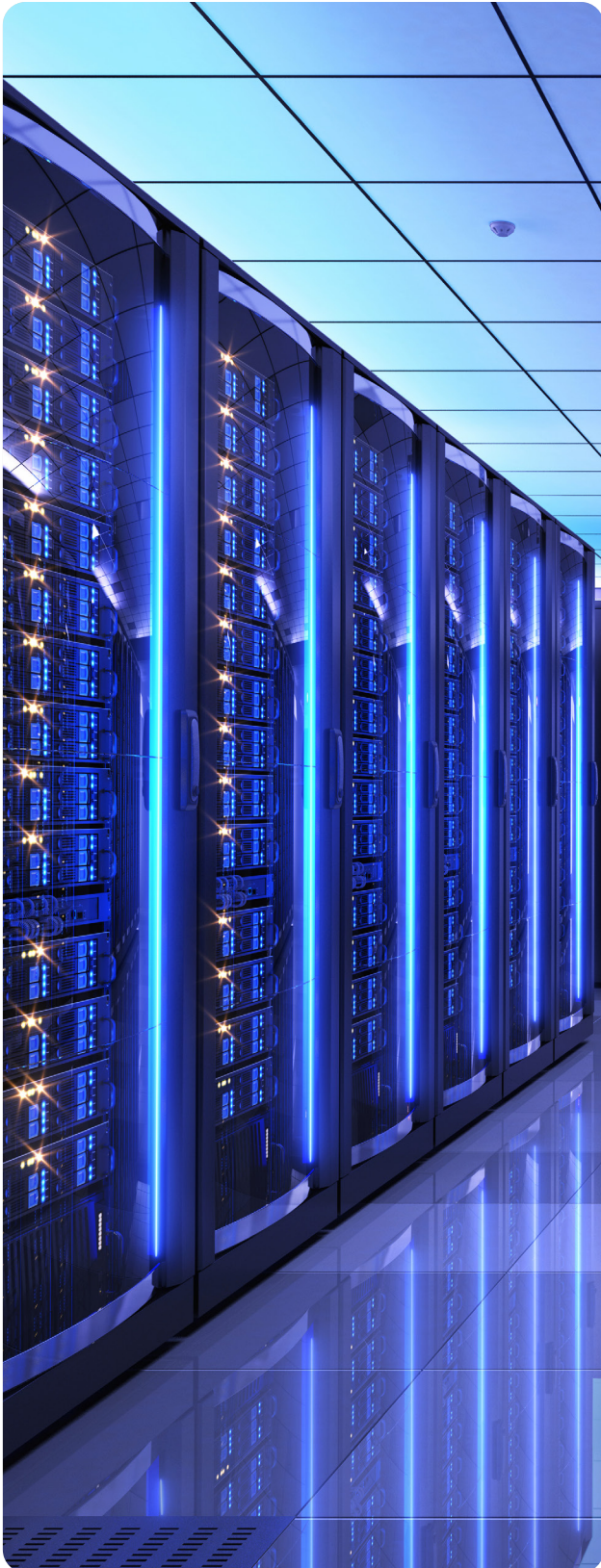


RESEARCH REPORT

# The Federal Data Maturity Report: Optimizing Storage, Operations, and Insights.

May 2024



## Introduction

Federal IT systems are drowning in a rising tide of data. As structured, unstructured, and semi-structured data pours in from sources like video feeds, location services, IoT sensors, and machine learning models, the need for agile and scalable storage solutions is more pressing than ever.

MeriTalk and Hitachi Vantara Federal surveyed 150 Federal IT decision-makers to understand their perspectives on the state of Federal data storage and operations. In the following report, we'll explore:

- Federal data maturity
- Current infrastructure challenges
- Data bottlenecks
- Adoption of modern storage solutions
- Opportunities to accelerate transformation and support next-generation workloads

# Executive Summary

## Federal agencies are prioritizing data-driven decision-making, but maturity still lags:

- Over the past year, 99% of Federal IT decision-makers say their agencies have put a greater emphasis on leveraging data to drive decision-making and achieve mission goals
- At the same time, they report increased volumes of biometric, machine-generated, multimedia, geospatial, and unstructured data
- When it comes to data maturity, just 41% describe their organization as “advanced” and only 32% rate their ability to use data-driven insights an “A”

## Current data infrastructures struggle to keep up with demand:

- 57% feel their current data infrastructure is being overwhelmed by increasing data volumes
- 62% are concerned that their organization’s data infrastructure won’t be able to scale to meet future data needs
- Top infrastructure challenges? Complexity, security vulnerabilities, and outdated technology

## Adjusting to the data surge as the new norm:

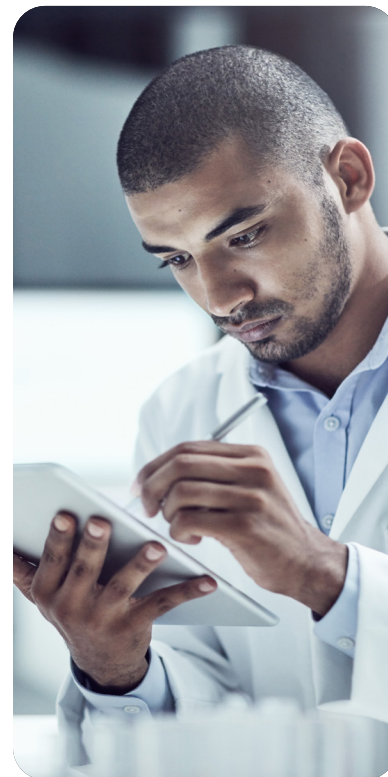
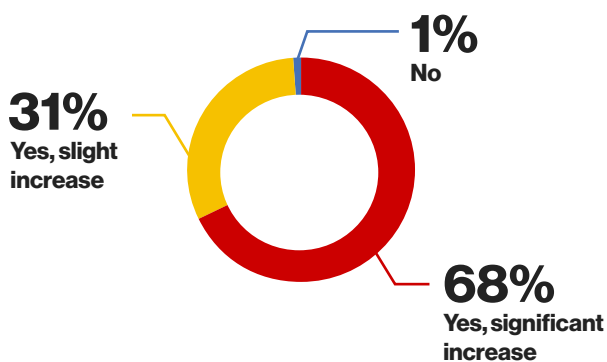
- To optimize data storage and operations, Feds want agencies to focus on upgrading data storage infrastructure, investing in advanced analytics tools, and continuing to enhance cybersecurity measures
- More than half (54%) of those who have upgraded to modern data capabilities have streamlined collaboration and data sharing, and 53% have facilitated better-informed decision making
- Feds expect further adoption to improve data access and retrieval (57%), increase efficiency (53%), and enhance data reliability and resiliency for mission-critical applications (53%)



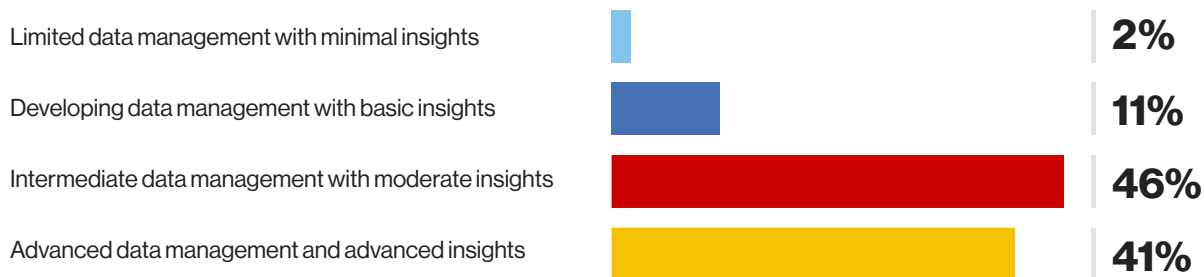
# The State of Data-Driven Decision Making

Federal agencies are seeing a strong push to more effectively integrate the large amounts of data they collect into their decision-making process. While many say they've achieved moderate data maturity, only one in three give their ability to use data insights an "A."

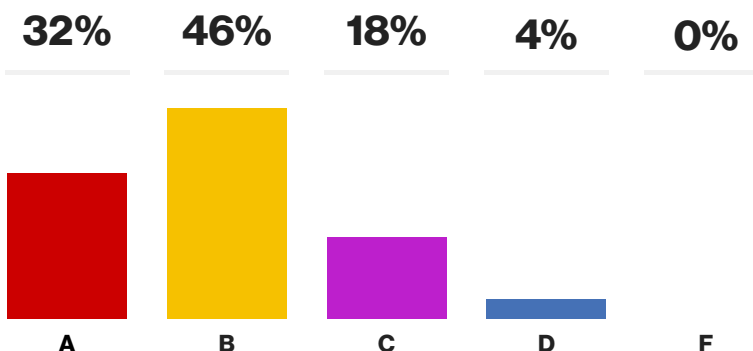
**Over the past year, have you noticed your organization putting greater emphasis on leveraging data to drive decision-making and achieve mission goals?**



**How would you describe your organization's current level of data maturity?**



**How would you grade your organization's ability to use data-driven insights for strategic decision-making?**



# Challenges to Data-Driven Insights

As the demand for data usage increases, improved data storage and accessibility becomes a necessity. Over half of Federal IT leaders feel their current infrastructure is not up to the task, and six in 10 feel it will falter in the next two years. Agencies are experiencing a myriad of infrastructure challenges, most notably complexity and security issues.

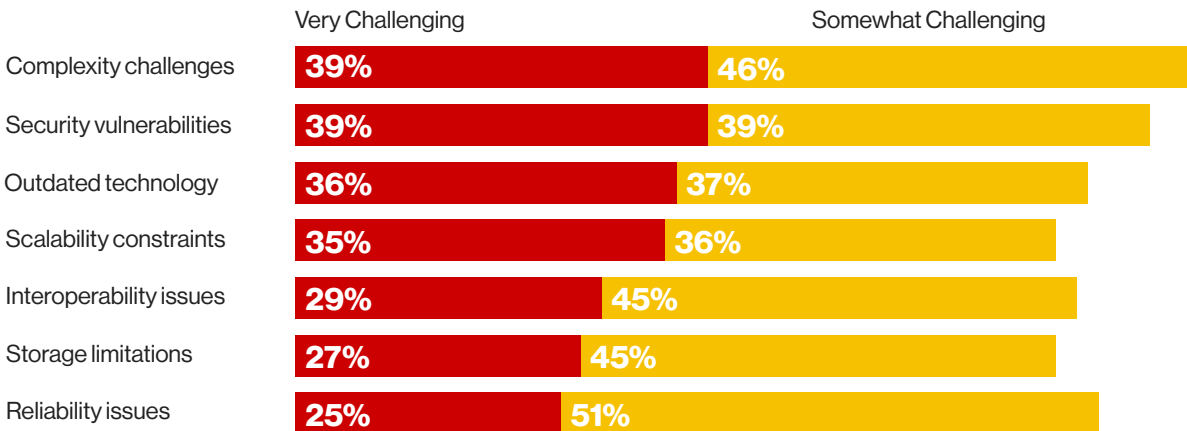


**57% of Federal IT leaders feel their current data infrastructure is being overwhelmed by increasing data volumes**

**More than half (52%) say their organization’s current data infrastructure is not agile enough to adapt to evolving technologies and 62% are concerned that their infrastructure won’t be able to scale to meet their data needs over the next two years**

**DoD organizations are significantly more likely to report challenges with infrastructure reliability (84% DoD vs 72% Civilian ); Civilian agencies are more likely to struggle with outdated tech (79% Civilian vs 64% DoD)<sup>1</sup>**

## How much of a challenge is each of the following factors to your organization’s digital infrastructure and its’ ability to convert data to insights?

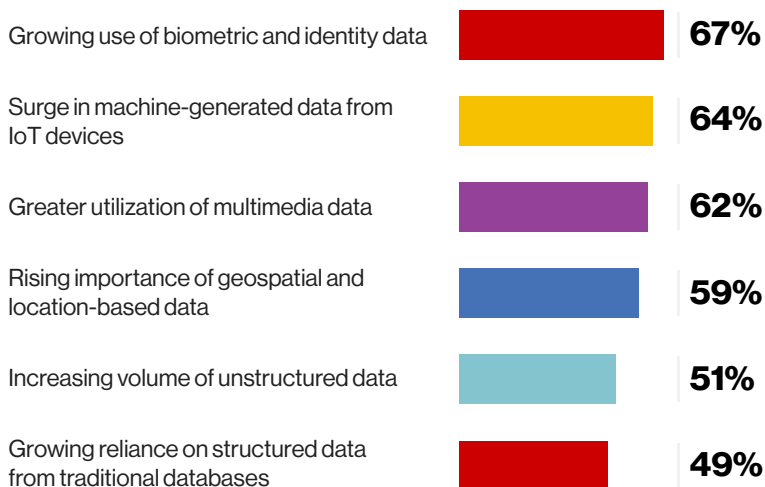


<sup>1</sup> Includes independent research labs or Federally Funded Research and Development Centers (FFRDC)

# Data Storage Dynamics

The contour of data is changing, with identity, multimedia, and IoT device data all on the rise. Less than one-third of Federal IT decision-makers give their existing data storage optimization top marks. 95% have experienced bottlenecks with their existing pipelines, the biggest of which are processing and analysis.

## What trends have you observed around the types of data your organization collects?<sup>2</sup>

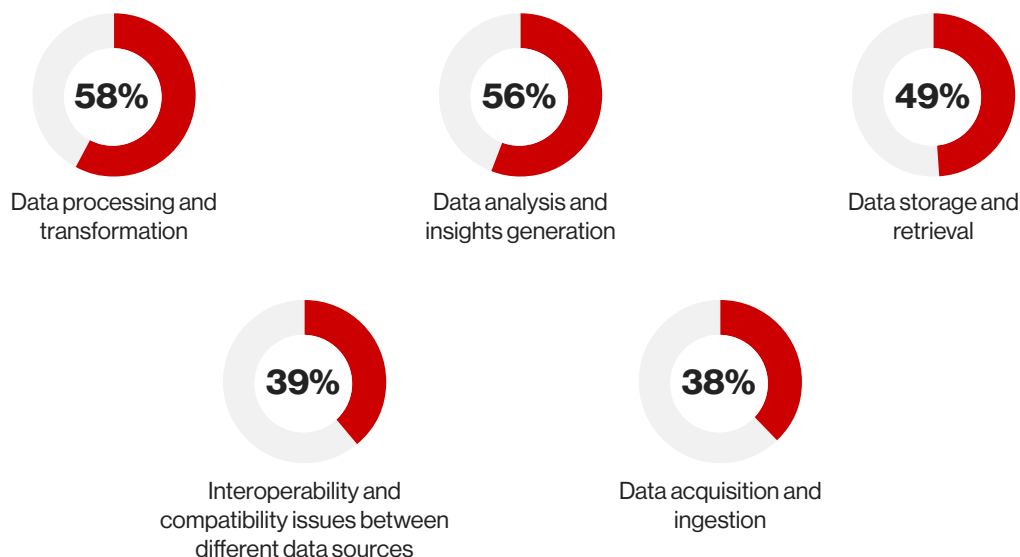




**27%**

**Just 27% of Federal IT decision-makers grade their organization's current storage optimization an "A"**

## Where, if at all, have you observed bottlenecks in your organization's data pipeline?



<sup>2</sup> Respondents asked to all that apply



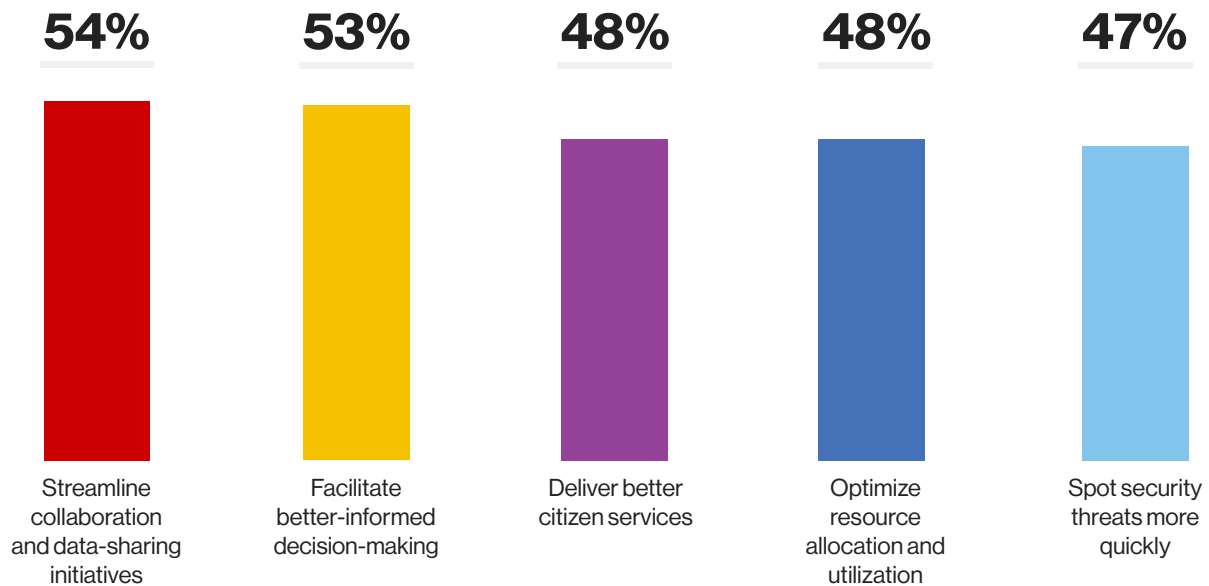
## The Impact of Modern Data Capabilities

While nearly all (99%) of Federal IT decision-makers say their organization uses hybrid cloud for data storage and operations, just over half say they have a well-established hybrid strategy. Nine in 10 (91%) have experienced operational challenges, namely data compatibility and downtime issues.

### What best describes your organization's adoption of hybrid cloud for optimizing data storage and operations?

- Actively using hybrid cloud with a well-established strategy (53%)
- Implemented some processes but need improvement (43%)
- Early stages of exploration and adoption (3%)
- Not currently using hybrid cloud (1%)

### In what ways have modern data capabilities enabled your organization to improve mission outcomes?



# Fortifying Data Defenses

As Federal IT leaders gear up to address the evolving data landscape, enhancing security and privacy measures stands out as their top 2024 priority. With data breaches and ransomware attacks posing significant risks to organizational data integrity, agencies are working to improve cybersecurity training, security audits, proactive threat detection, and authentication measures.

## What are your organization’s top data-related priorities for 2024?



**#1** Enhancing security and privacy measures



**#2** Improving data quality management

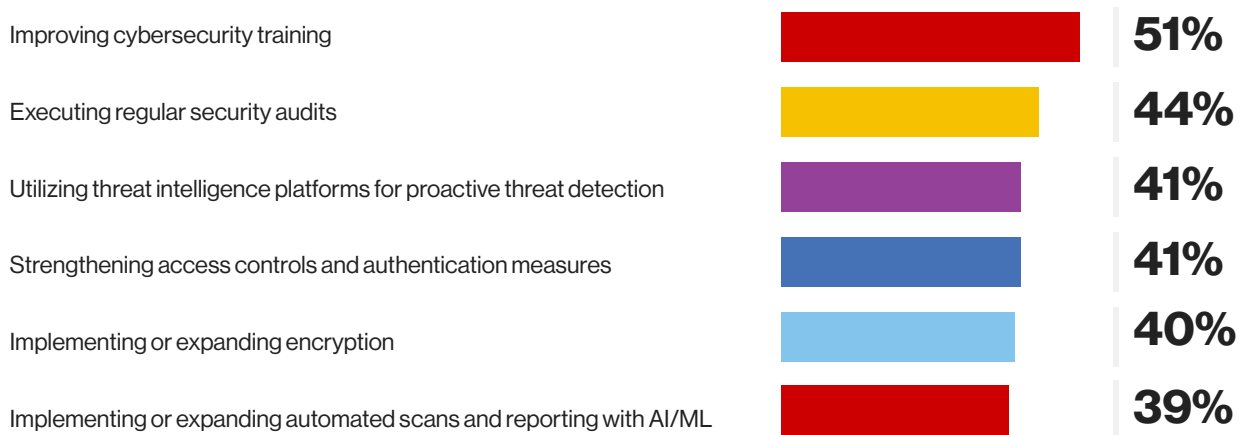


**#3** Improving our speed of data processing

**55%** of Federal IT leaders share concerns that their organization may not be able to detect a data breach in time to protect data and **two-thirds (66%)** are concerned that their data infrastructure may not be resilient enough to recover all data if they were faced with a ransomware attack

Agencies who grade their data-driven decision making an “A” are significantly more likely than their peers to leverage automated scans and reporting with AI/ML

## What steps is your organization taking to improve data security and resiliency?





# External Impacts

Federal modernization efforts are shaped by executive priorities, national initiatives, and emerging technologies. Recent executive orders focusing on cybersecurity and AI, as well as the latest cybersecurity and data analytics applications, have incentivized agencies to accelerate change.

## Which recent executive orders have made the greatest impact on your organization’s digital infrastructure priorities? (significant impact)



**#1** Executive Order 14028 on Improving the Nation's Cybersecurity (47%)



**#2** Executive Order 14110 on Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (44%)



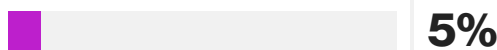
**#3** Executive Order 14058 on Transforming Federal Customer Experience and Service Delivery to Rebuild Trust in Government (37%)

## How likely is your organization to use the Infrastructure Investment and Jobs Act (IIJA) to help fund a portion of your upcoming digital infrastructure improvements?

Very Likely



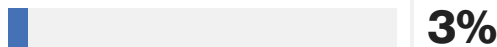
Not very or not at all likely



Somewhat Likely



Unsure



## Which applications, if any, do you anticipate will have the most significant impact on your organization’s data center needs over the next two years?



**#1** Cybersecurity applications



**#2** Big data and analytics applications



**#3** AI/ML applications



**#4** IoT applications, including sensor data processing





# Charting Tomorrow's Landscape

Federal IT leaders have high expectations of their data storage transformation and future technological advancements. Topping the list are speed, efficiency, and resiliency.

## In your opinion, where should your organization prioritize changes to optimize data storage and operations over the next two years?



**#1** Upgrading and modernizing existing data storage infrastructure

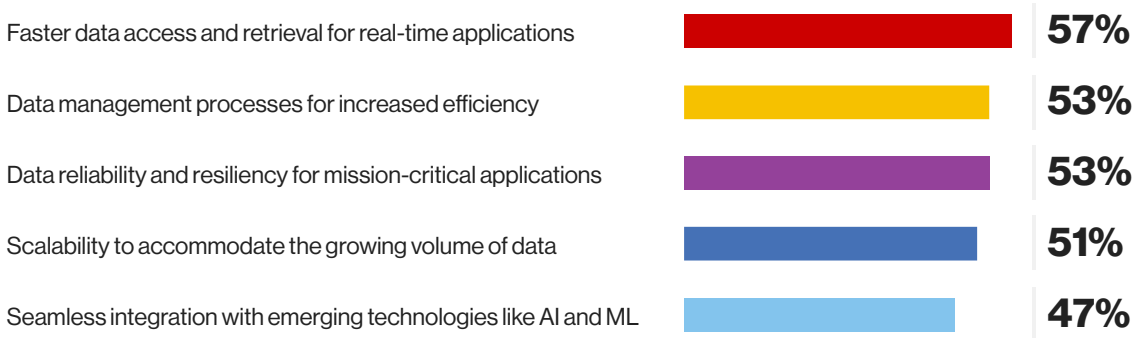


**#2** Investing in advanced data analytics tools and technologies

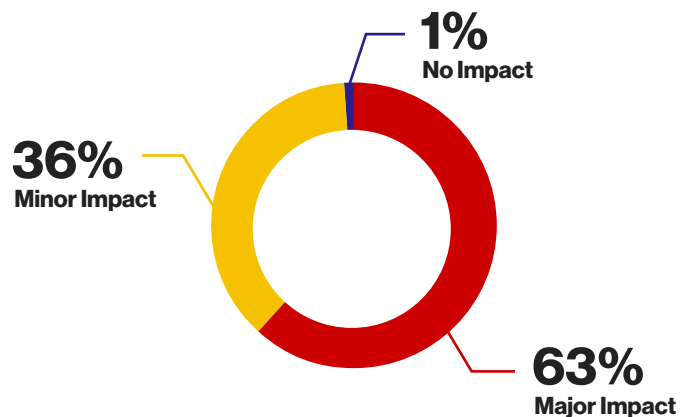


**#3** Enhancing cybersecurity measures for enhanced data resiliency

## How do you anticipate the adoption of modern data storage solutions will support next-generation applications and workloads in your organization?



## How will the integration of modern data analytics tools affect your organization's ability to forecast and plan for future challenges over the next three years?





## Keys to Success

### What sets a successful data-driven organization apart?

“Using data as critical evidence to help inform and influence strategy”

“The ability to leverage data to shift humans from low-value to high-value work”

“Culturally treating data as a strategic asset and then building capabilities to put that asset to use, not just for big decisions but also for everyday actions on the frontline”

“Having a professional data analysis team to dig deeper into the value of data”

“Being able to integrate and maintain all aspects of the agency’s data needs from legacy to next-gen initiatives”

“The ability to share data resources between different departments”

“Redundancy, security, consistency”

# Recommendations for Moving from Data-Rich to Data-Driven

## Start with a Strong Foundation:

To maximize storage and streamline operations, Federal IT decision-makers urge agencies to prioritize upgrading and modernizing their data storage infrastructure. Invest in cutting-edge solutions that provide agility, scalability, resiliency, and seamless integration with emerging capabilities like AI/ML to keep pace with escalating data volumes and rapidly evolving technology needs. Leverage hybrid cloud environments and software-defined storage to enhance optimization.

## Boost Data Security and Resilience:

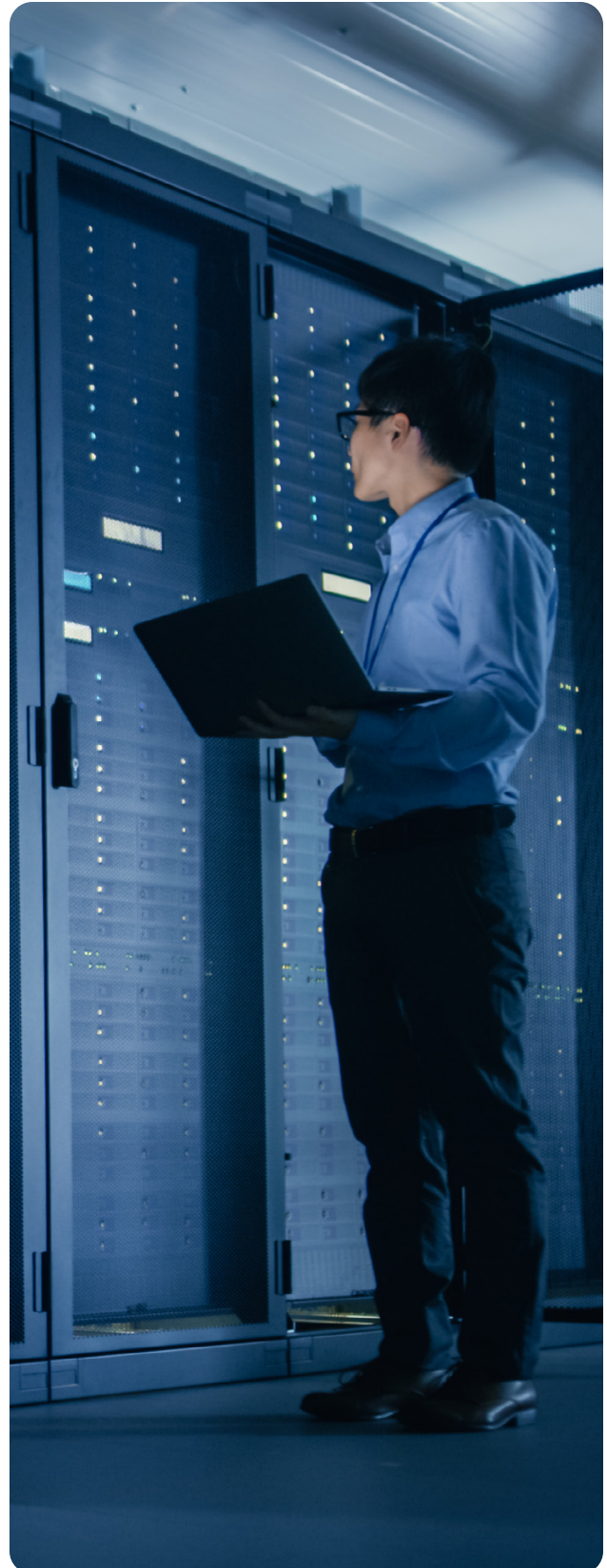
As data use expands, so does the threat landscape and the need to strengthen data security. Agencies should implement robust access controls, encryption, automated threat detection, and backup and recovery capabilities to maximize resilience. Develop comprehensive incident response plans. Foster a strong data security culture through consistent cybersecurity training.

## Democratize Access and Analytics:

While recognizing the potential of data, agencies still face bottlenecks in processing, analysis, and deriving insights. Prioritize data democratization by ensuring frictionless access and self-service capabilities across the organization. Invest in advanced analytics platforms that automate data preparation, extract key insights, and enable predictive forecasting aligned with mission goals.

## Double Down on Data Literacy:

To unlock the full potential of their data, Federal agencies must continue to build data literacy skills throughout their workforce. Implement comprehensive training programs that cover data wrangling, analysis, visualization, and translating insights into actionable decisions. Encourage hands-on learning opportunities and develop tailored curriculums for different roles and levels of technical proficiency. Foster a culture of continuous learning by providing resources like workshops, communities of practice, and access to online courses.



# Methodology and Demographics

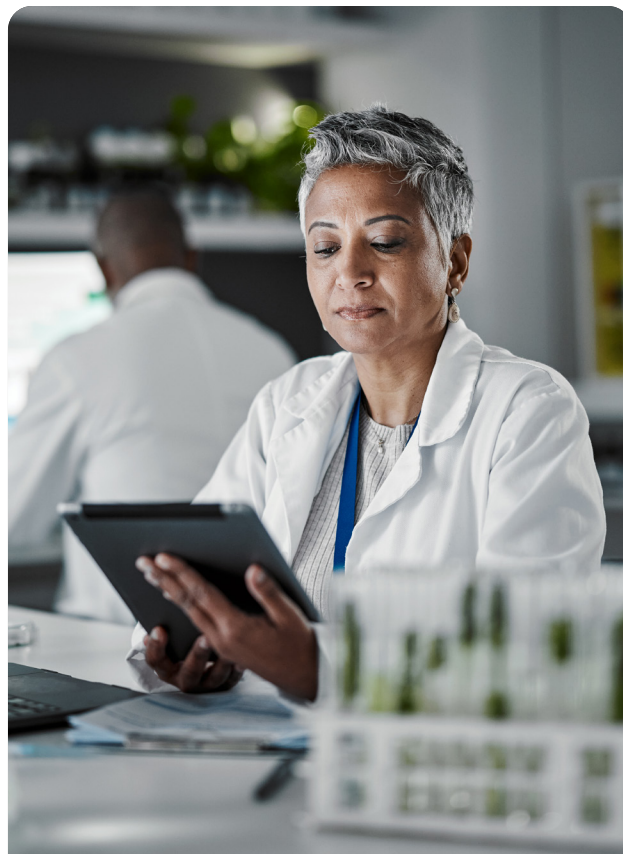
MeriTalk, in collaboration with Hitachi Vantara Federal, surveyed 150 Federal IT decision-makers in March and April 2024. The quantitative research has a margin of error of  $\pm 6.93\%$  at a 95% confidence level.

## Organization Type:

- 49% Federal government—Civilian Agency
- 37% Federal government—DoD or Intelligence agency
- 14% Independent research labs or Federally Funded Research and Development Center<sup>3</sup>

## Job Title:

- 15% Executive-level IT decision-maker (CIO, CTO, CISO, etc.)
- 13% Deputy executive-level IT decision-maker (Deputy CIO, CTO, CISO, etc.)
- 30% IT Director/Supervisor
- 16% IT Program Manager
- 3% Network Manager, Administrator, or Operator
- 3% Network Architect
- 9% Cybersecurity Manager or Administrator
- 5% IT Systems Manager or Administrator
- 3% Data Center Manager or Administrator
- 3% Other IT manager



**100% of respondents are familiar with their organization's data storage and operations**

<sup>3</sup> All qualifying organizations receive the majority of their funding from the Federal government

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