



# A Cost-Effective Approach for Managing Data in Government

**MARKET TRENDS REPORT**



# Introduction

There are few cross-cutting responsibilities that span all teams, offices and departments in government — regardless of employees' titles. Take cybersecurity, for example. Agencies continue to evangelize the criticality of securing government networks and have made clear that it's a shared responsibility, not just the job of a select few in the IT department.

But just as important as cybersecurity — yet often overlooked — is the need for strong data management across organizations. Although employees create, analyze, share and store data in various ways, most don't see themselves as data stewards with a key role in maintaining and ultimately protecting that data.

But they should. Agencies are grappling with aging tape storage and an explosion of data across multiple platforms, making it challenging to even understand what they have in their environment. If agencies don't understand what or where their data is, they will never be able to protect it or use it strategically.

Fortunately, there's a movement across the federal government to change its approach. In early June 2019, Federal Chief Information Officer Suzette Kent debuted the highly anticipated [Federal Data Strategy](#). The strategy, which was first teased by the [President's Management Agenda's](#) data cross-agency priority (CAP) goal in March 2018, includes principles and practices for federal agencies' data governance along the lines of mission, service and stewardship.

“We are looking both strategically and tactically, and we have to start with the basics and invest and build a rock-solid foundation,” Kent said during the strategy's release. “And the framework that we're sharing today supports raising the bar for consistency of skills, interoperability and the best practices for how the agencies manage and use data.”

To help federal agencies on their journey to better data management and teach government employees how to become better data stewards, GovLoop teamed with Veritas and ThunderCat Technology to produce this report. In the following pages, we take a deeper dive into the challenges agencies face around secure and cost-effective models for storing data, while also balancing regulatory compliance requirements and accessibility. You'll also glean best practices for managing data from experts Jonathan Alboum, Public Sector Chief Technology Officer for Veritas, and Derek Morrissette, Lead Solutions Architect for ThunderCat Technology.

## BY THE NUMBERS

# Data Management in Government

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# 38%

of organizations retain data for one to six years.

Source: [Veritas](#)

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# 80 kb

Government agencies, like the Department of Defense, have relied on outdated floppy disks holding just 80 kilobytes of data each as recently as 2016.

Source: [Government Accountability Office](#)

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“The Federal Government **lacks a robust, integrated approach to using data** to deliver on mission, serve customers, and steward resources.”

Source: [The President’s Management Agenda, 2018](#)

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# \$291 million

About \$291 million is what government agencies have already saved by switching to cloud-based services.

Source: [Government Accountability Office](#)

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# 49%

of the world’s stored data will reside in public cloud environments by 2025, according to IDC predictions.

Source: [The Digitization of the World From Edge to Core](#)

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# \$45.8 billion

is what the federal government budgeted toward civilian IT costs, including data management, for fiscal year 2019.

Source: [2019 Budget of the U.S. Government](#)

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# THE CHALLENGE

## Understanding & Managing Disparate Data

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When it comes to data management, one of the biggest challenges agencies face is storing an exorbitant amount of data.

As a [2018 Digital.gov article](#) noted, “The U.S. federal government is probably one of the biggest (if not the biggest) producers of data. Every day, thousands of federal workers collect, create, analyze, and distribute massive amounts of data from weather forecasts to economic indicators to health statistics.”

So how do agencies effectively store data that supports decisions around programs, workforce, budget, security and other areas? And how do agencies decipher what data is worth storing?

“How do you make sure that you’re really storing the stuff that’s important to you and deleting redundant, obsolete or trivial (ROT) data that is no longer of use?” Alboum said. “If you can’t delete it, is there a way to at least offload that data to a less expensive storage to create cost efficiencies?”

These are the types of questions agencies must consider and use to drive stronger data management. As part of the Federal Data Strategy, there are 40 practices aimed at driving outcomes around data usability, shareability, privacy, security and transparency. The strategy notes the need for agencies to better align contract agreements with data management requirements for processing, storing, accessing, transmitting and disposition.

Plus, agencies must enhance data preservation in accordance with applicable laws, regulations, policies and approved records retention schedules. Certain files, such as health and research and development records have strict retention requirements.

Selecting the correct storage model for retention of data while accounting for escalating storage costs can be challenging, as can trying to gain visibility into the data an agency already has in its environment.

“What agencies must keep in mind is that infrastructure is important, but it’s the information that really matters,” Alboum said. “That’s why long-term storage and other data management

capabilities are really important, to the extent that they give you access to the information that’s inside that data.”

In the next section, we’ll outline how agencies can efficiently and securely address these data management challenges.

## The Solution: An Integrated Long-Term Data Retention Strategy

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Not all data is created equally, and agencies’ data storage practices should reflect that reality. To take advantage of the decreasing cost per gigabyte of more modern data storage options both on-premise and in the cloud, agencies should consider the advantages of an integrated long-term data retention (LTR) strategy.

An integrated LTR strategy gives agencies a defined plan for modernizing the way they store and access data. It offers economic and productivity benefits, including the ability to eliminate uncertainties associated with the cost and hassle of restoring data from aging magnetic tapes or tape hardware if a natural disaster or emergency occurs.

By investing in an LTR strategy, agencies can also seamlessly move data to and from private and public cloud platforms with complete data visibility. They can also choose to store critical data on-premise on a resilient and scalable platform that aligns with government policies.

This approach, known as data tiering, should be a part of agencies’ LTR strategy because it gives them flexibility to manage varying data, based on sensitivity and regulatory requirements, how frequently it’s accessed and other factors. Consolidating storage using a tiered approach also reduces the administrative overhead of backing up and restoring many separate file systems.

Ultimately, a modernized long-term retention strategy that leverages cloud and commodity storage allows agencies to better plan for growth and variations across their data. It also empowers them to make smart decisions that improve citizen services.

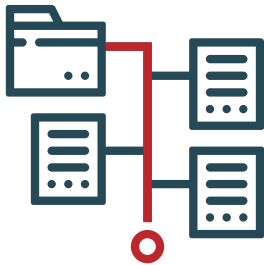
# BEST PRACTICES

## Implementing a Long-Term Data Retention Strategy



### 1. Govern and manage data as a strategic asset

Data governance involves the creation and enforcement of policies, roles, responsibilities and procedures around your agency's use and management of data. Core to data governance in any organization is the creation of a data governance committee. This group determines how to manage data risks, how compliant an agency is with existing regulations and how to best retain data. To be effective, it should be a multi-disciplined team from across the organization. The data governance committee also needs an executive sponsor with the ability to drive change.



### 2. Promote efficient and secure use of data assets

Once agencies understand how their data should be governed and retained, they can take steps to classify that data and provide the foundation for access and sharing across federal, state and local governments. Classifying data can also help agencies make cost-effective decisions around which storage options are most appropriate for the data.



### 3. Consider the benefits of hybrid cloud storage

The cost savings and high availability of hybrid cloud storage can be an attractive option for agencies, but there are multiple items to consider, including the security and compliance impacts of storing data in the cloud. Also, what type of data is being stored and where? Frequently accessed files and applications requiring low-latency access are typically best handled by on-premise storage, whereas long-term retention and archival data can be cost-effectively stored in the cloud.



### 4. Evaluate options for long-term storage

Long-term storage is a viable option for managing data that is rarely accessed because agencies can store it very inexpensively. There are, however, policies that can be put in place to ensure data is accessible when it's needed. Agencies should work with their data storage provider to understand the costs and time associated with retrieving data in long-term storage.



### 5. Invest in an integrated LTR solution

An integrated LTR solution is one that seamlessly addresses agencies' most critical data management needs: the ability to see their data, optimize storage capacity and scale efficiently to meet changing demands. It's important to partner with solutions providers that can tailor storage capabilities to meet diverse mission goals, whether it's the need for extremely low latency or reducing capital and operational expenditures to better utilize resources.



## CASE STUDY

# Moving From Legacy Tape to Next-Gen Data Protection

Like many in government, this particular agency wanted to reduce its reliance on tape storage.

Among the challenges the agency faced in a tape-heavy environment was the amount of manual intervention required to restore backup files and data. Managing tape across both production and non-production environments was very time consuming. Specifically, restoring files took up to a week and involved having to send someone onsite to retrieve the tape.

Recent tape drive outages left the agency unable to restore valuable data, including financial data, resulting in revenue loss. Meanwhile, the data storage solution it had was not integrated and did not comply with government requirements.

The agency turned to Veritas and Amazon Web Services (AWS) for an integrated LTR solution to help transition from legacy tape to tapeless backup. The organization started using Amazon Simple Storage Service Glacier, a secure, durable and extremely low-cost cloud storage service for archiving and backing up infrequently used data, or cold data. With Veritas NetBackup, agencies can create a server with Glacier storage capabilities.

Addressing the storage issues included backing up Oracle databases, VMware, Microsoft SQL, Exchange and user data to two NetBackup Appliances for short-term to mid-term retention. The next-generation data protection solution the agency has in place will reduce costs, optimize storage and improve application performance and business agility to respond to different demands.

## HOW THUNDERCAT & VERITAS HELP

ThunderCat Technology, in partnership with Veritas, understands that smart data management is no longer optional for federal agencies. Agencies need to gain control over their sprawling data estates and do so in a way that is streamlined, automated, comprehensive and highly secure.

Solutions such as Veritas Access and NetBackup can help agencies implement a modernized long-term retention strategy that takes advantage of cloud to provide storage flexibility and manage data retention costs.

NetBackup seeks to reduce that complexity and make data protection as manageable as possible for agencies' limited staffs. NetBackup is a single solution for the entire enterprise, available on a converged platform and developed to require minimal administration in even the largest, most dynamic environments.

Veritas NetBackup is part of an integrated solution that offers worry-free data governance and management, including for high-capacity workloads like long-term retention, tape replacement and backup archiving.

Read more at [thundercattech.com/veritas](https://thundercattech.com/veritas)

# Conclusion

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Data is one of the most valuable assets that agencies possess. It helps them understand the communities they serve, make critical decisions and properly plan for the future. But data is only as good as its quality and availability for those who need it.

Historically, agencies have relied on tape storage, but that trend is gradually fading because it doesn't offer the accessibility and cost benefits that agencies require. Fortunately, the backup and recovery storage options agencies have available to them today have evolved, and having a long-term data retention strategy enables agencies to take advantage of those capabilities.

Implementing an integrated LTR strategy allows agencies to easily replace outdated or sub-optimal storage with a simplified and cost-effective solution.

## ABOUT THUNDERCAT TECHNOLOGY

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ThunderCat Technology is a Service-Disabled Veteran-Owned Small Business (SDVOSB) that delivers technology services and solutions to government organizations, educational institutions, and commercial entities. ThunderCat brings an innovative approach to solving customer problems in and around the datacenter and cloud by providing strategies for Data Management, Networking, Cyber Security, and Cloud Solutions. ThunderCat approaches each engagement with integrity and commitment to help our customers fulfill their mission.

For more information, visit: [www.thundercattech.com](http://www.thundercattech.com).

## ABOUT VERITAS

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Veritas Technologies empowers the public sector to discover the truth in information—their most important digital asset. Using the Veritas platform, customers can accelerate their digital transformation and solve pressing IT and business challenges including multi-cloud data management, data protection, storage optimization, compliance readiness and workload portability—with no cloud vendor lock-in. The public sector relies on Veritas to reveal data insights at the nexus of IT modernization and digital transformation.

Learn more at: [www.veritas.com/publicsector](http://www.veritas.com/publicsector)

## ABOUT GOVLOOP

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GovLoop's mission is to "connect government to improve government." We aim to inspire public-sector professionals by serving as the knowledge network for government. GovLoop connects more than 300,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to connect and improve government.

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