



Considerations for MetroCluster IP configurations

ONTAP MetroCluster

Martin Houser, Thom Illingworth
August 20, 2021

This PDF was generated from https://docs.netapp.com/us-en/ontap-metrocluster/install-ip/concept_considerations_mcip.html on September 24, 2021. Always check docs.netapp.com for the latest.

Table of Contents

- Considerations for MetroCluster IP configurations..... 1
 - Access to remote storage in MetroCluster IP configurations..... 1
 - MetroCluster IP addresses..... 1
 - Characteristics of MetroCluster IP interfaces..... 2

Considerations for MetroCluster IP configurations

You should understand how the controllers access the remote storage and how the MetroCluster IP addresses work.

Access to remote storage in MetroCluster IP configurations

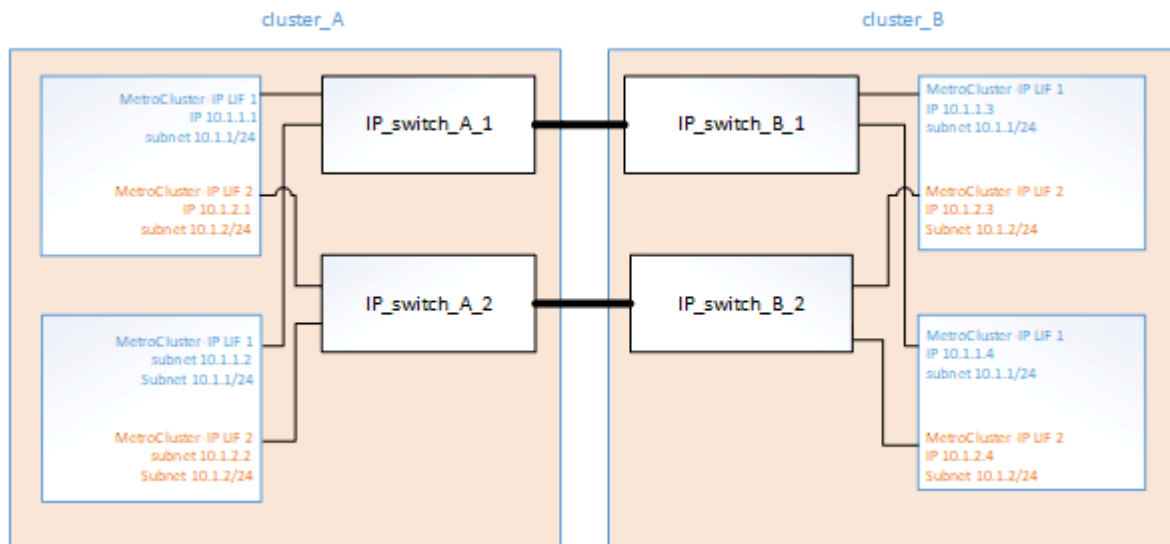
In MetroCluster IP configurations, the only way the local controllers can reach the remote storage pools is via the remote controllers. The IP switches are connected to the Ethernet ports on the controllers; they do not have direct connections to the disk shelves. If the remote controller is down, the local controllers cannot reach their remote storage pools.

This is different than MetroCluster FC configurations, in which the remote storage pools are connected to the local controllers via the FC fabric or the SAS connections. The local controllers still have access to the remote storage even if the remote controllers are down.

MetroCluster IP addresses

You should be aware of how the MetroCluster IP addresses and interfaces are implemented in a MetroCluster IP configuration, as well as the associated requirements.

In a MetroCluster IP configuration, replication of storage and nonvolatile cache between the HA pairs and the DR partners is performed over high-bandwidth dedicated links in the MetroCluster IP fabric. iSCSI connections are used for storage replication. The IP switches are also used for all intra-cluster traffic within the local clusters. The MetroCluster traffic is kept separate from the intra-cluster traffic by using separate IP subnets and VLANs. The MetroCluster IP fabric is distinct and different from the cluster peering network.



The MetroCluster IP configuration requires two IP addresses on each node that are reserved for the back-end MetroCluster IP fabric. The reserved IP addresses are assigned to MetroCluster IP logical interfaces (LIFs) during initial configuration, and have the following requirements:



You must choose the MetroCluster IP addresses carefully because you cannot change them after initial configuration.

- They must fall in a unique IP range.

They must not overlap with any IP space in the environment.

- They must reside in one of two IP subnets that separate them from all other traffic.

For example, the nodes might be configured with the following IP addresses:

Node	Interface	IP address	Subnet
node_A_1	MetroCluster IP interface 1	10.1.1.1	10.1.1/24
node_A_1	MetroCluster IP interface 2	10.1.2.1	10.1.2/24
node_A_2	MetroCluster IP interface 1	10.1.1.2	10.1.1/24
node_A_2	MetroCluster IP interface 2	10.1.2.2	10.1.2/24
node_B_1	MetroCluster IP interface 1	10.1.1.3	10.1.1/24
node_B_1	MetroCluster IP interface 2	10.1.2.3	10.1.2/24
node_B_2	MetroCluster IP interface 1	10.1.1.4	10.1.1/24
node_B_2	MetroCluster IP interface 2	10.1.2.4	10.1.2/24

Characteristics of MetroCluster IP interfaces

The MetroCluster IP interfaces are specific to MetroCluster IP configurations. They have different characteristics from other ONTAP interface types:

- They are created by the `metrocluster configuration-settings interface create` command as part the initial MetroCluster configuration.



Starting with ONTAP 9.9.1, if you are using a layer 3 configuration, you must also specify the `-gateway` parameter when creating MetroCluster IP interfaces. Refer to [Considerations for layer 3 wide-area networks](#).

They are not created or modified by the network interface commands.

- They do not appear in the output of the `network interface show` command.

- They do not fail over, but remain associated with the port on which they were created.
- MetroCluster IP configurations use specific Ethernet ports (depending on the platform) for the MetroCluster IP interfaces.

Copyright Information

Copyright © 2021 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system- without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.