Dive into advanced networking concepts like SD-WAN (Software-Defined Wide Area Network) and SDN (Software-Defined Networking)

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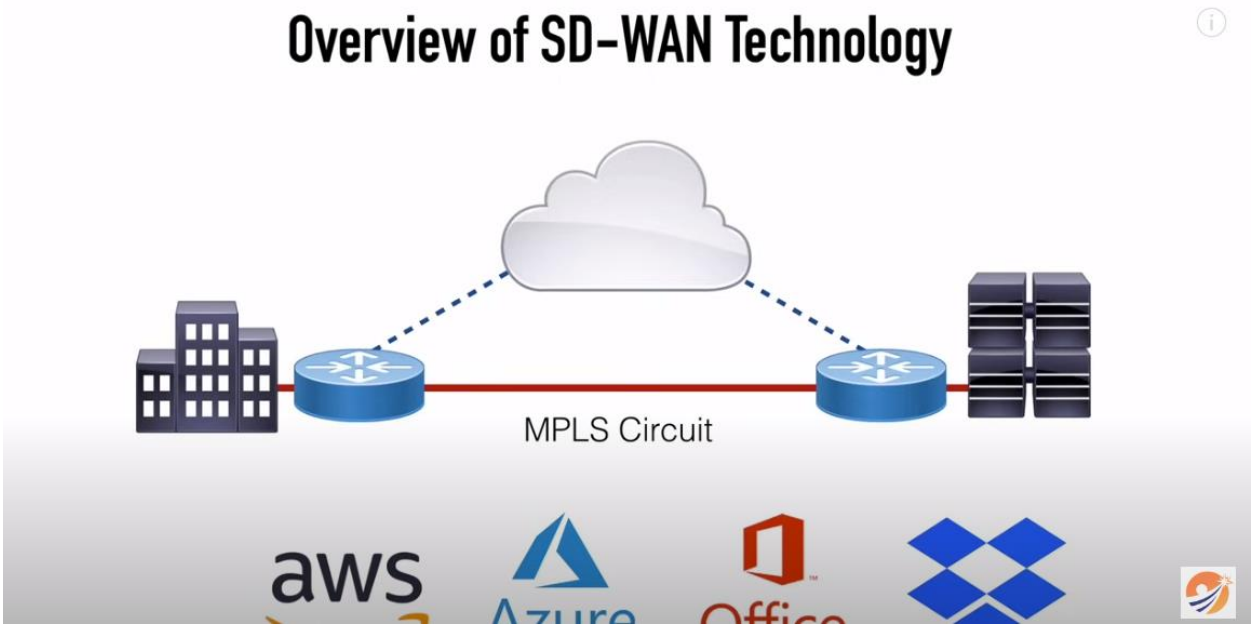
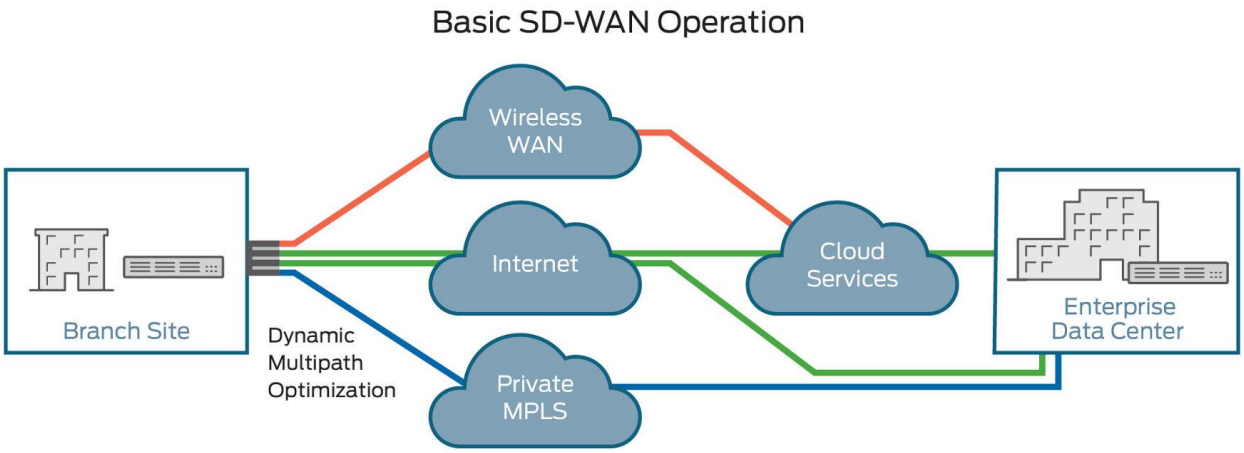


What is SD-WAN?

Software-defined wide-area networking (SD-WAN) is an automated, programmatic approach to managing enterprise network connectivity and circuit costs. It extends software-defined networking (SDN) into an application that businesses can use to quickly create a smart hybrid WAN.

Consisting of business-grade IP VPN, broadband Internet, and wireless services, SD-WAN enables you to cost-efficiently manage applications, particularly in the cloud. Traffic is automatically and dynamically forwarded across the most appropriate and efficient WAN path based on network conditions, application traffic security and quality-of-service (QoS) requirements, and circuit cost. You can set the routing policies.



SD-WAN Benefits

Businesses are rapidly adopting SD-WAN technology because of its comprehensive financial and operational benefits.

- Lowers WAN OpEx, CapEx, and overall total cost of ownership.
- Provides greater business agility and responsiveness to keep pace with IT innovations.
- Supports multiple, secure, high-performance connections, eliminating backhaul penalties imposed by MPLS networks.
- Improves performance by enabling load sharing across connections and adjusting traffic flows based on network conditions.
- Supports the automated provisioning of, and changes to, premium network services such as VPNs, firewalls, security, WAN optimization, and application delivery control.
- Supports zero touch provisioning (ZTP).
- Improves network security by encrypting WAN traffic and segmenting the network to minimize damage if breaches occur.

Problems Addressed by SD-WAN

Managing the WAN traditionally has been one of the most expensive and rigid aspects of running an enterprise network. SD-WAN eases this burden by proactively responding to real-time network conditions. It uses programmable network devices that you can modify remotely and through dynamic best-path routing, both of which improve cost, agility, and performance.

SD-WAN Uses and Functions

SD-WAN software running on CPE (customer premises equipment) monitors the conditions of all public and private-line services and determines how to route each type of application traffic. For instance, the default might be to send voice-over-IP (VoIP) traffic over an MPLS VPN service. However, if the MPLS connection becomes congested, the SD-WAN might switch that traffic over to a broadband Internet or 4G LTE wireless circuit. In this way, the SD-WAN enables automatic load

balancing and network congestion management for best performance and least-cost effective routing.

References

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