



Considerations for layer 3 wide-area networks

ONTAP MetroCluster

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Considerations for layer 3 wide-area networks

Starting with ONTAP 9.9.1, MetroCluster IP configurations can be implemented with IP-routed (layer 3) backend connections.

The MetroCluster backend switches are connected to the routed IP network, either directly to routers (as shown in the following simplified example) or through other intervening switches.



NetApp supports only NetApp-validated switches. These switches are tested and sold by NetApp. They are listed in the [NetApp Interoperability Matrix Tool \(IMT\)](#) and in [Cabling the IP switches](#).

The MetroCluster environment is configured and cabled as a standard MetroCluster IP configuration as described in [Configure the MetroCluster hardware components](#). When you perform the installation and cabling procedure, you must perform the steps specific to the layer 3 configuration:

- The MetroCluster switches can be connected directly to the router or to one or more intervening switches. The VLAN must be extended to the gateway device.
- You use the `-gateway` parameter to configure the MetroCluster IP (MCC-IP) interface address with an IP gateway address.

When you configure routers and gateway IP addresses, ensure the following requirements are met:

- On each node, two interfaces cannot have the same gateway IP address.
- The corresponding interfaces on the HA pairs on each site must have the same gateway IP address.
- The corresponding interfaces on a node and its DR and AUX partners cannot have the same gateway IP address.
- The corresponding interfaces on a node and its DR and AUX partners must have the same VLAN ID.

The MetroCluster VLANs must extend from the edge MetroCluster switch to the gateway router so that MetroCluster traffic reaches the gateway (refer to the diagram shown above). The VLAN IDs for the MetroCluster VLANs must be the same at each site. However, the subnets can be different.

You use the RCF files that are created by the RcfFileGenerator tool. The network between the MetroCluster

nodes and the gateway router must provide the same VLAN IDs as set in the RCF file.

IP-routed network requirements

The IP-routed network must meet the following requirements:

- [Basic MetroCluster ISL requirements](#)
- [ISL requirements in shared layer 2 networks](#)
- [Required settings on intermediate switches](#)
- Dynamic routing is not supported for the MetroCluster traffic.
- Only four-node MetroCluster configurations are supported (two nodes at each site).
- Two subnets are required on each MetroCluster site—one in each network.
- Auto-IP assignment is not supported.

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