



Parts of a MetroCluster IP configuration

ONTAP MetroCluster

aherbin, ntap-bmegan, zachary wambold
April 12, 2021

This PDF was generated from https://docs.netapp.com/us-en/ontap-metrocluster/install-ip/concept_parts_of_an_ip_mcc_configuration_mcc_ip.html on May 31, 2021. Always check docs.netapp.com for the latest.

Table of Contents

- Parts of a MetroCluster IP configuration 1
 - Key hardware elements 1
 - Disaster Recovery (DR) groups 2
 - Illustration of the local HA pairs in a MetroCluster configuration 2
 - Illustration of the MetroCluster IP and cluster interconnect network 3
 - Illustration of the cluster peering network. 5

Parts of a MetroCluster IP configuration

As you plan your MetroCluster IP configuration, you should understand the hardware components and how they interconnect.

Key hardware elements

A MetroCluster IP configuration includes the following key hardware elements:

- Storage controllers

The storage controllers are configured as two two-node clusters.

- IP network

This back-end IP network provides connectivity for two distinct uses:

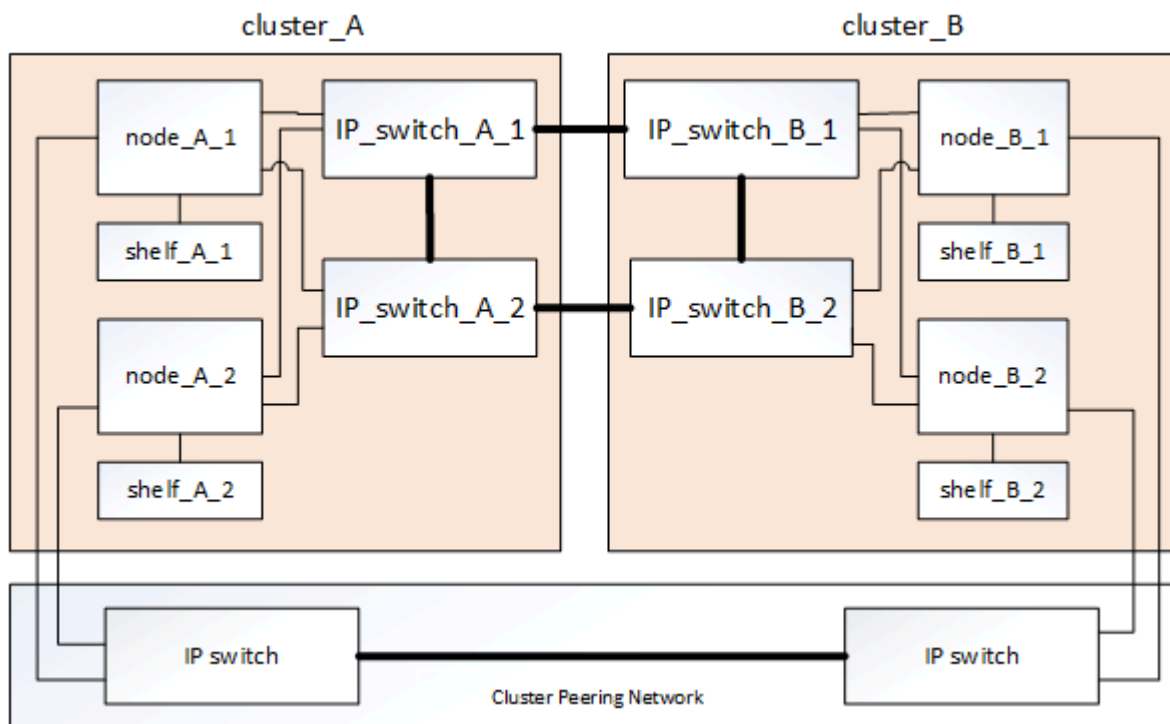
- Standard cluster connectivity for intra-cluster communications.

This is the same cluster switch functionality used in non-MetroCluster switched ONTAP clusters.

- MetroCluster back-end connectivity for replication of storage data and non-volatile cache.

- Cluster peering network

The cluster peering network provides connectivity for mirroring of the cluster configuration, which includes storage virtual machine (SVM) configuration. The configuration of all of the SVMs on one cluster is mirrored to the partner cluster.



Disaster Recovery (DR) groups

A MetroCluster IP configuration consists of one DR group of four nodes.

The following illustration shows the organization of nodes in a four-node MetroCluster configuration:

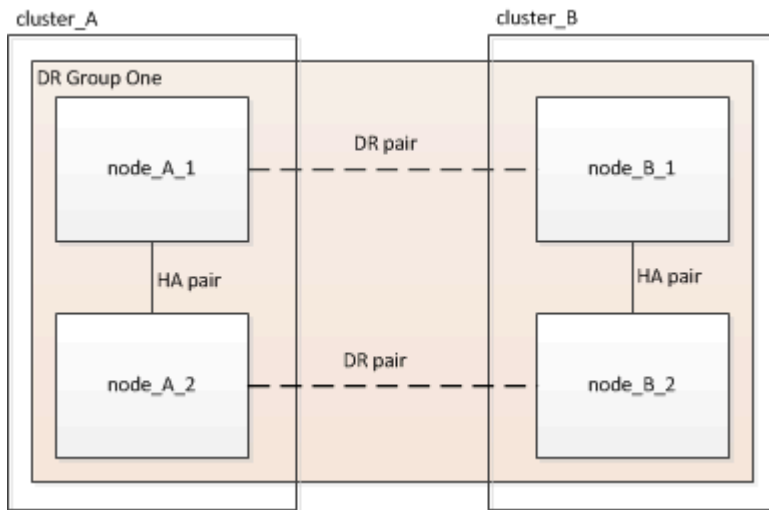
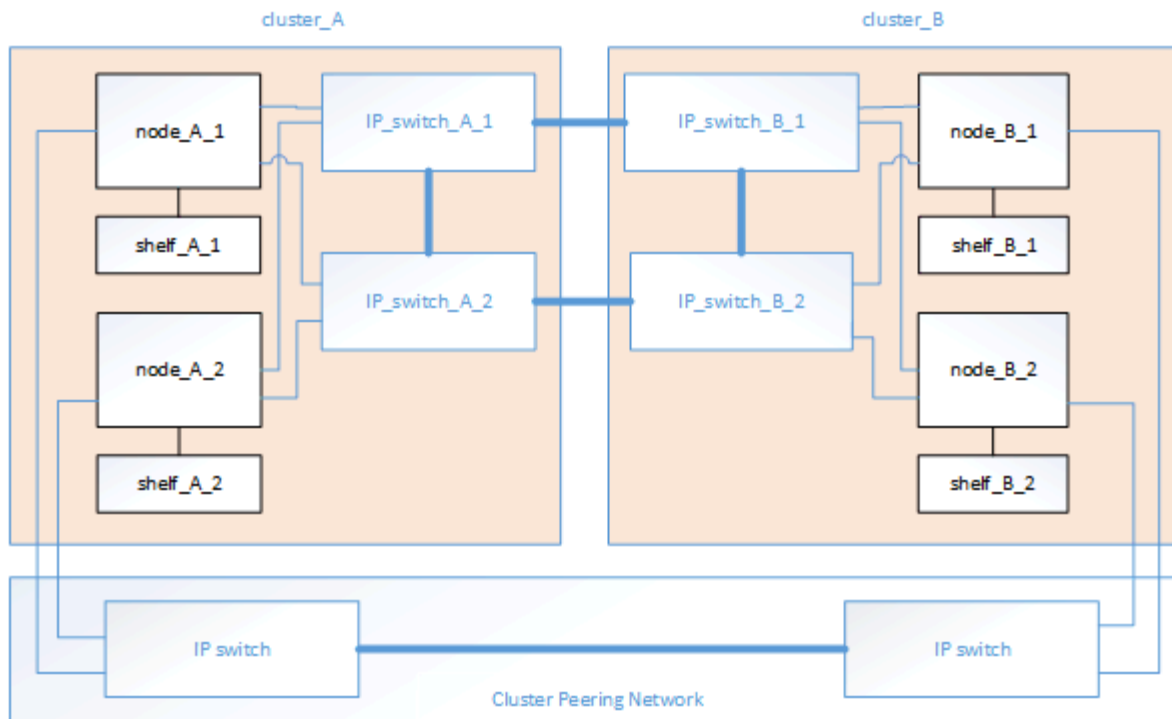


Illustration of the local HA pairs in a MetroCluster configuration

Each MetroCluster site consists of storage controllers configured as an HA pair. This allows local redundancy so that if one storage controller fails, its local HA partner can take over. Such failures can be handled without a MetroCluster switchover operation.

Local HA failover and giveback operations are performed with the storage failover commands, in the same manner as a non-MetroCluster configuration.

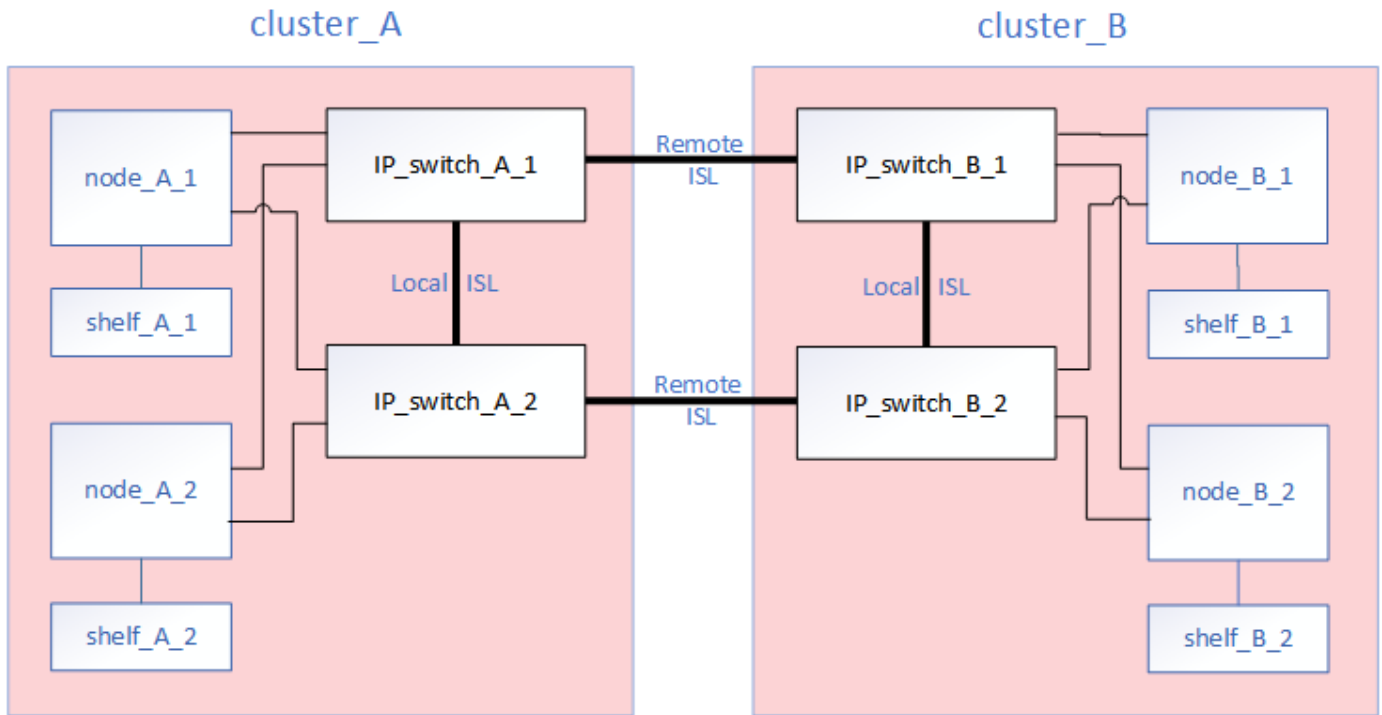


Related information

[ONTAP concepts](#)

Illustration of the MetroCluster IP and cluster interconnect network

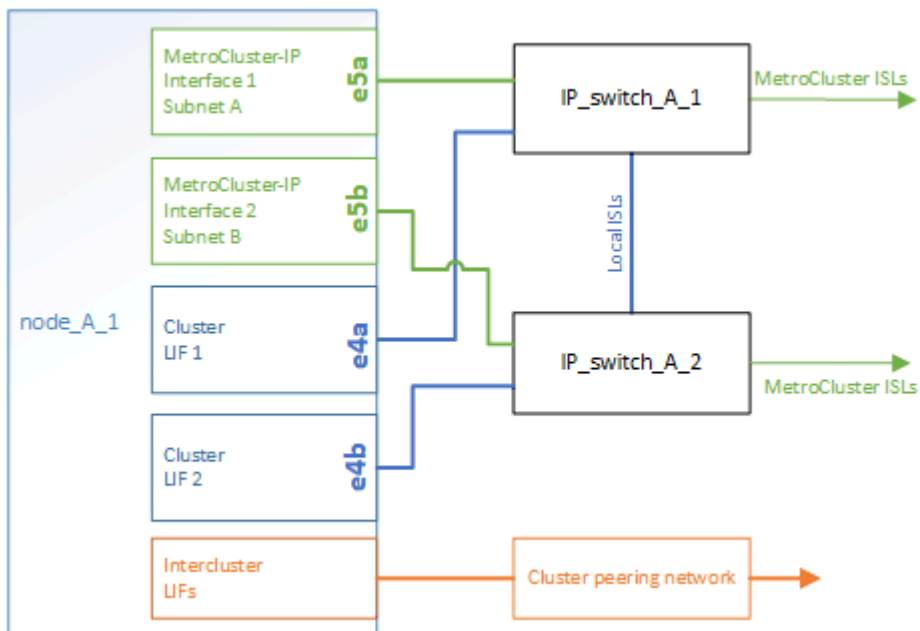
ONTAP clusters typically include a cluster interconnect network for traffic between the nodes in the cluster. In MetroCluster IP configurations, this network is also used for carrying data replication traffic between the MetroCluster sites.



Each node in the MetroCluster IP configuration has specialized LIFs for connection to the back-end IP network:

- Two MetroCluster IP interfaces
- One intercluster LIF

The following illustration shows these interfaces. The port usage shown is for an AFF A700 or FAS9000 system.



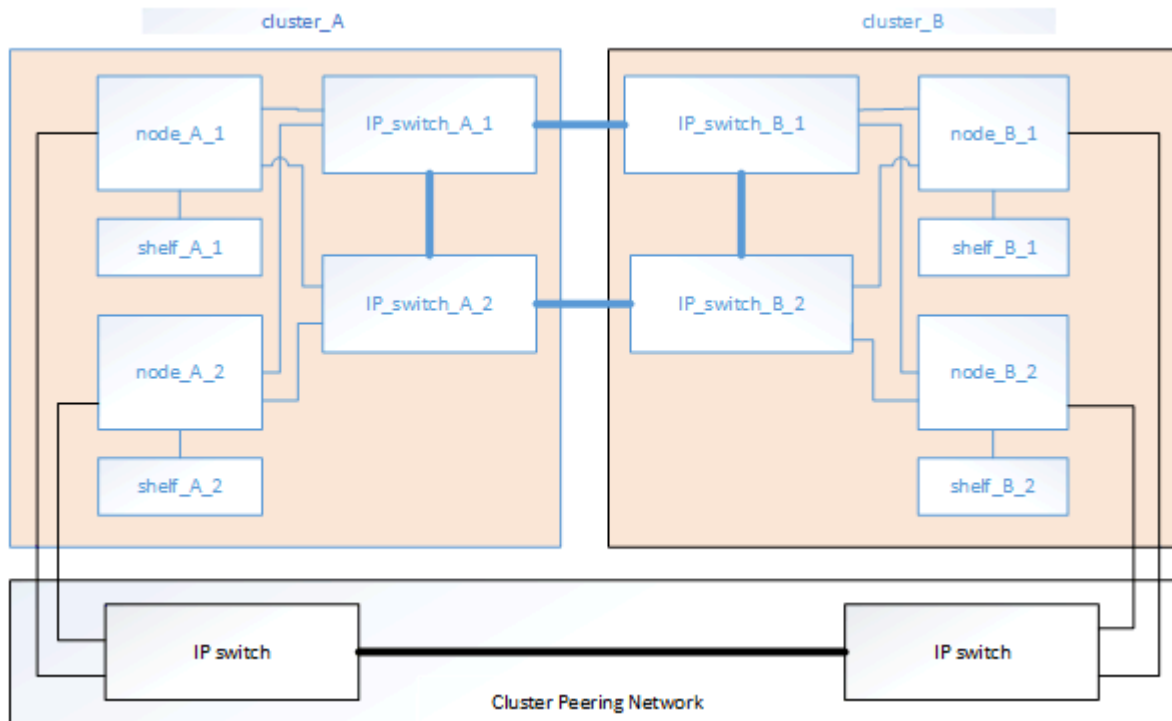
Related information

[Considerations for MetroCluster IP configuration](#)

Illustration of the cluster peering network

The two clusters in the MetroCluster configuration are peered through a customer-provided cluster peering network. Cluster peering supports the synchronous mirroring of storage virtual machines (SVMs, formerly known as Vservers) between the sites.

Intercluster LIFs must be configured on each node in the MetroCluster configuration, and the clusters must be configured for peering. The ports with the intercluster LIFs are connected to the customer-provided cluster peering network. Replication of the SVM configuration is carried out over this network through the Configuration Replication Service.



Related information

[Cluster and SVM peering express configuration](#)

[Considerations for configuring cluster peering](#)

[Cabling the cluster peering connections](#)

[Peering the clusters](#)

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.