ENTERPRISE SD-WAN

DIY OR ALL-IN-ONE PLATFORM?

COMMAND LINK

The logic behind traffic flow and path decisions.

www.commandlink.com

How Does SD-WAN Work?

SD-WAN **virtualizes** the network by separating the network control plane from the underlying physical infrastructure. This virtualization is achieved through the following key mechanisms:

- **Abstraction of Network Control:** SD-WAN separates the control plane from the data plane of the network. The control plane handles network management, routing, and policy enforcement, while the data plane deals with the actual forwarding of network traffic. By abstracting the control plane, SD-WAN centralizes network control and management in a software controller or management interface.

- **Centralized Network Management:** SD-WAN provides a centralized management platform that allows administrators to configure, monitor, and control the entire network infrastructure. Network policies, routing rules, and quality of service (**QoS**) parameters can be defined and managed from a **single management interface**. This centralization **simplifies** network management, reduces complexity, and enhances visibility and control over the network.

- **Software-Defined Overlay:** SD-WAN overlays a logical or virtual network **on top of** the physical network infrastructure. This overlay network provides a **virtualized abstraction** of the underlying network, allowing for the creation of virtual network connections and services. SD-WAN edge devices or appliances at branch locations establish tunnels or overlays over existing network connections, such as MPLS or broadband, to create a *virtualized network infrastructure*.

- **Dynamic Path Selection:** SD-WAN *dynamically* selects the optimal path for

network traffic based on *real-time conditions*. It leverages multiple network connections, such as MPLS, broadband, or wireless, and dynamically routes traffic over the most suitable path. This **dynamic path selection** is controlled by the centralized software controller, which continuously evaluates network conditions and selects the best path for each packet or session.

- **Service Chaining:** SD-WAN enables the virtualization and chaining of network services. Virtual network functions (VNFs) such as firewalls, WAN optimization, or load balancers can be deployed as software instances within the SD-WAN infrastructure. These virtualized network services can be chained together to provide a **customized** and flexible service chain that traffic passes through, ensuring security, optimization, and other desired functionalities.

- **Automation and Orchestration:** SD-WAN facilitates **automation** and orchestration of network services and configurations. Through programmable interfaces and APIs, SD-WAN solutions allow for the *automation of network provisioning*, configuration changes, and policy **enforcement**. This automation **simplifies** the deployment and management of network services, reduces manual configurations, and enables *faster* and more efficient network operations.

By abstracting network control, centralizing management, creating virtual overlays, dynamically selecting paths, enabling service chaining, and supporting automation, **SD-WAN virtualizes** the network infrastructure. This virtualization brings agility, scalability, and flexibility to network deployments, simplifies network management, and allows businesses to optimize and adapt their network infrastructure to changing requirements.

COMMAND LINK

Some things should be easy to manage.

Get a Demo