



## Overview

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## Technology Overview

### **Cisco HyperFlex SD-WAN**

The Cisco HyperFlex SD-WAN solution is a major technology inflection which integrates Edge Computing, hyperconverged infrastructure, machine learning, and SD-WAN technologies. Cisco SD-WAN vEdge Routers are routing components of the architecture that deliver the essential WAN, security and multi-cloud capability of the Cisco SD-WAN solution. Cisco HyperFlex Edge brings the simplicity of hyperconvergence to remote and branch office (ROBO) and edge environments.

Powered by Intersight, the solution provides a fully automated, zero touch provisioning of the compute, storage, LAN and WAN networking for lights out branch deployment at a massive scale. It dramatically simplifies the management of WAN networking using Software-Defined WAN and enables new types of connectivity models beyond traditional VPNs.

### **Cisco Intersight**

Cisco Intersight™ is a management platform delivered as a service with embedded analytics for your Cisco and 3rd party IT infrastructure. This platform offers an intelligent level of management that enables IT organizations to analyze, simplify, and automate their environments in more advanced ways than the prior generations of tools. Cisco Intersight provides an integrated and intuitive management experience for resources in the traditional data center as well as at the edge. With flexible deployment options to address complex security needs, getting started with Intersight is quick and easy.

Cisco Intersight has deep integration with Cisco UCS and HyperFlex systems allowing for remote deployment, configuration, and ongoing maintenance. The model-based deployment works for a single system in a remote location or hundreds of systems in a data center and enables rapid, standardized configuration and deployment. It also streamlines maintaining those systems whether you are working with small or very large configurations.

### **Cisco HyperFlex Edge Systems**

Cisco HyperFlex Edge systems are optimized for remote sites, branch offices and edge environments. As a smaller form factor of Cisco HyperFlex, Cisco HyperFlex Edge keeps the full power of a next generation hyperconverged platform without the use of Cisco UCS Fabric Interconnects. Cisco HyperFlex Edge systems

support a variable configuration of 2, 3, or 4 HyperFlex converged nodes and support the scaling of CPU, memory and storage capacity (hot-add additional capacity drives) based on your requirements. Cisco HyperFlex Edge provides scalable and cost-optimized solutions for anywhere deployment.

### Cisco SD-WAN

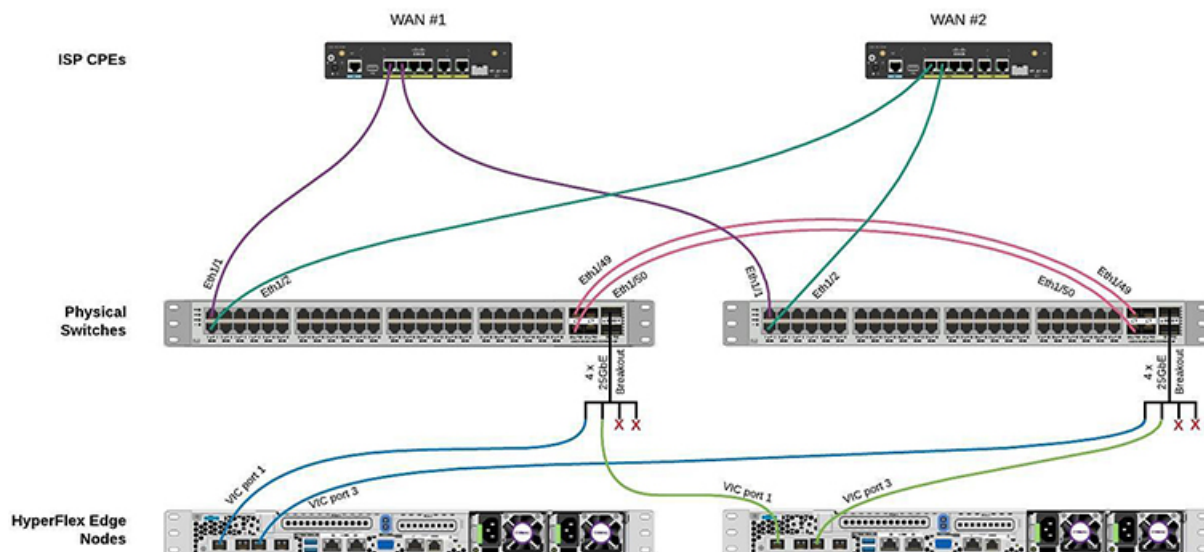
The Software-Defined Wide-Area Network (SD-WAN) is a specific application of software-defined networking (SDN) technology applied to WAN connections such as broadband internet, 4G, LTE, or MPLS. It connects enterprise networks including branch offices and datacenters over large geographic distances. WAN connections often used technology that required special proprietary hardware. SD-WAN, on the other hand, utilizes the internet or cloud-native private network.

## Architecture Overview

### Physical Architecture

This section provides the detailed physical architecture of the Cisco Catalyst C9300L-48P-4X-A for use in a HyperFlex SD-WAN environment.

The following diagram shows the HyperFlex SD-WAN solution with two nodes. Deploying the SD-WAN solution on HyperFlex clusters is supported on HyperFlex Edge 2, 3, and 4 nodes. The WAN connections are vEdge Routers, which can be either single or dual terminated. Up to 2, 3, or 4 WAN connections are supported. HyperFlex Edge 10 Gigabit Ethernet (GbE) network topology is supported on the Catalyst switches.



### Logical Architecture

This section provides the detailed logical architecture of a HyperFlex SD-WAN environment.

A vEdge Cloud Router is deployed as an SD-WAN Edge Router. The vEdge VM is deployed with 4 vNICs by default. Out of the 4, 3 vNICs are used for WAN facing access connections. One vNIC is used for LAN facing service side (trunk) connections. The HyperFlex SD-WAN installer configures the vSwitches automatically.



**Note** You have to manually configure the physical switches.

