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Differentiate Managed SD-WAN Services with Assured Performance

Achieve correlated SD-WAN overlay and physical network underlay visibility, plus KPI insights, with a standards-based solution

Benefits for businesses

- Reduced OpEx through consolidation of multivendor SD-WAN management tools.

- Single platform for underlay and overlay visibility and SLA Key Performance Indicator (KPI) monitoring.

- Faster troubleshooting with event correlation.

- Improved customer experience with "right first time" service provisioning.

- Actionable insights and events for automated zero-touch operations.

- Patterns and baselining that allow for ongoing improvements to the service.

Commercial opportunities are opening up for Communications Service Providers (CSPs) as enterprise customers increasingly look to outsource SD-WAN management. With the growth of SD-WAN, enterprise use cases are more varied, from secure distributed access for branch and home-based workers to assuring cloud application performance to private data centers and Software-as-a-Service (SaaS) at regional hubs.

Service providers need to support multiple best-in-class SD-WAN and security vendors, assure network and application performance, and offer competitive Service Level Agreements (SLAs). In fact, comprehensive network performance management across legacy and SD-WAN deployments will be key to driving successful managed services for CSPs, according to a Heavy Reading white paper.*

SD-WAN as an overlay network is flexible in combining bandwidth and optimizing network routes, but it also masks the biggest challenge of managing performance across multiple transport networks (including third-party networks).

Challenges

Managed SD-WAN providers face challenges such as poor availability, low throughput, high bandwidth, latency, and jitter across hybrid networks. Gaining visibility into network performance is critical to ensure that SLAs are met and end customers are happy. However, for true end-user Quality of Experience (QoE), service providers need solutions that can monitor the physical underlay as well as the overlay network.

They also need to be able to correlate events for customer reporting and SLAs. Additionally, automation will be a key requirement going forward because it is relevant to all aspects of deploying and managing SD-WAN services.

(Source: Heavy Reading, The Future of Managed SD-WAN Services)*

SD-WAN performance challenges

- Managing SD-WAN performance across hybrid networks and domains

- Understanding SLA verification across different transport networks and systems

- Coordinating and automating new service verification

- Breaking down domain silos and creating a uniform view of network and application performance

- Monitoring performance of the underlay network and its correlation to the overlay—a priority for automation

Solving SD-WAN performance challenges

Managing multiple SD-WAN services and related tools requires publicly available APIs, a standards-based architecture, cloud-native microservices, and support for flexible metadata and real-time data streaming. Cisco® Provider Connectivity Assurance (formerly Accedian Skylight) offers an open platform to manage multiple SD-WAN services, providing complete underlay and overlay visibility along with the ability to analyze enriched data and correlate events for faster troubleshooting.
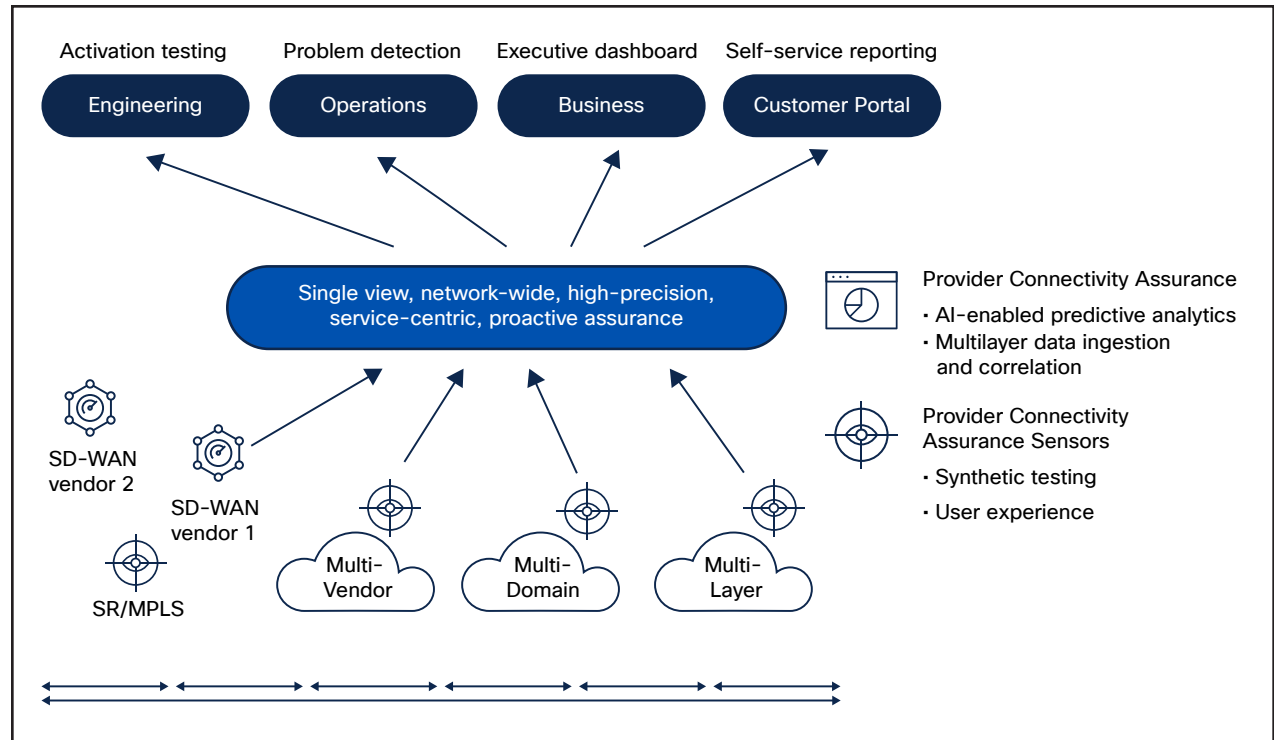

Figure 1.   Cisco Provider Connectivity Assurance aggregates data to monitor SLAs across multiple service offerings

The Provider Connectivity Assurance cloud-native active testing and monitoring solution can be deployed in the service chain. Standard open APIs allow easy and dynamic ingestion of data from any third-party platform and the ability to push enriched data to any data bus or system.

With full visibility into the overlay and transport network, service providers can effectively manage customer SLAs and differentiate their services in several ways. These include offering SLA performance tiers (for example, gold, silver, and bronze), improving real-time visibility into service performance in customer self-serve portals, and reducing errors during service provisioning by assuring that the delivery of services is right the first time.

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Benefits for SD-WAN service providers

- A cloud microservices platform enables future scalability and flexibility to manage any SD-WAN vendor, universal Customer Premises Equipment (uCPE) platform, Cloud-native Network Function (CNF), or Virtual Network Function (VNF).

- Multitiered performance assurance ingests third-party data and supports OpenMetrics standards and open APIs.

- Underlay and overlay visibility correlates data in a single open platform (application and transport aware), and enriched data output can be used by multiple systems.

- Industry-leading performance is achieved with service activation testing that has zero impact on end-to-end service performance.

- SLA reporting for near-real-time granular (every millisecond) and high-precision performance metrics and KPIs enables CSPs to offer differentiated SLA tiers.

- Troubleshooting with performance data analytics in real time enables proactive monitoring and issue resolution.

- Automation using open APIs allows easy integration into closed-loop systems, creating actionable events to automate issue resolution.

The platform offers a multilayered architecture featuring Provider Connectivity Assurance Sensors and an AI-enabled performance analytics engine to help service providers deploy services faster, manage SD-WAN services more effectively, and provide a superior end-user experience.

A flexible combination of software agents, cloud-native sensors, hardware-assisted components, virtualized functions, and smart Small Form-Factor Pluggable (SFP) hardware make up the lightweight Assurance Sensor layer. Provider Connectivity Assurance supports multitiered performance assurance and can be deployed wherever gaps in existing vendor solutions need to be filled, including deploying active test agents to gain visibility into the underlay network and passive sensors to monitor application performance.

The platform's performance analytics engine combines data from its Assurance Sensors and third-party data sources into a single view of end-to-end network and service performance. It offers machine learning–powered alerts and rapid troubleshooting for network and application performance issues. Real-time intelligent monitoring also helps to predict and automate fixes. Raw data and KPIs can be enriched with metadata on SD-WAN locations, customers, equipment, or the transport network, for better insights.