



HYPER—UNIFIED STORAGE

Nexsan Unity Troubleshooting Guide

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About this document

This guide provides troubleshooting steps for common problems that users encounter when installing and operating Unity Storage Systems.

Audience

This guide has been prepared for the following audience:

- IT system administrators
- Engineers
- Technicians
- Any qualified NST/Unity administrator.

Conventions

Here is a list of text conventions used in this document:

Convention	Description
underlined blue	Cross-references, hyperlinks, URLs, and email addresses.
boldface	Text that refers to labels on the physical unit or interactive items in the graphical user interface (GUI).
<code>monospace</code>	Text that is displayed in the command-line interface (CLI) or text that refers to file or directory names.
monospace bold	Text strings that must be entered by the user in the command-line interface or in text fields in the graphical user interface (GUI).
<i>italics</i>	System messages and non-interactive items in the graphical user interface (GUI) References to Software User Guides

Notes, Tips, Cautions, and Warnings

Note Notes contain important information, present alternative procedures, or call attention to certain items.

Tip Tips contain handy information for end-users, such as other ways to perform an action.



CAUTION: In hardware manuals, cautions alert the user to items or situations which may cause damage to the unit or result in mild injury to the user, or both. In software manuals, cautions alert the user to situations which may cause data corruption or data loss.



WARNING: Warnings alert the user to items or situations which may result in severe injury or death to the user.

Contacting Nexsan

For questions about Nexsan products, please visit the [Nexsan support](#) Web page, and the Nexsan Unity [Documents & Online Help](#) page. If you are unable to find the answer to your question there, please see our contact information below.

Service and support

Nexsan's Technical Services Group provides worldwide assistance with installation, configuration, software support, warranty, and repair for all Nexsan products. A variety of service and support programs are available to provide you with the level of coverage and availability your operation requires.

Nexsan Unity Documentation & Online Help page:

https://helper.nexsansupport.com/unt_downloads.html

Unity Online Help page:

https://helper.nexsansupport.com/unt_onlinehelp.html

Contact Nexsan Unity support:

https://helper.nexsansupport.com/unt_support

Worldwide Web site:

www.nexsan.com

Related documentation

The following Nexsan product manuals contain related information:

- Nexsan Unity Online Help
- *Nexsan Unity Hardware Reference Guide*
- *Nexsan Unity Hardware Maintenance Guide, Unity Next Generation*
- *Nexsan Unity Software User Guide*
- *Nexsan Unity nxadmin Command-line Interface Reference Guide*
- *Nexsan Unity nxcmd Command-line Interface Reference Guide*
- *Nexsan Unity Snapshots and Replication Guide*
- *Nexsan Unity Storage Expansion Reference Guide*
- *Nexsan Unity VMware Best Practices Guide*
- *Nexsan Unity NFS Interoperability*
- *Nexsan Unity Networking Best Practices Guide*
- *Nexsan Unity Performance Best Practices Guide*
- *Nexsan Unity Microsoft Best Practices Guide*

Chapter 1

Networking Errors

This section contains the following topics:

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Standard nxadmin troubleshooting

The Unity system has several physical NICs, which may be 1GbE or 10GbE. These are typically aggregated together, but whether aggregated or not, are always managed as a virtual interface. The virtual interfaces used are:

- **nx99**—Management interface, the controller and GUI VIP addresses are bound to this.
- **nx0**—Data access. 10GbE ports should always be bound to this.
- **nx1**—Optional second data interface.
- **private0**—The internal 10GbE inter-controller link.

Networking problems can prevent cluster services from starting. For example, a disconnected data port can potentially block access to the interface and keep resource groups offline.

Link aggregation, particularly LACP, can cause problems. If link aggregation is in use, it is important to ensure that both ports are connected to the same switch and that the switch is properly configured for LACP.

Task	Command
View aggregate interfaces, and check LACP status (off/active)	<code>nic show-aggr</code>
View more detailed LACP info	<code>nic show-aggr -L</code>
Check status of individual ports	<code>nic show-aggr -x</code>
Check network throughput and statistics Tip Remember the GUI performance graphs; they're useful for checking for high network load.	<code>nic show-link -s</code>
Ensure that all network addresses and appropriate masks are present	<code>cat /etc/netmasks.conf</code>
Check IP addresses Note If you see "duplicate", an IP clash has been detected and the interface is offline.	<code>cat /etc/hosts</code> <code>ifconfig -a</code>
View DNS configuration	<code>cat /etc/resolv.conf</code> <code>cat /etc/nsswitch.conf</code>
Check link details (Jumbo Frames, MTU, LACP, speed, etc.)	<code>network get link <interface></code>
Check for IP conflict	<code># ifconfig -a grep duplicate</code>
View physical or aggregate link status	<code># nic show-phys</code> <code># nic show-aggr</code> <code># nic show-link</code>
Show all MAC addresses	<code># nic show-phys -m</code>

Task	Command
Check network error statistics	# nic show-link -s # netstat -i
Check if Jumbo frames are enabled	# nic show-linkprop -p mtu nx0
View all network properties	# nic show-linkprop # nic show-linkprop nx0
Ensure that nx99 on C1 can talk to nx99 on C2 and vice versa Check that data and internal ports can communicate with each other	ping -I <interface> <address>

Cannot create an aggregation because the name already exists

► Problem:

A change in the hardware where the primary data network interface, nx0, was using other devices but they no longer exist. However, the name is kept somewhere.

```
nic create-aggr -l igb0 -l igb1 nx0
nic: create operation failed: object already exists
```

► Solution:

Rename an adapter to nx0, then rename it back. nx0 will then be free to use as an aggregation name.

```
nic rename-link igb0 nx0
nic rename-link nx0 igb0
```

Cannot detect external storage

KBA-01170-Z1Y3

► Problem:

The setup wizard does not recognize attached external storage (such as a Nexsan E60 RAID Unity Storage Expansion).

► Solution:

The problem may be the Maximum Transmission Unit (MTU). You need to determine the maximum MTU setting that will work.

1. Note the MTU setting on the external storage device.
2. From the Nexsan Unity's CLI, use the `ping` command, specifying the IP address of the external storage and an MTU setting that is lower than what the external storage device is set to.

```
ping -s <IP address> <MTU setting> <number of tries>
```

3. If the ping times out, redo the command, setting the MTU setting even lower.
4. Repeat the previous step until the ping returns a normal response.

5. Note the MTU setting of the last `ping` command.
6. Set the external storage to use the MTU setting of the `ping` command that returned a normal response.

Cannot access IPMI from Apple OS

▶ **Problem:**

Beginning with version 10.8.1, Apple OSX has a security feature called “*Gate Keeper*.” The default Gate Keeper settings can interfere with the launch of the Unity IPMI remote console.

▶ **Solution:**

To fix this issue, you must set Gate Keeper to allow the launch of applications from all sources:

1. On the Apple computer, open **System Preferences**.
2. Select **Security & Privacy** (in the *Personal* section).
3. Select the **General** tab.
4. In the bottom left corner of the dialog box, click the lock icon. The administrator password dialog opens.
5. Enter the administrator password and then click **OK**.
6. Under *Allow Applications Downloaded From:*, select **Anywhere**. A security pop-up warning is displayed.
7. In the pop-up warning, click **Allow from Anywhere**.
8. Close **System Preferences**.

Chapter 2

AD/CIFS Authentication Errors

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Cannot join a Windows domain

To authenticate users from a Windows domain, the Nexsan Unity's CIFS service must locate a domain controller, authenticate the domain controller, and then add a computer account to the domain. Users from the domain are not able to establish a connection to the CIFS service unless this process succeeds.

The following sections describe configuration issues you might have when you cannot successfully join a Windows domain:

- [Check the DNS Configuration below](#)
- [Check user password and packet signing below](#)
- [Check user administrative privileges on the facing page](#)

Check the DNS Configuration

▶ **Problem:**

The CIFS service must be running for the `smbadm join` command to succeed. If Active Directory (AD) is configured, the CIFS service attempts to locate the domain controller by means of DNS. The service may not be able to locate the domain controller.

▶ **Solution:**

You must reconfigure the DNS settings. To check DNS configuration:

1. Check the following to find out what the DNS configuration error is:
 - If the system presents the `failed to join domain domain-name (INVALID_PARAMETER)` error, then the fully qualified AD domain name has not been added to the search list or as the local domain in `/etc/resolv.conf`.
 - If the system presents the `failed to find any domain controllers` error, then the IP address of the AD DNS server has not been set as the name server in `/etc/resolv.conf`.
 - If neither of the above errors is presented, then the `/etc/nsswitch.conf` file may not be set to use DNS host look up.
2. Depending on the error discovered above, do one of the following:
 - Add the fully qualified AD domain name to the search list or as the local domain in `/etc/resolv.conf`.
 - Set the IP address of the AD DNS server as the name server in `/etc/resolv.conf`.
 - Set the `/etc/nsswitch.conf` file to use DNS host lookup.

Check user password and packet signing

▶ **Problem:**

If the following error message appears:

```
failed to join <domain-name> (LOGON_FAILURE)
```

then the problem is one of the following:

- The password for the user specified in `smbadm join` is incorrect.
- Packet signing is enabled on the domain controller.

▶ **Solution:**

To fix the issue:

1. Turn off packet signing on the domain controller.
2. Supply the correct user password. Typically, you must specify a user account that is a member of the Domain Administrators global group.

Check user administrative privileges

▶ **Problem:**

If the following error message appears:

```
smbd: failed joining domain-name (UNSUCCESSFUL)
```

then the specified user has insufficient administrative privileges.

▶ **Solution:**

You need to assign the proper administrative privileges to this user. Typically, you must specify a user account that is a member of the Domain Administrators global group.

File name case sensitivity issues

▶ **Problem:**

If you experience unexpected behavior when performing basic file operations, it might be related to the file system being unable to handle case-insensitive operations.

▶ **Solution:**

CIFS clients usually expect a case-insensitive file system for correct operation.

To create a share in case-insensitive mode, use the `nxcmd Share Create` CLI command, as described below.

Note Once the share is created, you cannot change the case sensitivity setting.

Failed to create LdapContext

▶ **Problem:**

If you get this error when joining a Windows Server 2008 Active Directory:

```
Connecting to Microsoft Active Directory Domain - Failed to create
LdapContext
w2k8.nest.lan:389
w2k8.nest.lan
```

then the domain name is incorrect.

▶ **Solution:**

Fixing the domain name resolves this issue.

Failed to find domain controllers

▶ **Problem:**

If the following error appears after attempting to connect to AD with the `smbadm join` command:

```
failed to find any domain controllers
```

then the `LMCompatibilityLevel` value is different between AD and Unity.

▶ **Solution:**

You must find the AD `LMCompatibilityLevel` value (under `HKLM\SYSTEM\CurrentControlSet\Control\Lsa\`) and apply that value to Unity.

▶ **To change `LMCompatibilityLevel` in Unity Firmware v3.0 or older:**

1. Access the CLI command shell (see the *Nexsan Unity CLI Reference Guide*).
2. Change the `LMAuthenticationLevel` value in the `/var/opt/nest/config/site/common/NxSharedConfig.properties` file to match the value of the `LMCompatibilityLevel` of the Active Directory.
3. Restart glassfish.
4. Attempt to join the AD again with the `smbadm join` command.

▶ **To change `LMCompatibilityLevel` in Unity Firmware v3.1 or newer:**

1. Use Unity to join a domain (see *Joining a domain* in *Chapter 11* of the *Nexsan Unity Software User Guide*).
2. In the section where you are asked to supply the **Active Directory Domain Name**, **User Name**, and **Password**, use the **LM Compatibility Level** drop-down list to select the value that was in `HKLM\SYSTEM\CurrentControlSet\Control\Lsa\` on the AD domain.
3. Click **Apply**.

Chapter 3

User interface errors

This section contains the following topics:

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Unity does not run on Internet Explorer

▶ **Problem:**

You get the following error message when using Microsoft Internet Explorer:

```
Either scripts and active content are not permitted to run or Adobe  
Flash Player version 10.1.0 or greater is not installed.
```

and you are certain that you have Adobe Flash Player version 10.1.0 or later installed.

▶ **Solution:**

You need to allow Unity to run in IE:

1. In Internet Explorer, go to **Tools > Internet Options > Security**.
2. Select **Internet**.
3. Clear the check box next to **Enable Protected Mode (requires restarting Internet Explorer)**.
4. Click the **Custom Level** button to open the *Security Settings - Internet Zone* dialog.
5. Set the following parameters:
 - *ActiveX controls and plug-ins > Run ActiveX controls and plug-ins: Enable*
 - *ActiveX controls and plug-ins > Script ActiveX controls marked safe for scripting: Enable*
 - *Scripting > Active Scripting: Enable*
6. Click **OK** to close the *Security Settings - Internet Zone* dialog.
7. Click **OK** to close the *Internet Options* dialog.
8. Restart Internet Explorer.

Critical decoding error occurs when loading Unity

▶ **Problem:**

When opening Unity the browser reports a critical decoding error (such as “SOAP Response cannot be decoded”), the problem may be that the browser is not set to accept third-party cookies.

▶ **Solution:**

You need to enable third-party cookies in your browser for Unity to establish an authenticated session to remote sites.



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