A COMPETITIVE EDGE

How public sector agencies can make data-driven decisions with edge computing

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As remote and hybrid workforces become more common, federal agencies must deliver services and capabilities faster than ever before. Here's how they can tap edge computing solutions to make that happen.

Over the past several years, the federal government has undergone a massive digital transformation. A myriad of new acronyms — from 5G to IoT to AI — have entered the public sector vernacular as agencies modernized their data architecture.

Today, as remote and hybrid workforces become more common, agencies are reevaluating their own IT infrastructures. The need to deliver services and capabilities faster and more instantaneously than ever has driven a heightened dependence on edge computing, a distributed IT infrastructure that enables applications and devices to respond to data in near-real-time and without latency.

In fact, according to a **2020 report** from IDC, sponsored by Lumen, 73% of global IT professionals view edge computing as a strategic imperative. Moreover, by bringing data closer to the edge, agencies can simplify processes, drive down costs and up operational efficiencies across the board.

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Source: Edge Computing Solutions Powering the Fourth Industrial Revolution (IDC), 2020

A more effective citizen experience

Like any enterprise, government agencies measure success through KPIs like web traffic, engagement and return on investment. But for public sector organizations, the stakes are higher. After all, if a site like Netflix were to crash, the company might lose customers. Meanwhile, if a dot-gov fails to load, it could prevent communities in need from accessing essential citizen services.

Moreover, delivering these digital experiences has become ever so important today, with more constituents looking to file unemployment claims, sign up for health care or register for a vaccine appointment. And that's in addition to various other important activities, like renewing a driver's license, registering to vote and filing taxes.

To continue delivering these services most effectively, agencies are increasingly integrating edge computing into their IT workflows.

"These days, we're acquiring data from so many different sources that we need to be able to analyze that data closer to where it's stored and processed," says Zain Ahmed, regional vice president of federal sales for Lumen. "And you need to be able to act on that data in a more efficient manner, closer to where that customer interaction is happening, and then you need to use that to continuously improve your actions."

What Ahmed is describing is part of Lumen's "Acquire, Analyze, Act" methodology: acquire data from more sources, analyze patterns in real time and act on business logic closer to the digital interaction. This approach is a critical component of Lumen® Edge Computing Solutions designed to support digital business interactions within 5 milliseconds of latency.

But it's not just citizens who benefit from this low lag time. Government IT leaders also gain access to real-time analytics that bring visibility into user patterns. That's especially important for agencies looking to make data-driven decisions on how to better serve their communities.

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Securing data at the edge

While making quick, real-time decisions is critical for any government mission, it's only effective when executed securely. Moreover, as agencies become **more vulnerable** to attacks and are tasked with securing multiple users and endpoints, federal IT leaders must prioritize the establishment of secure internet connections.

With security in mind, some organizations have been slower to adopt edge solutions and other emerging technologies. In fact, according to the IDC survey, two-thirds of IT leaders cited either data security or physical asset security as a top concern as they considered the adoption of edge computing solutions. However, Jonathan Barton, director of IT

and managed services and Edge IT solutions leader at Lumen Technologies, says IT leaders don't need to choose between innovation and security.

"With the third iteration of the Cybersecurity and Infrastructure Security Agency's Trusted Internet Connections, or TIC 3.0, more agencies can utilize edge where they have entry points into a network. On top of that, they can apply security controls, provide a secure internet connection and allow for a secure and trusted architecture while still realizing improved performance. This enables the end user to have full access to the network with minimal impact," he explains.

Federal agencies make moves toward edge solutions

As the government faces new challenges, edge solutions will only become more critical to mission success.

"We're seeing pilot programs get kicked off and innovation labs beginning to experiment in this realm — and they're realizing the art of the possible," says Ahmed.

His advice to agencies considering edge adoption: Start by understanding the problem you're trying to solve.

That makes a lot of sense, considering every agency is navigating a different set of challenges.

"The use cases vary, but most agencies stand to benefit from edge adoption," Ahmed says.

For example, an agency like the National Weather Service might tap an edge solution to predict **early warning signs** of inclement weather and then use that insight to alert constituents. Meanwhile, a federally-funded hospital system like the Veterans Health Administration or the Defense Health Agency might consider an edge solution to help manage and update records across multiple systems.

These edge solutions have also become enmeshed in the public

safety space via Internet of Things products, Barton says.

"There is a lot of sensor technology on the market right now, whether it be security sensors, video surveillance technologies ... and we're certainly seeing the federal government start to tap into that," he says.

But don't just take Barton's word for it. A 2020 report from the Government Accountability Office found almost half of federal agencies have already implemented IoT. Of 115 federal agencies surveyed by GAO, 15 used IoT for surveillance purposes.

And although many organizations haven't yet transitioned to IoT, the future is looking bright: Of the 34 federal agencies not yet using IoT, 21 said they plan to invest in the technology over the next five years. As more agencies map out their edge computing strategy, Barton urges IT leaders to focus on the data above all else.

"Data is one of the most valuable assets to better serve your mission, constituents and customers," he says. "Maximize how you use that data, invest in that data, take advantage of it. And then identify where edge offerings can enhance or solve agency-specific challenges."

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Director of IT and Managed Services
Lumen

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