

Modernizing Data Management: A How-to Guide

While the basic principles of data management have not changed, the practice continues to evolve, as agencies adopt new tools, such as artificial intelligence (AI)-based solutions, and learn new ways to use data to make decisions and shape policies.

That was the focus of a recent GovLoop virtual event that brought together government and industry experts to discuss the intersection of data and modernization. Here are some highlights of that event.

How to Build a Data Foundation for AI

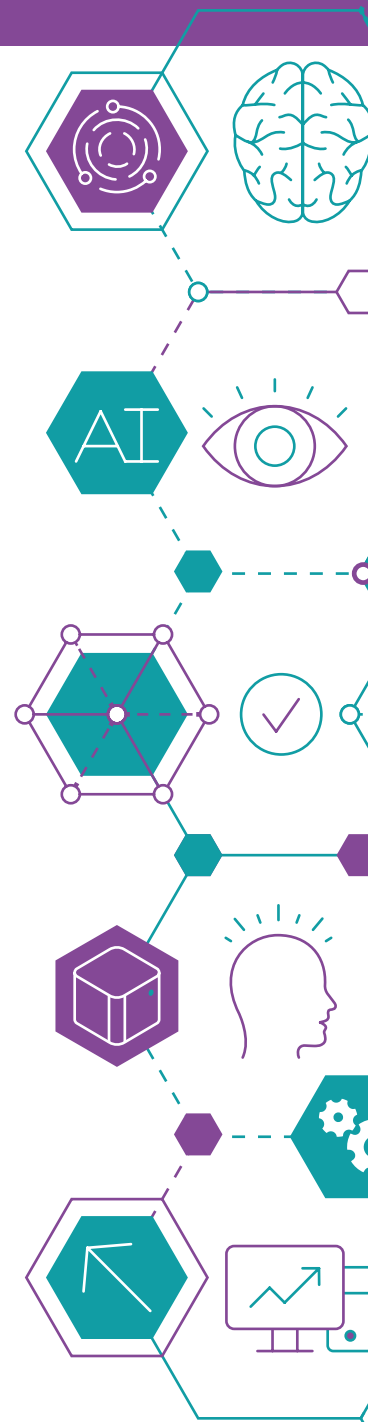
Garbage in, garbage out. For years, data experts have used this phrase to explain the importance of data governance. In short, bad quality data translates into unreliable outcomes. But that truth has hit home as agencies have tried to take advantage of the latest generation of analytic tools or artificial intelligence (AI) solutions, said Chris Burroughs, Director, Data Protection and Governance for the Commonwealth of Virginia.

“I think in the past, you know, people talked about data governance,” she said, “but it’s not until you’re visualizing your data or doing AI models that those problems you didn’t address in the past start coming out.”

Burrows recommended the following steps for improving data governance and laying the foundation for AI:

- **CONDUCT AN ASSESSMENT.** What inventory do you have? Are there gaps in your data inventory for the models you want to build? Do you have the correct frameworks in place? For each data set, who are the data owners and data stewards?
- **ADOPT STANDARDS.** That includes data definitions and classifications that can be applied across the various data sets that will feed AI models.
- **FOCUS ON DATA QUALITY.** For example, is a given dataset complete? Is the data both accurate and up to date? Virginia’s Office of Data Governance and Analytics has published a document of [data quality standards](#), including definitions, best practices and metrics.
- **BUILD A USE CASE AND CONDUCT A PILOT.** This is when you see your data translate into outcomes. Too often, however, start a pilot project before the data is ready, Burroughs said. “That’s not the way to do this,” she said. “You need to build a strong foundation so that you can actually reap the benefits of your AI models.”

To learn more about the future of data management, watch the full interview with Burroughs [on demand](#).



How to Dig Into Unstructured Data

One benefit of AI is that it enables agencies to tap into new sources of insight: unstructured data. Such data, including text, audio and video, is generally inaccessible to traditional analytic tools, but not so to AI.

Yet to take advantage of these new sources, agencies need to bring more management discipline to it, said Marcus Thornton, Deputy Chief Data Officer for the Commonwealth of Virginia. He suggests focusing on two areas:

- **DATA COLLECTION AND INTEGRATION:** Unstructured data is scattered across various systems, such as email, PDF documents, social media posts and various cloud-based applications. As with traditional data, Thornton said, agencies should use an ETL (extract, transform, load) process to integrate it into a single dataset, he said. A centralized platform makes it easier both to manage and analyze.
- **AI AND MACHINE LEARNING:** Emerging tools make it possible to train AI models on unstructured data, so they can recognize patterns and predict outcomes more quickly and effectively than older approaches. That potential might motivate agencies to improve their governance of that data, Thornton said.

To learn more about getting added value from your data, watch the full interview with Thornton on demand.

How to Use Data to Tell a Story

Getting good outcomes, whether from traditional analytic tools or AI, is only half the challenge. The other half is to share those results with the people who need it, said Natalie Evans Harris, Chief Data Officer for the State of Maryland.

For example, the [Maryland Transparency Portal](#) gives constituents access to a wide range of financial data, including the state's operating budget, grants and loans, and payments made to vendors. On a more practical level, the Department of Emergency Management has developed a [power outage map](#) that integrates data from the state's seven utility providers.

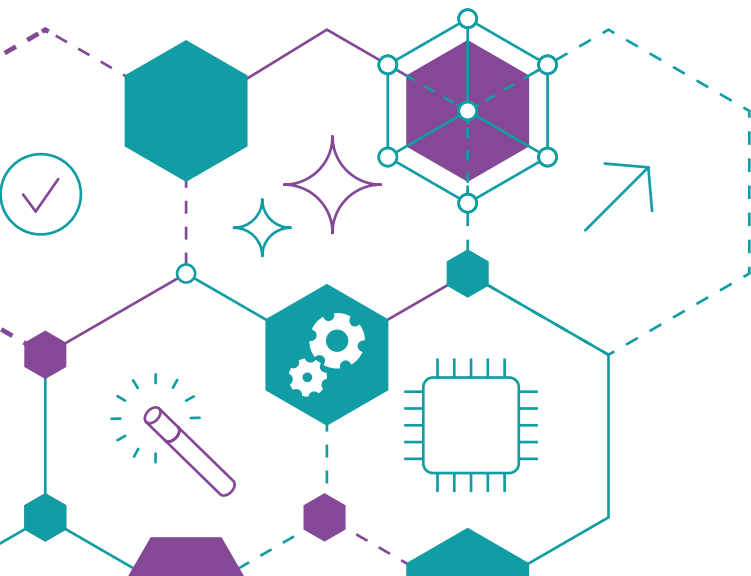
But the key is not just to make data available, but to tell a story that gives it meaning, she said. "Data just becomes a function of the way that we communicate, of the way that we connect our ecosystems and connect with the people that we're seeking to serve."

Harris said data storytelling has three key components:

- **START WITH RELIABLE, ACCESSIBLE DATA.** Obviously, data governance, including the use of data standards, is critical. But that data also needs to be easy to find and share, with automated processes for keeping it up to date.
- **PROVIDE CONTEXT.** Data, by itself, does not tell a story, said Harris. People need to understand its context. For example, how has the data changed over time, and what factors influenced that? Those questions lead to insights, she said.
- **KNOW YOUR AUDIENCE.** It's not just a question of who is seeing this data but how they are expected to use it.

Having any one of those elements is helpful, but the best stories unfold "when you bring those three pieces together," Harris said.

To learn more about data storytelling, watch the full session on demand.



INDUSTRY INSIGHT

Increased Data Vulnerability Requires New Focus on Resilience

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“You can’t have an attack and then prepare. You need to be prepared before it happens: You need to understand where things are and what needs to be recovered.”

- Don Maruca, Commvault

Given the heightened risks to government data, agencies need to think not just in terms of security but also resilience. Digital transformation efforts are resulting in increasingly interconnected environments and larger attack surface areas, while the growing adoption of artificial intelligence is driving the creation of larger, more sensitive data sets.

A zero-trust network architecture can go a long way toward improving data security, but it’s not enough. Agencies also need a comprehensive plan for recovering from an attack quickly and effectively, said Don Maruca, Vice President of Federal at Commvault.

In this [video interview](#), Maruca discusses best practices in data protection and recovery. Topics include:

- Identifying the key data owners and prioritizing recovery efforts
- Conducting a zero-trust assessment at the start of the journey
- Approaching zero trust from both technical and business perspectives

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