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# MAINE'S JOURNEY TO CLOUD-BASED DATA ANALYTICS

Maine's use of technology is evolving to improve data access, analytics and decision-making throughout the state.

**M**aine's Department of Administrative and Financial Services has always had high aspirations for its data. In 1995, the state built an ad hoc data warehouse for business intelligence (BI) — a progressive step at the time. The tool contained administrative and financial information that could be shared with program administrators around the state. The problem was only a small percentage of users had the skills to use it, and the system was slow.

"One of our employees told me, 'When my customer asks me a question, they've lost interest by the time I can provide an answer.' That really stuck with me," says Jeff Jordan, director of Enterprise Data Services for the state of Maine.

As years went by, it became clear that unless the state modernized the solution, Jordan's team would not be able to accomplish its goal of promoting and enhancing data sharing across state government.

"The data was being extracted and duplicated repeatedly. People didn't know where to find what they were looking for," says Jordan. "It created an unmanageable level of complexity for end users."

## The Roadmap to a Modern Solution

In November 2018, Jordan and his team received the green light to upgrade the existing BI solution and move it to the cloud.

"We wanted to allow employees to build out the reports they use to manage the day-to-day operations of state government in one place. We wanted to increase the visual nature of the data. We also wanted to enable some modern aspects of data and analytics and business intelligence that the 1995 implementation — which only allowed us to extract row sets of data — lacked."

Jordan and his team evaluated several solutions and ultimately chose Oracle Analytics Cloud.

"Oracle Analytics Cloud provides a single point of entry and would allow us to accomplish all our objectives with one product," says Jordan.

But moving from a legacy BI system to a cloud-based analytics platform was not without challenges.

"We had 25 years of historical reporting in the legacy system that people were counting on being able to access and use," says Jordan.

Jordan's team needed to create a roadmap that would take them from the legacy BI solution to a modern, cloud-based analytics solution in a gradual but timely manner. The team focused on building a data model first. But building the data model took time and ultimately delayed the new platform's rollout.

“My advice to others is to start from a place where you can show value early, because that makes the rest of the project much easier,” says Jordan.

Once the data model was complete and the project was moving forward again, Jordan’s team focused on building strong communications among the parties that would use the new tool.

“Our IT staff needed to understand how to use it and the business staff needed to understand the data,” he says. “To be successful, we had to ensure partnership and mentorship between those two groups.”

Jordan’s team then created a user group to share best practices such as how to utilize data in different ways or how to display it to provide the most value to end users.

“The value of data goes way up when you transition from tabular reports and extracted spreadsheets to charts and graphs and other types of visualizations,” he says.

As the project progressed, strong executive support helped keep it moving forward.

“We were fortunate that leadership was very supportive of this project,” says Jordan. “They helped us through some hard times, and they stuck to it because they saw the value that was being delivered.”

Once planning processes were complete, Jordan’s team decided to build the new cloud-based analytics platform around a three-tier service model. The first tier is a data analytics workbench that allows the agency’s data analysts to perform ad hoc analyses. The second tier is an information portal that allows users to get the data they need using a self-service model and simple navigation.

“Most folks aren’t interested in writing a query. They just want to know the answer to a question. We wanted to make it quick and easy for our employees to get to the data they need to do their jobs,” says Jordan.

The third tier is a Data Science Lab that includes technologies such as machine learning and artificial intelligence to enable users to further evaluate data and support better decision-making throughout the state.

“There’s so much new data every day. Oracle Analytics Cloud allows our data consumers to get that data into the warehouse quickly for analysis with other data sets and then use the latest technologies to analyze it and get value from it,” says Jordan.

## Getting More Out of Data

Today, Maine’s cloud-based analytics platform allows state employees to access data and build customized reports using dashboards and other features. The new solution also provides a single point of entry to the department’s data and allows users to combine both structured and unstructured data sources.

“Users tell me this is so much easier and faster,” says Jordan. “We’re also bringing in a broader data set. Every

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— Jeff Jordan, Director of Enterprise Data Services, State of Maine

piece of data in our various systems is now made available to every data analysis user in state government. There are now more than 8,000 data elements available to end users, which is a massive increase.”

The tool also enables self-service for the hundreds of people that use it each week.

“The result is reduced reliance on IT. Data consumers can work with data without having to wait in the queue for us to help them,” says Jordan. “That also means we have more time to make changes or get new features into the system sooner.”

If an end user comes up with an enterprising use of data, Jordan’s team can share that application within the broader system so other departments or users can take advantage of it as well.

The new system also enables automation. End users can turn what used to be one-off processes they performed manually into tasks the system performs for them.

“They set it and forget it, and they get the data they need into either their hands or their consumer’s hands on a regular basis,” says Jordan. “They are seeing a lot of efficiency gains as a result.”

Finally, because the system is cloud-based, users were able to continue using it when the pandemic struck and government employees moved to remote work environments.

“The system has been used to provide information to the governor’s office around what the modern state government workforce should look like in 2025,” says Jordan. “That data is being used for some potentially interesting long-term workforce strategies.”

Despite its success with the new analytics system, Jordan’s team doesn’t plan to stop there. The next step in Maine’s analytics journey is adoption of Oracle’s Autonomous Data Warehouse, a cloud service that will make it easier for the Department of Administrative and Financial Services to operate its data warehouse, secure data and develop data-driven applications. The state expects to complete implementation in the fourth quarter of 2020.

“The team is hard at work on that, and I’m hopeful it will further enhance our ability to perform data science work throughout the state,” says Jordan. “We’re maximizing the value of our data now, and most importantly, our data is more readily available than it has ever been before.”

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