

SD-WAN Monitoring Solution

Driving Success with the New Realities of Network Connectivity

Overview



Realizing the importance of building greater flexibility and resilience into their operations, many companies began digital transformation initiatives well before 2020. When the pandemic hit, it rapidly and profoundly changed business conditions, putting an even greater premium on operational agility. Supporting the 'work from home' model became a major focus and was, in most cases, a major success.

While the permanence of this very different model remains to be seen, long-standing questions about its efficacy have been put to rest. Simply put, it works. Going forward, organizations will need to support a new, hybrid model of corporate, branch office, and home network connectivity. Facilitating this new arrangement requires more flexible and affordable connectivity.

Many teams are striving to meet these needs with SD-WAN. Yet these solutions create new challenges, particularly with network monitoring, that must be resolved before teams can deliver the more flexible and less costly connectivity their organizations need. Legacy WAN monitoring systems fall short. What IT, engineering, and operations teams need is monitoring capabilities that can keep up with fast and dynamic SD-WAN links.

As an industry-leading provider of network monitoring solutions to top enterprises, SevOne knows what it takes to successfully monitor next-generation networking technologies at scale. Our experts focused on addressing the unique monitoring challenges associated with SD-WAN deployments. The result is the SevOne SD-WAN Monitoring Solution, the most effective way for organizations to mitigate the transitional risk of moving from legacy WANs to SD-WANs.

SD-WAN's Upside

Given the scope and pace of change happening in their networks, IT and NetOps teams need more nimble and cost-effective ways to provision and manage their hybrid WAN environments. SD-WAN introduces new software layers that can automate WAN configuration across MPLS, Internet, and cellular data links based on pre-defined policies. Whether the WAN is managed by an enterprise operations team or is outsourced to their WAN provider, these SD-WAN policies can drive significant cost savings and performance improvements. The main way they gain those benefits is through rapid and automated WAN configuration based on the performance and availability of primary and secondary WAN links.

The policy-driven and software-powered automation of SD-WAN can deliver significant improvements in connectivity performance, reliability, and cost-effectiveness.

Issues and Challenges

SD-WANs typically don't replace old MPLS-based WANs in one fell swoop. Instead, organizations usually go with phased SD-WAN deployments. That puts IT and NetOps teams in the untenable position of needing to manage their network holistically, with a mix of MPLS and SD-WAN links in different segments, all while trying to watch over it all with a mix of their SD-WAN controller management and legacy monitoring tools. This 'swivel-chair' monitoring often results in problems such as:

Lack of end-to-end visibility – Quickly gauging the overall health and performance status of a heterogeneous WAN environment is not easy.

Troubleshooting and problem resolution – Having to stitch together performance data from MPLS and SD-WAN segments to find, diagnose, and fix problems is slow and error-prone.

Performance optimization – Understanding the performance of highly dynamic SD-WAN in the context of the rest of the network and network services it connects to is a complex undertaking.

Monitoring & managing the user experience – Too often with legacy monitoring tools, IT teams learn about branch office connectivity problems by way of complaints users have already made to the Help Desk. Detecting and addressing issues before they impact users is what's needed.

As organizations grow and change, they need to be able to provision and de-provision connectivity services with speed and agility. WANs based solely on MPLS links won't get today's job done because they are too inflexible and costly.

SD-WAN is clearly the future. For most shops, however, the hybrid model will be their reality for the near-to medium-term. So, they have to make that model work.

To do that, they need next-generation monitoring capabilities precisely like those provided by the SevOne SD-WAN Monitoring Solution.

Key Benefits of the SevOne SD-WAN Monitoring Solution

The SevOne SD-WAN Monitoring Solution complements the management capabilities delivered with SD-WAN controllers by delivering continuous visibility into WAN infrastructure. With customizable, persona-based dashboards for network operations, network engineering and line of business owners, users now have greater insight into the network services running on them, helping their teams:

Ease the transition to SD-WAN – Monitor existing, traditional MPLS WAN and new software-defined WAN segments from a single, unified dashboard. Automatically monitor new SD-WAN infrastructure as soon as it is deployed.

Automate path and class data correlation – Automated, dynamic and correlated analysis of controller data for easy visualization of what traffic was transmitted at what class and path as assigned by the SD-WAN controller.

Visualize SD-WAN Tunnels – Create visualizations to show traffic, alerts, and availability, with drill-downs to tunnel data to help simplify access to KPIs for troubleshooting.

Extend Visibility Across Their Entire Network – Extend visibility to other critical network assets, such as enterprise campus and branch office Wi-Fi, software defined data centers, and public clouds.

Integrate with Operational Models – Modify any of the Solution's dashboards to create and share operational and business views, then combine them as workflows across teams to better fit into operational models.

The Heart of the Solution: Tracking Key Performance Indicators

Leveraging one or more SevOne Data Collectors for SD-WAN, this Solution collects and analyzes a series of multi-vendor key performance indicators (KPIs) that enable users to:

- Learn business application usage and asset utilization for cost-savings analysis
- Understand the impact of SD-WAN policies on application behavior and performance
- Monitor events and identify the root causes that led to the events
- Provide actionable intelligence for mitigating risks and correcting problems
- Create customized, aggregated KPIs of SD-WAN services by customer, business group, path & more

SD-WAN Performance Data Collected

Leveraging a single SD-WAN data model, SevOne Data Collectors for Cisco, Versa, and Nuage SD-WAN, the solution extracts the following performance data enabling users to visualize a series of multi-vendor dashboards.

- **Total Interface Object Indicators**
 - bw_down
 - bw_up
 - down_capacity_percent
 - interface_speed
 - oper_status
 - rx_drops
 - rx_errors
 - rx_kbps
 - rx_octets
 - rx_pkts
 - total_mbps
 - tx_drops
 - tx_errors
 - tx_kbps
 - tx_octets
 - tx_pkts
 - tx_pps
 - up_capacity_percentage
- **Total Tunnel Object Indicators**
 - destination_interface
 - jitter
 - latency
 - loss
 - loss_percentage
 - rx_octets
 - rx_pkts
 - rx_utilization
 - source_interface_speed
 - total_utilization
 - tx_octets
 - tx_pkts
 - tx_utilization
- **Total Device Health Object Indicators**
 - cpu_utilization
 - disk_utilization
 - fan_status
 - memory_utilization
 - temperature_status

Out-of-the-Box Dashboards



OPERATIONS GEO TOPOLOGY

The Solution's Geo Topology Dashboard enables teams to quickly understand the health and performance of their SD-WAN-based networks, with single click access to troubleshooting data. With user-supplied geo-coordinates, the Geo Topology Dashboard automatically creates an interactive topology map with performance-based visual analysis. Color-coded paths help users to visualize fault conditions that need attention, and mouse-over features provide easy access to details. Identify applications beyond port-based applications. Finally, this dashboard can filter flows by SD-WAN overlays and sites, aiding users throughout the troubleshooting process.

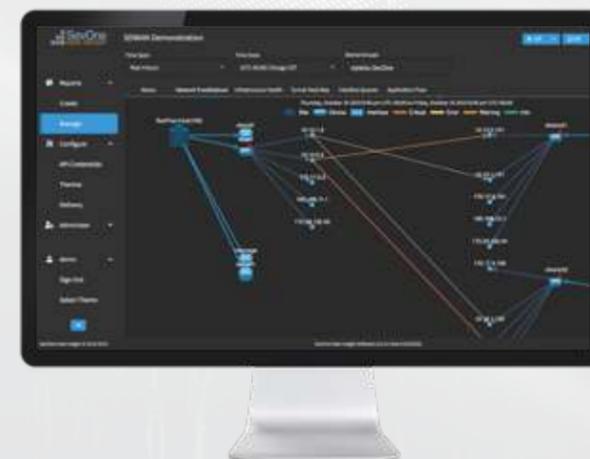
AUGMENTED FLOWS DASHBOARD

With support for Cisco and Versa SD-WAN, the Augmented Flows Dashboard show network flows with SD-WAN paths along with the specific SLA class assigned by the SD-WAN controller. Users can automatically identify flows originating from specific sites, and validate SLA class and the WAN path taken by the flow from one dashboard. Additionally, support for DPI capabilities allow users to identify applications beyond port-based applications. Finally, this dashboard can filter flows by SD-WAN overlays and sites, aiding users throughout the troubleshooting process.



NETWORK OPERATIONS & INTERFACE DASHBOARDS

The Network Operations Dashboard lets users quickly visualize SD-WAN topology with the specific devices, ports and interfaces that make up the service. Network operations teams can view specific sites and monitor interface port assignments to validate their SD-WAN topology, while also viewing KPI data in the same dashboard. The Interface Dashboard provides visibility into the transmission performance of edge router interfaces and WAN links by class of service (CoS). By viewing the trends of traffic dropped by CoS priority queues and WAN links, network planners can provision the optimal WAN link bandwidth.



Professional Services, Support & Training

SevOne offers a complete set of professional services for the SD-WAN Monitoring Solution designed to ensure that customers maximize the value of their investment. These service offerings include:

- Quick Start Program
- Post-implementation services
- Customized integrations
- Gold and Platinum maintenance
- Customer training

Conclusion

Your organization's networking and connectivity needs have changed dramatically over the past couple of years, and undoubtedly will continue to evolve. Transitioning to an SD-WAN-based approach is your most viable option for meeting those needs.

The SevOne SD-WAN Monitoring Solution eliminates worries about management complexity and tool proliferation. With this SevOne Solution, your organization – and your team – will have the next-generation monitoring capabilities it needs to support any connectivity requirements now and into the future.

CONTACT US

To learn more about the SevOne SD-WAN Monitoring Solution, contact us via email at solutions@sevone.com or visit us on the Web at www.sevone.com/solutions/sd-wan.

About SevOne.

SevOne provides the world's largest CSPs, MSPs and Enterprises with the most comprehensive technology portfolio to collect, analyze and visualize network & infrastructure performance data to deliver actionable insights to compete and win in the connected world. SevOne serves organizations that are looking to complex, dynamic next-generation infrastructure such as software defined networks, orchestrated containers and cloud technologies to support their business goals.