Why Prisma SD-WAN Is the Solution You've Been Looking For

The Next-Generation SD-WAN solution that is autonomous, integrated, and secure, delivering an ROI of up to 243%

paloalto NETWORKS | PRISMA SD-WAN BY PALO ALTO NETWORKS

Table of Contents

CIOs Shift Left

Over the last decade, the mandate for the CIO and other IT executives has transitioned from keeping the lights on to keeping the cash flowing. As a result, these leaders find themselves grappling with complex business-level challenges unrelated to their technical backgrounds. Add in the accelerating pace of change in the marketplace, rapidly evolving IT technology, and perennial shortages for key IT skills, and it's no wonder that today's CIOs are under enormous pressure to perform.

A critical tool in the CIO's toolbox is the wide area network (WAN), which unites branch offices and remote workers with centralized data centers to form a single interconnected organization. Enterprises have traditionally implemented WANs as multiprotocol label switching (MPLS) networks using hardware routers and manual configuration. However, WAN architectures create debilitating limitations when organizations attempt to migrate to the cloud or utilize commodity internet connections in their branch offices. The software-defined WAN (SD-WAN) was the solution that promised to enable this network transformation.

"SD-WAN adoption is expected to rise to 92% of companies and 64% of sites by 2026, with most adopting it for efficiency (38%), cost savings (38%), and agility (34%)."

Altman Solon

Talkin' About My (Next) Generation

Now those legacy SD-WANs are beginning to show their age. Designed to help network managers optimize the flow of packets, legacy SD-WANs make it difficult to meet service-level agreements (SLAs) based on application performance, especially with the increasing adoption of cloud applications. In addition, they require managing disparate products to enable branch services manually, adding significant cost and operational overhead. Legacy SD-WANs also lack integrated security, a liability for the modern dispersed enterprise.

As these limitations become steadily more apparent, IT decision-makers seek an SD-WAN solution that is more attuned to business challenges, such as revenue generation and compliance as well as ensuring the best performance and user experience. This next-generation SD-WAN must enable strategic initiatives such as expanding into new geographies, developing innovative offerings that drive new revenue, and ensuring an excellent experience for users, customers, and partners.

To better understand the requirements for the next generation, let's examine the ways in which today's SD-WANs fall short in three key areas: automated operations, integrated branch services and best-in-class security.

"According to a recent survey of IT leaders, the top initiatives for 2021 are digital transformation, cybersecurity and cloud. 86 percent of respondents expect the pace of digital transformation to continue accelerating."

Flexera

Anybody Seen My App?

When SD-WANs were first introduced, network managers focused on key performance indicators (KPIs) at Layers 2 and 3. For example, latency, packet loss, and jitter. However, these packet-level metrics do not always correlate to the user experience, which is shaped primarily by the availability and responsiveness of business-critical applications.

To better monitor application performance, network managers need Layer 7 visibility. Legacy SD-WANs only have visibility up to Layer 3, which makes it difficult or even impossible to see application-related KPIs such as response time, throughput, and user satisfaction.

The next generation of SD-WAN needs to support proactive application-level monitoring and policy-based management of business-critical applications. Using application-defined policies, organizations can gain deeper application visibility and leverage Layer 7 intelligence to create excellent user experiences and better compliance with KPIs.

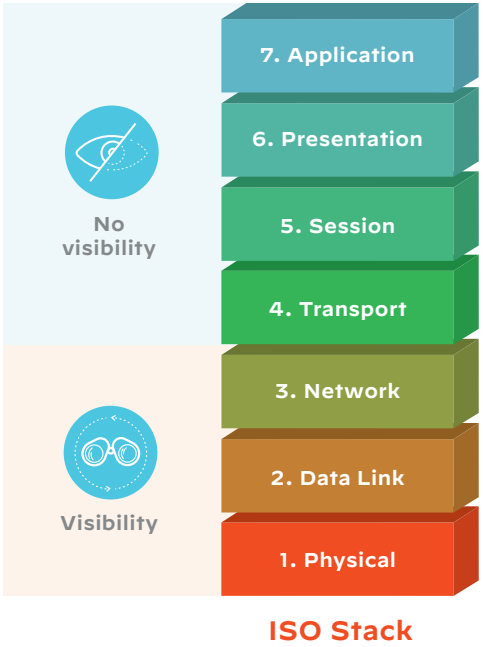


Figure 1: Legacy SD-WANs only provide visibility up to Layer 3

All Hands on Deck

In addition to hardware savings, SD-WAN eliminates the need for the constant maintenance that is required for MPLS-based WANs. However, SD-WANs also require manual interventions for the day-to-day running of the network. This shift creates substantial administrative overhead for networking and operations teams already stretched thin. Furthermore, SD-WAN management calls for a different skill set than WAN maintenance. Hiring new people is an obvious answer, but CIOs struggle to find and retain IT professionals with the necessary education and experience.

Many IT decision-makers realize that their SD-WAN needs to do more. They need the next generation of SD-WAN that uses automation to lessen the time that network managers now devote to routine tasks. Additionally, they require artificial intelligence and machine learning to reduce troubleshooting cycles and faster root cause analysis. These enhancements free IT talent to work on initiatives that add value to the organization. For CIOs with staffing headaches, this next-generation SD-WAN can't come soon enough.

"70% of enterprise networking activities are manual as of late 2020. This lack of automation can create bottlenecks in provisioning/operations and increases likelihood of human errors, which in turn may drive outages and impact uptime."

Gartner

Bolt-on Security Isn't Secure

Traditional WANs route all branch traffic through the main data center, even traffic that flows between the branch and software-as-a-service (SaaS) applications—so-called hairpinning. In this configuration, security can be centralized because everything goes through the center.

In contrast, SD-WANs connect remote users directly to SaaS applications, eliminating hairpinning. This architecture improves the performance of connections to branches but also bypasses the security at the data center.

As a result, security architects have been forced to cobble together branch security systems from products designed for other use cases. These "bolt-on" solutions are prone to gaps and vulnerabilities and are a headache to manage. While there is no shortage of products on the market that can secure parts of the branch infrastructure, getting them to work together is challenging. In the next-generation SD-WAN solution, policies and network access controls should work as a unified system to provide strong security for branch deployments.

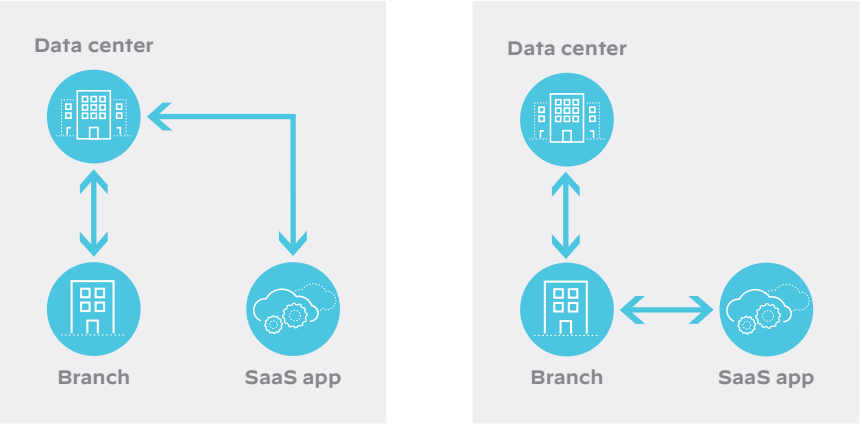


Figure 2: SD-WAN solves the problem of hairpinning that occurs in traditional WAN architectures

Prisma SD-WAN: The Next Generation

Palo Alto Networks takes a fundamentally different approach with the industry's first Next-Generation SD-WAN solution, Prisma® SD-WAN. Unlike the legacy SD-WAN design, Prisma SD-WAN addresses the unique requirements of cloud architectures, especially those with branch offices. It overcomes the limitations of legacy solutions including poor application visibility, time-consuming manual operations, and bolt-on branch security. Prisma SD-WAN incorporates advanced technologies such as automated response, machine learning, and application-defined policies to increase ROI, simplify network operations, and improve the end-user experience.

Prisma SD-WAN provides three capabilities that are lacking in legacy SD-WANs: Layer 7 visibility, AIOps, and cloud-delivered branch services.

Additionally, Prisma SD-WAN bandwidth on-demand licensing enables organizations to purchase SD-WAN based on the amount of bandwidth they are utilizing—right down to Mbps.

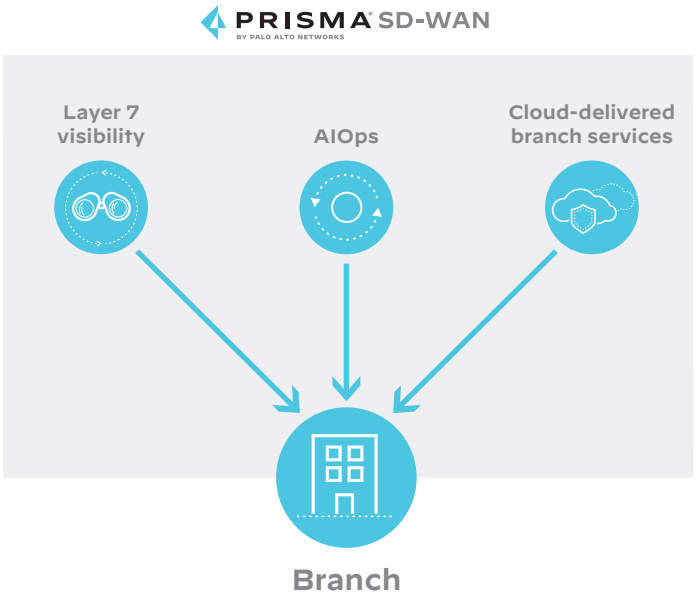


Figure 3: Prisma SD-WAN delivers a comprehensive set of capabilities for the branch

Layer 7 Visibility: Monitor the Network End to End

If you can't see it, you can't manage it. Prisma SD-WAN takes off the blinders by providing Layer 7 visibility, the key to managing the performance of the application itself. Armed with this application visibility, network architects can create policies based on application-related metrics such as responsiveness and availability, which are nearly impossible to accomplish at Layer 2 and Layer 3.

With Prisma SD-WAN, network managers now have the power to engineer traffic to enhance network quality, availability, reliability, and reduce operating costs. Compared to legacy SD-WANs, Prisma SD-WAN can improve network performance as much as tenfold. Most of all, IT groups can meet application-level KPIs directly tied to user satisfaction no matter where they may be located.

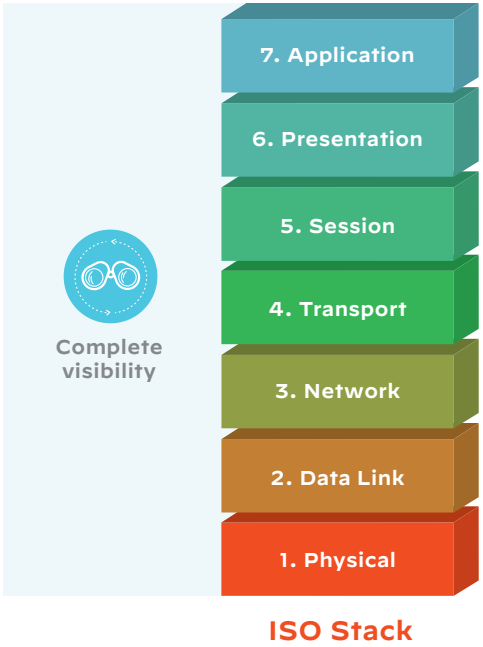


Figure 1: Prisma SD-WAN provides complete visibility across the entire stack

AIOps: Make Life Easier for Your IT Team

The manual tasks associated with managing legacy SD-WAN drains staff time, and will only get worse as network traffic grows. The solution is not hiring more staff but rather finding ways to offload routine tasks with automation, often the lion's share of network management time.

Unlike legacy solutions, Prisma SD-WAN incorporates artificial intelligence for IT operations (AIOps), a groundbreaking approach to IT operations. Using a supervised learning methodology, Prisma SD-WAN provides visibility into performance data and dependencies, analyzes the data to identify events such as network bottlenecks, and automatically alerts IT staff to problems, their root causes, and recommended solutions. And it gets better—thanks to machine learning, Prisma SD-WAN continues to improve accuracy of event detection and remediation suggestions.

Prisma SD-WAN analyzes historical data and continually learns which incidents are important enough to alert the IT team right away and which ones can be safely postponed until scheduled maintenance. An independent study found that replacing a traditional SD-WAN with Prisma SD-WAN can reduce network trouble tickets by 99%.

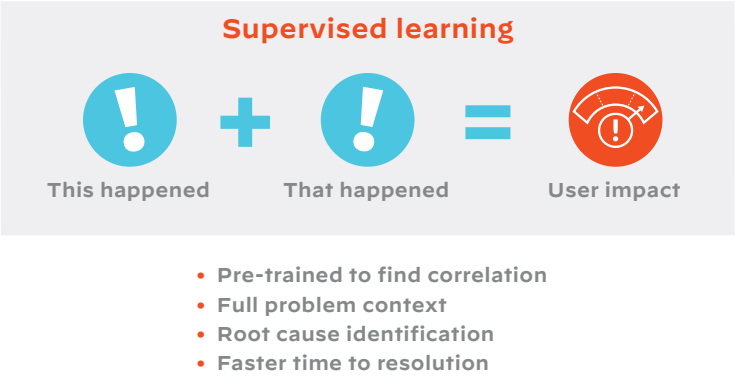


Figure 5: Prisma SD-WAN uses the supervised learning model for AIOps

Security in the Cloud: Operate with Confidence

The current approach to branch security is prone to coverage gaps and requires significant management of disparate security solutions. Prisma SD-WAN protects branch offices with comprehensive, cloud-delivered security wherever it is needed. By connecting branch offices to a nearby cloud gateway, network architects can provide secure access to all applications, something that legacy SD-WANs just cannot offer.

Prisma SD-WAN provides full visibility and traffic inspection across all ports and protocols. With Prisma SD-WAN, policies are applied in the cloud, not at the central office. As a result, Prisma SD-WAN protects traffic to and from the internet, SaaS applications, other branches, and the main data center.

In short, Prisma SD-WAN eliminates the security gaps caused by security that is bolted onto the branch. Now CIOs and other IT executives can be confident that their dispersed operations are secure and available, regardless of location.

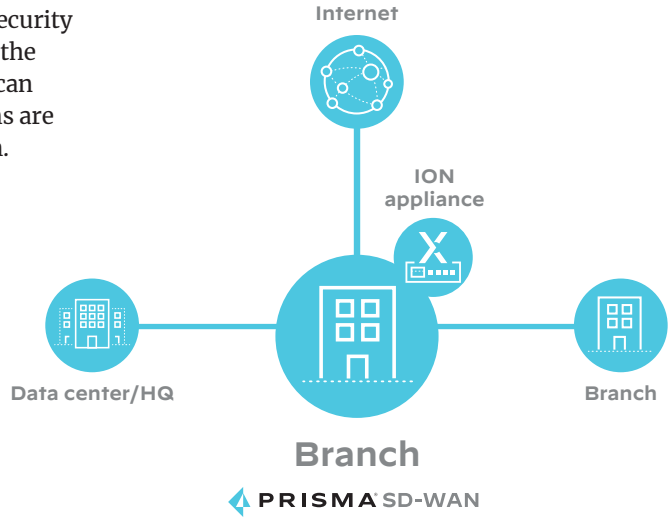


Figure 6: Prisma SD-WAN optimizes all branch traffic to provide the best user experience

The Integrated Branch: Gain ROI and Peace of Mind

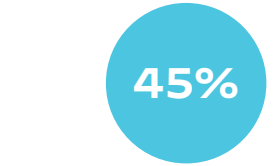
As organizations expand geographically, the disparate products required to enable branch services like security, operations and cloud can be a drain on staffing and the bottom line. Prisma SD-WAN takes aim at this challenge by enabling the branch services with CloudBlades, a revolutionary API-based architecture that completely automates and simplifies to integrate services at the branch with zero service disruptions. With Prisma SD-WAN, organizations can now deploy branch networks in minutes, not days or weeks as before.

The integrated branch has significant advantages over the traditional MPLS-based WAN approach. But don't take our word for it—listen to the experts. A recent Total Economic Impact (TEI) report from Forrester quantified these benefits:

- 243% return on investment (ROI) with an average payback of six months
- 45% reduction in branch breaches
- 50% reduction in time required to manage branch security

However, there's more to life than numbers. CIOs and other IT executives need solutions (and vendors) that they can count on. With Prisma SD-WAN, IT leaders can be confident that they can support the organization's goals for geographic expansion without needing to hire staff or incur hardware expenses. They can rest assured in the ability to provide secure, anytime, anywhere access to applications located on-premises, public and private clouds, and SaaS providers.

Return on investment



Reduction in branch breaches

Reduction in time

Your Turn

This e-book has clearly shown the limitations of legacy SD-WANs and explained how the next generation—spearheaded by Prisma SD-WAN—can overcome those obstacles and deliver tangible business value and peace of mind.

If you're ready to take the next step, visit our website or test it out with our free trial.

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