



# **Manage your network with System Manager**

## **ONTAP 9**

NetApp  
August 15, 2023

This PDF was generated from <https://docs.netapp.com/us-en/ontap/network-manage-overview-concept.html> on August 15, 2023. Always check docs.netapp.com for the latest.

# Table of Contents

- Manage your network with System Manager ..... 1
  - Network management overview with System Manager ..... 1
  - Viewing and managing your network ..... 1
  - Automatic detection and repair recommendations for network wiring issues ..... 2
  - Downloading network data for reporting ..... 4

# Manage your network with System Manager

## Network management overview with System Manager

The topics in this section show you how to manage your storage system network — including IPspaces, broadcast domains, subnets, network interfaces, and Ethernet ports — with System Manager in ONTAP 9.7 and later releases.

If you are using the classic System Manager (available only in ONTAP 9.7 and earlier), see this topic:

- [Managing the network](#)

## Viewing and managing your network

Beginning with ONTAP 9.8, you can use System Manager to display a graphic that shows the components and configuration of your network. Beginning with ONTAP 9.12.0, you can view the LIF and subnet association on the Network Interfaces grid.

The new network visualization feature enables users to see the network connections path across hosts, ports, SVMs, volumes, etc. in a graphical interface.

The graphic displays when you select **Network > Overview** or when you select  from the **Network** section of the Dashboard.

The following categories of components are shown in the graphic:

- Hosts
- Storage ports
- Network interfaces
- Storage VMs
- Data access components

Each section shows additional details that you can hover your mouse over or select to perform network management and configuration tasks.

## Examples

The following are some examples of the many ways you can interact with the graphic to view details about each component or initiate actions to manage your network:

- Click on a host to see its configuration: the ports, network interfaces, storage VMs, and data access components associated with it.
- Hover the mouse over the number of volumes in a storage VM to select a volume to view its details.
- Select an iSCSI interface to view its performance over the last week.
- Click on  next to a component to initiate actions to modify that component.
- Quickly determine where problems might occur in your network, indicated by an "X" next to unhealthy components.



## Automatic detection and repair recommendations for network wiring issues

ONTAP can automatically detect and recommend solutions to network wiring issues based on a broadcast domain constituent's (ethernet ports) layer-2 reachability.

Incorrect wiring during cluster setup or when a new node joins an existing cluster might cause an unexpected broadcast domain port assignment. Beginning with ONTAP 9.10.1, the cluster automatically checks for network wiring issues by verifying port reachability after cluster setup or when a new node joins an existing cluster.

If a port reachability issue is detected, System Manager recommends a repair operation to resolve the issue.

After you set up the cluster, network wiring issues are reported on the Dashboard.

After joining a new node to a cluster, network wiring issues appear on the Nodes page.

You can also view network wiring health on the network diagram. Port reachability issues are indicated on the network diagram by a red error icon.

### Post cluster setup

After you set up the cluster, if the system detects a network wiring issue, a message appears on the Dashboard.



## Steps

1. Correct the wiring as suggested in the message.
2. Click the link to launch the Update Broadcast Domains dialog.  
The Update Broadcast Domains dialog opens.



3. Review the information about the port, including the node, the issues, the current broadcast domain, and the expected broadcast domain.
4. Select the ports that you want to repair and click **Fix**.  
The system will move the ports from the current broadcast domain into the expected broadcast domain.

## Post node join

After joining a new node to a cluster, if the system detects a network wiring issue, a message appears on the Nodes page.

**Overview**

NAME: C1\_sti75-vsim-ucs179a\_1620738189  
 VERSION: NetApp Release Stormking...9.10.0: Mon May 10 13:29:41 UTC 2021  
 UUID: 9957e052-b253-11eb-8094-005056ac85bc  
 LOCATION: sti  
 NTP SERVERS: 10.235.48.111

DNS DOMAINS: cti.gdlenglab.netapp.com, gdlenglab.netapp.com, rtp.netapp.com, eng.netapp.com, netapp.com  
 NAME SERVERS: 10.224.223.131, 10.224.223.130  
 MANAGEMENT INTERFACES: 172.21.105.181, fd20:8b1e:b255:91b6::3d2, fd20:8b1e:b255:91b6::9da  
 DATE AND TIME: May 25, 2021, 7:51 AM America/New\_York

**Nodes**

| Nodes                                   | Name               | Serial Number | Up Time             | Utilization | Management IP                           | Service Processor IP | System ID  |
|---|--------------------|---------------|---------------------|-------------|---|----------------------|------------|
| sti75-vsim-ucs179b / sti75-vsim-ucs179a | sti75-vsim-ucs179b | 4086630-01-3  | 13 day(s), 22:39:02 | 6%          | 172.21.138.127, fd20:8b1e:b255:91af:29c |                      | 4086630013 |
|   | sti75-vsim-ucs179a | 4086630-01-4  | 13 day(s), 22:39:02 | 19%         | 172.21.138.125, fd20:8b1e:b255:91af:29a |                      | 4086630014 |

## Steps

1. Correct the wiring as suggested in the message.
2. Click the link to launch the Update Broadcast Domains dialog.  
The Update Broadcast Domains dialog opens.

**Update Broadcast Domains**

The broadcast domains for the following ports are not correctly configured.

| Port | Node               | Issue         | Current Broadcast Domain | Expected Broadcast Domain |
|------|--------------------|---------------|--------------------------|---------------------------|
| e0g  | sti75-vsim-ucs179a | Not reachable | mgmt_bd_1500             | Default                   |

Cancel Fix

3. Review the information about the port, including the node, the issues, the current broadcast domain, and the expected broadcast domain.
4. Select the ports you want to repair and click **Fix**.  
The system will move the ports from the current broadcast domain into the expected broadcast domain.

## Downloading network data for reporting

Beginning with ONTAP 9.8, you can download the data that is displayed in System Manager about your network.

When you display information in a *List View*, you can click **Download**, and the list of objects displayed is downloaded.

- The list is downloaded in comma-separated values (CSV) format.

- Only the data in the visible columns is downloaded.
- The CSV filename is formatted with the object name and a time stamp.

## Copyright information

Copyright © 2023 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.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## 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.