



# Poor Data Management Is Making Your Work Difficult

MARKET TRENDS REPORT



# Executive Summary

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Just as data is becoming more important than ever to government agencies, its management is growing more complex.

Agencies depend on data to make decisions, provide service to constituents and complete missions. Yet a significant portion of that data is no longer stored in easily accessible data centers. Instead, much of it has moved to the cloud to take advantage of efficiencies, better security and universal access.

Now, agencies are grappling with new cloud-based data silos, especially in hybrid and multi-cloud environments. This often means data is difficult to find, and sometimes unavailable when needed. And if data can't be located, it can't be backed up and secured, resulting in data security challenges.

Most importantly, it can lead to a lack of operational readiness. In the world of defense, operational readiness is about having the tools and expertise at the ready to meet mission requirements. *Digital operational readiness* means being ready for whatever actions agencies need to take, whenever they need to take them. That could be gathering relevant data for a report, analyzing data to make a decision or validating that data and applications are secure and available at all times.

To solve these problems, agencies need to standardize on one platform for data management, security, compliance, transformation and insights across hybrid clouds, in multi-cloud environments and on premises. To learn more about this approach, GovLoop teamed on this report with Commvault, which provides solutions for cloud data management and intelligent data services.



## By The Numbers

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# 79%

of organizations say complexity of data integration, data accessibility and accommodating different data formats are top barriers to becoming data-driven.

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# 35%

of federal agencies consider the ability to manage services across hybrid and multi-cloud a primary challenge.

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# 31%

of public sector organizations say they face data management challenges when adopting new digital technologies.

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# 82%

of data management decision-makers find controlling and forecasting data costs challenging, making ecosystem management tools critical.

# 90%

of organizations say multi-cloud is helping them achieve their business goals.

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# 85%

of public sector organizations say simplifying the management of multiple clouds is important to success.

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# 34%

of public sector organizations that have more than 60% of their workload in the cloud.

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***“Together, agencies will leverage the full value of federal data for mission, service, and the public good through ethical governance and conscious design.”***

Source: GSA

# How Cloud Changes the Data Management Equation

## Challenges: Growing Complexity

Effective data management is critical to smooth operations, operational readiness and securing cost efficiencies, yet hybrid and multi-cloud environments can present some challenges. These include:

**Visibility:** With so much data to keep track of, it's not surprising that much of it flies under the radar. Yet without knowing where all data is at all times, along with who owns it, how valuable it is and whether it is actually accessible, it's difficult to manage and protect it. "When you move from an old house to a new one, your intentions are probably to clean and eliminate things you haven't used for years, yet you move it because you never know if you might need it in the future," said Richard Breakiron, senior director for strategic initiatives at Commvault. "That happens with data as well."

**Data security:** If cloud-based data is accessible to the entire organization, anyone can access it. While that's great for productivity, it's a problem for security. Getting past this issue requires knowing who is responsible for the data, understanding how the responsibility is shared in the cloud and implementing strong role-based access control.

**Dead and fragmented data:** Over time, data can become disconnected from the applications or users it services, rendering it essentially "dead." Failing to identify dead data or data fragments means that it may end up in the cloud, racking up unnecessary storage and maintenance costs. The best time to identify and eliminate that dead and fragmented data is during a move to the cloud. The key is managing it from the beginning, tagging it as it's created and automating the criteria for moving it to different storage tiers as it ages.

## Solution: Intelligent Data Management

Achieving and maintaining operational readiness requires not only knowing where all data is at all times, but who has access to it, no matter what cloud or on-premises repository it resides in. It also means managing data as if it were a natural resource. The easiest, most effective and efficient way of getting there is by treating data holistically, consolidating on one standard way of managing data services.

"No matter where your data exists or the business processes underlying it, agencies need an environment that extends from the on-premises edge all the way to the cloud," Breakiron said. "Managing it all holistically is the best way to achieve that."

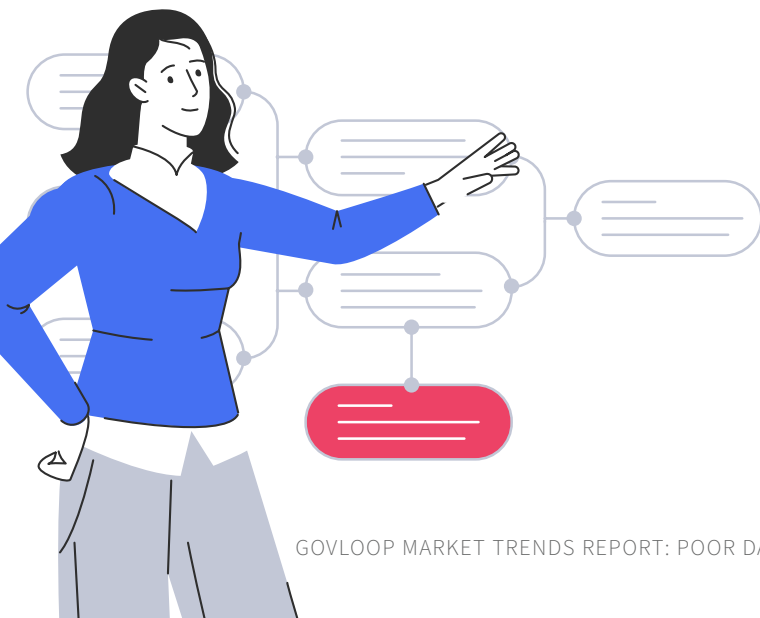
The solution is a comprehensive data management platform that can manage and protect all data across on-premises locations and multiple clouds. An effective platform includes:

- Orchestration and automation tools to move and migrate data as needed
- Backup, recovery and archiving
- Search and governance capabilities
- Extensive data security capabilities

Powered by a single set of code and a user-friendly dashboard, data can be categorized, classified and assigned to the proper retention policies and data sovereignty rules. Sensitive data files can be secured simply by moving them into appropriate locations, putting files in quarantine or deleting them. Using this method, agencies will always know the current status of all data.

Having this information at the ready is the foundation agencies need for operational readiness. With all data present and accounted for, agencies can easily find what they need for specific missions and gather relevant data for quick analysis.

"It's really all based on the concept of data as a natural resource," Breakiron said. "It's evolved from wanting water in a bottle to wanting water from the tap. Moving to a model with one dashboard and a single set of code is a way to get to that point, and it positions agencies really well for whatever comes next."



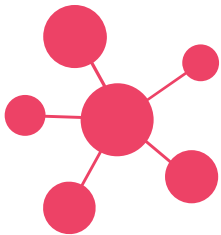
# Best Practices in Data Management

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## Embrace Shared Responsibility and Risk

By its nature, cloud operates under a shared responsibility model, where cloud providers are responsible for some aspects of security and customers are responsible for others. In most cases, customers maintain responsibility for data, devices, accounts and identities, while physical hosts, network and data centers are typically the cloud provider's responsibility. "With shared risk, everybody needs to know what those lanes are and with respect to data protection, who owns what part of the protection equation," Breakiron said.



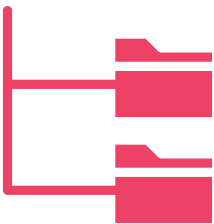
## Know as Much About Your Data as Possible

Any organization working to modernize, digitally transform and embrace a hybrid multi-cloud model knows that it's a never-ending process. And that's OK. The key is creating a baseline of where all data resides, the relative value of that data and how data maps to users and applications. The trickier part is positioning agencies and their data for the future, which may continue to consist of a mix of appliances, cloud resources, edge devices and cloud-native workloads for quite some time, Breakiron said.



## Focus on Ensuring That Your Data Is Portable

As a natural resource, data must be able to move across any type of infrastructure, both in the cloud and on premises, to meet continually changing mission requirements. But that's only part of the story; associated applications, databases and virtual machines need to be just as agile. The bottom line: Agencies today must be able to move data between multiple cloud providers, as well as between physical locations and the cloud.



## Get Things in Order Before Moving to the Cloud

While operating in the cloud requires adopting an intelligent data management approach, initially moving to the cloud has different challenges. Instead of simply porting applications and data to the cloud and doing business the same way, now is the time to rethink your processes and evaluate your data and applications. It's a golden opportunity to get things in order and make sure you understand what will be different in your target environment. Doing so after the fact will create more problems than solutions.

# Getting Smart About Data: Two Case Studies

## Defense Agency Regains Control of Data

Before moving data from data centers to the cloud, a defense agency wanted to better understand the data it was storing. To get that information, the agency used Commvault Activate, a toolset that provides visibility into data and identifies opportunities for storage efficiencies. Using these tools, agency IT leaders quickly realized that more than 20% of the 120 TB of data housed in its local data centers was no longer accessible. Even more importantly, it found that more than 50% of the data had not been touched or interacted with in any way during the previous two years, and that more than 70% of the total data consisted of duplicate files.

With that information, the agency was able to make the best decision about what data to move to the cloud and what to keep on premises. In addition, the agency realized significant savings by eliminating duplicate files, and reduced the surface area for potential ransomware attacks.

## Colorado Beefs Up Data Defenses

After the state of Colorado suffered a data loss event, its Office of Information Technology got to work standardizing its toolset with systems that would better protect citizen and agency data, based around Commvault Data Protection. The state also developed a comprehensive data protection and recovery program that worked with its major incident response plan.

That proved to be a very good plan. In February 2018, the Colorado Department of Transportation was infiltrated with SamSam ransomware, breaching nearly 300 servers containing all databases and applications, along with 1,300 workstations. Because it already had the right protections, partners and team members in place, everything quickly kicked into action. The team was able to recover all assets without having to pay a ransom, and with its offsite Commvault backup copies, it was able to restore all servers with zero downtime.

## HOW COMMVAULT HELPS

Commvault's Metallic, an on-demand, cloud-based intelligent data management platform, which has achieved FedRAMP High Ready status, is an option chosen by many agencies. It encompasses both intelligent data management and data protection, all managed via one dashboard and powered by one set of code. The platform also adapts to agencies' changing data management needs and technologies, enabling consistent and effective management of all technology and associated data.

The Intelligent Data Services Platform consists of:

- **Data management and protection:** unifies protection and management of data for workloads across all environments

- **Data security:** protects and fosters recovery from security threats like data breaches and ransomware while controlling access to key data
- **Data compliance and governance:** manages data access to drive regulatory compliance and mitigate data privacy risks
- **Data transformation:** enables movement of data across environments for application modernization and flexible data usage
- **Data insights:** enables organizations to apply machine learning and artificial intelligence to drive insights from data and optimize and automate IT processes

# Conclusion

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The [Federal Data Strategy](#) demands data accountability and transparency, and many state agencies are adhering to the same strategy. At the same time, both state and federal agencies have countless advisories and guidance on [data security](#). Satisfying all of these mandates is hard enough without worrying about data sprawl, along with data management, accessibility and security issues that arise when adopting a hybrid or multi-cloud strategy.

An open, adaptable, fully integrated intelligent data platform with security built in that can detect abnormal behavior and immediately shut down during cyber-events is a step in the right direction. By choosing a platform that consolidates data management, agencies can reduce complexity to a manageable level and make data an asset instead of a problem.

And because a fully integrated solution manages data as an ecosystem, it can more easily manage the volume, velocity, variety and value of agencies' data today, with the confidence that it will be able to accommodate the changing data types, policies and technology of tomorrow.



## ABOUT COMMVault

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Commvault has been helping public sector organizations store, manage, and protect data for more than two decades. As agencies move to the cloud, Commvault is there to help with a series of products and services aimed at effective data management in the cloud, ranging from backup, recovery and storage to eDiscovery and compliance to intelligent data services. All solutions are centrally managed through the Commvault Command Center. Metallic, Commvault's SaaS backup and storage service, is accelerating customer adoption to modernize their environments as they look to SaaS for the future. Visit [Commvault.com](http://Commvault.com) or follow us at @Commvault.



## ABOUT CARAHSOFT

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## 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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