



SD-WAN

Transform Your Agency

Mettel Federal

Overview

Is your agency facing network traffic challenges? Is migration to the secured cloud hogging scarce bandwidth? How about increased mobile computing that is causing applications to slow to a crawl? With all of this demand for increased bandwidth, isn't your need for more in-depth analytics also increasing? And, while trying to solve all these problems, your IT department now has to build a more reliable, more available and higher performing network with fewer and fewer dollars and outdated wide area networking architectures. These situations are occurring across departments and agencies, in local, state and in the federal government. If this is your reality, then SD-WAN powered by MetTel Federal might be the solution you need.

What is SD-WAN?

Traditional networks have a rigid architecture consisting of purpose-built network components, such as routers and switches, based on vendor specific hardware and software. Features and capacity are tied to the chosen configuration of the network and making changes to the network technology to accommodate new functionality is difficult and slow. This could be the past.

The Software-Defined Wide Area Network (SD-WAN) is an intelligent network that can dynamically allocate and manage network resources. Custom rules are created to provide the performance, reliability, and security based on your agency's unique needs or requirements. Your future could be a Software-Defined Wide Area Network (SD-WAN).

SD-WAN Characteristics

According to Gartner, a software-defined wide area network must meet the following four requirements:

You're Probably Using Multi-Protocol Label Switching (MPLS) Now

Multi-Protocol Label Switching (MPLS)-based telecommunication services were widely embraced and proven to be a reliable choice for providing bandwidth across government departments and agencies up through the last 15 years. However, recent industry developments have given rise toward augmenting or even fully replacing MPLS with new technology that can provide as much as 10 times the bandwidth of MPLS at a fraction of the cost. Additionally, this new technology delivers levels of reliability, security and quality of service (QoS) required to support even the most performance-sensitive workloads, similar to MPLS.

REPLACEMENT

Offers a lightweight replacement for traditional WAN routers and is agnostic to WAN transport technologies

SIMPLICITY

Automatically simplifies the complexity associated with management, configuration and orchestration of WANs

EFFICIENCY

Allows for load sharing of traffic across multiple WAN connections

SECURITY

Provides secure virtual private networks, integrates additional network security services and offloads Internet traffic closer to the edge of the network.

Is a Hybrid SD-WAN Solution Right for Your Agency?

SD-WAN delivers flexibility through abstraction, which is establishing the level of complexity on which a person interacts with the system. This flexibility lets you define a set of rules to ensure that different workloads get the appropriate experience. IT managers can rely on the system to manage traffic, freeing themselves from manual control of technology architecture elements.

Hybrid SD-WANs leverage both private, high-quality multiprotocol label switching (MPLS) networks as well as high-speed, lower-cost broadband Internet in an integrated architecture. Combining networks together or statically assigning each application to a particular network type is not enough. Technology to optimize the performance of applications over the hybrid WAN is a requirement, particularly to address the unpredictable performance of Internet connectivity. Software-defined policies dynamically direct applications and services along paths that support their unique performance and security requirements. Compared to traditional network management, SD-WAN can react to changing network conditions as they happen.

A hybrid SD-WAN solution allows you to combine MPLS with broadband Internet to get the best of both worlds. MPLS gives you a private dedicated network, with dedicated bandwidth, plus the advantage of quality of service and other features relevant to voice and video. Broadband Internet gives you cheaper bandwidth, is easier and faster to install or upgrade, and is less complex than MPLS. By combining the two, you achieve twice the connections providing higher availability for your voice and video traffic.

As network conditions change, software-defined networking policies for performance allow you to dynamically redirect services. Intelligent network routing can prioritize workflows, reroute around failures, and protect critical traffic against threats. MetTel Federal takes this optimization one step further: we drill down to the individual packet level and provide error correction and/or packet duplication as necessary to guarantee orderly data packet delivery. This can drive better user experiences and business results.

MetTel's SD-WAN Measures Up to the Four Gartner Characteristics

REPLACEMENT

Zero-Touch Deployment

MetTel Federal's SD-WAN Edge appliances automatically authenticate, connect, and receive configuration instructions once they are connected to the Internet: this is our Zero-Touch deployment feature. Our solution delivers highly available deployment with SD-WAN Edge redundancy protocol, and it integrates with the existing network with support for Open Shortest Path First (OSPF) routing protocol while benefiting from dynamic learning and automation, and offers MPLS replacement using multiple Broadband circuits such as Cable and DSL.

EFFICIENCY

Automatic Application Recognition

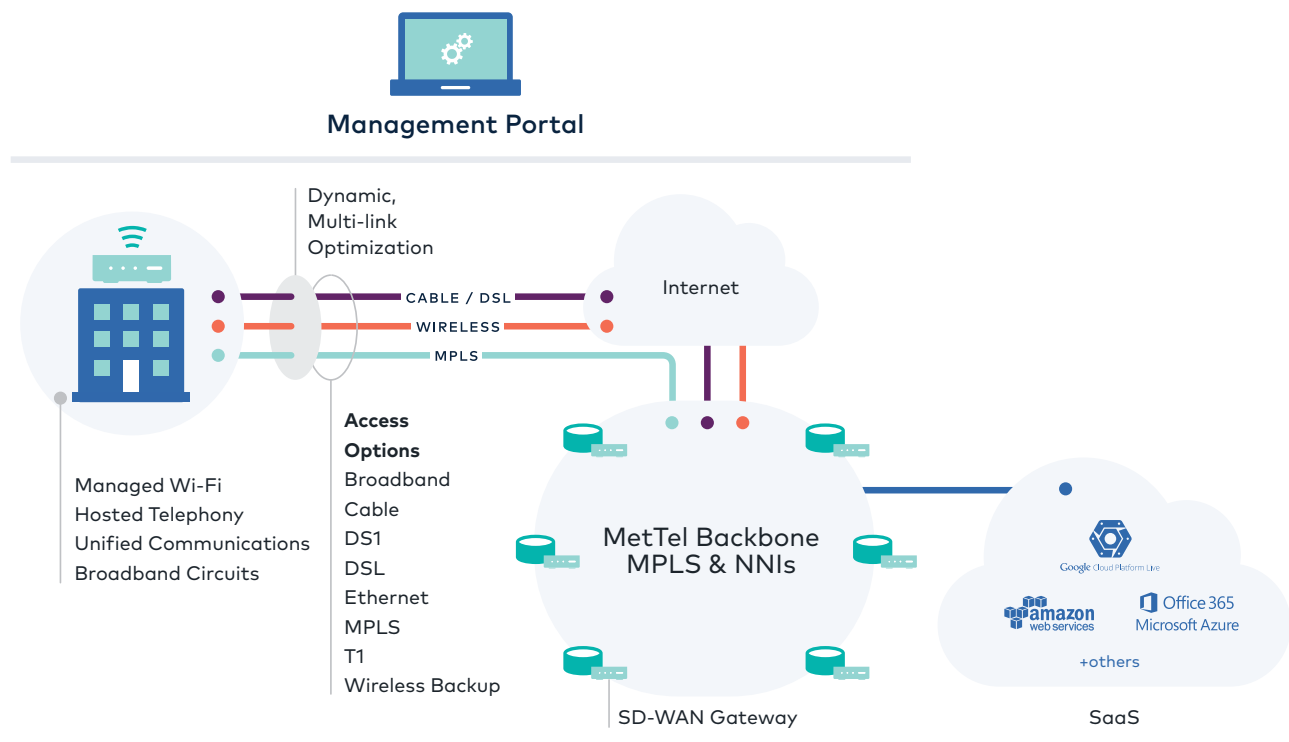
Our automatic application recognition allows MetTel Federal to offer you the control to improve the overall performance and quality of service of your SD-WAN traffic. Various types of application traffic can be assigned different priorities with different limitations on their use of available bandwidth. Bandwidth can also be reserved for use by particular time sensitive or critical applications with simple business prioritization set at either high, medium or low depending on your needs.

Smart QoS

Granular classification of applications enables you to have smart control. Out-of-the-box defaults set the QoS policies for common business objectives with IT being required only to establish traffic priority. Knowledge of application profile enables automation of your QoS configurations and bandwidth allocations.

Real Time QoS Leveraging Dynamic Path Selection

On-demand, per-packet link steering is performed automatically based on the measured performance metric, intelligent application learning, business priority of the application, and link cost. This delivers sub-second blackout and brownout protection to improve application availability. Steering remediates link degradation by way of multiple circuits with packet duplication and forward error correction, activating Jitter/Loss Correction and synthetic packet production.



Deploying a MetTel SD-WAN solution can result in huge savings almost immediately and easily increase bandwidth by 10x without incurring the Big Carrier monthly expenses.

SIMPLICITY

Online Portal (Orchestrator)

Our easy-to-use portal simplifies branch routing, address management and VPN setup with centralized orchestration. Business policies drive optimal gateway selection, distributed QoS configurations, automatic VPN connections and network services insertion.

Application Performance & Network Usage

MetTel continuously computes a quality score to assess performance of critical voice, video, or data applications at any given time with the ability to alert IT staff. This analysis provides administrators a comprehensive before-and-after view into application behavior on individual links and the SD-WAN enhancements.

SECURITY

Secure Network Solution

MetTel Federal's SD-WAN is deployed in our five Gigabit Points of Presence (data centers) that cover the United States. The solution is hosted in highly secure MetTel GigaPOP and it is fully redundant, geographically diverse and fault tolerant.

FISMA Moderate Design

MetTel Federal's business intelligence solutions for ordering, billing, customer care and trouble management are designed to meet and/or exceed the National Institute of Standards and Technologies (NIST) FISMA requirements at the Moderate Impact level. MetTel Federal is in a unique position to offer SD-WAN because it not only offers a virtual solution from our GigaPOPs for SD-WAN with NNIs to all major carriers that offer MPLS in North America, but we also provide the underlying network infrastructure for all interconnections between any of your offices in any states, regions, cities, and your data centers. This means that secure communications between multiple sites could be achieved without ever leaving the MetTel network or the protection of its Virtual Firewall. Security in combination with application awareness allows for sensitive WAN traffic to be completely segmented from other WAN traffic. Access to information, and therefore all data in transit, is over a Federal Information Processing Standard (FIPS) 140-2 compliant encrypted connection. In addition, MetTel Federal provides a dedicated response team for each Agency to provide support and troubleshooting.

MetTel's SD-WAN Surpasses All Others

Increases Bandwidth

Our seamless integration with MPLS circuits increase and augment throughput using cable/DSL/4G.

Eliminates Forklift Upgrades

We augment existing MPLS with broadband while maintaining secure and encrypted private connectivity.

Includes Plug & Play

The plug and play installation of SD-WAN Edge appliance automatically authenticates, connects, and receives configuration instruction once it is securely connected to your hosted environment. Plug and play enables zero-touch branch network deployment with automation and business policy.

Establishes Streamline Controls & Big Savings

We consolidate remote department equipment into a single virtually controlled local device, reducing hardware costs and maintenance with app-based rules.

Central Management of Edge Devices via Online Portal (Orchestrator)

Our portal automates branch deployment with link characteristics discovery and provides granular visibility for real-time network and application monitoring.

- Secure connection between government offices that can be used for completely secured data traffic
- Dynamic Branch-to-Branch VPN/Communication—guaranteeing sufficient bandwidth for voice
- Multiple QoS queues available, such as: voice, video, database
- Can be deployed with your existing secured hosted environment
- Can be used as a backup to existing MPLS network with multiple routing failover mechanisms available
- Private IP addressing on the local area network (LAN) with full MPLS-like capability
- Current IP address scheme can be extended across all access connections
- Your department does not have to manage any VPNs—MetTel monitors and manages all your VPNs at any level that you require
- Ability to propagate MPLS routes across all access connections
- Disaster recovery with physical link diversity to always ensure network availability
- Access methods can include: MPLS, dedicated fiber, Ethernet, broadband, cable, DSL, 4G, dedicated Internet access, private lines, waves, etc.
- Network usage and monitoring offers visibility, at any level of detail, into capacity and network behavior of end users—enabling you to circumvent problems and added expenses before they are incurred

Alternative access provider services can simplify WAN operations and improve performance from branch office designs by leveraging access agnostic service, such as SD-WAN for both private and public network services. MetTel solutions rank higher than Hughes, GTT, s2s, and EarthLink.¹

¹ Gartner Market Guide for US Alternative WAN Branch Solution Providers, Feb 10, 2017

MetTel's SD-WAN Solution: Operational and Cost Saving Advantages

What the Experts Conclude

The real situation is that Gartner and others have taken notice of and concluded that the market is dissatisfied with the offering of the big traditional providers. They have been slow to adapt and do not consider unique problems but rather offer cookie-cutter packages, which cannot match a customized SD-WAN solution. If you want to test SD-WAN and see how it works for your agency, use the Gartner #1 rated SD-WAN Alternative provider network via the MetTel GSA Schedule 70 (modification pending).

Conclusion

As a government agency, you have a unique and challenging situation. You design, operate and manage some of the largest, most complex telecommunications networks on the planet. Often it's difficult to test and evaluate the latest technologies due to challenges ranging from procurement and contract issues to security and interoperability concerns. For agencies interested in deploying SD-WAN technology today, consider using the MetTel GSA Schedule 70 (modification pending) to pilot or test the technology at branch locations, data centers or anywhere within CONUS on your data networks.

MetTel Federal has a multitude of solutions conceived, designed, and built just for government agencies, and the easiest and most impressive of these packages is our SD-WAN solution.

About MetTel

MetTel is a global communication solutions provider for businesses and government agencies. Leveraging our global private network and the industry's most comprehensive technology portfolio, we design and deploy tailored connectivity and networking solutions for voice, data, mobility, and IoT devices. Recognized as a Leader in the Gartner Magic Quadrant for Managed Network Services, we excel at transforming legacy networks with intelligence, security, and dedicated solutions management. Our unique approach enables MetTel to provide unparalleled customer experience, enhanced productivity, and significant cost-savings – freeing our customers to focus on their core operations. For more information visit mettel.net, follow us on [LinkedIn](#), or call us directly at (877) 963-8663. MetTel. Connect Smarter.™