



## Preinstallation

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## Installation Prerequisites



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**Caution** This feature is in preview and is not meant for use in your production environment. Cisco recommends that you use this feature on a test network/system.

This feature is currently not supported on Cisco Intersight Virtual Appliance.

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You can deploy the SD-WAN solution on a HyperFlex Edge cluster only if the following requirements are met:

- Deployment is supported only from Intersight.
- You must have an Account Administrator role.
- At a minimum, one of the Edge server must be in the Intersight Advantage license tier to view Solutions.
- Only HyperFlex Edge with 10 Gigabit Ethernet (GbE) uplink is supported.
- Cisco HyperFlex HX220c M5 Hybrid and All-Flash nodes are supported.

Complete the following prerequisites before initiating the HyperFlex SD-WAN deployment wizard in Intersight:

1. Ensure that the vManage account has network connectivity to Cisco Intersight. Do the following:
  - a. Navigate to [Cisco Support Case Manager](#).
  - b. To open a new case, select **New Case > Products & Services > Open Case**.
  - c. Enter the appropriate entitlement information details. Typically, you need to enter the serial of the WAN Edge device. Select **Next**.
  - d. Enter the case details.

- e. Select **Technology**, search for the appropriate Sub Tech keyword *Technology: Software Defined Wide Area Networking (SDWAN) SubTechnology: SDWAN CloudInfra*.
  - f. The support team will work to authenticate Cisco Intersight to the vManage account and inform you when the authentication process is done.
2. Configure the switches for use in a HyperFlex Edge Fabric. For an example of how to configure the Cisco Catalyst C9300L-48P-4X-A switches, see [Configuring the Cisco Catalyst C9300L-48P-4X-A Switches](#).
  3. Use one of the supported switches as listed in the HyperFlex Edge Deployment Guide. Configure the switches manually with the required and recommended settings before beginning the installation process. See the [Cisco HyperFlex Edge Deployment Guide, Release 4.0](#) for more details.
  4. Claim the HyperFlex nodes in Intersight. See [Claim Devices](#) for more details.
  5. In the Cisco IMC, the **NIC Mode** can be either **Cisco Card** or **Dedicated**. Ensure that the Cisco IMC Switchport VLAN is the same as the VLAN used for HyperFlex management.



**Important** Cisco Card is the preferred option.

6. Manually configure the required Feature templates for branch routing design in vManage. Manually upload the list of deployable vEdge virtual router chassis UUIDs in vManage. For more information, see the [Systems and Interfaces Configuration Guide, Cisco SD-WAN Releases 19.1, 19.2, and 19.3](#).

## Supported Versions and System Requirements

### Licensing Requirements

The following table lists the required license requirements for the various components:

Component	Licensing Requirement
Cisco HyperFlex Edge Systems	HyperFlex Data Platform Edge Edition
Cisco Intersight	Intersight Advantage
Cisco SD-WAN	Cisco DNA Essentials

### Software Versions

The following table lists the minimum supported software version:

Component	Minimum Supported Software Version
Cisco HyperFlex Data Platform	4.0(1b), 4.0(2a)
Cisco IMC	4.0(2f) <b>Restriction</b> 4.0(4h) is not supported

Component	Minimum Supported Software Version
Cisco vEdge Cloud	19.2.1
Cisco Catalyst 9000	IOS-XE 17.1
VMware ESXi	6.5 U3, 6.7 U2
VMware vCenter	6.5 U3, 6.7 U2

### Hardware Requirements

Deployment of the HyperFlex SD-WAN solution is supported only on Cisco HyperFlex HX220c M5 Hybrid and All-Flash nodes.

Use one of the supported switches as listed in the HyperFlex Edge Deployment Guide. Configure the switches manually with the required and recommended settings before beginning the installation process. See the [Cisco HyperFlex Edge Deployment Guide, Release 4.0](#) for more details.

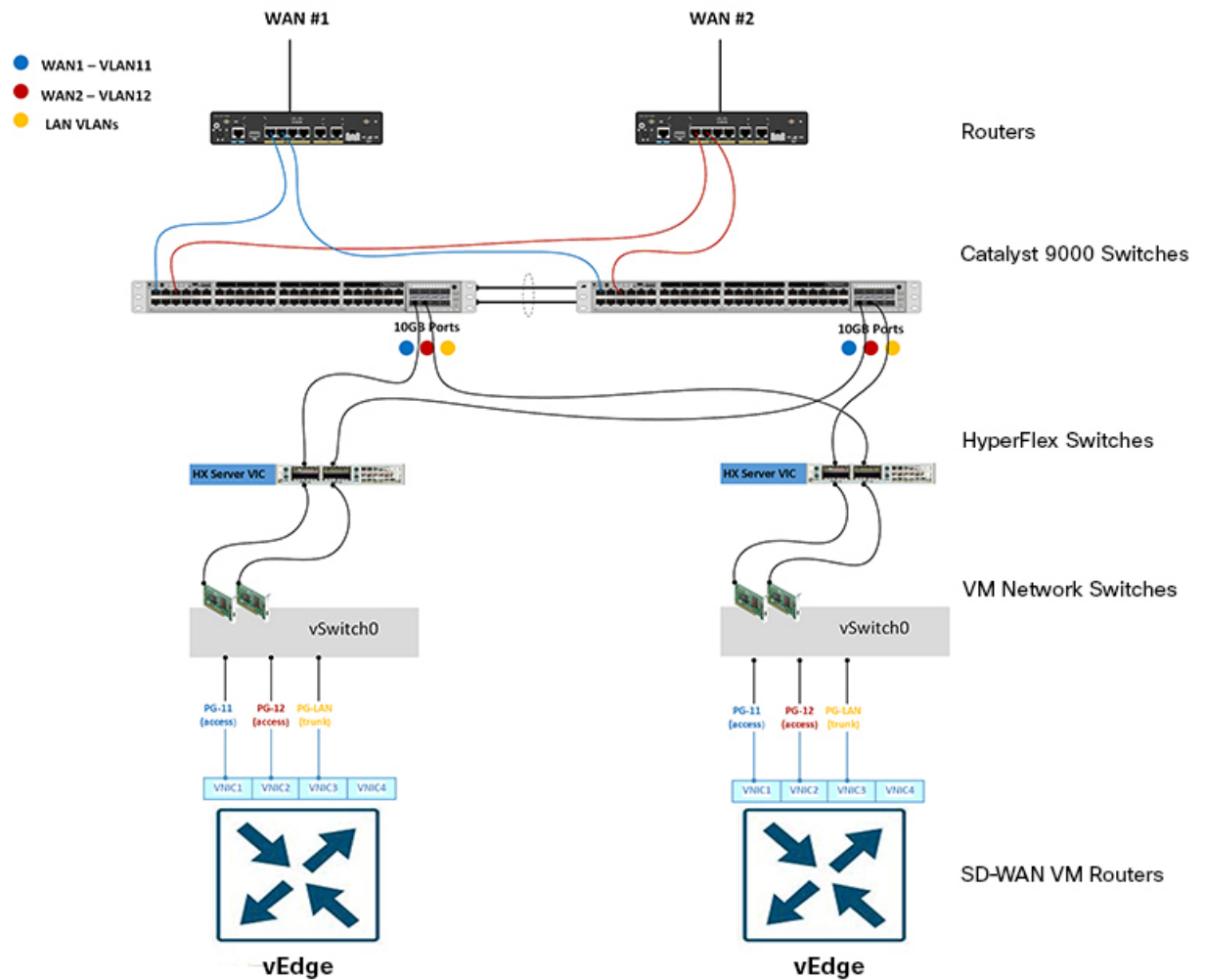
## Supported Topologies

The following variants of Physical WAN connectivity and SD-WAN WAN termination topologies are supported for HyperFlex SD-WAN deployment.

### HyperFlex SD-WAN Dual Router and Dual WAN Termination Topology

In this topology, separate physical WAN hand-off devices per physical WAN router are connected with dual termination on SD-WAN virtual routers.

- The WAN hand-offs from the different physical routers are connected separately to the customer provided endpoints (CPE). Each CPE has southbound connections that are connected to each switch as an access switch port on a separate L2 VLAN per WAN.
- Each WAN is terminated on both SD-WAN virtual routers as a separate vNIC on the router virtual machine.
- The connectivity of each vNIC is configured through the port group that corresponds to the WAN VLAN configured on the vSwitch in the Hypervisor.
- Each port group directly corresponds to the L2 VLAN which is utilized by the CPE southbound interfaces for each WAN.
- In this topology, there is no need to configure transport location (TLOC) extensions between the two routers to share the WAN connections between the two routers.
- The LAN vNIC configured on the SD-WAN virtual router is used to route traffic on the Service VPNs configured as sub-interfaces on the LAN vNIC. These sub-interfaces are used to route traffic between multiple local Service VPNs and VPNs established across the WANs.

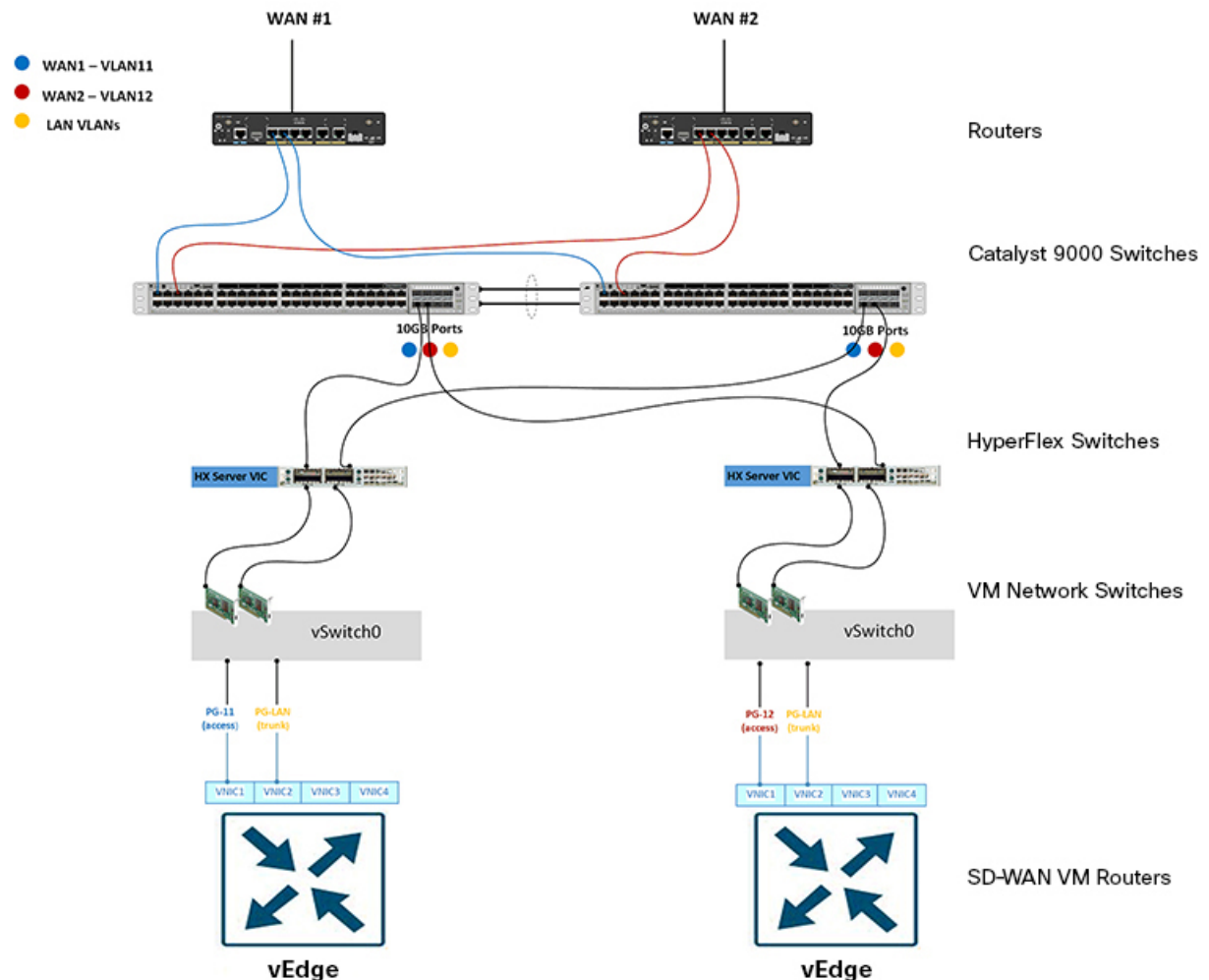


### HyperFlex SD-WAN Dual Router and Single WAN Termination Topology

In this topology, separate physical WAN hand-off devices per physical WAN router are connected with single termination on SD-WAN virtual routers.

- The WAN hand-offs from the different physical WAN routers are connected separately to the customer provided endpoints (CPE). Each CPE has southbound connections that are connected to each switch as an access switch port on a separate L2 VLAN per WAN.
- Each WAN is terminated only on a single SD-WAN virtual router as a separate vNIC on the virtual router machine.
- The connectivity of each vNIC is configured through the port group that corresponds to the WAN VLAN configured on the vSwitch in the Hypervisor.
- Each port group directly corresponds to the L2 VLAN which is utilized by the CPE southbound interfaces for each WAN.
- In this topology, transport location (TLOC) extensions must be configured between the two routers to share the WAN connections between the two routers.

- A VLAN per WAN must be defined to allow east-west communication between the routers.
- The LAN vNIC configured on the SD-WAN virtual router is used to route traffic on the Service VPNs configured as sub-interfaces on the vNIC. These sub-interfaces are used to route traffic between multiple local Service VPNs and VPNs established across the WANs.



## Limitations

The following list outlines the limitations in deploying the SD-WAN solution on HyperFlex Edge clusters using Intersight:

- Deployment of the HyperFlex SD-WAN solution is not supported on HyperFlex clusters with Fabric Interconnects.
- HyperFlex Edge 1 Gigabit Ethernet (GbE) is not supported.
- Deployment of the HyperFlex SD-WAN solution is not supported on HyperFlex M4 nodes.

- Only ESXi deployment is supported. Hyper-V and KVM deployments are not supported.
- Cluster expansion is not supported.

## Known Issues

The following list outlines the known issues that may occur when deploying the SD-WAN solution on HyperFlex Edge clusters:

- You cannot terminate a deploy HyperFlex SD-WAN workflow which is in-progress.
- Cisco IMC release 4.0(4h) is not supported.
- Device Templates generated from CLI Template are not supported. Use Feature Templates instead, to create Device Templates.
- You can view Solutions in the left navigation in Intersight only if at least, one Edge server is in the Intersight Advantage license tier.