

# Accelerating federal network modernization

Verizon's Managed SD WAN—  
Federal Government



## Executive summary

The U.S. federal government is undergoing a critical digital transformation, requiring a secure, agile, and cost-effective networking infrastructure to support modern, cloud-based applications. Networks are becoming more intelligent, capable of handling media-rich applications and enhancing user experiences. While these digital interactions offer significant advantages, your Wide Area Network (WAN) must adapt to efficiently manage this activity across various locations, including cloud environments, data centers, hubs, branches, and remote sites.

Verizon's Managed SD WAN – Federal Government offers a purpose-built solution designed to address these challenges directly. Hosted within the secure confines of Verizon private data centers (built to Verizon specifications) and meticulously engineered to meet FISMA High Rev5 NIST 800-53 controls, this solution provides a fully managed and scalable network. By implementing a design that is both adaptive to existing branch architectures and aligned with security objectives like TIC 3.0, Verizon helps enable federal agencies to improve application performance, enhance security, and simplify the operational environment.

This technical white paper details the architecture, key features, and strategic benefits of adopting Verizon's Managed SD WAN – Federal Government.

## The challenge of modernizing federal networks

Federal agencies face a unique set of challenges in their efforts to modernize:

- **Security controls:** Networks must adhere to stringent government mandates, including FISMA High Rev5 which leverages NIST 800-53 controls, to protect sensitive data and national security.
- **Operational complexity:** Traditional networks are often difficult to manage, requiring significant manual effort for configuration, troubleshooting, and maintenance.
- **Performance and user experience:** With a growing reliance on SaaS and cloud-based applications, agencies require agile solutions and networks that can provide consistency and high performance connectivity to enhance the end-user experience.
- **Evolving network traffic patterns:** The increasing adoption of cloud computing and SaaS applications has led to a significant shift in network traffic, with more data moving directly to the internet and cloud environments, requiring networks that can efficiently handle this distributed traffic.
- **Reliable application performance and availability:** Business-critical applications require predictable performance, and these applications must provide a consistent user experience even during link outages and other network events.
- **Cost and efficiency:** The high cost of dedicated private circuits and the inefficiencies of legacy systems put a strain on IT budgets.
- **Ever-changing threat landscape:** As agencies embrace direct-to-internet and cloud-on-ramping, they need a robust security posture to defend against new and sophisticated cyber threats.

## Verizon’s Managed SD WAN—Federal Government: A strategic solution

Verizon’s Managed SD WAN—Federal Government is designed to overcome these challenges by offering a single, unified solution. The service is delivered as a SaaS, removing the burden of managing complex network hardware and software.

### Core objectives of the SD WAN solution

The solution is built around several key objectives:

- **Seamless transition:** SD WAN designs are implemented to allow for a smooth transition into existing branch architectures, reusing existing network subnets at sites to minimize disruption.
- **Future-ready security:** The solution aligns with current security postures while being adaptive enough to support security frameworks like TIC 3.0, which promotes direct-to-internet access via a Secure Access Service Edge (SASE) framework.
- **Application-aware routing:** The solution dynamically routes traffic based on application performance and

business requirements, optimizing user experience and ensuring critical applications receive priority and consistent performance.

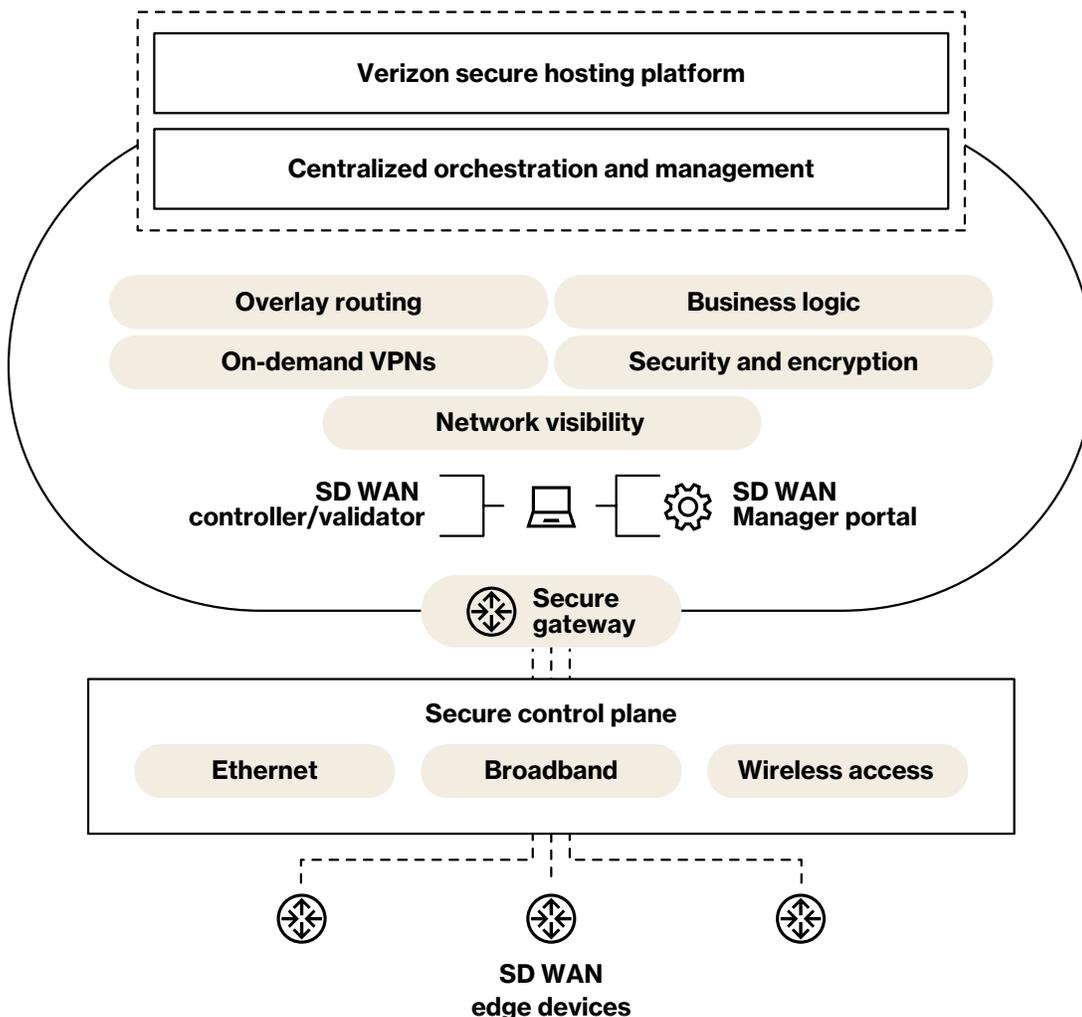
- **Enhanced visibility and performance:** The solution provides enhanced application and performance visibility, with specific features for various applications.
- **Increased availability and cost savings:** By moving sites off expensive circuits to a dual-transport strategy with a mix of circuits (e.g., broadband, Fixed Wireless Access), agencies can achieve an increased site availability and improved and enhanced user experience.

### Solution architecture and components

The Verizon’s Managed SD WAN—Federal Government solution leverages a robust, architecture built to FISMA High Rev5 standards:

- **Cisco Catalyst SD WAN controller complex:** The heart of the solution is a Cisco Catalyst SD WAN controller complex hosted in Verizon’s secure, domestic, geo-diverse Verizon private data centers. This complex provides dedicated per agency Controllers securely hosted in Verizon’s Federal Data Centers with centralized control, management, and orchestration. (See exhibit 1)

Exhibit 1: Verizon’s Managed SD WAN—Federal Government platform



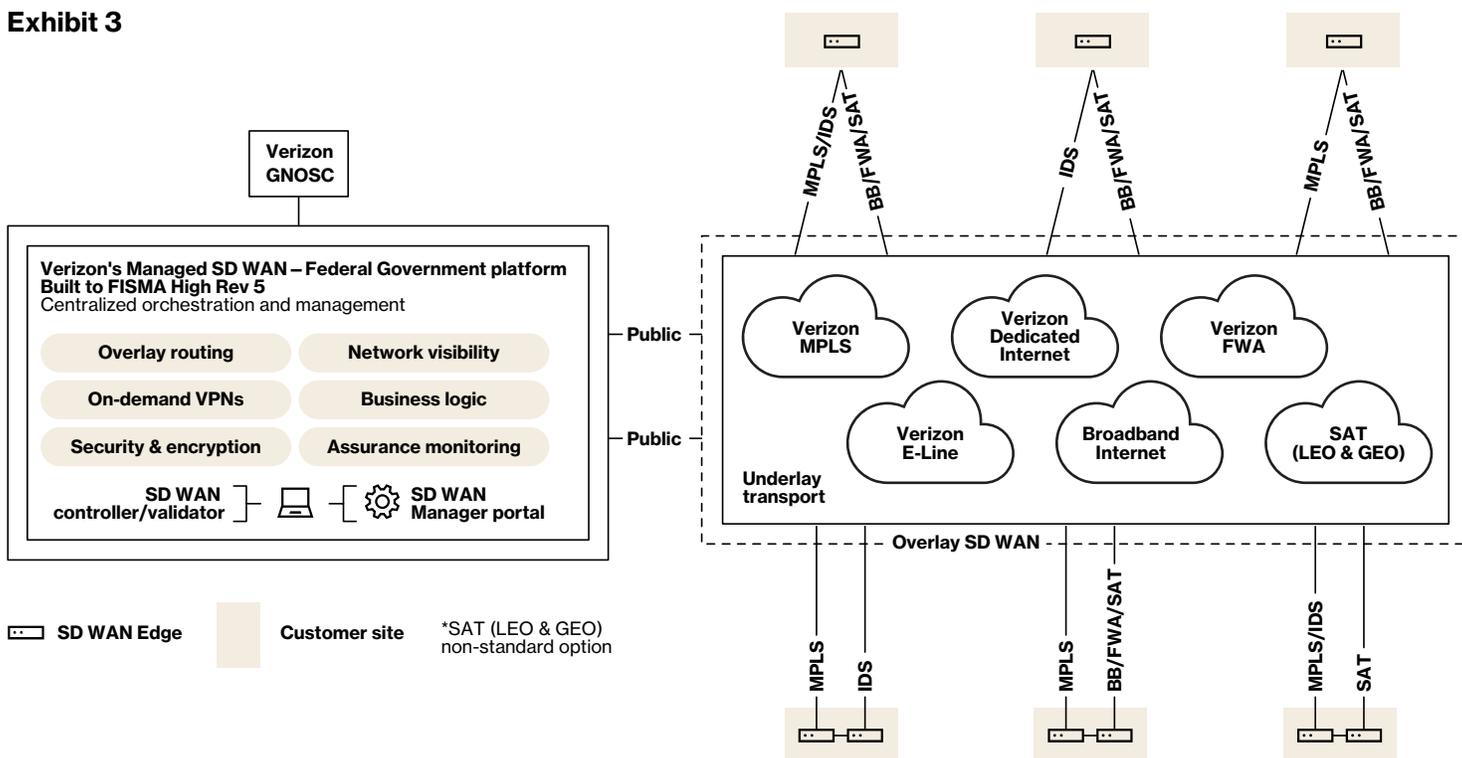
- Purpose-built CPE:** The solution utilizes purpose-built Cisco Catalyst 8k and ISR 1100 series routers as Customer Premises Equipment (CPE). These devices are FIPS 140 certified, ensuring robust security at the network edge. (See exhibit 2)
- Transport agnostic support:** The solution can operate over a variety of underlay transports, including Verizon MPLS, Verizon Internet, and third-party MPLS and internet services. Optional transports can include FWA (Fixed Wireless Access) and LEO (Low Earth Orbit) Satellite. This flexibility allows agencies to mix and match circuits to meet their performance needs and budget. (See exhibit 3)

**Exhibit 2: Cisco SD WAN – CPE and DNA license tiers**

Device model	Tier 0 (up to 25 Mbps)	Tier 1 (up to 200 Mbps)	Tier 2 (up to 1 Gbps)	Tier 3 (up to 10 Gbps)	TAA Compliance
ISR1100-4G	EA	EA	X	X	No
ISR1100-6G	EA	EA	EA	X	No
C8200 / C8200L	EA	EA	EA	X	Yes
C8300 (6T versions only)	EA	EA	EA	X	Yes
C8300 (4T2X versions only)	EA	EA	EA	A	Yes
C8500 (L version only)	X	X	A	A	Yes
C8500 (12X versions only)	X	X	X	A	Yes

E: Essentials    A: Advantage    X: Not available

**Exhibit 3**



Only MPLS, Dedicated Internet and FWA are currently available. E-line, broadband Internet and Sat are in '26 roadmap.



- **Management:** Verizon provides a fully managed service, including monitoring, fault isolation, physical and logical maintenance, and security patching. Co-management is on our roadmap which will allow customers to push policy changes themselves.

With Full Management, the customer responsibilities are high-level and strategic, including defining the strategic direction, security policy, and SD WAN policies. Verizon responsibilities are extensive and operational. Verizon handles all the day-to-day management tasks like monitoring, fault resolution (both logical and physical), maintenance, change management, configuration backups, performance reporting, and security patching.

The only difference between the two models is around the management of SD WAN policies. With Full Management, the customer defines the policies and Verizon applies them, while with Co-Management, the customer and Verizon share the ability to apply the policies. (See exhibit 4 for comparisons.)

**Exhibit 4**

	Future release*
<p><b>Full management (Manage it for me)</b></p> <p><b>Customer manages:</b></p> <ul style="list-style-type: none"> <li>• Strategic direction</li> <li>• Define security policy</li> <li>• Defining SD WAN policies</li> </ul> <p><b>Verizon manages</b></p> <ul style="list-style-type: none"> <li>• Monitoring</li> <li>• Fault isolation</li> <li>• Fault notification</li> <li>• Fault restoration – logical</li> <li>• Fault restoration – physical</li> <li>• Maintenance – break/fix</li> <li>• Change management – logical</li> <li>• Change management – physical</li> <li>• Configuration backup</li> <li>• Performance reporting</li> <li>• Security patching</li> <li>• SD WAN policies if applicable</li> <li>• Firewall and UTM policies if applicable</li> </ul>	<p><b>Co Management (Manage it together)</b></p> <p><b>Customer manages:</b></p> <ul style="list-style-type: none"> <li>• Strategic direction</li> <li>• Define security policy</li> <li>• SD WAN policies (partial)</li> </ul> <p><b>Verizon manages</b></p> <ul style="list-style-type: none"> <li>• Monitoring</li> <li>• Fault isolation</li> <li>• Fault notification</li> <li>• Fault restoration – logical</li> <li>• Fault restoration – physical</li> <li>• Maintenance-break/fix</li> <li>• Change management – logical</li> <li>• Change management – physical</li> <li>• Configuration backup</li> <li>• Performance reporting</li> <li>• Security patching</li> <li>• SD WAN policies (partial)</li> <li>• Firewall and UTM policies if applicable</li> </ul>



**Key benefits for federal agencies**

By adopting Verizon’s Managed SD WAN – Federal Government, federal agencies will unlock critical advantages that aggressively accelerate their modernization and mission goals.

**Unprecedented security and compliance**

The solution’s foundation built to NIST 800-53 Rev.5 federal security standards helps to ensure a high level of security that is continuously monitored and maintained. The use of FIPS 140-certified equipment adds another critical layer of trust and integrity.

**Simplified operations and management**

The centralized management and operations model drastically simplifies network administration. The Verizon Managed Network Systems and tools provide automated assurance monitoring, ticketing, and reporting, all accessible through a self-service portal. This eliminates the need for agencies to manage complex hardware, freeing up valuable IT resources to focus on higher-value tasks.

**Optimized performance and cost efficiency**

Verizon’s Managed SD WAN – Federal Government utilizes an **Application Aware Routing** mechanism to prioritize critical traffic, ensuring an optimal end-user experience for important applications. By shifting non-critical traffic to less expensive broadband or wireless internet circuits, agencies can achieve significant cost savings. The ability to use a dual-transport strategy also increases site availability, which is a key metric for mission continuity. Verizon’s Managed SD WAN – Federal Government also provides enhanced reporting, traffic, and application flow visibility, allowing for a more in-depth view of network performance.

## Flexible deployment options

The solution supports a wide range of deployment scenarios, from a single router at a remote site with a single transport or a combination of MPLS and Internet circuits all the way to a dual-router setup for improved redundancy and high availability for enhanced SLAs. Wireless (FWA) and satellite access (LEO)\* are also transport options, especially useful in areas where wireline access is challenging. This flexibility ensures that the solution can be tailored to the specific needs of any agency, regardless of its size or geographic distribution.

## Conclusion: A new era of secure, agile networks

Verizon's Managed SD WAN – Federal Government provides a powerful and comprehensive solution for federal agencies seeking to modernize their networks. By combining the SD WAN technology which is built to NIST 800-53 Rev.5 federal security standards and flexible managed service models, Verizon offers a clear path to enhanced security, improved performance, and operational efficiency. This solution helps agencies overcome the complexities of managing traditional networks, reduces operational overhead, and ensures consistent application performance. The solution's flexibility and commitment to compliance make it an ideal choice for agencies looking to secure their digital future and accelerate their missions in a rapidly evolving technological landscape.