

eBook



6 Key Use Cases for Borderless SD-WAN



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Businesses need to take the next step in their network evolution by adopting Borderless SD-WAN: a networking architecture that delivers the same level of high-performance connectivity and security that exists in the branch to all remote locations and users, IoT devices, and multi-cloud environments.”

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6 Key Use Cases for
Borderless SD-WAN

Introduction

Software-defined wide-area networking (SD-WAN) augmented MPLS with high-bandwidth, inexpensive internet links, allowing users in branches to connect directly to distributed on-premise and SaaS applications. SD-WAN succeeded as a technology because users in branch offices needed to have much better support for quality of service and routing their traffic over a combination of low-cost internet links and MPLS. But the world kept expanding with users everywhere accessing applications that could be located anywhere. This gave rise to the Borderless enterprise and shifting perimeters. Fueling this is the increasing wireless adoption, proliferation of apps and IoT devices, and multi-cloud networking.

The SD-WAN of today is also showing signs of age through dealing with all this and dealing with new demands to support edge compute, and natively integrated on-premise security that is complemented with more comprehensive cloud-delivered security. As a result, SD-WAN must now cope with the new Borderless enterprise that is powered by hybrid IT and remote work¹ environments, where users can be anywhere, leveraging many types of connectivity methods. These requirements stress traditional SD-WAN, and the products that have risen to help it, to the breaking point. Businesses need to take the next step in their network evolution by adopting Borderless SD-WAN: a networking architecture that delivers the same level of high-performance connectivity and security that exists in the branch to all remote locations and users, IoT devices, and multi-cloud environments.



6 Key Use Cases for Borderless SD-WAN

¹According to this Forbes article, 68%, prefer hybrid work.
Source: <https://www.forbes.com/sites/joemckendrick/2022/12/28/hybrid-work-is-now-the-norm-for-the-year-aheadand-beyond/?sh=19331173520b>



Use Case 1

Context-Aware Secure SD-WAN

The explosion in volume of cloud applications and IoT devices means traditional SD-WAN solutions with controls based on application-centric policies are not enough, especially if the specific SD-WAN solution lacks zero trust principles. Traditional SD-WAN does not understand what applications users are trying to access and the potential risks they may pose, as well as the range of devices in use and their potential compromise.

The evolving enterprise now needs zero trust-enabled, context-aware SD-WAN to provide fast, reliable, and secure access to any application and device at any location with full visibility and the right set of granular controls.

Borderless SD-WAN addresses these challenges with a more scalable approach to security.



Look for the following Borderless SD-WAN capabilities to manage this use case:



Context-Awareness is key in the Borderless enterprise, where users, devices, sites, and clouds are all creating any-to-any connections that need to be secured and optimized. Context augments this by looking at multiple dimensions—who, where, and what applications and data the user is accessing and then by creating contextual policies that include understanding applications, application risks, user, user risk, device, and device risk, all of which make network operations more intelligent and more secure.



User-to-Multi-Cloud and Optimize SaaS and UCaaS Connections delivered through Borderless SD-WAN allows a user to get secure, optimized access to on-premise or cloud apps and cloud services over unreliable internet or branches that are globally distributed and are trying to access apps across unreliable mid-mile with a consistent policy and experience. Borderless SD-WAN also provides optimized cloud on-ramp to any Unified Communications as a Service (UCaaS) service access with the required security and keep organizations regulatory compliant. For instance, a person using Zoom for business should get secure and optimized voice and video, even over an unstable WAN link, while those using YouTube or gaming apps from work don't need to be optimized.



Look for the following Borderless SD-WAN capabilities to manage this use case:



Assured Application Experience results from Borderless SD-WAN providing full visibility into tens of thousands of applications with comprehensive analytics to deliver an optimal user experience and smart defaults for all these applications to be prioritized automatically.



Hybrid Network Security provides natively offered on-premise security to provide east-west segmentation at the enterprise edge to isolate any compromised devices automatically. To prevent all cyber-originated attacks, a tight integration with Security Service Edge (SSE) delivers benefits of Secure Access Service Edge (SASE) and delivers comprehensive security services and strong posture.



Leverage AI/ML to Build Operations at Scale

where Borderless SD-WAN collects all the required data throughout the entire network—per remote user, per branch office, and per cloud workload—and leverages AI/ML to deliver enterprise-wide predictive insights that make it easier for network engineers to ensure higher network performance while end-users gain higher productivity.



Use Case 2

Micro-Branch Connectivity

The term “micro branch” refers to a small office, a cafe, or retail store, which in today’s remote work culture, might be a location where a person is working. In these scenarios, there may only be a few users or devices; however, their needs for connectivity, quality of service, and security remain as crucial as they would be in a conventional branch office. They need a thin gateway that is cost-effective and offers quality connectivity and security.

Traditional SD-WAN does not support a thin gateway that is cost-effective and offers quality connectivity and security.

Borderless SD-WAN supports the micro-branch use case by providing lightweight software that resides on a compact SASE gateway, a hardware device located in a branch or a micro branch. In Borderless SD-WAN, network and security services are converged. A consolidated SASE gateway is the most suitable way of delivering Borderless SD-WAN.



Look for the following Borderless SD-WAN capabilities to manage this use case:



All-in-one device that powers the Borderless SD-WAN gateway that can be deployed in any branch, and which converges cellular connectivity, Wi-Fi, SD-WAN, security, and edge compute. This approach means that users and devices are protected no matter where they are or how they connect.



Remote and mobile access enabled through the Industry's most compact, lightweight, and ruggedized hardware form factor that provides local wireless connectivity, edge compute, application management, and wireless WAN connectivity. This approach extends full networking capabilities to literally anywhere, even places where traditional connectivity options are unavailable.



Use Case 3

Secure and Optimized Remote Working with Integrated Endpoint SD-WAN

Employees need the same zero trust security and reliable connectivity while working remotely as they have grown used to in the office. Today, providing remote access is frequently accomplished by combining SD-WAN devices with VPN software clients. However, this approach is suboptimal for two key reasons.

First is security. Remote access VPNs lack visibility into who is asking for access, what devices are being used, and what applications are being accessed. **Traditional SD-WAN solutions also lack zero trust capabilities, and can't scale to the needs of every remote user.** Zero trust network access (ZTNA) systems offer an alternative, but most don't offer the benefits of SD-WAN optimization.

Second is performance. Traditional VPNs route traffic to remote workers via VPN concentrators that are deployed across several locations. This process can add latency, which adversely affects the user experience. Further constraints stem from the fact that SD-WAN capabilities are offered via run-on specialized hardware that adds cost and complexity at remote locations along with fragmented policies that govern VPN, security, and SD-WAN capabilities.

Integrating SD-WAN and security capabilities into a unified software client running on user endpoint devices enables simplicity, visibility, and secure and optimized connectivity to remote users with consistent policy and application experience. This also allows network operators to deliver a unified policy framework that follows the users at the branch, home, cafe, and at any remote location.



Look for the following Borderless SD-WAN capabilities to manage this use case:



Integrated endpoint SD-WAN capabilities that dramatically improve the experience for remote and mobile workers. This approach can be enabled via a SASE platform. In this model, the platform provides network teams with full visibility into the apps being used by an employee, helping them identify non-sanctioned applications and improve troubleshooting. Integrating SD-WAN on the endpoint further improves the user experience by optimizing and creating QoS policies to prioritize traffic for latency-sensitive applications.



Integrated SSE tools help to solve the security challenge. Companies should look for solutions that seamlessly combine zero trust capabilities to provide granular users to application controls with least-privilege access and complete protection from cyber attacks with comprehensive enterprise-grade security that tightly integrates capabilities like SWG, CASB, DLP, SSPM, and FWaaS, to name a few.



Use Case 4

Effective Wireless Wide-Area Networking

One research prediction comments that in 2024, wireless-first will become mainstream for wide-area connectivity, accelerating 65% of enterprise, industrial, and public-sector organization investments to “untether” their operations.¹ 4G/5G is fast becoming the go-to method for connecting people, places, and things in our work-from-anywhere world.

However, SD-WANs are unable to provide fast, reliable, and flexible connectivity, whether that’s for a field vehicle always on the move or a stationary, enterprise access point on a wall that provides a strong signal inside your IT closets.

With Borderless SD-WAN, the type of wireless access users require is made feasible by leveraging existing cellular networks.

¹Source: IDC <https://www.idc.com/getdoc.jsp?containerId=prUS48391321>



Look for the following Borderless SD-WAN capabilities to manage this use case:



High levels of automation enabled through Borderless SD-WAN can reduce the cost and complexity of wireless WANs. For instance, organizations often look for a device that consolidates functions like SD-WAN and wireless gateway into a single device, runs all applications on the existing broadband link, and keeps the expensive wireless link as a backup. Since a wireless link is expensive and the available bandwidth is precious, companies should seek out a Borderless SD-WAN that can automatically allocate more bandwidth to high-priority applications based on configured policies.



Flexible wireless WAN devices with strong signal power are also important. Networking teams need devices with strong signal strength to the Borderless SD-WAN gateway in the IT closet as well as to mobile operators' cell towers. The right devices overcome the limitations of external antennas that lose signal strength as a function of distance.



Rugged devices for deployment anywhere are a must-have for companies looking to deploy Borderless SD-WAN as a wireless WAN linking to highly remote, hazardous, or harsh locations.



Devices that can be managed centrally from a single console will save time for the networking team and reduce costs by removing the need to deploy multiple vendors and consoles.



Use Case 5

Flexible IoT Intelligent Access

IoT device proliferation matters now more than ever. Traditional SD-WAN was not designed to support IoT devices, but their numbers have since exploded. Traditional SD-WAN was not built to provide full visibility into these IoT devices and categorize them to implement business-driven policies.

Borderless SD-WAN provides full visibility into all on-premise devices including IoT based on a rich context and implements granular controls with AI/ML-driven east-west segmentation if these devices pose risks to the network.

However, even with more computation taking place at the edge, businesses still need to ensure that their IoT devices have high-quality connectivity and QoS, are secure, and can be managed and monitored virtually as efficiently as possible.

³Source: "Call Center Statistics - 2023" Truelist.com. Jan. 1, 2023.
<https://truelist.co/blog/call-center-statistics/#:~:text=The%20number%20of%20people%20working,million%20currently%20to%201.8%20million.>



Look for the following Borderless SD-WAN capabilities to manage this use case:



Unlocking business value with integrated edge compute ensures ease of management while bringing compute closer to the data source. Companies should look for solutions that can collect and extract data from IoT sensors and deliver only the data that exceeds certain thresholds to the IoT cloud using cellular or other transport connections of choice.



A flexible approach to IoT applications that enables businesses to run out-of-the-box container lightweight applications including networking monitoring, services from a catalog, or run their own custom applications.



Outside-in access to support ongoing maintenance. Borderless SD-WAN solutions that come with a native IoT manager can accelerate time to incident resolution and avoid costly truck rolls through remote diagnostics. If a fault with the device is discovered, the IT responder can send the right part to fix the issue immediately to avoid or minimize business disruption.



Use Case 6

Manage Multi-Cloud Environments

A major limitation of traditional SD-WAN is that it was not designed to support multi-cloud networking. Companies need a networking solution that connects their clouds and cloud-based workloads securely, provides application-to-application connectivity, and enables automation.

Security is a key part of this requirement. Today, multi-cloud networking vendors offer solutions that support visibility and control across inter-cloud connections through a set of policies and automated configuration of connections. Doing so, they make it easier to migrate workloads to the cloud and orchestrate them once there. What's lacking is the integrated security and optimization across every user, device, site, and cloud that Borderless SD-WAN enables.



Look for the following Borderless SD-WAN capabilities to manage this use case:



Rich contextual awareness and the ability to integrate with cloud automation systems to support policies to control the manner of connectivity across clouds and to offer network optimization and failover.



A single, unified console capable of orchestrating Borderless SD-WAN software across all clouds and that enables software instances to interoperate and exchange routes with all major cloud providers.



Seamless integration with SSE tools delivers full-stack security to protect from all cyber attacks. Integrated security also enables companies to set policies uniformly across the entire network—for all devices and all users on all clouds.

Summary

Legacy SD-WANs had their moment. They were an ideal solution for yesterday's problems. But things have changed dramatically, and businesses now need a new approach to cope with a Borderless enterprise that involves remote working at scale, the proliferation of applications and endpoints located anywhere, other IoT devices, the rise of multi-cloud environments, and many other critical challenges.

Borderless SD-WAN updates legacy SD-WAN and extends true zero trust security and the best network performance with integrated security to wherever it is needed by the enterprises and their workers. It's a modern convergence of network and security that provides a foundation to accelerate SASE adoption and allows businesses to operate efficiently, consolidate and reduce costs, and streamline architectures today. Borderless SD-WAN with a SASE client also provides convergence at the product level to deliver consistent, secure, and optimized experience to any user without requiring a hardware appliance. Borderless SD-WAN restores simplicity, unified management, and full visibility to every application, at any network edge, and at any scale that was in danger of becoming unmanageably opaque, complex, and secure.



About Netskope

Netskope is a leader in Secure Access Service Edge, redefining cloud, data, and network security and helping organizations apply zero trust principles. The Netskope Intelligent Security Service Edge (SSE) platform is fast, easy to use, and protects people, devices, and data no matter where they are. Netskope helps organizations reduce risk, increase effectiveness, and gain unparalleled visibility into all cloud, web, and personal application activity.

Thousands of customers, including more than 25 of the Fortune 100, trust Netskope and its powerful NewEdge network to mitigate threats and address technological, organizational, network, and regulatory changes.

