Leveraging the Modern Enterprise Data Platform

MARKET TRENDS REPORT

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Introduction

Agencies are on the precipice of a massive digital transformation, thanks in large part to the vast amounts of data that can provide new insights and efficiencies to change the world for citizens. Armed with these stores of data, agency leaders no longer need to review reports and passively observe trends. Now, real-time insight into their missions lets them predict what is likely to occur and make decisions based on forward-looking information, rather than what already happened.

But as the amount of data that agencies create and collect grows, numerous challenges around using it come into play. For instance, legacy technology, data silos and inadequate analytics platforms prevent government from truly moving to the next level of data analytics that the future demands.

To address these obstacles, the government is developing its first Federal Data Strategy to serve as a foundation for how its workforce uses artificial intelligence (AI) and machine learning to manage large amounts of information, according to Federal Chief Information Officer Suzette Kent. "Technology modernization allows us the opportunity to rethink our foundation," Kent said at the "Evolving the Modern Enterprise with AI and Machine Learning" event in Washington, D.C. in June 2018. "We have to move aggressively. We don't want to build the high-speed train without the track."

"Big data is powerful, but it has to coexist with sound data management strategies as well," she added.

To move forward, agencies at all levels need to look to a modern intelligence enterprise data platform that can combine AI with automated actions and machine learning to advance missions using data.

To explore how government can move to and leverage this platform, GovLoop partnered with ServiceNow, a leader in enterprise automation solutions, for this report. In the following pages, we'll explore the challenges of and solutions for this new data-driven world, best practices for leveraging a modern data platform, and insights from Bob Osborn, Chief Technology Officer, Federal, at ServiceNow.

By the Numbers

11%

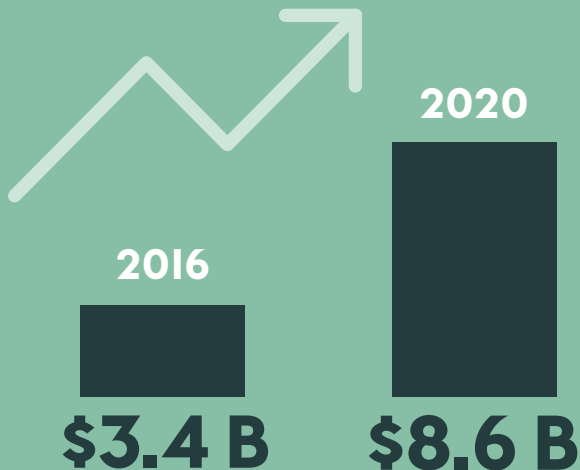annual growth rate increase of spending on big data analytics solutions by all levels of government.

Source: IDC

Big data spending projected increase:

2020

2016

$3.4 B   **$8.6 B**

Source: IDC

82%

of federal executives agree that organizations are basing their most critical systems and strategies on data, yet few have invested in the capabilities to verify the truth within it.

Source: Accenture Federal Services

41%

of federal decision-makers said they need intelligent machines to keep up with the rising volume of everyday work.

Source: ServiceNow

44 zettabytes

the volume of data expected by 2020

Source: New Gen Apps

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We have an enormous exponential growth in the amount of data, the variety of data, the velocity of data, and our nation's security really depends on our ability to quickly understand what data we have, what it means and how we're going to use it."

— Teresa Smetzer, Director of Digital Futures at the CIA

Source: Federal News Network

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THE CHALLENGE
A Holistic View and Storage of Data

Today, we live in a connected world, moved along by massive streams of data and accelerated by the Internet of Things (IoT). There will be 7 billion connected devices by 2020, with a potential economic value of $11 trillion.

Meanwhile, agencies are looking to use the data IoT is generating to meet citizen demands for a smooth user experience. But they don't have proper systems in place to do so, and they face myriad challenges such as inadequate analytics platforms, data silos and repetitive, manual processes.

"We know that agencies don't have a problem of having enough data," Osborn said. "They're generating tremendous amounts of data from various systems. But the challenge is normalizing that data so that they can make sense of it."

The main obstacle for agencies is the multitude of individual, disparate systems that are creating data related to specific subjects. These data silos make it incredibly difficult to get a holistic view because systems don't talk to one another, resulting in manual, slow data analysis.

In short, traditional data platforms are insufficient in meeting the demanding requirements of a government that must move fast and make data-driven decisions.

"We used to look at creating enterprise data warehouses in which we would gather the data in one place and attempt to normalize it in that fashion," Osborn said. "But the sheer volume of data has now outstripped the ability to do that. In addition, once you aggregate the disparate data in different formats that have been created by a multitude of different technologies, there's really no way to run any analytics on that. It must be normalized at some point."

THE SOLUTION
A Modern Data Analytics Platform

The solution to this data silo challenge? A modern enterprise platform that can perform AI and machine learning across one instance of normalized data, allowing employees to better analyze it and make informed decisions.

"A solution that's taking place in organizations around the world is to bring data that is applicable to the mission into a centralized database," said Osborn. "It's basically a normalization of the data from a multitude of different systems of record into a common, modern data platform."

To be effective, this platform must also incorporate AI and machine learning to drive analytics and help users see insights and patterns in the data. Machine learning drives new levels of automation, pushing machines to work smarter and faster. With machine learning incorporated into the centralized platform, an agency can use its existing data

to create finely-tuned models that intelligently prioritize and route tasks across departments. They can find precise indicators of problems to prevent issues, benchmark services and predict performance.

"Moving to this sort of modern enterprise platform enables applications to reach into that data and extract what is required to produce reports, get analytics, and get an insight into activities that have happened across the enterprise represented by outputs of various systems," said Osborn. "Then, by applying machine learning and artificial intelligence algorithms on top of that, you actually can get into predictive analytics and preemptive activities that move you from a reactive management style that relies on lagging indicators into a proactive management style."

Using a Modern Intelligence Platform

I. Identify and capture automation opportunities

Automation often seems complex, but there are areas that organizations can tackle easily to quickly improve process delivery and reduce manual work. Identify these to see where machine learning and data can create efficiencies.

2. Start small

Sixty-five percent of respondents to a ServiceNow survey said their agency is currently using or considering an intelligent automation solution, but a quarter are not sure of the timeframe due to the size of the implementation. For agencies to be successful, they need to start small with pilot projects so that any missteps are quickly contained and addressed, and successes can be built upon.

3. Focus on quick wins

There are some immediate pain points that a modern intelligent data platform can quickly address. Identifying these quick wins — areas that can be improved in weeks rather than months, and where improvement will be quickly visible — builds commitment to the program and provides the platform for further process standardization and improvement activities.

4. Deploy a trusted SaaS solution

One challenge federal agencies have is keeping up with current technology because the ownership of the intellectual property has traditionally been viewed as being an inherently government function. But that's changing as Software-as-a-Service becomes an accepted form of acquisition within federal government. "That allows the government to take advantage of SaaS companies like ServiceNow who continually update the technology that's offered and increase new capabilities such as machine learning and artificial intelligence as part of the subscription service," Osborn explained.

HOW SERVICENOW HELPS

ServiceNow offers a modern intelligence and data platform called the Now Platform. It's a single mobile and web application development platform with simple contextual workflows that takes advantage of customizable and reusable integrations to data and other applications. The platform provides a single data source for the entire enterprise, eliminating the complexity of information silos.

The Now Platform uses a single data model with common processes, standard taxonomy and pre-negotiated semantics, format and quality standards for exchanged data. As a result, every table, view and application built on the Now Platform leverages a consolidated, single system of record. Its machine learning capabilities drive new levels of automation, pushing machines to get work done smarter and faster. With it, data that an agency already has can be used to create finely-tuned models that intelligently prioritize and route tasks across departments. Agency leaders and users can find precise indicators of problems to prevent issues, benchmark services and predict performance.

"ServiceNow also has a differentiated architecture," Osborn said. "We have a multi-instance architecture in our Software-as-a-Service offering. Every instance of ServiceNow has its own database, so our government customers are provided unparalleled visibility and control down to the data tables within the database."

To learn more visit: www.servicenow.com/now-platform.html

Conclusion

Legacy tools and a lack of automated processes are holding back government productivity and effectiveness, and the onslaught of more data and less time to parse through are exacerbating the problem. By moving to a modern intelligence data platform that provides a single data source for the entire enterprise, agencies can eliminate the complexity of information silos and enable everyone to deliver a current and engaging user experience to meet the demands of today's digital government.

ABOUT SERVICENOW

ServiceNow makes work, work better for people. Our cloud-based platform and products streamline and simplify how work gets done.

Learn more at: **www.servicenow.com**

ABOUT GOVLOOP

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 270,000 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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