Digital Initiatives Are Fueling Interest in All-flash Object Storage

New workloads appear to be the primary driver of all-flash object storage adoption. Given the rise of digital initiatives as well as cloud-native, container-based workloads—along with the need to utilize unstructured data to fuel application development, business intelligence, analytics, and even machine learning—organizations increasingly demand high-performance access to large volumes of unstructured data.

Digital initiatives are not the only drivers, however; more traditional use cases also are propelling increased demands for performance. Notably, high-performance data restoration (high-speed recovery) is playing its own role in spurring adoption of all-flash object storage (see Figure 2).

Figure 2. A Combined 77% Identify New Initiatives/Workloads Driving Need for All-flash Object Storage



Source: Enterprise Strategy Group

These findings align with what ESG has seen in terms of IT spending in general.[2] Digital initiatives are now common areas for investment. Consider that:

- Application development plays a foundational role in digital business initiatives. A vast majority of surveyed IT organizations (95%) reported that their businesses are in some stage of digital transformation.
- Additionally, 64% of surveyed organizations that are using AI/ML anticipated an increase in spending related to those technologies in 2020.
- And 49% of IT decision makers whose organizations use business intelligence and analytics expected their organizations to increase spending in that area in 2020.

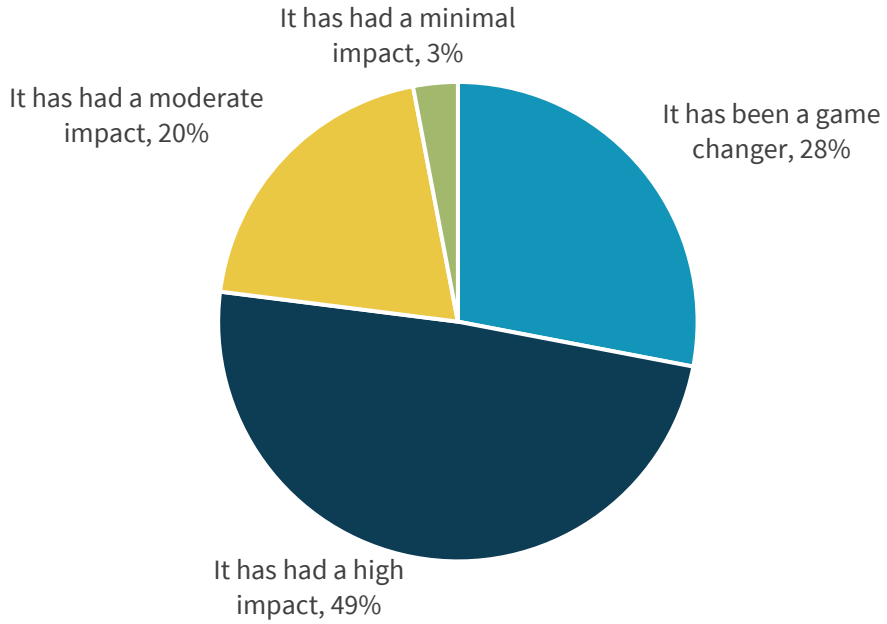
For Users, All-flash Object Storage Is a Game Changer

All-flash object storage is clearly playing a key role in providing the modern infrastructure necessary to support these new initiatives (see Figure 3). ESG found that a combined 77% of the respondents believe that all-flash object has either been a game changer for them (28%) or has had a high impact on their organization (49%).

[2] Source: ESG Master Survey Results, *2020 Technology Spending Intentions Survey*, February 2020.

Figure 3. All-flash Object Is Making a Large Impact

Which statement below best describes the impact that all-flash object storage has had on your organization's storage environment to date? (Percent of respondents, N=65)



Source: Enterprise Strategy Group

Based on the findings of the survey, ESG noted several use-case-specific benefits that highlight the value all-flash object storage delivers to digital initiatives tied to application development, AI, and BI/analytics (see Figure 4).

A connection exists between those workloads and all-flash object storage's ability to accelerate performance in a massive data storage environment. Research into common AI/ML challenges certainly highlights the need for these capabilities: In separate research, ESG surveyed 300 data-focused IT professionals involved with their organizations' AI/ML initiatives. They identified the main challenges and barriers their organizations experienced with AI/ML projects. Those challenges/barriers were:

- The cost of IT infrastructure required (cited by 35% of respondents).
- The need for better IT infrastructure capabilities (cited by 29%).[3]

Directional Finding: Top Benefits of All-flash Object Storage by Industry

Financial Services

- Improved/accelerated use of data in the object storage as part of a data pipeline for machine learning/artificial intelligence (76%).
- Improved application performance (76%).

Government

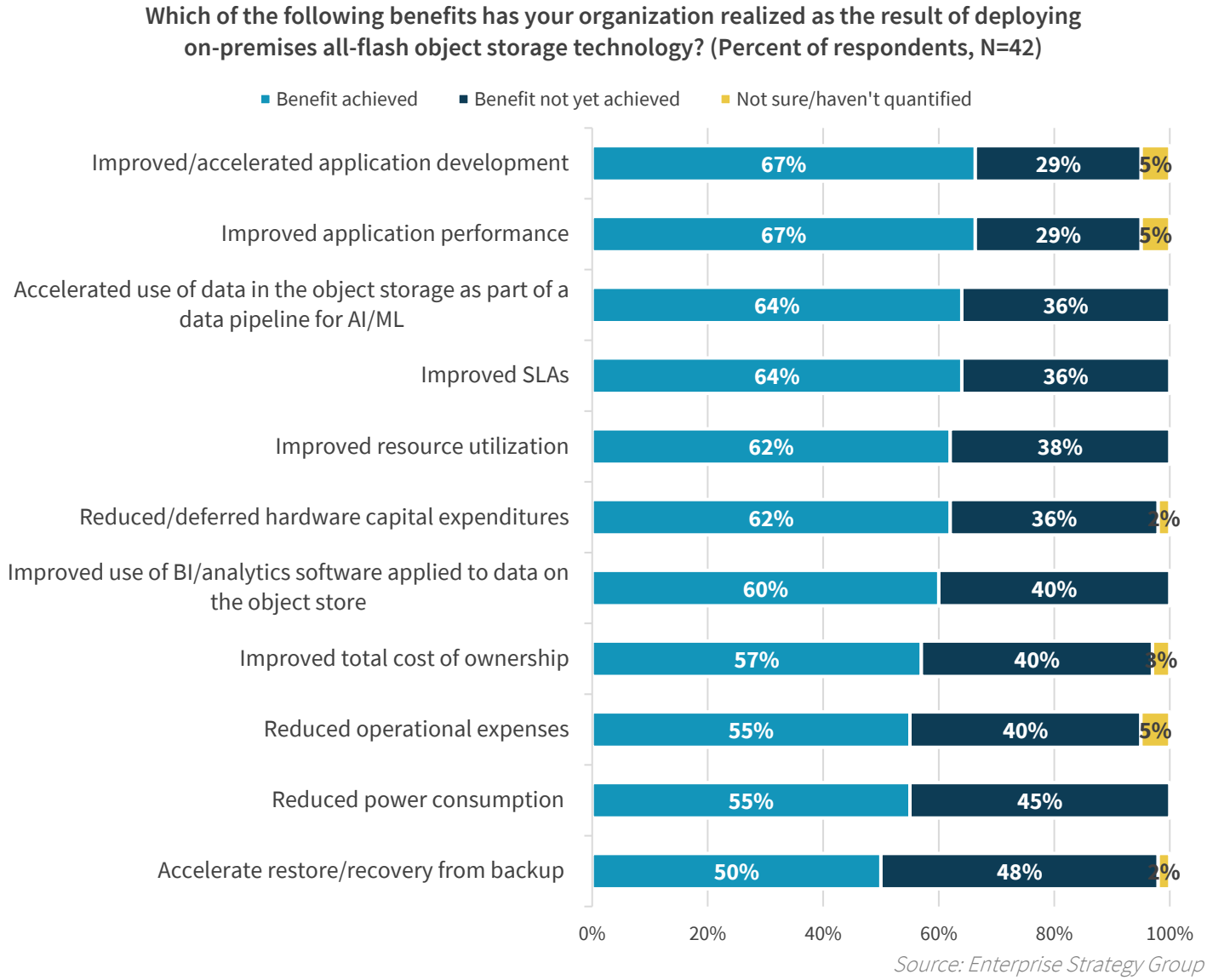
- Improved resource utilization (70%).
- Reduced operational expense (60%).

Healthcare/Life Sciences

- Improved TCO (83%).
- Improved/accelerated application development (75%).

[3] Source: ESG Master Survey Results, *Artificial Intelligence and Machine Learning: Gauging the Value of Infrastructure*, March 2019.

Figure 4. Realized Benefits from All-flash Object Storage



Source: Enterprise Strategy Group

As Figure 4 illustrates, all-flash object storage also is helping IT to deliver on additional infrastructure-related key performance indicators such as improved SLAs, improved resource utilization, reduced TCO, and lower operational expenses.

In other words, the use of all-flash object storage appears not to be a tradeoff between capability and cost. Rather, it is a win-win approach that delivers improved capabilities *and* reduces TCO (as identified by 57% of the respondent organizations).

The reported benefits shed light on why 80% of the survey participants said migrating workloads to all-flash object storage is either their most, or one of their most, important storage-related initiatives right now.

Top Considerations with All-flash Object Storage

ESG also investigated what organizations look for when they are selecting an all-flash object storage solution (see Figure 5).

Capabilities for **data protection** and **data availability** are very common decision factors, which is unsurprising. In the context of a massive-scale storage environment, the protection of data is and should be always a top priority.

Also, for the majority of these environments, **good throughput** tends to be a much more important factor (cited by 52% more respondents) than **lower latency**, which traditionally was the more common storage performance characteristic to be considered important when making a buying decision. Of course, any individual organization's specific priorities will depend on the needs of its unique application environment.

Several considerations appear to center on simplicity. Injecting simplicity into the storage environment could come in the form of:

- Improving search capabilities to help line-of-business teams find data they need.
- Making data access easier for application developers.
- Simplifying the management of these massive environments for IT admins.

All-flash Object Storage—Top Considerations by Industry

Financial Services

- Reliability/availability (47%).
- Data management/visibility/search features (32%).

Government

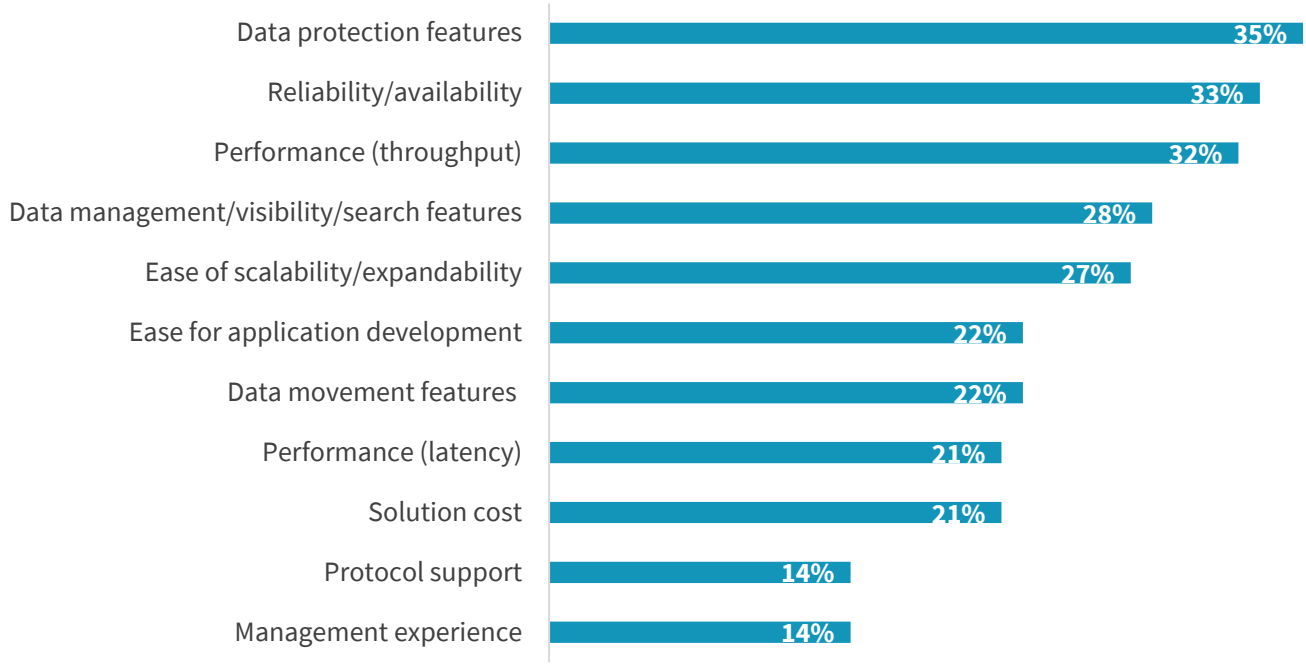
- Performance throughput (34%).
- Data protection (29%).

Healthcare/Life Sciences

- Data protection (36%).
- Ease of scalability/expandability (32%).

Figure 5. Expectation to Evaluate All-Flash Object Storage in the Next 12 Months

What solution attributes will be/would be most important to your organization if it was evaluating an all-flash object storage solution today? (Percent of respondents, N=205, three responses accepted)



Source: Enterprise Strategy Group

Conclusion

All-flash object storage deployments and evaluations are prevalent now, likely driven by digital initiatives. At this point, the mentality rightly should be, "Everyone else is doing it. You should too or risk falling behind."

For organizations using all-flash object storage, it has been a game changer, or at least it has provided a high positive impact by boosting cloud-native/container-based application development and portability. AI/ML projects, and business intelligence/analytics efforts—all activities that support modern digital initiatives.

In addition, all-flash object storage improves IT resource utilization and can even make management easier, which helps to reduce operational expenses and TCO.

For these reasons and more, all-flash object storage appears well on its way to becoming a foundation of the modern data storage ecosystem.

Research Methodology and Parameters

This study—fielded between August 31, 2020 and September 12, 2020—covered IT professionals currently responsible for their organization's storage decisions and forward-looking infrastructure strategies (see Figures 6 and 7). The respondents in the study:

- Work for enterprise organizations of 1,000 employees or more.
- Manage IT environments with more than 500TB of active, unstructured storage.
- Work for organizations in financial, government, healthcare/life sciences, technology/telecommunications, and media/entertainment industries.

After applying data quality control best practices and screening the remaining completed responses (on several criteria) for data integrity, a final sample of 205 respondents remained. All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

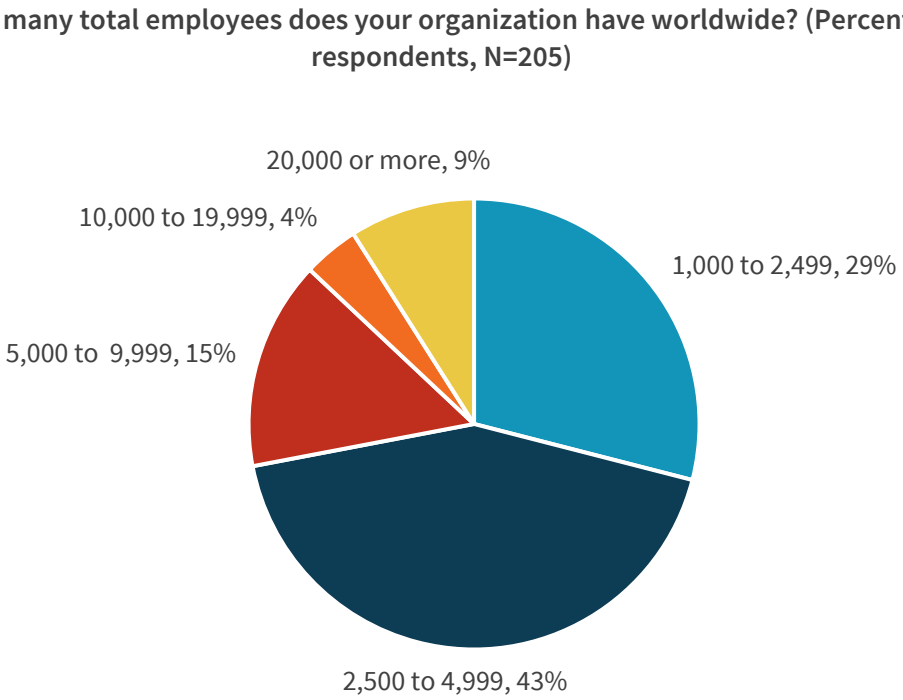
The following figures detail the demographics and firmographics of the respondent base.

Note: Totals in figures and tables throughout this report may not add up to 100% due to rounding.

Respondent Demographics

The research encompassed 205 IT storage decision makers in enterprise organizations in the U.S. and Canada.

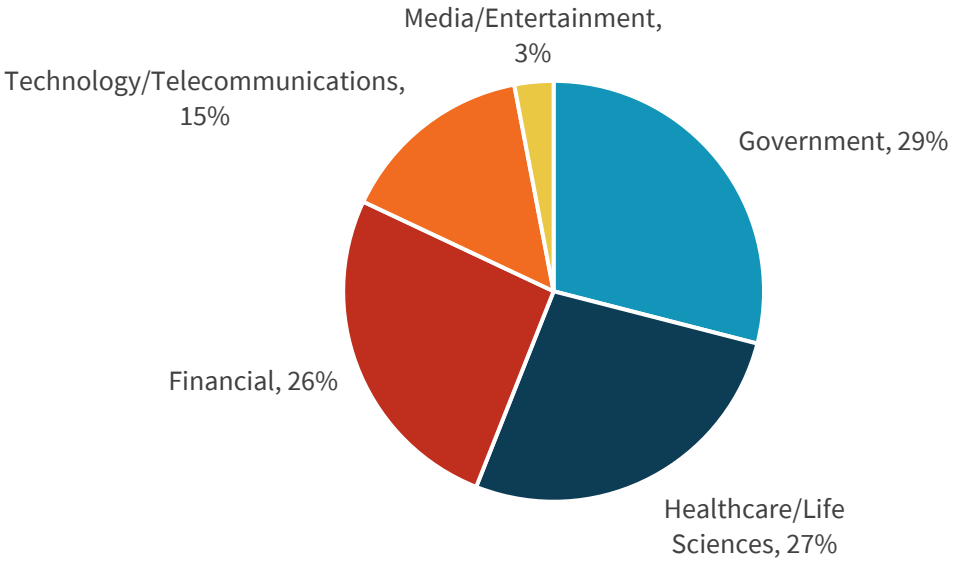
Figure 6. Respondents by Size of Organization



Source: Enterprise Strategy Group

Figure 7. Respondents by Size of Industry

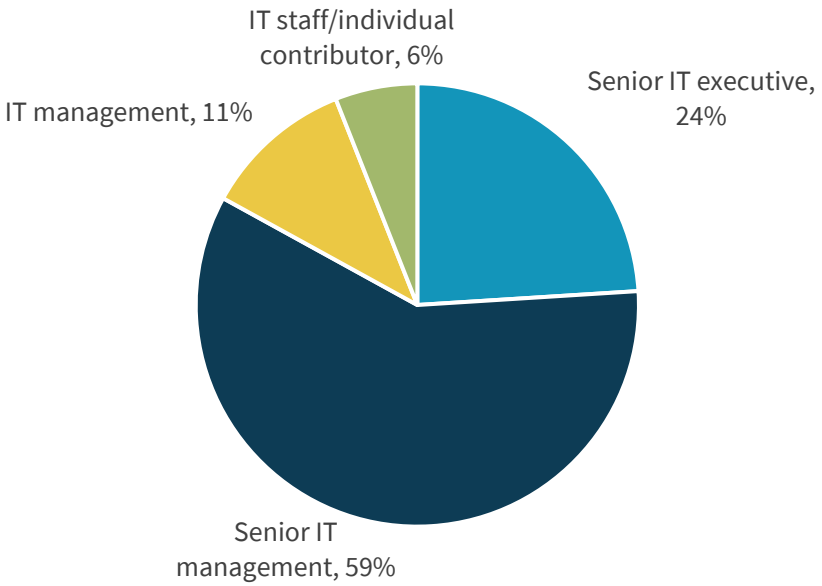
What is your organization's primary industry? (Percent of respondents, N=205)



Source: Enterprise Strategy Group

Figure 8. Respondents by Seniority

Which of the following best describes your current responsibility within your organization? (Percent of respondents, N=205)



Source: Enterprise Strategy Group

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