

MPLS vs SDWAN



MPLS

- It offers excellent QoS when it comes to avoiding packet loss and keeping a business's most important traffic flowing. This reliability is especially essential to maintain the quality of real-time protocols, such as Voice over IP (VoIP).
- Network paths are predetermined, so packets travel only along the paths to which they're directed within the MPLS service providers Network.
- Downside of MPLS is its bandwidth cost.
- MPLS network doesn't offer built-in data protection, and if incorrectly implemented, it can open the network to vulnerabilities. But we can always build secure overlay network on top of MPLS for end to end data protection.
- Provisioning and upgrading time is too high when compared to SD-WAN.
- End-to-End guaranteed bandwidth.
- 1:1 Upload and Download speed.

SDWAN

- The primary advantage of SD-WAN is security. Provides an End-to-End Data protection.
- Key benefits such as visibility, scalability, performance, and control are enhanced.
- Enables central network control and traffic management as well as network automation. Single point of Control/Mgmt.
- Today's companies prefer network architectures that integrate security, policy, and orchestration, and SD-WAN covers those bases by unifying secure connectivity.
- SD-WAN comes with no bandwidth penalties. Customers can upgrade easily by adding new links, with no changes necessary to the infrastructure or network.
- Enables the ability to cost-effectively mix and match network links according to content type or priority.
- SD-WAN can benefit businesses by removing expensive routing hardware and instead provisioning connectivity using a bare metal device/x86 hardware/VM.
- When deploying SD-WAN through an NFV-based model, capacity can dynamically scale up or down without having to replace or add additional proprietary hardware.

SDWAN

- Application Intelligence -- SD-WAN has the ability to identify over 2800 specific applications and use that knowledge to apply a range of network and security policies to the traffic carrying them
- Multiple deployment options -- The SD-WAN can be deployed directly on bare metal x86 servers, white-box appliances, virtual machines (VMware ESXi, KVM) and containers.

Things to remember when selecting the Transport Layer for the SD-WAN Setup

- Expecting 1:1 (upload and download) bandwidth through Internet Broadband connection is not a good idea. This impacts the VoIP quality if the SD-WAN is built using only Internet Broadband Connections only.
- The End-to-End Bandwidth guarantee over Internet Broadband connection is not possible at least for now. We've to keep this in mind while designing the Transport layer for the SD-WAN.
- The MPLS provides 1:1 (upload and download) and End-to-End bandwidth guarantee with its cost in OPEX.

WAN And Evolving Application Requirements

Day to day Usage of Cloud for Compute and storage, as well as core applications like CRM, HR and Microsoft Office are increasing rapidly. Yet Corporate WAN connectivity continue to use 20-year-old private line technology (MPLS) and expensive, proprietary networking hardware.

- This results in slow provisioning times for new offices or even basic changes to configurations and functions.
- High costs for network equipment and WAN services.
- Complex branch architectures and high administrative overhead.

SD-WAN: Bringing Wan Flexibility, Control And Security

- Software based and multi-service approach to SD-WAN.
 - Low cost WAN appliances vs proprietary network hardware.
 - Provides full set of Integrated SD-WAN services (with the help of NFV).
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- All the above allows enterprises to reduce the Capex and OPEX of their WAN and branch networks, while increasing IT responsiveness to business needs.
 - The time required to manage the network is minimized, and branch security is strengthened.

Can SD-WAN replace MPLS?

SD-WAN will replace MPLS. As long as guaranteed QoS is needed, there will be a need for reliable transport. It can be MPLS or any other transport, but not SD-WAN with pure Internet links.

MPLS is a WAN technology where a user has full control over traffic engineering. SD-WAN, on the other hand, is an edge technology; all the intelligence in the SD-WAN lies in the edges only. At least as of this writing, applying Traffic Engineering inside the Open Internet is still a dream of us.

Therefore, an SD-WAN can make decisions based on measurements at the edge, but it has pretty much no control over what is in the Internet cloud.

Finally, the SD-WAN can reduce a company's dependency on MPLS, but cannot eliminate MPLS with the current Internet quality.

Thank You



Thank You

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