Modern government

Leveraging the past, embracing the future and connecting communities

LUMEN®

Table of contents

Introduction

Technology is continually evolving to enhance experiences. Modern government missions focus on improving citizen experiences, and incorporating innovative technologies can help achieve this goal. However, integrating these new technologies and modernizing outdated legacy systems is a significant challenge.

Despite this, agencies can expect to enhance interoperability, boost efficiency, accelerate service delivery, and maximize data visibility and accessibility by undertaking these modernization efforts. Streamlining processes and creating user-friendly digital government services government can bridge the digital divide, making services accessible to all and ensuring everyone benefits from the advancement of modernization.

This paper explores these challenges and the strategies that government organizations face. It also examines how modernizing infrastructure can lead to a more effective and efficient government, empowering citizens and creating a more inclusive government for all.

Challenges to modernization

The year 2024 could be considered the tipping point for the modernization of government agencies. With government mandate deadlines, the rise of hybrid workforces post-2020, the advent of generative AI, and increasing citizen expectations, modern technologies have become crucial for achieving agency missions. However, integrating new technology into existing legacy, on-premises systems remain a significant challenge.

Government IT systems often have complex interdependencies, making it difficult to update one part of the system without affecting others. Adding new tools to the tech stack can increase the risk of errors and system failures if they are not well integrated with existing systems. IT Leaders want to modernize, but they need confidence that new technologies won't disrupt existing systems, cause downtime, or compromise compliance.

Government agencies and the private sector are clearly committed to digital transformation to enhance customer experiences. According to a 2024 IDC survey of federal, SLED, and private sector organizations, the top drivers across all segments include improved internal productivity, enhanced security, and better customer engagement and experiences. Leaders are prioritizing the protection of systems and citizens, ensuring smooth agency operations, and maintaining citizen satisfaction.

Top drivers for digital infrastructure investment – IDC survey, July 2024

(see figure below)

| 57% Improved internal productivity | 56% Enhanced security | 48% Enhancing customer engagement and experience |

IDC InfoBrief, sponsored by Lumen, Empowering Digital Transformation, doc. US52378224, July 2024

Why Ignoring Technical Debt is Not an Option

As legacy systems age, CIOs face significant technical debt that burdens teams, drains financial resources, hampers innovation and poses security risks. Meeting evolving operational demands and delivering exceptional citizen services requires organizations to identify, prioritize, and address technical debt. Outdated tools, redundant systems, and low-quality code that demands constant, costly maintenance are all factors and finding skilled staff to manage legacy systems can

be challenging. However, these legacy systems often contain crucial data that can be difficult to migrate to newer cloud systems. Budgets don't often provide for addressing this technical debt, but agencies must to ensure they are future-ready for the digital age.

Strategies for Modernization

While modernization missions can be challenging, developing a clear and comprehensive strategy is within reach. To accomplish their missions, agencies require a robust, secure, AI-ready network and a scalable, adaptable multi-cloud infrastructure. This ensures data is easily managed, accessible and can promote smooth interoperability and enhanced security. By leveraging the latest technology and building on their current IT capabilities, they can quickly add performance-enhancing tools while minimizing risk and keep resources readily available, accessible, and secure. Integrating security from the network level helps organizations stay resilient and compliant.

"Creating integration platforms and modern architectures can support digital government, reduce IT effort, and help address technical debt"

— **Dave Lovelace**
National Director of SLED Strategy, Lumen

By modernizing legacy systems and identifying opportunities to incorporate new technologies, agencies can significantly improve the efficiency of government operations. This can streamline processes, reduce administrative burdens, and

potentially lower costs. Technologies like machine learning, GenAI and cloud-based apps can enable real-time data visibility and accessibility for scalable sharing resulting in effective data management. By ensuring data integrity, agencies can protect their systems while harnessing the full potential of these technologies to enhance public service delivery, improve citizen experiences and achieve their strategic missions.

While the challenges of data management are significant, they are not insurmountable. Federal agencies have access to the Technology Modernization Fund (TMF) with $200M to support federal IT modernization efforts.[1] By adopting a comprehensive that includes modernizing for an AI-ready network infrastructure, introducing a hybrid, multi-cloud model, leveraging AI to enhance data management and interoperability, and strengthening cybersecurity measures through a Zero Trust architecture, government agencies can effectively and securely manage their data. These measures can not only mitigate risks but unlock new opportunities for innovation and improved public service delivery.

Benefits of the Cloud Operating Model

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| 20% Improved application performance and availability – FED | 18% Improved customer satisfaction - FED | 18% Improved efficiency - FED |
| 18% Improved application performance and availability – SLED | 16% Improved customer satisfaction - SLED | 16% Improved efficiency - SLED |

Preparing for the AI data surge

As various forms of artificial intelligence continue to emerge in society, they are poised to transform every aspect of our digital lives, including public services. The private sector's use of AI has elevated citizen expectations, and early adopters in government are already reaping benefits such as chatbots and natural language processing for more efficient service delivery.

To work efficiently, many AI solutions require multi-cloud implementation, making it essential to be cloud-ready to support data-heavy workloads. For instance, during natural disasters, cloud infrastructure can help ensure service continuity by rapidly deploying critical AI-supported applications. Beyond emergencies, cloud services enhance data management and foster inter-departmental collaboration, breaking down silos.

Multi-cloud solutions offer the scalability, flexibility, and enhanced security that AI demands, with the potential to revolutionize service delivery and operational efficiency in citizen services depicted in the examples above. However, we know transitioning to cloud services is challenging due to legacy systems and regulatory compliance issues, and it is requiring careful planning. To succeed agencies, need a multifaceted approach and an AI-ready network infrastructure.

By owning the network AI leaders trust, "Lumen can provide the guidance, infrastructure, and solution components agencies need to support their AI journey from every angle." says Dave Lovelace, National Director of SLED Strategy, Lumen. This includes helping agencies establish frameworks for AI governance, data quality, privacy, and security.

> **"** Agencies are recognizing they need powerful network infrastructure to manage unprecedented AI data flows. The key to successful AI implementation is not just technology, but also the people and processes that support it."
>
> — **Kate Johnson**
> Lumen President and CEO

Digital Inclusion

Digital inclusion is more than just a buzzword—it is a fundamental necessity for ensuring that everyone can participate fully in society. Modernizing government is a commitment to digital inclusion. Imagine a community where every individual, regardless of their socioeconomic status, has access to the internet and digital tools. This access opens doors to education, healthcare, employment, and civic engagement, empowering people to improve their lives and contribute to their communities.

However, the challenges of the digital divide are significant. Picture a rural area where high-speed internet is a luxury, or an urban neighborhood where families can't afford the latest technology. These disparities create a gap between those who can easily access digital resources and those who cannot exacerbate existing inequalities. Delivering digital citizen services in this environment becomes difficult.

How to bridge the digital divide

Government needs innovative strategies to bridge this divide, and public-private partnerships are key. Lumen and the State of California Technology Department are tackling digital inclusion head-on with a multi-billion-dollar network investment to bring equitable, high-speed fiber broadband service to Californians.

Middle-mile connectivity is critical to digital inclusivity, equity, and affordability because it bridges the gap to the last-mile broadband providers that connect homes and businesses to the internet. Local providers can ensure reliable high-speed internet service, even for the most remote communities, when they connect to major networks like the Lumen Network. Middle-mile infrastructure makes this possible. Governments can invest in infrastructure and provide subsidies for low-income families to afford internet services. Educational initiatives can teach digital

skills to all age groups, ensuring that everyone can navigate the digital world confidently.

We know we are headed towards a full-fledged digital government in the future, and digital inclusion is the cornerstone of an equitable digital future. Public-private partnerships bridge the digital divide, expanding broadband access and delivering connectivity to underserved areas. Lumen plays a crucial role in these partnerships by providing high-speed, low-latency network solutions that enable consistent and reliable connectivity.

> "The urgency to partner on last-mile and middle-mile fiber expansions has never been greater. Connecting unserved and underserved communities with high-speed broadband will ensure a greater and more diverse participation in education and the economy.
>
> — **Kate Johnson**
> Lumen President and CEO

Partnerships and MSPs

In the on-going effort to maximize efficiencies with minimal resources, partnering with managed services providers is essential. Agency resources have dwindled in the last decade, and it is unrealistic to expect them to achieve their missions on their own. This is where private-public partnerships become essential for success.

Agencies should explore partnerships with MSPs who can help strategize comprehensive solutions. However, they must choose carefully, as not every MSP possesses the future-ready infrastructure or expertise to navigate the complexities of delivering digital government services in the age of AI.

MSPs can bring advanced technology and tools not readily available to government agencies and often at a lower cost. Access to these cutting-edge tools can help optimize IT investments, control costs and help improve operational efficiency. For example, as a managed service provider, Lumen is a proactive partner, constantly monitoring and maintaining systems to catch vulnerabilities before they become problems. This means fewer disruptions and improved service delivery.

As an GSA EIS awardee MSP, Lumen has been a partner of DOD and DISA for more than 20 years, providing access to a dedicated team of IT professionals who are available around the clock, ready to tackle any issue that arises to help ensure systems run smoothly.

Lumen offers scalable services that can expand as demand increases, providing the flexibility and control to adjust as needed.

Lumen plays the role of the "side-sourced expert and educator" to an agency's internal team. IT teams never turn over control or lose visibility to their IT ecosystem when working with Lumen. Instead, Lumen works with agencies to analyze needs,

> **"** Many government customers face challenges in designing, implementing, and managing various capabilities. That is where we step in to deliver managed services and alleviate the burden on government agencies. Lumen not only has the dedicated people and qualifications to support agencies, but we also have the critical element—the network—that underlies everything. Everything rides on the network." —
> **Jason Schulman**
> Lumen National Vice President Sales, Federal Sales

and strategize a comprehensive, cost-effective plan they can implement, with or without Lumen additional assistance. This allows teams to focus on driving core missions while having the advantage of increasing their from their Lumen MSP experts.

Partnering with an Lumen can be transformative and seamless experience thanks to EIS and MiCTA contract approval status, along with expert knowledge of the procurement and contracts processes.

What does the future look like?

So where does this leave us? It's clear that modernizing government operations through strong data management governance, multi-cloud infrastructure, a network built for AI data demand, and a plan for digital inclusion can transform public service delivery for the greater good.

A relationship with a strong MSP can be transformative in supporting government's digital modernization efforts to provide a future where government services are seamless and responsive. Agencies could achieve their missions with the agility and scalability they need to meet public demands swiftly, fostering collaboration and ensuring reliable services to all citizens.

Lumen is committed to being the network for AI which can help create a robust, secure framework for the future growth of government organizations, and lead to efficient, secure, and responsive public services.

The Lumen commitment to digital inclusion can help enhance service delivery and improve citizen engagement for all citizens regardless of socio-economic status. As government agencies continue to modernize their infrastructures and processes to meet the evolving needs of their constituents, they will be well positioned to achieve their missions to bring a brighter, more connected future for all.

To learn how to partner with Lumen to further enhance your agency's digital modernization and inclusion efforts, we invite you to explore the Lumen comprehensive suite of public sector solutions. Visit our website to learn more about how we can support your mission to modernize government and improve citizen satisfaction. Contact us today to schedule a consultation and discover how our expertise can drive your agency's success, call us today at **800 871 9244 or [visit us online](#)**.

Footnote(s)/Disclaimer(s)
1 [Technology Modernization Fund, 2024](#)
2 IDC InfoBrief, sponsored by Lumen, Empowering Digital Transformation, doc. US52378224, July 2024

Why Lumen?

Lumen connects the world. We are a trusted partner for public sector agencies seeking to modernize their technology ecosystems to provide outstanding citizen experiences. Our expertise in procurement processes helps agencies navigate government contract vehicles with ease. With our help, agencies can transform their technology, provide excellent service experiences for citizens, and accomplish their missions time and again.

866-352-0291 I lumen.com I info@lumen.com