

WHITE PAPER

SD-WAN:

SUPPORTING AGILITY IN GOVERNMENT NETWORKS

Today's state and local government IT leaders are under pressure to deliver seamless services like never before. Court documents have gone electronic, constituents expect easy access to public records and state and local government employees are using a growing number of cloud applications while working remotely. All factors that contribute to efficiency, but put strains on networks as they require more bandwidth.

The trend toward lean IT in government means limited IT staff are available to implement much needed upgrades. To make matters worse, if a long-serving government IT leader leaves, irreplaceable knowledge can be lost as well. More than half of state and local governments surveyed in 2021 said they had more open IT positions than qualified applicants to fill them.¹ The challenge is especially acute in cybersecurity, where the U.S. faces a skills gap of 377,000 professionals.² To top it off, there's the need to do it all while operating within limited state and local government budgets.

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Your connectivity is key, but it's your network that provides the underlying fabric for it all. An efficient, reliable network can prioritize your traffic needs making sure that government employees have uninterrupted access to critical applications. It's a trend that will only continue to grow. In fact, 57 percent of public sector leaders feel that accelerating cloud adoption is business critical.⁴ The question then is how to achieve network efficiencies without drastically increasing IT budgets.

This white paper discovers how a software-defined wide area network (SD-WAN) can help prioritize critical traffic, free up IT staff and contribute to cost efficiencies.



With a managed SD-WAN solution, much of the work is handled for you, including planning, design, implementation and ongoing support.

Why SD-WAN?

SD-WAN optimizes WAN performance by enabling the efficient management of resources and bandwidth in real time. It does so by quickly responding to changing requirements, and has the ability to customize functionality within a network to meet your organization's unique needs across locations.

Intelligent routing lets you decide which types of applications to prioritize over your WAN — for example, video conference or productivity applications for remote employees. This results in optimized bandwidth and real-time improvements to network performance. SD-WAN also offers centralized visibility of your network while utilizing your choice of access — including fiber, broadband and wireless.

Simplified deployment and management, quick network changes and enhanced portal visibility all add to the appeal. However, some state and local agencies find their ability to leverage a SD-WAN is hampered by a lack of resources and the in-house expertise needed to implement a solution that augments or replaces existing WANs.

With a managed SD-WAN solution, much of the work is handled for you, including design, implementation and ongoing support. Instead of being bogged down with the network challenges of day-to-day management, you can gain access to IT experts who serve as an extension of your team while giving you real-time visibility and control of the health of your network.

How an SD-WAN solution benefits you

The rapid pace of digital transformation has left many state and local governments with a patchwork of technologies. SD-WAN can help your agency gain full visibility into your WAN while enabling you to do the following:

Deploy at your pace. One of the many advantages of SD-WAN is ease of deployment. SD-WAN can be deployed quickly, without a major network overhaul or capital investments. Since SD-WAN hosts many of the premises-side functions securely in the cloud, deployment is simplified and customer premises equipment (CPE) is reduced.

This expedites bringing existing and new sites online, regardless of internet access type, weaving multiple locations together into a single, unified network fabric. SD-WAN can utilize, extend or replace existing WAN solutions, offering the power of choice.

Select from two network design options. When searching for a provider, there are two options you should investigate. The first is hybrid SD-WAN that integrates with Ethernet or MPLS. This allows you to keep your current private network and add SD-WAN in a hybrid network architecture. It's an ideal choice if you're looking to extend Ethernet to new locations over a private WAN or transition away from Ethernet or MPLS over time. The second option is a pure internet-based SD-WAN that allows you to choose the internet connectivity that works best for your needs and budget.

Intelligent network performance can prioritize the traffic that's most important for your agency.

Gain bandwidth through efficiencies. Whichever deployment option you choose, SD-WAN permits agencies to direct traffic through any combination of connection types including fiber and coax. This orchestration of resources allows SD-WAN to efficiently allocate available bandwidth and to prioritize and route traffic over both primary and secondary connections.

SD-WAN fulfills the need for more bandwidth by taking full advantage of the unused and underutilized circuits, or even redundant connections that already exist within an organization's network. Compared to traditional WAN services, SD-WAN promises greater agility and flexibility, even within existing infrastructures, by making the most efficient use of the bandwidth your organization already owns.

Should you decide to add additional bandwidth, it can be added on a site-by-site basis without disrupting network traffic. With SD-WAN, cloud applications and workloads stay available and work as they are supposed to — based on the rules you define.

Improve application performance. Beyond overall increases in network performance, SD-WAN can also increase the performance of individual applications. Application-aware routing allows SD-WAN to prioritize the traffic that's most important to your agency, for example, cloud applications, while all other traffic gets lower priority. As a result, your agency can get maximum performance while maintaining reliability for the applications that matter most such as collaboration tools and cloud applications.

Gain visibility and insight. Make sure your vendor offers access to a real-time portal for viewing metrics on performance, traffic and utilization across your entire network. In most cases, the network is able to be viewed as a single entity, instead of a collection of disparate pieces. This empowers leaders to make informed decisions on policies to ensure optimal performance of the network and keep cloud-based applications and infrastructure accessible and running smoothly.

SD-WAN's central portal is of particular value for reducing network complexity. You can make informed decisions quickly, ensuring the network remains available at all times, without taking focus off larger agency goals.

Simplify complexity with managed services. By choosing SD-WAN as a provider-managed service, you can eliminate the complexity of maintenance and ongoing management. Partnering with a trusted provider to manage your network extends the capabilities and capacity of your team — freeing up time to focus on mission-critical agency initiatives while delivering superior service to citizens.

Make sure your vendor includes equipment as part of the monthly service. This allows you to avoid long-term hardware commitments that can result in an inflexible network infrastructure. Additionally, you should be able to choose the option of layering on additional security to provide enhanced protection.

A trusted provider will plan, design, implement and operate your managed SD-WAN solution. They should offer a solution that ensures a seamless network between sites without overtaxing internal resources.

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Partnering with a trusted provider

At Spectrum Enterprise we have over two decades of government IT expertise, helping state and local governments improve public services and increase operational and cost efficiencies. We know that migrating your network is a process. As your partner, we're here to guide you on your journey, whether you want to augment, extend or replace your current WAN. We'll work hand-in-hand with you to design an SD-WAN solution based on your organization's unique agency and location requirements. Our network engineers are here to take the heavy lifting of design, configuration and enablement off your plate so you can focus on strategic initiatives.

As more applications, workloads and compute instances are moving to the cloud, a high-performance network solution is a must. SD-WAN ensures optimal usage of bandwidth and performance of network resources to support applications from any location. SD-WAN also creates the agility and resiliency your agency needs to meet tomorrow's demands within budget.

Learn more about Spectrum Enterprise government services and connect with a state and local government expert to get started.

[Learn more](#)

1. "[Survey Findings: State and Local Government Workforce 2021](#)," MissionSquare Research Institute, May 19, 2021.
2. "[A Resilient Cybersecurity Profession Charts the Path Forward: Cybersecurity Workforce Study, 2021](#)," ISC2, 2021.
3. "[Survey Findings: State and Local Government Workforce 2021](#)," MissionSquare Research Institute, May 19, 2021.
4. "[A Fresh Look: Capitals in the Clouds, 2021 Accenture and NASCIO Cloud Study](#)," NASCIO and Accenture, 2021.

About Spectrum Enterprise

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving many of 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](#). The Spectrum Enterprise team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. For more information, visit [enterprise.spectrum.com](#).

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