How Edge Computing Expands State & Local Government AI Capabilities

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Introduction

Integrating **edge computing** with artificial intelligence (AI) in state and local government operations is not just a technological advancement, but a paradigm shift. Edge computing is a cornerstone technology in modernizing government infrastructure, enabling government AI while redefining data processing and decision-making.

In this eBook, we'll explore how edge AI empowers agencies to enhance public services, optimize operational efficiency, and secure sensitive data while navigating the complexities of modern societal challenges. We will uncover the distinct advantages of Edge AI over traditional AI models, and the multifaceted benefits of combining edge computing with government AI.

From enhancing the efficiency of claims processing through back-office automation to leveraging predictive modeling for proactive public policy formulation, you'll discover the profound implications of AI in transforming public services.

Transforming Public Services with Government AI

In an era of rapidly evolving technology, state and local governments are increasingly turning to AI to enhance public services. The emergence of government AI promises improved efficiency, accuracy, and decision-making. Here are some of the most exciting use cases:

Claims Processing Back Office Automation

Claims Processing Back Office Automation driven by Robotic Process Automation (RPA) is a testament to the power of technology in streamlining and enhancing administrative functions. At the heart of this revolution lies the integration of RPA with Natural Language Processing (NLP) and Computer Vision. This synergy is pivotal in digitizing paper documents, a traditionally labor-intensive process, expediting the overall processing workflow.

The importance of back-office automation cannot be overstated, especially for government agencies. These entities are under pressure to deliver superior service levels to an expanding populace, often constrained by limited human resources. Automation is a crucial enabler in this scenario, bridging the gap between demand and resource availability.

Government AI-driven online self-service portals significantly enhance data intake capabilities. These portals reduce the dependency on physical government centers, making services more accessible to the public. The deployment of Computer Vision for digitizing paper documents, coupled with NLP for intelligent searches on digital submissions, streamlines data handling. This accelerates processing times and minimizes the need for manual data entry.

RPA systems, when augmented with machine learning, can autonomously assess applications and determine appropriate actions based on predefined criteria. This automation not only reduces overhead costs but also enhances the accuracy and speed of the review process. Intelligent automation systems are designed not just to perform tasks but also to learn from them. They provide real-time updates on case statuses, e-notices, and account balances. More importantly, they incorporate feedback mechanisms to continuously monitor service levels and identify areas for improvement, particularly at procedural pain points.

Population Risk Support

The integration of AI and human-machine teaming introduces a new era in addressing complex societal challenges such as housing and food insecurity, addictions, and mental health crises. This innovative approach is not just about managing these issues but proactively predicting and mitigating them, thereby enhancing the quality of life for citizens.

Population Risk Support through government AI is a pivotal step in public policy formulation. It shifts the focus from reactive measures to a more proactive, preventive strategy. Historically, social policies have primarily centered on relief efforts, addressing problems post-occurrence. However, the landscape is evolving with the advent of predictive modeling. Policymakers are now increasingly leaning towards a data-driven approach, which allows for a deeper understanding of risk factors and enables the adjustment of social policies to address these i ssues effectively.

AI systems, harnessing the vast repositories of public health records and independent study data, are adept at identifying trends. They can pinpoint key environmental, psychological, and behavioral factors that contribute to homelessness, drug abuse, and other health-related social issues. Machine learning algorithms can analyze localized populations, considering the identified risk factors and local environmental conditions. This analysis helps in predicting how these factors might interplay to escalate risks related to housing and food security, addiction, and mental health.

The insights gathered from predictive models are invaluable for policymakers. They can use these outputs to assess the potential impact of proposed programs. This data-driven approach enables the formulation of targeted policy goals aimed at specific outcomes, such as reducing drug addiction in particular communities or alleviating food insecurity in underserved areas.

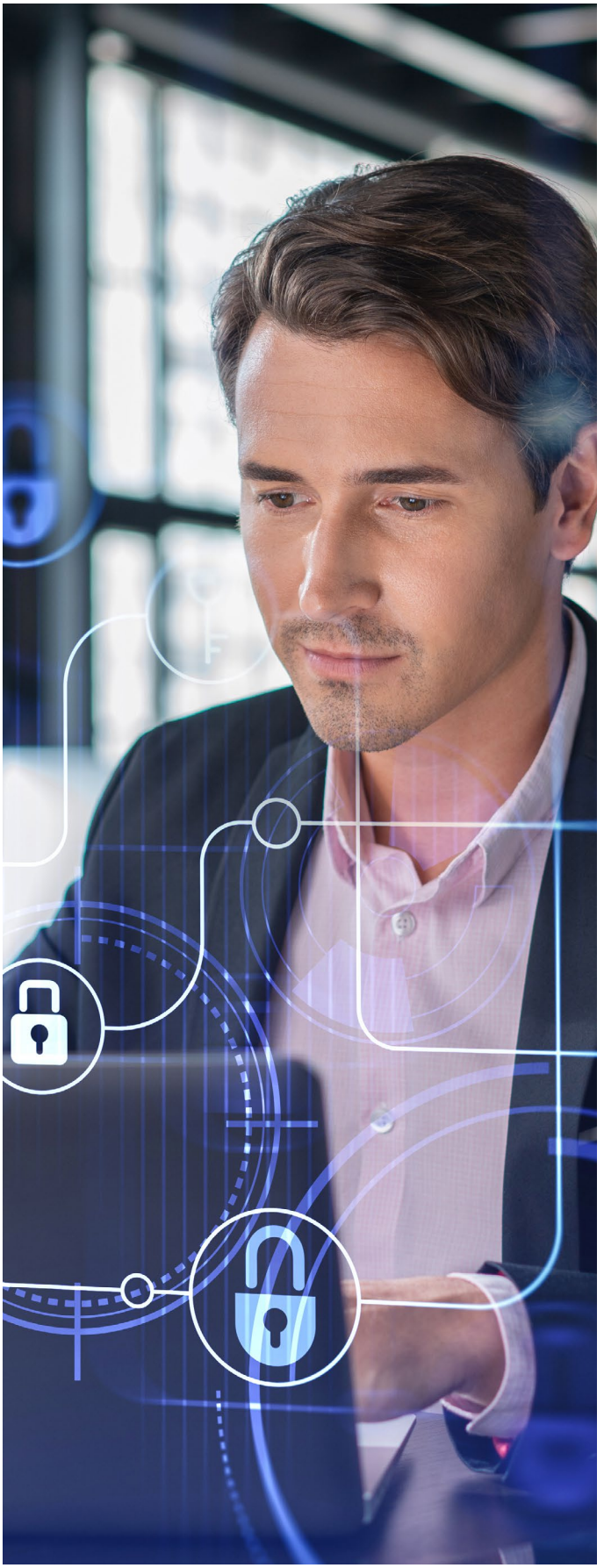
In essence, the integration of AI in public policy represents a significant advancement in the way social challenges are addressed. It empowers policymakers not only to understand and predict risks but also to craft more effective, outcome-oriented social policies. This proactive approach marks a shift from traditional relief efforts to a more holistic, preventive strategy in social welfare.

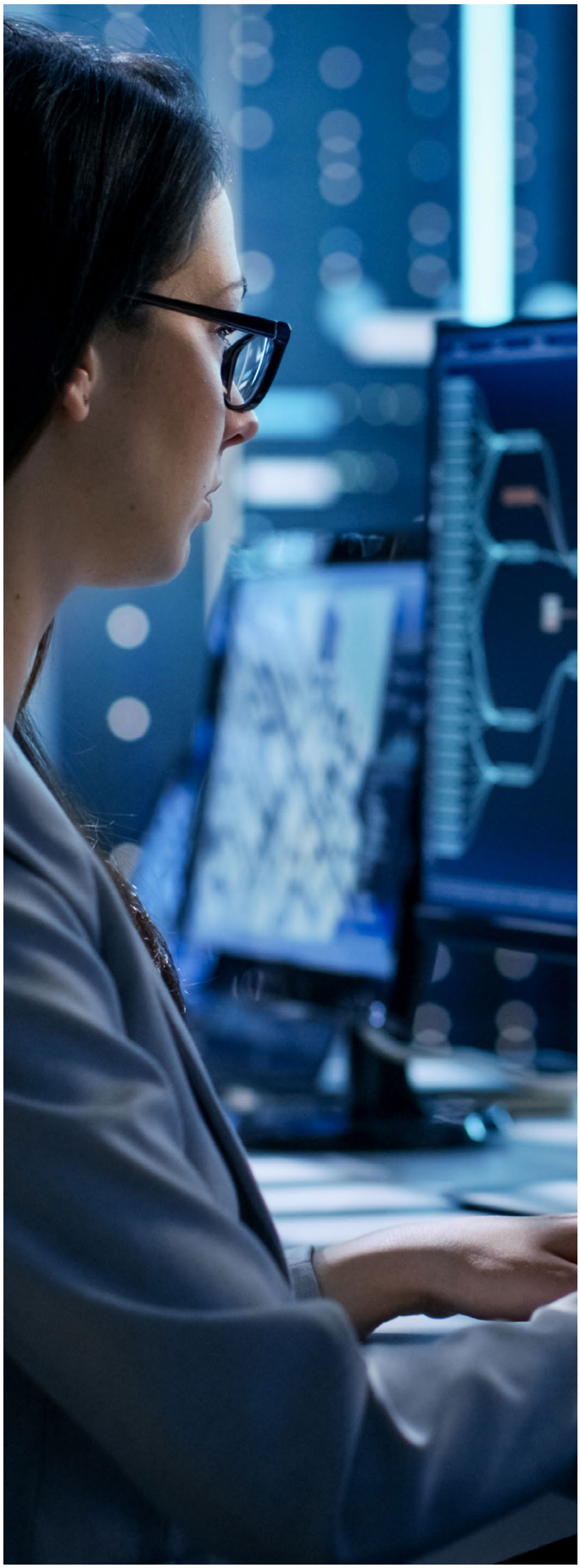
What is Edge AI?

Edge AI redefines the paradigms of data processing and decision-making. Edge AI, or AI at the edge, represents the confluence of artificial intelligence and edge computing, enabling computations closer to the data collection point. This approach breaks from the traditional reliance on centralized cloud computing facilities or remote data centers.

The essence of Edge AI lies in its ability to facilitate smarter, swifter decision-making by devices independent of cloud connectivity or external data centers. This localized processing capability not only accelerates response times but also enhances the system's overall efficiency. By bringing data storage closer to the device's location, edge computing allows government AI algorithms to process data generated on the device itself. This can occur with or without an internet connection, ensuring that data processing is executed within milliseconds, and providing real-time feedback. The immediacy of response Edge AI offers is not just about speed — it also encompasses a heightened level of security, particularly beneficial when handling sensitive data.

The significance of Edge AI is further underscored by its role in alleviating the load on cloud data centers. Edge devices, including sensors and IoT devices, are increasingly recognized as key technologies due to their capability to shift data processing away from centralized systems. This shift is instrumental in optimizing data management and processing efficiency.





How Is Edge AI Different from Traditional AI?

Unlike traditional AI, where data from connected technologies is transmitted to a backend cloud system for processing, Edge AI embeds AI models directly onto processors within the connected devices at the network's edge. This integration imparts a layer of intelligence at the edge, enabling these devices to not only gather metrics and analytics but also act upon them, thanks to the embedded machine learning models. This configuration epitomizes true government AI at the edge, where decision-making is localized and immediate.

The overarching goal of AI is still to emulate human-like intelligence and autonomy in machines. However, Edge AI distinguishes itself by localizing this intelligence and decision-making process. The computations and analyses are performed within or near the device in use, eliminating the need for external oversight and reducing reliance on distant data centers.

Edge AI represents a significant advancement in artificial intelligence, marrying the immediacy and locality of edge computing with the sophisticated analytical capabilities of AI. This convergence enhances the speed and efficiency of data processing and opens new horizons in security and operational autonomy, marking a new chapter in the evolution of intelligent technology solutions.

Benefits of Combining Edge Computing with Government AI

The fusion of edge computing with government AI brings high-performance computing capabilities directly to the edge, where sensors and IoT devices operate. By enabling real-time data processing on devices without the need for extensive connectivity or system integration, edge AI facilitates a more streamlined and agile approach to data management. This integration offers several key benefits:

1. Enhanced Privacy

Local data processing on edge devices inherently lowers the risk of data misappropriation or mishandling. By keeping sensitive information within the confines of edge AI operations, government agencies can better protect the privacy of their data, a critical consideration in today's digital landscape.

2. Improved Security

Edge AI allows for the prioritization of crucial data transfers. Processing and storing data within an edge network filters out redundant, extraneous, and unnecessary data. This selective approach enhances the overall security of the data management process, ensuring that only pertinent information is transmitted and stored.

3. Lower Latency

By offloading some processing tasks from the cloud platform to local analysis, edge AI alleviates the burden on cloud infrastructure. This local processing reduces latency and frees up the cloud-based platform for other critical tasks like advanced analytics.

4. Bandwidth Optimization

Edge AI significantly reduces the bandwidth required for data transmission. With more data being processed, analyzed, and stored locally, there is a marked decrease in the need to send data to the cloud. This reduction minimizes bandwidth usage and leads to cost savings, making it a practical solution for government agencies looking to optimize their data flow.

5. Energy Efficiency

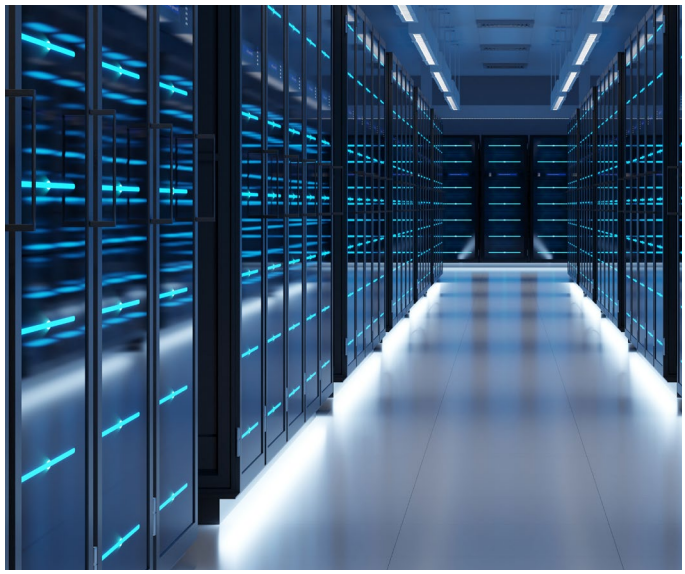
One of the most significant advantages of edge AI is its ability to conserve energy. By processing data locally, the power requirements are substantially lower than those of cloud data centers. This local processing translates into considerable energy savings, aligning with the growing emphasis on sustainable and cost-effective operations in government sectors.

6. More Scalability

The scalability of systems is greatly enhanced with edge AI. Cloud-based platforms, in conjunction with native edge capabilities on original equipment manufacturer (OEM) equipment, allow for seamless expansion and adaptation. This scalability is particularly beneficial for government agencies that need to adjust their operations in response to changing demands and conditions.

Get Guidance Toward Boosting Your Government AI Capabilities

In an era where maximizing efficiency with minimal resources is paramount, Schneider Electric's **EcoStruxure** IT solution is a beacon of innovation and security. This comprehensive solution is designed to fortify IT infrastructure at the edge, offering real-time monitoring, enhanced mobility, and deep insights. With EcoStruxure IT, government agencies can centralize the management of their networked devices, irrespective of the vendor, ensuring a unified and streamlined approach to device performance and sensor data monitoring. This system consolidates alarms to focus on critical issues and provides a panoramic view of the distributed environment's present and future state, enabling proactive threat management.



In the challenging landscape of local government IT, where doing more with less has become the norm, the role of expert partnerships and managed services is vital. With its unparalleled expertise in **uninterruptible power supplies (UPS)**, **data center cooling**, and physical threat management, Schneider Electric offers an unmatched advantage. Our ability to facilitate remote monitoring and management of edge data centers with minimal staffing is a testament to our commitment to efficiency and security.

Our strategic partnerships with leading vendors like Stratis, HP, Lenovo, Cisco, and others further amplify our capabilities. These collaborations are rooted in a shared understanding of the critical importance of security and regulatory compliance in state and local government AI. Through these partnerships, Schneider Electric is uniquely positioned to craft comprehensive, all-encompassing solutions. This collaborative approach allows for an expansion of expertise without the need for extensive investment in full-time personnel.

Schneider Electric is recognized as a global leader in IT infrastructure and digital solutions, and with strategic partnerships with all the major vendors, we can create all-inclusive solutions that meet the unique requirements needed by local government IT teams. If you're ready to start the conversation about taking small steps today to enable big changes tomorrow, **contact Schneider Electric here** or call us at 1 (877) 800-4272.

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We can help you tackle anything, from basic preventive services all the way to redesigning your permanent IT backbone.

Call us at 1 (877) 800-4272 to get started, or check out our partner selector tool to find a partner ready to support you.

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