



Configuring intercluster LIFs

ONTAP MetroCluster

NetApp
June 16, 2021

Table of Contents

- Configuring intercluster LIFs 1
 - Configuring intercluster LIFs on dedicated ports 1
 - Configuring intercluster LIFs on shared data ports 5

Configuring intercluster LIFs

You must create intercluster LIFs on ports used for communication between the MetroCluster partner clusters. You can use dedicated ports or ports that also have data traffic.

Configuring intercluster LIFs on dedicated ports

You can configure intercluster LIFs on dedicated ports. Doing so typically increases the available bandwidth for replication traffic.

Steps

1. List the ports in the cluster:

```
network port show
```

For complete command syntax, see the man page.

The following example shows the network ports in cluster01:

```
cluster01::> network port show
```

| | | | | | | | Speed |
|--------------|-------|---------|------------------|-------|-------|------------|-------|
| (Mbps) | | | | | | | |
| Node | Port | IPspace | Broadcast Domain | Link | MTU | Admin/Oper | |
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | |
| cluster01-01 | | | | | | | |
| | e0a | Cluster | Cluster | up | 1500 | auto/1000 | |
| | e0b | Cluster | Cluster | up | 1500 | auto/1000 | |
| | e0c | Default | Default | up | 1500 | auto/1000 | |
| | e0d | Default | Default | up | 1500 | auto/1000 | |
| | e0e | Default | Default | up | 1500 | auto/1000 | |
| | e0f | Default | Default | up | 1500 | auto/1000 | |
| cluster01-02 | | | | | | | |
| | e0a | Cluster | Cluster | up | 1500 | auto/1000 | |
| | e0b | Cluster | Cluster | up | 1500 | auto/1000 | |
| | e0c | Default | Default | up | 1500 | auto/1000 | |
| | e0d | Default | Default | up | 1500 | auto/1000 | |
| | e0e | Default | Default | up | 1500 | auto/1000 | |
| | e0f | Default | Default | up | 1500 | auto/1000 | |

2. Determine which ports are available to dedicate to intercluster communication:

```
network interface show -fields home-port,curr-port
```

For complete command syntax, see the man page.

The following example shows that ports e0e and e0f have not been assigned LIFs:

```
cluster01::> network interface show -fields home-port,curr-port
vserver lif                home-port curr-port
-----
Cluster cluster01-01_clus1 e0a       e0a
Cluster cluster01-01_clus2 e0b       e0b
Cluster cluster01-02_clus1 e0a       e0a
Cluster cluster01-02_clus2 e0b       e0b
cluster01
      cluster_mgmt         e0c       e0c
cluster01
      cluster01-01_mgmt1   e0c       e0c
cluster01
      cluster01-02_mgmt1   e0c       e0c
```

3. Create a failover group for the dedicated ports:

```
network interface failover-groups create -vserver system_SVM -failover-group
failover_group -targets physical_or_logical_ports
```

The following example assigns ports e0e and e0f to the failover group intercluster01 on the system SVMcluster01:

```
cluster01::> network interface failover-groups create -vserver cluster01
-failover-group
intercluster01 -targets
cluster01-01:e0e,cluster01-01:e0f,cluster01-02:e0e,cluster01-02:e0f
```

4. Verify that the failover group was created:

```
network interface failover-groups show
```

For complete command syntax, see the man page.

```

cluster01::> network interface failover-groups show

```

| Vserver | Group | Failover Targets |
|-----------|----------------|--|
| Cluster | Cluster | cluster01-01:e0a, cluster01-01:e0b, cluster01-02:e0a, cluster01-02:e0b |
| cluster01 | Default | cluster01-01:e0c, cluster01-01:e0d, cluster01-02:e0c, cluster01-02:e0d, cluster01-01:e0e, cluster01-01:e0f cluster01-02:e0e, cluster01-02:e0f |
| | intercluster01 | cluster01-01:e0e, cluster01-01:e0f cluster01-02:e0e, cluster01-02:e0f |

5. Create intercluster LIFs on the system SVM and assign them to the failover group.

| ONTAP version | Command |
|-----------------|---|
| 9.6 and later | <code>network interface create -vserver system_SVM -lif LIF_name -service-policy default-intercluster -home-node node -home-port port -address port_IP -netmask netmask -failover-group failover_group</code> |
| 9.5 and earlier | <code>network interface create -vserver system_SVM -lif LIF_name -role intercluster -home-node node -home-port port -address port_IP -netmask netmask -failover-group failover_group</code> |

For complete command syntax, see the man page.

The following example creates intercluster LIFs `cluster01_icl01` and `cluster01_icl02` in the failover group `intercluster01`:

```

cluster01::> network interface create -vserver cluster01 -lif
cluster01_icl01 -service-
policy default-intercluster -home-node cluster01-01 -home-port e0e
-address 192.168.1.201
-netmask 255.255.255.0 -failover-group intercluster01

cluster01::> network interface create -vserver cluster01 -lif
cluster01_icl02 -service-
policy default-intercluster -home-node cluster01-02 -home-port e0e
-address 192.168.1.202
-netmask 255.255.255.0 -failover-group intercluster01

```

6. Verify that the intercluster LIFs were created:

In ONTAP 9.6 and later:

```
network interface show -service-policy default-intercluster
```

In ONTAP 9.5 and earlier:

```
network interface show -role intercluster
```

For complete command syntax, see the man page.

```

cluster01::> network interface show -service-policy default-intercluster

```

| Current Is | Logical | Status | Network | Current |
|------------|-----------------|------------|------------------|------------------|
| Vserver | Interface | Admin/Oper | Address/Mask | Node |
| Home | | | | Port |
| cluster01 | cluster01_icl01 | up/up | 192.168.1.201/24 | cluster01-01 e0e |
| true | cluster01_icl02 | up/up | 192.168.1.202/24 | cluster01-02 e0f |
| true | | | | |

7. Verify that the intercluster LIFs are redundant:

In ONTAP 9.6 and later:

```
network interface show -service-policy default-intercluster -failover
```

In ONTAP 9.5 and earlier:

```
network interface show -role intercluster -failover
```

For complete command syntax, see the man page.

The following example shows that the intercluster LIFs `cluster01_icl01` and `cluster01_icl02` on the SVMe0e port will fail over to the e0f port.

```
cluster01::> network interface show -service-policy default-intercluster
-failover
          Logical          Home          Failover          Failover
Vserver  Interface          Node:Port          Policy            Group
-----
cluster01
          cluster01_icl01 cluster01-01:e0e   local-only
intercluster01
          Failover Targets: cluster01-01:e0e,
                           cluster01-01:e0f
          cluster01_icl02 cluster01-02:e0e   local-only
intercluster01
          Failover Targets: cluster01-02:e0e,
                           cluster01-02:e0f
```

Configuring intercluster LIFs on shared data ports

You can configure intercluster LIFs on ports shared with the data network. Doing so reduces the number of ports you need for intercluster networking.

Steps

1. List the ports in the cluster:

```
network port show
```

For complete command syntax, see the man page.

The following example shows the network ports in cluster01:

```
cluster01::> network port show
```

| (Mbps) | | | | | | Speed |
|--------------|------|---------|------------------|------|------|------------|
| Node | Port | IPspace | Broadcast Domain | Link | MTU | Admin/Oper |
| ----- | | | | | | |
| cluster01-01 | | | | | | |
| | e0a | Cluster | Cluster | up | 1500 | auto/1000 |
| | e0b | Cluster | Cluster | up | 1500 | auto/1000 |
| | e0c | Default | Default | up | 1500 | auto/1000 |
| | e0d | Default | Default | up | 1500 | auto/1000 |
| cluster01-02 | | | | | | |
| | e0a | Cluster | Cluster | up | 1500 | auto/1000 |
| | e0b | Cluster | Cluster | up | 1500 | auto/1000 |
| | e0c | Default | Default | up | 1500 | auto/1000 |
| | e0d | Default | Default | up | 1500 | auto/1000 |

2. Create intercluster LIFs on the system SVM:

In ONTAP 9.6 and later:

```
network interface create -vserver system_SVM -lif LIF_name -service-policy default-intercluster -home-node node -home-port port -address port_IP -netmask netmask
```

In ONTAP 9.5 and earlier:

```
network interface create -vserver system_SVM -lif LIF_name -role intercluster -home-node node -home-port port -address port_IP -netmask *netmask
```

For complete command syntax, see the man page.

The following example creates intercluster LIFs `cluster01_icl01` and `cluster01_icl02`:


```

cluster01::> network interface create -vserver cluster01 -lif
cluster01_icl01 -service-
policy default-intercluster -home-node cluster01-01 -home-port e0c
-address 192.168.1.201
-netmask 255.255.255.0

cluster01::> network interface create -vserver cluster01 -lif
cluster01_icl02 -service-
policy default-intercluster -home-node cluster01-02 -home-port e0c
-address 192.168.1.202
-netmask 255.255.255.0

```

3. Verify that the intercluster LIFs were created:

In ONTAP 9.6 and later:

```
network interface show -service-policy default-intercluster
```

In ONTAP 9.5 and earlier:

```
network interface show -role intercluster
```

For complete command syntax, see the man page.

```

cluster01::> network interface show -service-policy default-intercluster

```

| Current Is | Logical | Status | Network | Current |
|------------|-----------------|------------|------------------|------------------|
| Vserver | Interface | Admin/Oper | Address/Mask | Node |
| Home | | | | Port |
| cluster01 | cluster01_icl01 | up/up | 192.168.1.201/24 | cluster01-01 e0c |
| true | | | | |
| | cluster01_icl02 | up/up | 192.168.1.202/24 | cluster01-02 e0c |
| true | | | | |

4. Verify that the intercluster LIFs are redundant:

In ONTAP 9.6 and later:

```
network interface show -service-policy default-intercluster -failover
```

In ONTAP 9.6 and later:

In ONTAP 9.5 and earlier:

```
network interface show -role intercluster -failover
```

For complete command syntax, see the man page.

The following example shows that the intercluster LIFs `cluster01_icl01` and `cluster01_icl02` on the `e0c` port will fail over to the `e0d` port.

```
cluster01::> network interface show -service-policy default-intercluster
-failover
      Logical          Home          Failover          Failover
Vserver Interface      Node:Port        Policy           Group
-----
cluster01
      cluster01_icl01 cluster01-01:e0c  local-only
192.168.1.201/24
                                Failover Targets: cluster01-01:e0c,
                                                cluster01-01:e0d
      cluster01_icl02 cluster01-02:e0c  local-only
192.168.1.201/24
                                Failover Targets: cluster01-02:e0c,
                                                cluster01-02:e0d
```

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.