

Optimize AI for the Enterprise Edge

Artificial intelligence (AI) is an essential tool for agencies looking to add automation to their operations. AI collects and analyzes data to improve decision-making, and task execution. However, AI is inherently data and compute-intensive requiring running in the data center. Agencies want to extend AI to analyze the data where it is being collected and Edge Computing is the best solution. To use Edge Computing, agencies will need to optimize their operations and infrastructure for AI. GovLoop partnered with Presidio Federal and Dell Technologies to provide solutions to effectively use AI at the edge.



AI on the Rise

AI has the potential to change everything from the military to civilian health care. Success will require unprecedented energy, money and research.



Challenges at the Edge

By extending their IT infrastructure to the field with Edge Computing, agencies can accelerate their ability to process, analyze and, most important, act on data where and when it is collected. The edge model is demanding. Potential barriers include:



Implementation –

Installing edge computing devices may involve location challenges.



Reliability –

Edge computing may influence agencies' business-critical functions, necessitating high reliability design.



Manageability –

Edge computing data cannot benefit agencies if they cannot control it effectively.



Security –

Edge computing data may contain sensitive information, so agencies must protect it from risks.

Despite these hurdles, the government is embracing edge computing with AI. By 2023, over 50% of data will be created, managed, and analyzed in edge environments.



The Foundations of AI at the Edge

To take AI to the edge, agencies need to address four key requirements:



Data collection:

An intelligent device gateway that aggregates, secures and relays data from sensors and equipment.



Edge computing/ real-time analytics:

Servers, data streaming platforms and storage devices for managing data in the field.



Connectivity:

A software-defined network fabric that simplifies the definition, provisioning, monitoring and troubleshooting of the network infrastructure.

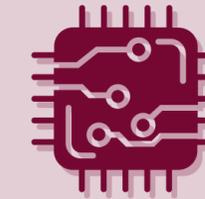


AI/Deep learning:

Cloud-based AI and data analytics.

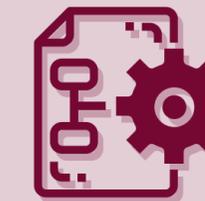


Best Practices for Enabling AI at the Edge



1. Get the Proper Equipment

To thrive, AI needs the hardware and software that can support it. To accommodate additional AI workloads, agencies need to integrate computing, networking, data storage, software and service solutions into their operations that are designed with AI in mind. Gradually, these validated solutions will keep technology processes firing on all cylinders when agencies deploy AI at the edge.



2. Do Right By the Data

At the edge, data storage demands management and scalability. Without flexible, modern cloud computing, AI may struggle to gather and pull information from agency data.

Agencies must plan to ensure their edge computing devices are integrated into existing enterprise networks and have stable connectivity.



3. Craft an AI Strategy for the Edge

Before adding AI to the mix, agencies should determine how their employees will collect, process, analyze and store data everywhere on their IT networks.

With a well-designed network, AI can start learning about available data, and insights will aid agencies' decisions.



Partnering for Innovation

To take full advantage of AI, agencies need to think in terms of an extended enterprise from the data center to the edge of operations. That requires a different mindset as well as investments in solutions that enable agencies to collect, analyze and act on data at the point of origin.

Presidio Federal has partnered with Dell Technologies to assist agencies in extending AI to the edge. Presidio Federal provides expertise and delivers engineering solutions to help agencies modernize their infrastructure, while Dell Technologies provides advanced tools for building a robust infrastructure that extends from the data center to the cloud and the edge.

To learn more, please visit www.presidiofederal.com/partners/dell/.

