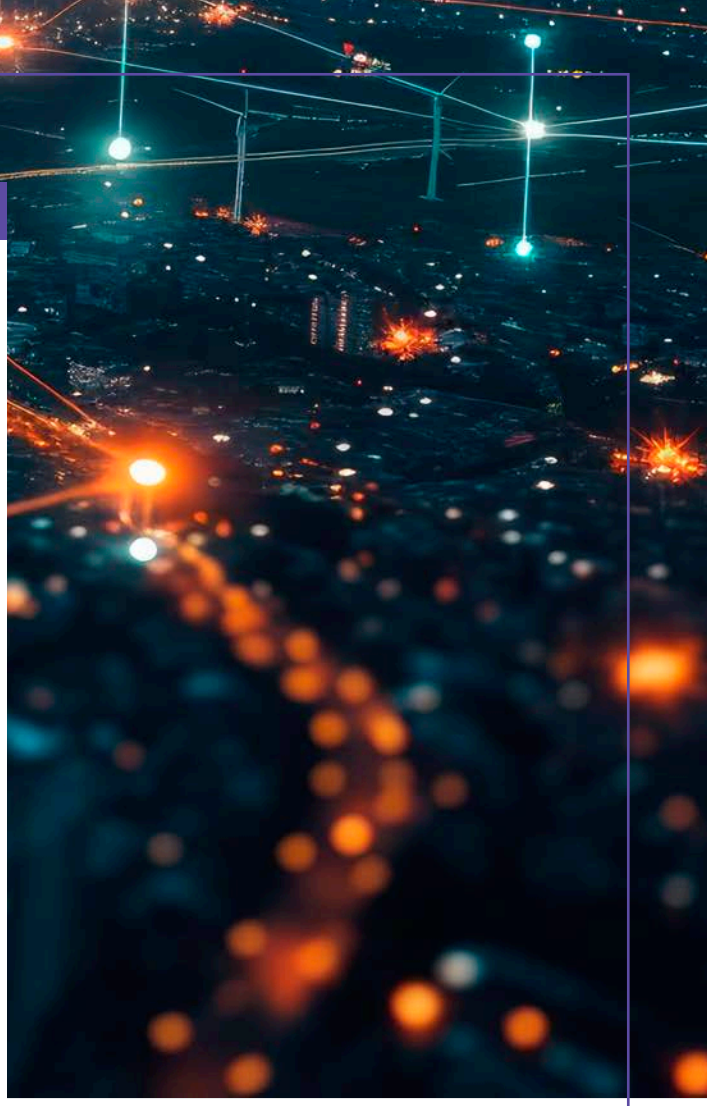
A **GOVERNMENT TECHNOLOGY** THOUGHT LEADERSHIP PAPER

A Roadmap for **Creating Intelligent Data Infrastructure** in Government

SPONSORED BY NetApp



Governments are inundated with data.

Data is a vital asset, but it poses significant management challenges when government systems are siloed. State and local agencies must grapple with data velocity, quality and governance issues at a time when they need to capitalize on advances in artificial intelligence (AI).

To address these challenges, governments should look for ways to reassess and optimize their data strategy and infrastructure, as well as their approach to technology procurement.

An intelligent data infrastructure gives agencies the flexibility to unify their data for AI, modernize apps, integrate the cloud and advance security for better performance, efficiency and reliability.

What is Intelligent Data Infrastructure?

1. **Intelligent:** Uses AI and machine learning to automate tasks, gain insights and make better decisions.
2. **Scalable:** Allows organizations to grow and scale their infrastructure seamlessly as needs change.
3. **Simple:** Brings an organization's IT ecosystem together to make data and asset management easier.
4. **Efficient workloads:** Handles different workloads with varying capacities and performance requirements.
5. **Flexible and portable:** Manages infrastructure no matter where it resides, whether it's on premises, in the cloud or in a hybrid environment.
6. **Cost conscious:** Always uses the appropriate computing power for a given workload to optimize total cost of ownership (TCO).
7. **Highly secure:** Defends data and privacy from internal and external threats.
8. **Sustainable:** Uses power more efficiently to reduce energy consumption.
9. **Transparent:** Gives organizations a holistic view to better understand their data, its organizational value and where it is vulnerable to security threats or at risk of non-compliance.

> "Intelligent data infrastructure goes beyond storing data. It's about unlocking data as a means to achieve goals, objectives and business outcomes."

Matt Lawson, Director of Solution Engineering for the Public Sector, NetApp

Why Intelligent Data Infrastructure Is Vital

State and local governments need intelligent data infrastructure because their short- and long-term goals rely on data. The National Association of State Chief Information Officers' (NASCIO) 2025 list of IT priorities demonstrates this. The top five priorities from state CIOs all involve data: cybersecurity, AI, digital government, data management and analytics, and legacy modernization.[1]

Public sector organizations know they need to better protect the valuable data they collect. They also want to take advantage of AI and use the technology responsibly and must prepare to expand their use of generative AI, McKinsey research shows.[2] Many agencies have difficulty establishing enterprisewide data quality programs that will position them to effectively deploy AI and other emerging technologies.[3]

Intelligent data infrastructure positions governments to tackle all these objectives and bridge the gap between where they are and where they want to be.

Agencies must employ a data approach that addresses their current challenges and future-proofs their operations.

The Power of Intelligent Data Infrastructure

Agencies face the unprecedented challenge of managing and leveraging ever-growing volumes of data to improve constituent services, optimize operations and drive better outcomes.

Infrastructure modernization is key to achieving these goals, but agencies must employ the right approach — one that not only addresses their current challenges but also advances their AI-readiness and future-proofs their operations.

State and local organizations can leverage the following integrated solutions and services[4] to build an intelligent data infrastructure:

Unified data storage

Governments need comprehensive data and storage management to develop intelligent data infrastructure. Unified data storage delivers this capability.

Unified data storage supports a range of storage protocols and advances data efficiency as well as scalability and flexibility. This allows organizations to manage more data without having to expand their infrastructure. Unified data storage also enables high availability for mission-critical applications across on-premises, cloud or hybrid environments.

"The unification piece is so important because we, program by program, often serve the same constituents," says Sean McSpaden, senior fellow with the Center for Digital Government. "We have all these organizational silos and, along with them, data silos. We need the capability to, at minimum, make that data interoperable — if not unify it in a virtual sense — to make better use of that data and serve those common constituents."

Infrastructure and workload services

Infrastructure and workload services drive cost optimization and better performance for the diverse workloads governments execute every day.

These services provide the correct infrastructure and performance based on the size of the workload, which helps governments optimize their compute resources and reduce their TCO.

"It's about getting the right amount of infrastructure or the right amount of performance for the workload you need, and not over-buying or under-buying," says Matt Lawson, director of solution engineering for the public sector at NetApp, which provides intelligent data infrastructure solutions and services.

With these capabilities, governments can deliver more reliable services with less friction to constituents.

Data and AI services

Data and AI services deliver AI-optimized management so organizations can seamlessly integrate and activate data across any environment.

AI-powered resilience solutions can better protect data as governments stand up intelligent data infrastructure.

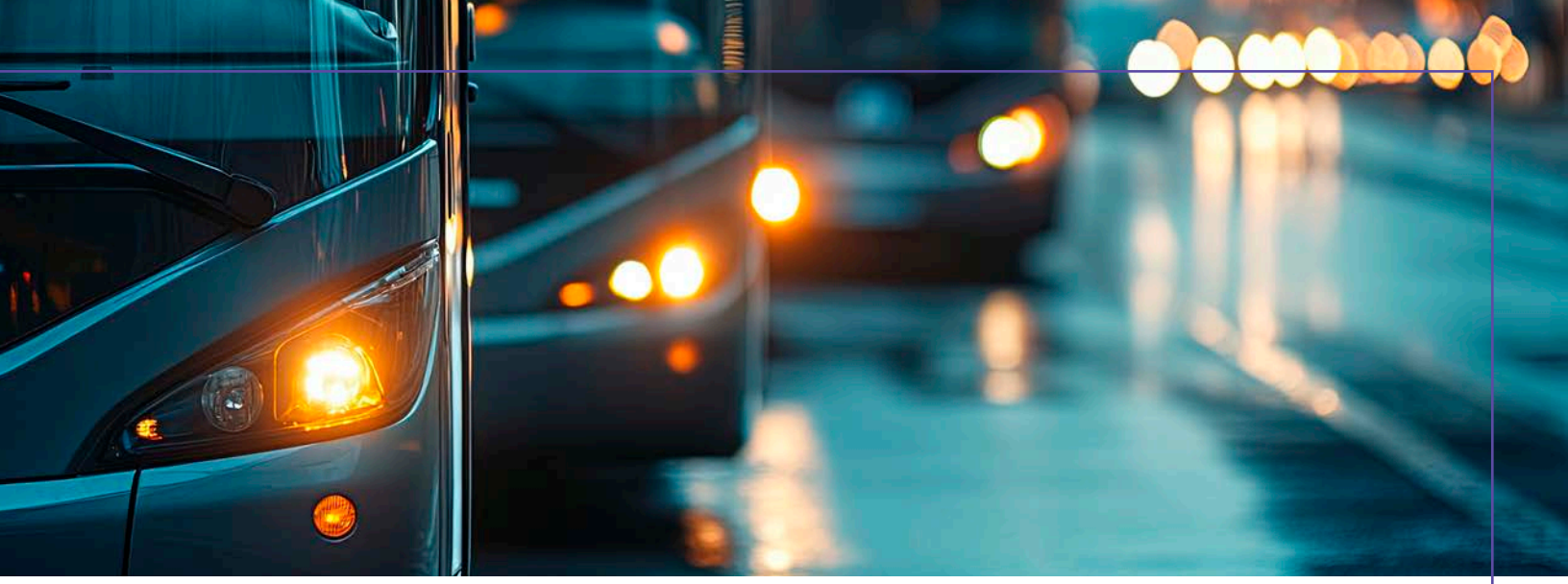
These services also optimize performance, efficiency and scalability for AI workloads. IT teams can run AI projects in any environment and accelerate the development and deployment of AI models and applications.

AI-powered cyber resilience solutions

The sheer volume, complexity and sophistication of cyberattacks against governments demand the use of AI-driven security tools.

"We need to take advantage of automation," McSpaden says. "We need to take advantage of these AI capabilities for anomaly detection and for analyzing vast data logs of network traffic, events and threats across the enterprise. The limited number of human beings we have available simply can't do that on their own."

AI-powered cyber resilience solutions protect data as governments stand up intelligent data infrastructure. With unified data storage as a foundation, important capabilities include built-in backup and recovery that delivers zero recovery point objectives (RPOs) and recovery time objectives (RTOs) with no downtime or data loss.



AI-powered cyber resilience solutions also include governance and compliance tools that detect and classify what type of data they store to ensure compliance with HIPAA and other regulations.

Real-World Examples of Intelligent Data Infrastructure

Some agencies have already started establishing intelligent data infrastructure for future-ready operations.

Modernizing storage and strengthening compliance in labor services

One state agency responsible for unemployment benefits and reemployment services faced challenges with data retention and storage compliance, so the organization worked with a technology provider to implement an enterprise-grade data storage solution.

The solution provides advanced data management features for cloud storage, delivering near-instantaneous, point-in-time backup and recovery copies of an organization's data without consuming additional storage resources or affecting application performance.[5] These capabilities allowed the agency to migrate 58 terabytes of data to the cloud and leverage built-in security controls to enhance data protection.

The transition has freed significant space in the agency's secondary data center, reduced IT infrastructure maintenance needs and enabled nightly backups for changes that involve large workloads. The shift to the cloud has also given the agency more flexibility, boosted cost savings, provided access to advanced data management features and future-proofed its IT infrastructure.

Improved business continuity in Nebraska

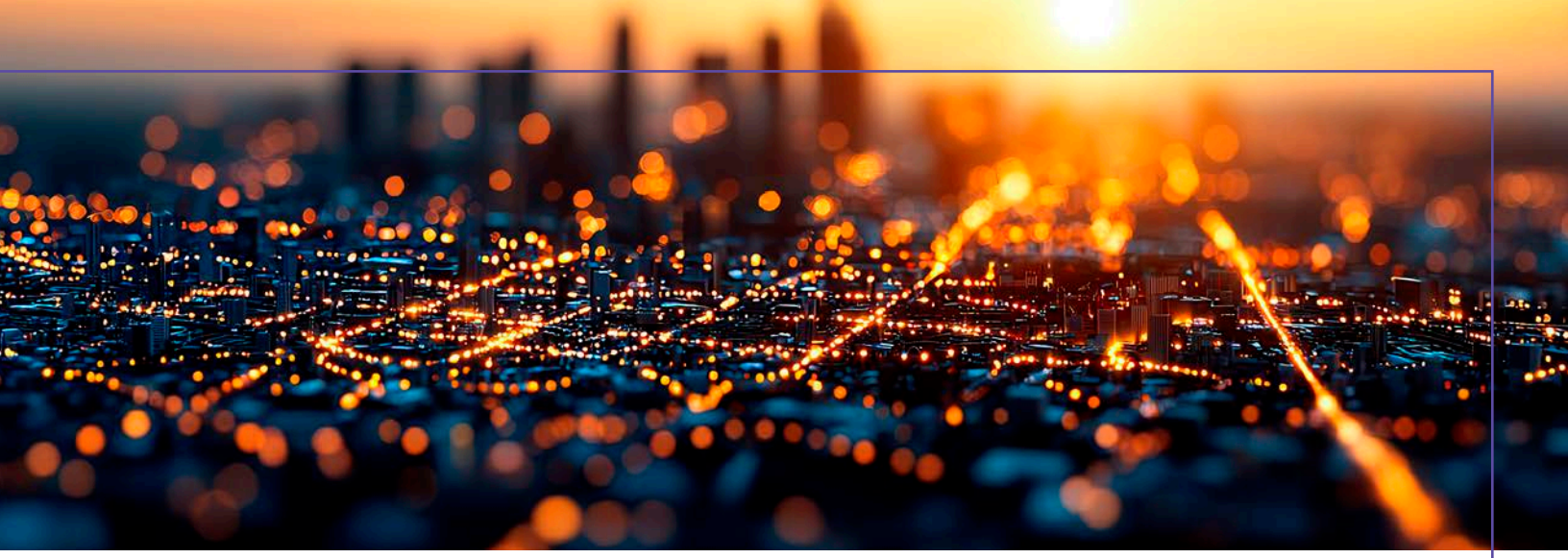
The state of Nebraska turned to a technology partner to modernize its IT infrastructure and consolidate siloed systems into a unified, efficient platform.

Nebraska used an advanced storage disaster recovery solution to virtualize 90% of its servers. The solution also protects data by mirroring and separating it into distinct clusters, which enables instantaneous failover, disaster recovery, and continuous availability for mission-critical and everyday business applications.[6]

Virtualizing its environment has saved the state more than $15.5 million in two years and accelerated the delivery of constituent services such as electronic filings and health programs. The streamlined system allows seamless data management and paperless processes, delivering a better experience for agency staff and residents.

Enhancing and securing transit in Ohio

The Central Ohio Transit Authority (COTA) oversees 18 million passenger trips every year, relying on a network of cameras to ensure a safe and secure transit experience.



The agency needed to upgrade and unify its video surveillance infrastructure to improve rider safety and operational efficiency. It decided to leverage an intelligent data storage solution to achieve these goals.

The solution allows organizations to handle a range of data-intensive activities and streamline data retrieval and retention without compromising reliability or availability. COTA used it to consolidate data from 4,000 high-definition cameras into a centralized, redundant system, which eliminated downtime and improved data accessibility.

With these capabilities, the agency can take advantage of real-time monitoring to conduct faster incident investigations while reducing costs. COTA is now even better positioned to understand what's happening across its transit network.

Advancing smart utility management in Washington

With grid modernization and the adoption of smart meters, Clark Public Utilities in Clark County, Washington, was on the brink of exponential data growth across its IT environment.

Clark Public Utilities had data stored with various vendors across different on-premises and cloud locations, so the organization built an intelligent data infrastructure to unify its data environment.

The organization has used a range of integrated services and capabilities to bring its data onto a single, consolidated platform. The move has enhanced the organization's cyber resilience and improved availability. This more flexible, resilient infrastructure can meet evolving service demands.

> "Governments need a new level of formal data governance."
>
> Sean McSpaden, Senior Fellow, Center for Digital Government

Best Practices

Following these steps can help you build intelligent data infrastructure:

☐ Assess your current data landscape

Take inventory of your data, what purpose it serves and where it resides.

☐ Develop a comprehensive data strategy

Governments often take an ad hoc approach to maintaining data quality, improving data governance and managing data overall. A comprehensive data strategy defines strategic objectives; ensures an enterprisewide approach to collecting, storing and deploying data; and establishes strong data governance policies and standards.

"Governments need a new level of formal data governance to properly address data security, privacy and quality," McSpaden says. "Without that modern data and AI governance framework, a focus on data management, and a focus on security, privacy and quality, it's going to be very difficult to implement any scalable or resilient type of capability and have confidence that it will work properly."

☐ Partner wisely

Lawson and McSpaden both say it's best for governments not to work alone.

Partners like research institutions, foundations and non-governmental organizations help agencies safely and securely expand their data environment. Technology partners help governments stand up a scalable platform that integrates their data environment, evolves with their changing needs and matures their data management operations.

☐ Enhance data security and compliance

As you modernize, think security first. Leverage solutions that both unify the data environment and provide additional security controls, such as AI-powered data protection.

Prioritize enterprise-grade solutions that provide a single-pane view across diverse environments, automatic data classification and compliance capabilities, and ransomware protection at the data layer.

Finally, look for special assurances as you upgrade your security. For example, NetApp offers a ransomware recovery guarantee, which assures customers that if they do experience a ransomware attack, they will be able to recover. If they cannot recover, NetApp financially compensates them.

☐ Plan for future growth and innovation

Intelligent data infrastructure can advance AI readiness for state and local governments. But to take full advantage of this asset, governments need a comprehensive AI strategy.

"How are you going to meet the needs and grow into the changes of the future?" Lawson asks. "Are you building centers of excellence? Are you building innovation labs where you can prove out new technology and a plan for adoption?"

Answering these questions will position governments to maximize their long-term investment in intelligent data infrastructure.

☐ Focus on change management

Position your staff to capitalize on all the benefits of intelligent data infrastructure. Invest in training and upskilling. This is another area where a strategic technology partner can add value by providing user-friendly tools and interfaces that reduce the data and AI learning curve for non-technical employees.

"Foster a data-driven culture," Lawson says. "Encourage collaboration across organizational boundaries. Leadership needs to support it."

Think security first. Leverage solutions that both unify the data environment and provide additional security controls.

Conclusion

Taking all these steps can help state and local governments develop a more effective enterprisewide approach to data management — one that transforms how they deliver services to the public.

"Traditional data infrastructure is no longer sufficient to truly unlock the power of our data and the data we're entrusted with," McSpaden says. "We need data infrastructure that's intelligent, secure, scalable and flexible."

1. https://www.nascio.org/wp-content/uploads/2024/12/NASCIO-2025-State-CIO-Top-10-Priorities.pdf
2. https://www.mckinsey.com/industries/public-sector/our-insights/deploying-generative-ai-in-us-state-governments-pilot-scale-adopt
3. https://www.nascio.org/wp-content/uploads/2024/09/NASCIO_EY_Data-Quality__2024.pdf
4. https://www.netapp.com/intelligent-data-infrastructure/
5. https://www.netapp.com/cloud-services/cloud-volumes-ontap/what-is-cloud-volumes/
6. https://www.netapp.com/pdf.html?item=/media/13481-tr4689.pdf

This piece was written and produced by the Government Technology Content Studio, with information and input from NetApp.

Produced by Government Technology
Government Technology is about solving problems in state and local government through the smart use of technology. Government Technology is a division of e.Republic, the nation's only media and research company focused exclusively on state and local government and education.

www.govtech.com

Sponsored by the NetApp
NetApp is the intelligent data infrastructure company, combining unified data storage, integrated data services, and CloudOps solutions to turn a world of disruption into opportunity for every customer.

Learn more at **www.netapp.com** or follow us on X, LinkedIn, Facebook, and Instagram.