WHITE PAPER

Enable better citizen and intra-agency services with a modern IT infrastructure

Improving efficiency, reducing costs and meeting cybersecurity requirements in the cloud era

Driven by the need to reduce operational costs, improve service efficiency and meet data security requirements, modernizing legacy networks and systems has become a priority for government agencies. A recent Center for Digital Government study shows that 27 percent of government IT leaders report that more than 50 percent of their current IT systems and solutions are "legacy systems." Furthermore, two-thirds of survey respondents (66 percent) plan to modernize as many as half of their remaining legacy systems over the next two years.[1]

Government agencies are approaching modernization with a host of different strategies. Many are consolidating the number of IT systems they use and moving applications to the cloud. Others are looking to harmonize or re-engineer their business processes, as well as using robotic process automation to automate processes in their legacy systems. Still others are considering the adoption of intelligent traffic management tools, geospatial technology, analytics tools and Internet of Things (IoT) technology, such as sensors to gather real-time data.

Regardless the approach, state and local government agencies know modernization is necessary. The cost of maintaining legacy systems alone is enough reason to modernize them; the federal government has 10 legacy systems ranging from 8 to 51 years old that cost $337 million per year to operate and maintain.[2] State and local governments often have similar systems in their technology stacks. Many of these systems don't integrate with each other, causing a duplication of efforts and making it more difficult to add new technology, let alone consider IoT initiatives.

Reasons to modernize

- High costs of maintaining legacy systems.
- Hidden costs of sunsetting applications and systems, and the potential for unsupported software.
- Difficulty in recruiting staff that know legacy systems.
- Meeting new compliance requirements for data security and storage.

In addition to maintenance costs, there is also the hidden cost of sunsetting applications and systems. This can leave agencies with unsupported software that can't be easily patched, opening the agency up to cyberattacks, or it can mean scrambling to replace the software.

There is also the knowledge and talent cost; as the workforce that programmed these legacy systems with COBOL and other outdated languages ages into retirement, they take their knowledge with them. They are the ones that understand the intricate interdependencies of these legacy systems and have customized them. Meanwhile, a new crop of IT workers that want to work on cutting-edge technology are shying away from government positions because they fear they won't get to work on innovative projects.

Additionally, state and local government agencies must also be concerned with compliance requirements relating to data security and storage. At least 29 states have statutes on the books that require security measures to protect the data they collect, use and store. State and local governments must also contend with the Federal Information Security Management Act of 2002 (FISMA) and its December 2014 update, Public Law 113-283, which extends to state agencies that administer federal programs like unemployment insurance, student loans or Medicare. Modern systems and cloud solutions have been designed in the age of cyber threats and are better prepared to help governments keep data secure.

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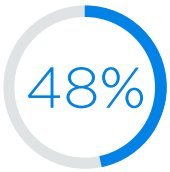
It is clear legacy systems create a host of challenges for state and local government agencies. Municipalities that modernize their systems can better serve internal departments and constituents, reduce costs and increase security.

Essential connectivity infrastructure for a modern government

At its core, legacy system modernization means converting, rewriting or moving an older system to a modern computing language, and in some cases, into the cloud. A government agency that embraces dedicated internet connections, software-defined wide area networks (SD-WAN), private cloud connections and private network access is that much closer to achieving success.

Dedicated internet connections

Modern, dedicated internet connections, provide reliable high-speed, fiber internet access. This lets government agencies connect quickly and securely to the internet, which means it's easier to deploy modern applications to improve efficiency or better serve constituents, including IoT applications.



of government IT leaders are likely to procure cloud services to support IT modernization plans.[4]

Managed SD-WAN

Managed SD-WAN creates a virtual architecture that lets government agencies leverage a variety of transport services, including LTE and broadband internet, and choose which applications are prioritized over the network. Choosing a managed SD-WAN means government agencies can use any type of internet access to provide connections, alongside or in place of private networking solutions. Also with a managed solution, agencies can leverage and benefit from the expertise of a connectivity solution provider for planning, design, implementation and operational support.

Private cloud connections

According to data from a recent Center for Digital Government study, government IT leaders ranked cloud services as the top item they are most likely to procure for their IT modernization plans.[3] This could mean using public cloud services like AWS and Azure. Private cloud connections provide dedicated, high-speed, secure network access to public cloud services, reducing risk and allowing government agencies to scale up into the cloud as needed for faster service delivery.

Private network access

Connecting to multiple sites is critical for service delivery and collaboration within state and local government agencies. To improve network speed and reliability, and allow video and streaming, government agencies are turning to private network access that can link different locations, including data centers and cloud services.

In addition to better service delivery, more reliable systems, reduced costs and improved compliance and security, modernization also helps state and local governments provide a better citizen experience. With the advent of apps for everything from banking to ordering takeout, citizens expect the same high-quality experiences and easy access to online government services as they get from private sector organizations. They also expect their data to be secure, especially when these agencies are handling sensitive data like payment information or social security numbers. Modernization of legacy systems makes this much easier to do.

Barriers to modernization

There are three primary barriers to legacy system modernization, particularly in the government sector: (1) a misunderstanding of what it will actually cost, (2) the difficulty in coordinating a modernization effort and getting approval from stakeholders outside the IT organization and (3) the lack of in-house IT expertise to facilitate the initiatives.

The cost myth

Legacy system modernization is much less costly than agencies might think. Modernization is not about ripping out everything in the IT department and replacing it; it's about finding what is outdated and not working, then updating that however is necessary, whether it's re-platforming an application or moving services to the cloud. When organizations move a system, they need to consider the costs to maintain it in its current iteration, and how much they'll save once it's modernized.

Difficulty coordinating modernization and gaining approval from outside stakeholders

Even with an incremental approach to legacy system modernization, it can still be difficult for municipalities to embark on these efforts. Siloed systems and teams, disparate technologies and the complexity of the infrastructure can all present roadblocks. Modernization requires coordinating stakeholders from different departments, both inside and outside IT. That entails frequent communication explaining the risks of modernization, how it will impact operations, how it aligns with the strategic vision of the agency and most importantly, the opportunities it will present.

Lack of in-house expertise

There are a lot of technology challenges that come with modernizing legacy systems, including identifying all the interdependencies of the systems, pinpointing custom code and recoding and re-platforming applications. As is the case in the private sector, many state and local government agencies do not have the in-house expertise to do this.

These and other barriers and misconceptions can hinder modernization efforts, but none of them are insurmountable. The solution lies in enterprise connectivity solutions and managed services, which provide the technology and the expertise for government agencies to modernize their systems.

Modernizing with enterprise connectivity solutions and managed services

As an experienced IT solutions and service provider to government agencies, Spectrum Enterprise understands the unique needs of state and local governments and is able to help at every phase of a modernization project, ensuring the success of a network upgrade. Spectrum Enterprise is a full-service provider offering data and networking services, TV, voice and unified communications solutions and cloud connections and simplifying IT procurement, management and troubleshooting.

With a suite of managed services, Spectrum Enterprise frees government agencies from managing their network technology. All equipment is fully supported, and software — including security patches — are constantly updated. Managed services provide flexibility if needs change faster than anticipated, and provides assurance that as technology evolves you have access to the latest innovations. A fixed monthly rate for managed services moves expenses from capital to operating, which means it easier to budget. And, with managed solutions from Spectrum Enterprise that can deploy technicians 24/7/365 to address problems, IT staff no longer have to perform routine maintenance tasks. Rather, they can spend more time on strategic initiatives that enhance the municipality's mission.

Designed to address the challenges of state and local government agencies, Spectrum Enterprise offers the following high-performance enterprise connectivity and managed services solutions:

Fiber Internet Access

Enhance service to citizens, increase staff productivity and enable intra- and inter-agency collaboration with fast, dedicated internet connectivity with symmetrical upload and download speeds providing bandwidth up to 100 Gbps.

Ethernet Services

Meet ever-growing data needs by connecting agency departments and distributed locations with a fast, reliable, private WAN solution with dedicated bandwidth up to 100 Gbps.

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Managed SD-WAN

Achieve greater visibility and control with a complete, virtualized WAN service that allows for application-aware routing while reducing network complexity and cost.

Managed Network Edge

Simplify the deployment and management of your network with this modular, all-in-one solution. Delivered over the Cisco Meraki platform, Managed Network Edge offers security, routing, SD-WAN, WiFi, switching and cameras. Achieve flexibility and scalability with connectivity, equipment and network management from a single partner.

Managed WiFi

Stay connected with seamless, secure access to the internet across your facilities with a complete wireless networking solution. The service includes design, installation, management and operation of wireless infrastructure, ensuring high-quality connectivity with no equipment to buy.

Cloud Connect

Get a direct, private connection from your network all the way to your cloud service provider — offered with single or redundant dual paths to meet government security requirements.

Managed Router Service

Efficiently route traffic and improve bandwidth use without investing in hardware or day-to-day management.

Managed Security Service

Protect your network and users with a fully managed solution that includes a firewall and unified threat management (UTM), intrusion detection and prevention, anti-malware, anti-virus, event log management and more.

DDoS Protection

Guard against malicious volumetric attacks designed to overload your network and prevent access to applications, systems and information with world-class DDoS threat identification and mitigation.

Unified Communications

Answer communication and collaboration needs for your employees with a fully managed, cloud-based unified communications solution that includes voice or video calling, availability status, instant messaging and desktop sharing available on any device from anywhere.

As a technology partner that is fully invested in their clients' successes, Spectrum Enterprise is committed to providing exceptional service. Clients receive prompt responses to any questions, and we offer support around the clock in the event of an emergency.

Contracting with a single source provider makes it easier to track and manage services and products. We simplify the process further by assigning a specific team to facilitate the transition and manage the new services. With over 20 years as a public sector technology provider, Spectrum Enterprise understands the unique needs of government agencies.

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Get your modernization initiative started today

A foundation to your modernization initiative is a high-performance network infrastructure capable of supporting the needs of citizens and employees. State and local government agencies can increase efficiency, reduce costs, meet data security requirements and improve services to citizens with enterprise connectivity solutions and managed services from the right technology partner. Let the government IT experts at Spectrum Enterprise help you get started.

Visit our website to learn more about how Spectrum Enterprise can facilitate your IT modernization efforts.

Learn more

1. "IT Modernization in Government: Challenges and Opportunities," Center for Digital Government, 2020, https://www.govtech.com/library/papers/IT-Modernization-in-Government-Challenges-and-Opportunities-128222.html.
2. Nextgov, "10 Government Legacy Systems Cost Taxpayers $337 Million Every Year," 12 June 2019. https://www.nextgov.com/it-modernization/2019/06/10-government-legacy-systems-cost-taxpayers-337-million-every-year/157682/.
3. "Thriving Amid Uncertainty: State and local governments focus on network resilience," Center for Digital Education, 2020, https://enterprise.spectrum.com/insights/resources/reports/thriving-amid-uncertainty-state-and-local-governments-focus-on-network-resilience.
4. Ibid.

About Spectrum Enterprise

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving America's largest businesses and communications service providers. The broad Spectrum Enterprise portfolio includes networking and managed services solutions: Internet access, Ethernet access and networks, Voice and TV solutions. Spectrum Enterprise's industry-leading team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. More information about Spectrum Enterprise can be found at enterprise.spectrum.com.

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