

15 ESSENTIAL SD-WAN METRICS

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Essential SD-WAN Management Tools

It's nearly impossible to troubleshoot and resolve SD-WAN issues without visibility. Monitoring SD-WAN is crucial for maintaining the peak performance, safety, and dependability of Software-Defined Wide Area Networks. Through overseeing the network infrastructure, administrators obtain immediate insights into the network's actions, performance indicators, and security incidents. Such insights empower businesses to preemptively tackle challenges, enhance network utilization, resolve issues, and adhere to industry norms.

Overseeing the performance of SD-WAN networks is pivotal for several reasons:

- **Optimizing Performance:** Monitoring SD-WAN provides clear insights into network and application health. By tracking metrics such as traffic flow, delay, packet drops, and more, potential performance hitches can be identified and addressed. This ensures vital applications get the required bandwidth and QoS, preserving a consistent user experience.
- **Diagnosis and Problem Solving:** Real-time insights from SD-WAN infrastructure monitoring allow pinpointing and addressing the core of network issues. Observing elements like routers, links, and switches helps in rapidly detecting discrepancies, facilitating immediate diagnosis and solutions. This proactive approach minimizes operational disruptions and downtime.
- **Resource Management and Expansion Planning:** By consistently monitoring SD-WAN, organizations gain a clear picture of network usage and bandwidth demands. Analyzing past data and observing trends assist

administrators in forecasting high-demand times, preparing for future capacity needs, and adjusting resources judiciously.

- **Ensuring Network Safety:** One of the pivotal aspects of SD-WAN monitoring is enhancing network security. Observing network activity and security events enables administrators to spot and counteract potential threats promptly. This constant vigilance aids in noticing unusual network behaviors, thwarting unauthorized entries, and bolstering defensive strategies.
- **Regulatory Adherence and Documentation:** Many firms face obligatory standards that demand regular network performance and safety assessments. Through SD-WAN monitoring, organizations can gather the requisite data for compliance reports, confirming their alignment with industry norms or specific regulatory mandates.
- **Managing Service Commitments:** For businesses that have service level contracts with their network providers, SD-WAN oversight is vital. It aids in evaluating the service quality against set standards, ensuring that agreed-upon service benchmarks are consistently achieved. Moreover, it equips organizations with the necessary data for SLA documentation and addressing any potential discrepancies.

What should I monitor?

Monitoring an SD-WAN network is essential to ensure optimal performance, detect issues, and maintain a secure environment.

Here's a comprehensive list of elements and metrics you should monitor in your SD-WAN network:

1. **Traffic Flow and Volume:** Understand how data moves through your network by monitoring ingress and egress traffic, as well as the volume of data being transferred.

2. Application Performance: Track the performance of specific applications to ensure they are receiving the necessary resources. Monitor metrics like application response time, jitter, and packet loss specific to each application.

3. Link Performance:

- **Bandwidth Utilization:** Ensure links are not oversaturated.
- **Latency:** Measure the time taken for data to travel between two points in the network.
- **Packet Loss:** High packet loss can significantly degrade network and application performance.
- **Jitter:** Monitor the variation in latency over time, especially important for real-time applications like VoIP.

4. Link Failover and Uptime: SD-WAN is known for its capability to use multiple links. Monitor how often and why failovers happen, and keep an eye on the uptime of each link.

5. Security Metrics:

- **Intrusion Detection/Prevention System (IDS/IPS) alerts:** Track unauthorized access attempts or suspicious behavior.
- **Firewall Hits and Denials:** Monitor traffic being denied by the firewall.
- **VPN Tunnel Status:** Check the health and status of VPN connections.

6. Quality of Service (QoS) Metrics: Ensure priority applications get the necessary bandwidth and track how traffic is being shaped and prioritized.

7. Node/Device Health: Monitor the health, status, and resource utilization (CPU, memory, etc.) of SD-WAN devices and nodes.

- 8. Error Rates:** Keep track of error rates on the network interfaces.
- 9. Service Level Agreements (SLA) Adherence:** Monitor metrics related to your SLA with service providers, ensuring you're receiving the promised service quality.
- 10. Path Selection Decisions:** Understand why the SD-WAN solution is choosing specific paths for specific types of traffic.
- 11. Configuration Changes:** Monitor any changes to the SD-WAN configuration to track adjustments, spot unauthorized changes, and maintain a record for audit purposes.
- 12. Centralized Policies:** Ensure that your centralized policies are being applied correctly across the network.
- 13. Environmental Metrics:** For physical SD-WAN devices, monitor environmental factors like temperature and humidity to prevent hardware issues.
- 14. End-User Experience:** Use synthetic transactions or real user monitoring to understand how end-users experience the network and applications.
- 15. Logs and Alerts:** Collect logs for forensic analysis and set up alerts for immediate notification of issues or anomalies.

Regularly monitoring these aspects of your SD-WAN network will enable you to maintain a robust, efficient, and secure environment. It will also allow you to be proactive in addressing potential issues before they become critical problems.

Using specialized network monitoring tools like the CommandLink ITSM to oversee SD-WAN networks presents numerous advantages over depending strictly on built-in SD-WAN monitoring capabilities.

Here are some of these benefits:

- **Unified Overview:** These tools offer an all-encompassing perspective of the entire network setup, encompassing both SD-WAN and non-SD-WAN elements. By presenting a singular dashboard that amalgamates data from diverse network devices, standards, and providers, they ensure a seamless monitoring experience, facilitating efficient issue detection and troubleshooting.
- **Broad Vendor Compatibility:** Typically, these tools are compatible with a vast array of network gadgets and providers. This adaptability lets enterprises monitor SD-WAN setups that integrate hardware from various manufacturers. In contrast, inherent SD-WAN monitoring might be constrained to particular vendors. Using these tools ensures uniform monitoring across varied equipment.
- **Enhanced Data Analysis and Documentation:** Many network monitoring tools come equipped with sophisticated data analysis functions. They're adept at churning out detailed reports, graphically representing network metrics, and offering longitudinal network behavior insights. Such advanced capabilities enable a proactive approach, allowing trend spotting and data-informed optimization decisions. This depth might be lacking in standard SD-WAN monitoring.
- **Adaptable Alerts and Customization:** These tools grant the flexibility to tailor monitoring benchmarks, curate alerts, and specify exact monitoring criteria tailored to an organization's specifications. Such adaptability ensures prompt and relevant notifications, streamlining the response to potential issues. This degree of customization might surpass what's achievable with inherent SD-WAN monitoring.
- **Readiness for the Future:** Network monitoring tools are often architected keeping the future in mind, ensuring compatibility with both existing and upcoming technologies. This means they're equipped to handle both

conventional network requirements and those of newer, evolving technologies. Leveraging these tools positions enterprises to be prepared for the future, ensuring consistent monitoring as SD-WAN technologies advance and diversify.



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