Netskope Endpoint SD-WAN Revolutionizes Hybrid Work

Solution Brief

Netskope Endpoint SD-WAN converges with Intelligent SSE to deliver the industry's first fully software-based SASE client, providing organizations secure, optimized access with deep visibility and AIOps. Endpoint SD-WAN offers workers anywhere the same level of application experience and security from their laptops and devices as they would receive in the corporate office, without requiring any hardware.

Quick Glance

- Converged Unified SASE client that offers security across SD-WAN, SWG, CASB, ZTNA, DLP, and FWaaS, with superior experience across any branch and remote location
- AI-driven operations that simplify management with full visibility, automated troubleshooting, and insights into end-user experience, with per-user AppX score, traffic flows, policy violations, and anomaly detection
- High-performance connectivity for voice/video applications from fast and reliable connections with application-aware prioritization, and automated remediation of poor performance on the last mile
- Connect with multiple clouds and private data centers simultaneously and enable users to receive the most optimized direct to app access
- Support all applications including the ones that require reverse remote access, e.g., Microsoft Remote Assistance and TeamViewer

The Challenge

Organizations today often battle poor user experience, inconsistent policy, insufficient security, and cost and complexity issues that come from legacy solutions, especially cumbersome remote access VPN and SD-WAN architecture ill-equipped for modern hybrid worker needs. They question:

- How do you implement a consistent policy that follows the users/devices on the go, from branch offices to any remote location?
- How do you preserve underlying network performance, when any degradation can impact user productivity?
- How do you deal with blind spots created by lack of visibility into all applications that are being accessed?
- How do you prevent threats to infrastructure and reputation in case of a breach?
- How do you manage excessive costs and complexity that stem from relying on SD-WAN hardware appliances for optimization, VPN client for remote access, and an agent to consume security from the cloud?

The Solution

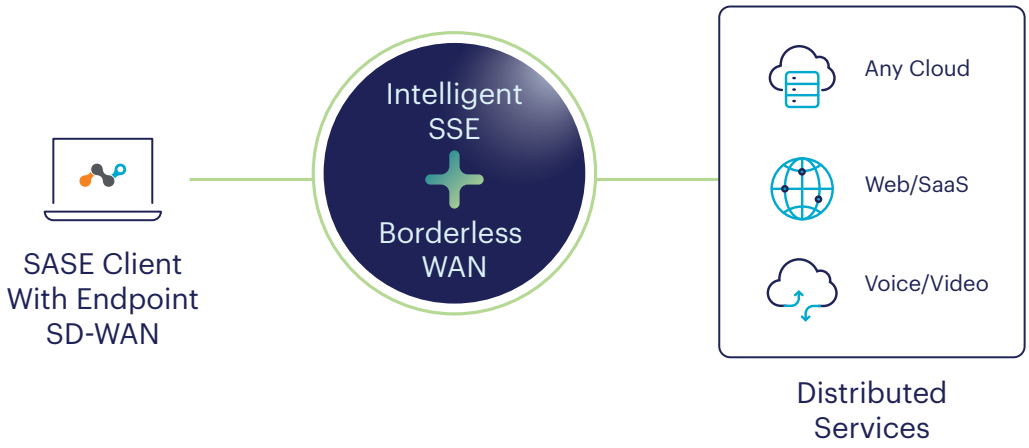
One Architecture—Endpoint SD-WAN provides enterprise IT with an optimized remote access solution that runs on end-user laptops and boosts productivity. A single SD-WAN fabric joins endpoints, branches, data centers, and multi-clouds with one platform, one policy, and one software, delivering context-aware, zero trust-based policies. The industry's first converged SASE client eliminates the need for multiple agents and hardware products and offers 360° protection, including a full-stack security solution that seamlessly integrates SD-WAN, SWG, CASB, ZTNA, DLP, SSPM, CSPM, and FWaaS.

Intelligent Access

Endpoint SD-WAN software client running on a user laptop can deliver:

- **Bi-directional Flows**—Endpoint SD-WAN natively provides both client-to-server and server-to-client traffic flows, enabling peer-to-peer communication including MS remote assistance and TeamViewer (remote access, control, and support tool). Users can also initiate peer-to-peer file transfers and VoIP communications.
- **One-to-Many Connectivity**—Optimized and concurrent direct multiple paths to cloud and private applications address single-tunnel shortcomings of existing architectures, simplify and eliminate sub-optimal routing, save egress public cloud costs, and enable users to receive the most optimized direct-to-cloud access across data centers and multiple clouds.

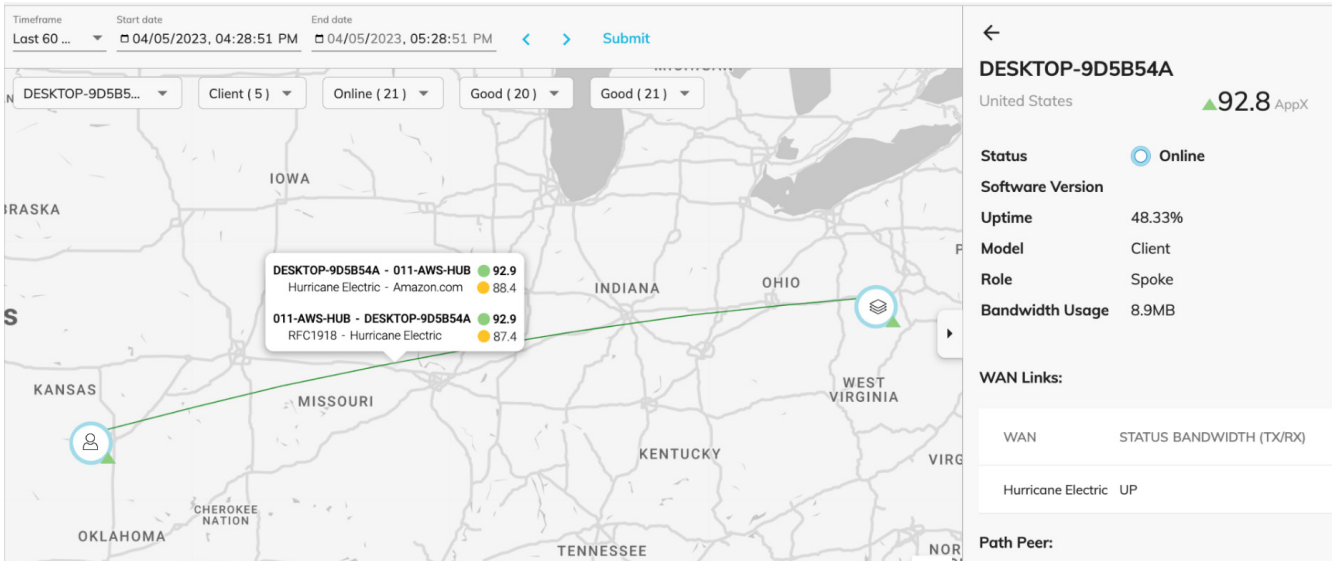
Endpoint SD-WAN extends Netskope Borderless SD-WAN and SSE innovations to deliver consistent security and superior user experience for the hybrid worker, while reducing overall costs and complexity.



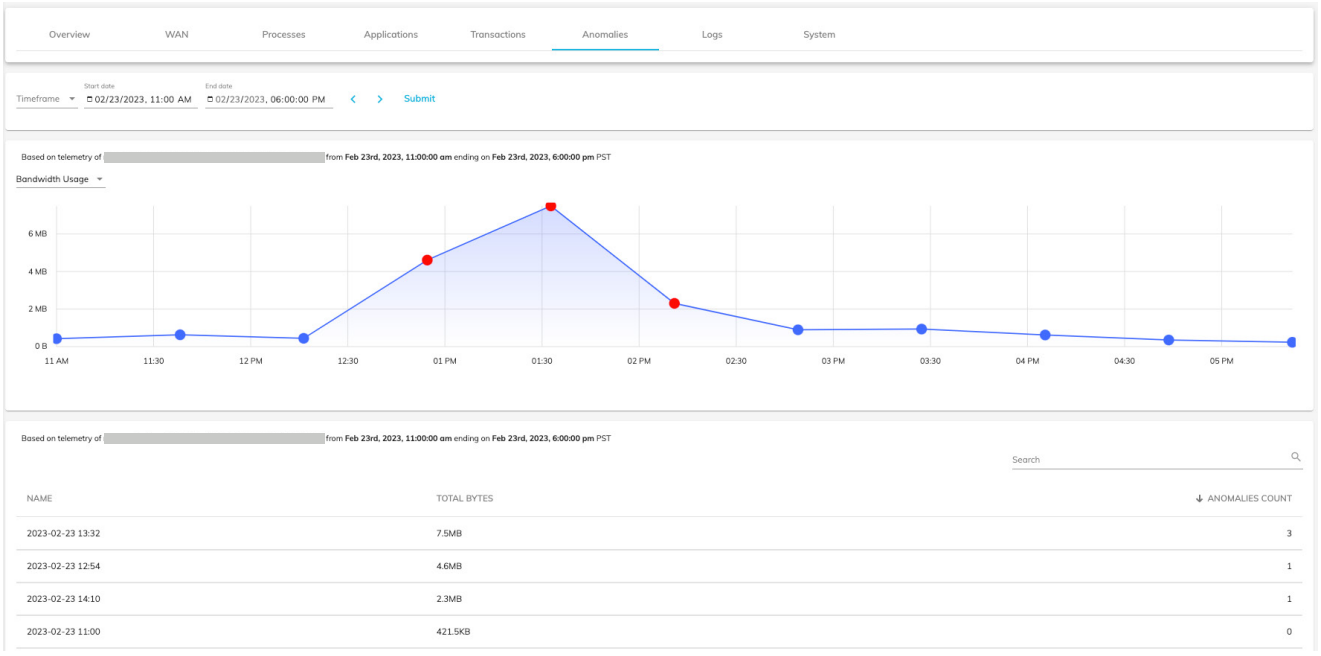
AI-driven Operations

Netskope Endpoint SD-WAN simplifies management with automated troubleshooting and insights into end-user experience, traffic flows, policy violations, and anomaly detection. Capabilities include:

- **Enterprise-wide per-user AppX score:** Bird's-eye view of all users' connectivity and quality across all regions now and in the past based on per-user, per-minute analytics. By digging further into the bad experience data, the IT administrator can proactively spot problem areas and isolate issues easily. Below is the Application Experience (AppX) Map that provides a flight tracker view of overlays between Borderless SD-WAN Gateways and Endpoint SD-WAN with AppX Scores. The "before" and "after" scores help the IT admin quickly narrow down if the issue is with the underlay or overlay. Per-user real-time link monitoring includes loss, latency, jitter, bandwidth utilization, and AppX Score from every user to every destination.

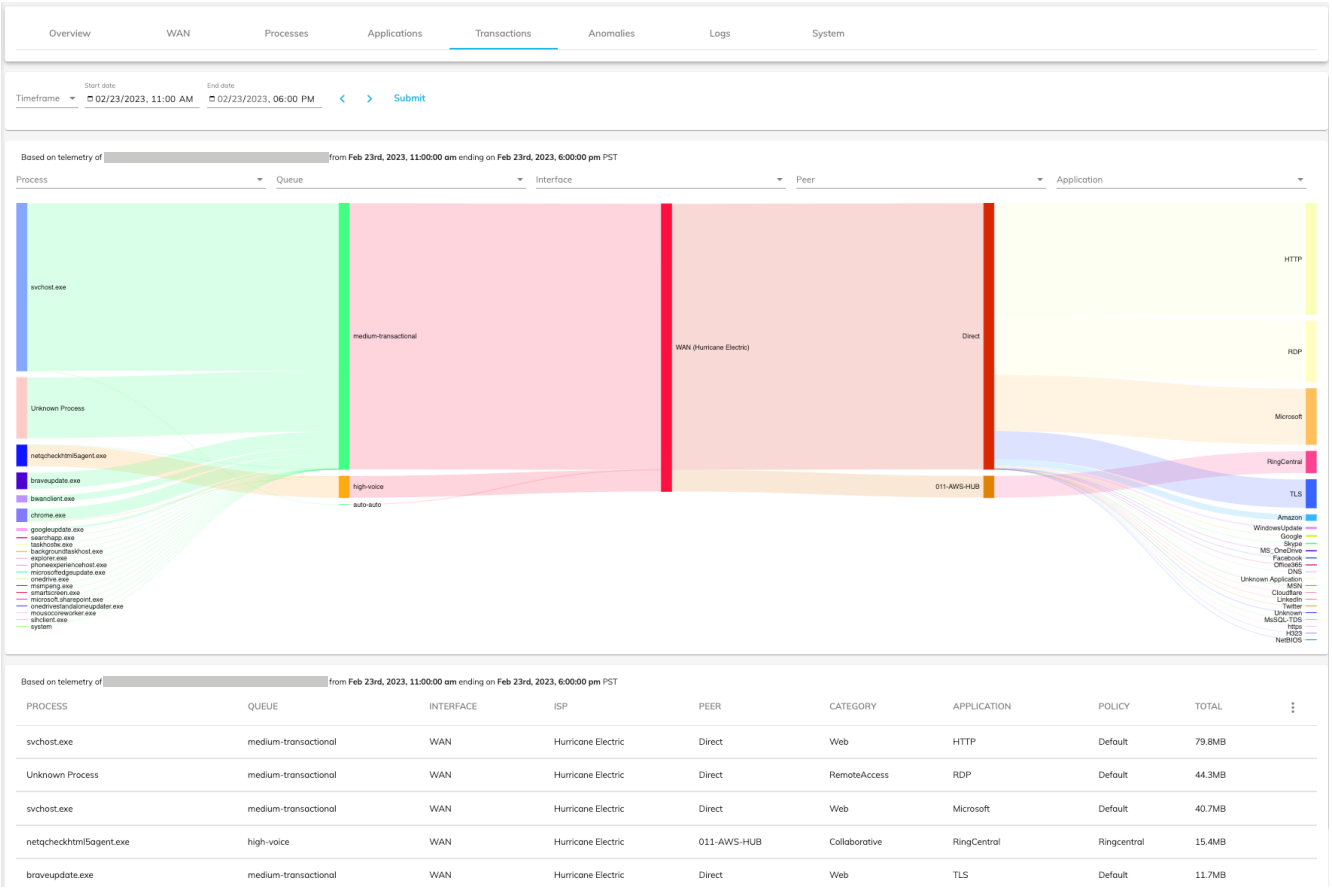


- **ML-based anomaly detection:** Identifies anomalies automatically by comparing the anomalous data with the historical data and allowing the IT admin to proactively narrow down issues. Autonomous monitoring includes collecting users' SLE data, detecting anomalies, and predicting SLA violations. This helps the IT admin resolve policy violations with network-wide flow analytics.



End-to-End Visibility and Analytics

Per-user flow analytics: A comprehensive flow transactions view provides end-to-end visibility on how application flows traverse the network, and what policies have been applied in the detailed flow records. The example below is a transaction view that shows a device and what applications it is accessing, what queues/interfaces the flows are traversing, and what is the next hop peer—together, a complete end-to-end view.



PROCESS	QUEUE	INTERFACE	ISP	PEER	CATEGORY	APPLICATION	POLICY	TOTAL
svchost.exe	medium-transactional	WAN	Hurricane Electric	Direct	Web	HTTP	Default	79.8MB
Unknown Process	medium-transactional	WAN	Hurricane Electric	Direct	RemoteAccess	RDP	Default	44.3MB
svchost.exe	medium-transactional	WAN	Hurricane Electric	Direct	Web	Microsoft	Default	40.7MB
netqcheckhtml5agent.exe	high-voice	WAN	Hurricane Electric	011-AWS-HUB	Collaborative	RingCentral	Ringcentral	15.4MB
braveupdate.exe	medium-transactional	WAN	Hurricane Electric	Direct	Web	TLS	Default	11.7MB

- **Per-endpoint device analytics:** Per-endpoint device analytics provides a complete and useful view into system data like CPU and memory utilizations. The statistics report any Wi-Fi issues, monitor the internet link, and identify any bandwidth utilization issues.

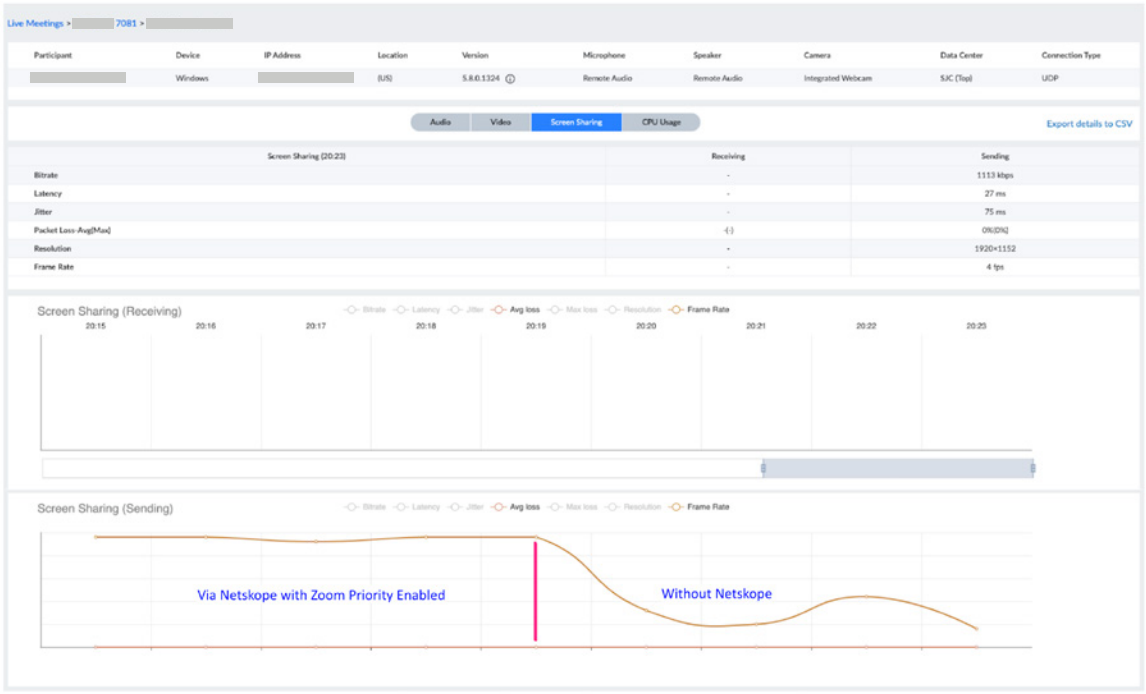
System monitoring graphs showing data over time for Uptime, CPU Load, Memory, and LTE Signal Strengths for the IT admin to monitor and issue expeditely.

Assured Application Experience

The Endpoint SD-WAN client automatically performs monitoring to dynamically measure loss, latency, jitter, and bandwidth. Endpoint SD-WAN delivers optimal application experience for critical voice, video with app aware prioritization, and on-demand remediation (for UDP traffic) to mitigate packet loss on a single unstable last mile link.

Endpoint SD-WAN also enables optimized access to and across clouds with full context-aware quality of experience. Endpoint SD-WAN routes these packets to the closest hosted Netskope Cloud Services Fabric, which then hands them off to the best peering Zoom PoPs.

The proof is evident based on joint test results. In joint testing with Zoom, with 3% packet loss, Netskope Borderless SD-WAN demonstrates a continuous high-quality user experience by remediating packet loss significantly and delivering a 24 FPS share frame rate with a steady bit rate to the client machine (shown in figure below). The Zoom client without Netskope Borderless SD-WAN solution struggledwith the packet loss and had to drop its resolution to an 8 FPS share frame rate with an unstable bit rate, leading to a degraded user experience.



Zoom Test Results @ 3% packet loss (Legacy vs. Netskope)

Convergence

Netskope SASE Client is the industry's first software-only client to fully converge SD-WAN and SSE capabilities. It delivers context-aware SASE, eliminates the sprawl of multiple clients and point products, and provides a simple, secure, and high-performance remote access service that follows principles of zero trust to securely connect remote workers, providing deep visibility and control into application and application risks—all using a single, unified architecture. Borderless SD-WAN quality of service smart-defaults for over 60,000 applications, automatically identifies and prioritizes applications, and minimizes latency, jitter, and loss to deliver consistent quality of experience.

Users will receive:

- **A converged experience using one platform, one software, one policy:** that eliminates fragmented infrastructure for users anywhere—in branches or on the go.
- **360° protection:** With access to a worldwide network of NewEdge PoP for fast and secure cloud on-ramp, Netskope Endpoint SD-WAN provides all SASE services across SD-WAN, SWG, CASB, ZTNA, DLP, and FWaaS using one converged, unified SASE client.

Netskope Endpoint SD-WAN offers workers anywhere the same level of application experience and security from their laptops or other devices as they would receive in the corporate office, without requiring any hardware.

BENEFITS	DESCRIPTION
Unified experience	One consistent experience enabled by the single SD-WAN fabric connecting both endpoints and branches where the consistent policy follows the users/devices wherever they go—home, office, coffee shop, etc.
Reduced cost and complexity	Netskope SASE Client is the industry's first to converge endpoint SD-WAN and intelligent SSE eliminating multiple clients and point products, and delivering optimal ROI.
Simplification and automation	Simplifies and automates how users simultaneously connect to multiple clouds and data centers by eliminating single-tunnel limitations of existing remote access VPN and reviving the most optimized experience with policy-based direct-to-app access.
Scale on-demand and grow your business	Leverages the multi-tenant orchestrator, the central management platform to onboard endpoint SD-WAN clients and sites at any scale in-line with business growth. Takes advantage o fthe industry's first 100% SaaS-based cloud-native controller that separates control and data planes.
Unify and streamline	Netskope Borderless SD-WAN extends context-aware zero trust policy, SD-WAN, and intelligent SSE across our entire portfolio—Netskope SASE Client, Netskope SASE Gateway, Netskope Cloud On-ramp, Netskope Cellular Gateways—providing every remote user, device, and site with simple, secure, high-performance access to multi-cloud and hybrid-cloud environments.

"We are excited for this announcement; As a full-service managed services provider, we look for new technologies that can help our customers be faster, smarter, and more productive. Harnessing the power of context-aware SD-WAN, Netskope Endpoint SD-WAN is delivered right to user endpoints, replacing legacy VPN with all of the benefits of SD-WAN and without requiring any hardware appliance. Endpoint SD-WAN helps us provide our customers with consistent visibility, security, and network optimization, anywhere their users and devices are."

Mike Hogenauer, Network Director, FIS Global