



## HYPER—UNIFIED STORAGE

### Nexsan Unity

## NDMP Configuration Guide

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Firmware Version Unity v. 6.0

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# About this document

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This *Nexsan NDMP Configuration Guide* provides configuration information for using NDMP with Nexsan Unity.

## Audience

This guide has been prepared for the following audience:

- Nexsan-certified installers, such as SEs, and Nexsan support personnel
- Any qualified NST/Unity administrator.

## Conventions

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

Convention	Description
<u>underlined</u> <u>blue</u>	Cross-references, hyperlinks, URLs, and email addresses.
<b>boldface</b>	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.
<b>monospace</b> <b>bold</b>	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.**

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Nexsan Unity Documentation & Online Help page:

[https://helper.nexsansupport.com/unt\\_downloads.html](https://helper.nexsansupport.com/unt_downloads.html)

Unity Online Help page:

[https://helper.nexsansupport.com/unt\\_onlinehelp.html](https://helper.nexsansupport.com/unt_onlinehelp.html)

Contact Nexsan Unity support:

[https://helper.nexsansupport.com/unt\\_support](https://helper.nexsansupport.com/unt_support)

Worldwide Web site:

[www.nexsan.com](http://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

## Before you begin: Setting connectivity parms

Before you use a command in the `nxcmd` CLI, you must specify a set of parameters that enable you to connect to the relevant the Unity Storage System (using its corresponding Management Virtual IP address), log on to the Unity System—as a Site or Pool Administrator or as the `nxadmin` account, and then perform the specified action.

You specify the connectivity parameters when you first use a command in the `nxcmd` CLI. During this initial usage, the `nxcmd` CLI gives you the option of saving the connectivity parameters to a configuration file on the Unity Storage System—so that you do not have to specify the parameters each time you run an initial command. If you prefer—for security reasons—you have the option to NOT save the connectivity parameters to the configuration file; but you will need to specify the parameters each time you run an initial command on the system.

► **To set the connectivity parameters for the Unity Storage System:**

1. Access the `nxadmin` CLI—see "Accessing the `nxadmin` CLI" in the *Nexsan `nxadmin` Command Line Interface Guide* on the [Nexsan Documentation & Online Help](#) Web page.
2. Type any command and specify the connectivity parameters to use for the system.
3. Press Enter.

Connectivity parameters	Description
<code>managementIP</code>	Specifies the Unity Storage System's Management Virtual IP address.
<code>authenticationType</code>	Specifies the type of user authentication configured on the system: <code>local</code> (Nexsan Unity authentication) or <code>domain</code> (Microsoft Active Directory or LDAP authentication).
<code>userName</code>	Specifies the domain or local user account to use to connect to the system. The user can be a Site or Pool Administrator and/or the <code>nxadmin</code> account on the system. If the system is connected to a Microsoft Active Directory or LDAP Directory server, you must specify a valid domain account in order to configure security settings for the Unity System and permission settings for file systems.  Keep in mind that, if you specify a Pool Administrator without specifying <code>nxadmin</code> credentials, access to functions and operations will be limited.

Connectivity parameters	Description
	<p><b>Note</b> The <code>userName</code> parameter must include the domain name if the <code>authenticationType</code> parameter is set to <code>domain</code>; for example, <code>/authenticationType:domain /username:bob@domain1.net</code>.</p>
<code>userPassword</code>	Refers to the password for the user account specified in the <code>userName</code> parameter.
<code>useSSL</code>	Enables or disables SSL encryption for the connection to the Unity Storage System.
<code>nxadminPassword</code>	Refers to the password for the <code>nxadmin</code> account on the system. This parameter is optional. If you specify this parameter, the <code>nxcmd</code> CLI gives the domain or local user account, specified in the <code>userName</code> parameter, <code>nxadmin</code> access to the system.
<code>saveToConfig</code>	When specified and set to <code>true</code> , this parameter saves the connectivity properties in a configuration file on the system; all passwords are encrypted in the file. The default value for this parameter is <code>false</code> .

► **Example:**

In this example, we set the connectivity parameters for the Unity Storage System at the same time as we create a storage pool on the system:

```
nxcmd Pool Create /name:FinancePool1 /resourceGroup:one /numberOfVolumes:2
/managementIP:XXX.XXX.XXX.XXX /authenticationType:domain
/userName:bob@domain.net /userPassword:PASSWORD /useSSL:true
/nxadminPassword:PASSWORD /saveToConfig:true
```



# Chapter 2

## Enabling NDMP for the Unity System

The `nxcmd Site EnableNDMP` command enables the back up of data from the Unity Storage System to a backup and restore solution that supports the Network Data Management Protocol. See also `nstndmp` in the *nxadmin Command Line Interface Reference Guide*, available from the [Nexsan Unity Documentation & Online Help](#) Web page..

► **To run this command:**

1. Access the CLI command shell.
2. Type the command using the syntax provided in this topic.
3. Press Enter.

```
nxcmd Site EnableNDMP /User:<user name> /Password:<password|path>
```

Site EnableNDMP parameters	Description
/User	Specifies the name of the user.
/Password	Specifies the password or the path to the file containing the password. If you are using the path, you must put the path in double quotes.

► **Example:**

We enable NDMP for the Unity System using the password for the BACKUP\_ADMIN user.

```
nxcmd Site EnableNDMP /User:BACKUP_ADMIN /Password:password
```

## Disabling NDMP for the Unity System

The `nxcmd Site DisableNDMP` command disables back up of data from the Unity Storage System using NDMP.

▶ **To run this command:**

1. Access the CLI command shell.
2. Type the command using the syntax provided in this topic.
3. Press Enter.

```
nxcmd Site DisableNDMP
```

## nstndmp

---

► **To run this command:**

1. Access the CLI command shell.
2. Type the command using the syntax provided in this topic.
3. Press Enter.

See also "Enabling NDMP for the Unity System" in the *Nexsan nxcmd Command Line Interface Reference Guide*.

### *Recommended settings*

Nexsan recommends that you use the default and recommended settings for NDMP listed in this topic.

### *NAS name*

Resolves via DNS. Set to either the name of an interface on the Unity Storage System designated for backups or the IP address of the resource group. Set the `mover-nic` property on the NAS to the IP address of the resource group or applicable Unity name.

### *User name and password*

Set user name and password in the Unity Storage System interface.

### *Backup level*

Nexsan Unity supports incremental backups.

**Description** This command enables you to query the NDMP (Network Data Management Protocol) service on the Unity Storage System to get the status of active sessions, terminate a session, query backup devices, and set or get the current NDMP service variables and properties.

**CAUTION:** This command is intended for advanced users and/or for Nexsan Technical Support personnel; some options available with this command should only be executed with the assistance of a Support Engineer, or with explicit instructions provided by a Support Engineer.

**Controller** You must run this command on both controllers.

**Syntax** `nstndmp`  
`[get -p <property> [-p <property>]...]`

```
[set -p <property value> [-p <property value>]...]
[show-devices]
[show-sessions [-i tape,scsi,data,mover] [session id]...]
[kill-sessions <session id...>]
[enable -a <authentication type> -u <user name>]
[disable -a <authentication type>]
```

## Options

```
get -p <property> [-p <property>]...
```

This command displays information for the specified properties:

- `backup-quarantine`  
Backs up the files marked as quarantined by AV. Acceptable values are `yes` or `no`. The default is `no`.
- `dar-support`  
Sets the Direct Access Recovery. DAR enables you to restore specific files from a backup set, instead of having to restore all backed up files, or having to read the entire backup tape/disc to locate the file(s). When using DAR, NDMP can find the exact location of a file using the NDMP file history interface, which reduces the amount of information processed and reduces recovery time. Acceptable values are `yes` or `no`. The default is `yes`. Nexsan recommends using DAR. DAR requires NDMP version 3 or later. DDAR is not supported.
- `<altmount>`  
Set `altmount=true` if you are using path names longer than 900 characters.
- `<UTF-8>`  
Set `UTF-8=true` to support Unicode variable width character encoding.
- `extract_acl`  
Use `EXTRACT_ACL` to extract Windows ACLs (Access Control Lists).
- `debug-path`  
Specifies the path where the debug log is saved. The default is `/var/ndmp`.
- `drive-type`  
Specifies either SystemV or BSD tape drives for the data management application. Valid values are `sysv` and `bsd`. The default is `sysv`.
- `dump-pathnode`  
Enables or disables backing up the directories containing modified files or directories in `dump(1)` backup format. Acceptable values are `yes` or `no`. The default is `no`. Nexsan recommends using `tar` for backups, based on recent updates.
- `fs-export`  
Specifies an optional list of mount points that are only exported paths for backup. This has no effect if you leave it empty.

- `ignore-ctime`  
Determines whether the change timestamp (ctime) of files and directories is used to determine whether a file should be backed up in level backup. If this parameter is set to `yes`, only the modification time (mtime) of the file or directory determines whether it should be backed up. Acceptable values are `yes` or `no`. The default is `no`.
- `restore-quarantine`  
Restores the files that had been marked as quarantined by AV and are backed up. Acceptable values are `yes` or `no`. The default is `no`.
- `tar-pathnode`  
Enables or disables backing up the directories containing modified files or directories in tar backup format. Acceptable values are `yes` or `no`. The default is `no`. Nexsan recommends using tar for backups.
- `token-maxseq`  
Sets the maximum sequence number for subsequent token-based incremental backup in NDMP-V4. The default value is 9. There are two limits for this value: `soft-limit`, which is 59, and `hard-limit`, equal to 64. If the token sequence number, passed by the DMA, is between the soft and hard limits, a warning message is issued to the DMA. The token sequence number can never exceed the `hard-limit` value.
- `type-override`  
Override the value of TYPE. Valid values are `zfs` and `off`. By default, `type-override` has a value of `off` and does not override TYPE. Invalid values are treated as `off`. If it is set to `zfs`, make sure that the path format used in the data management application is consistent with the zfs backup type.
- `version`  
Sets the maximum active NDMP protocol version. Valid values are currently 2, 3, and 4. The default is 4.
- `zfs-token-support`  
Enables or disables token based method for ZFS backup type. Acceptable values are `yes` or `no`. The default is `no`.
- `zfs-force-override`  
Overrides the value of ZFS\_FORCE. `yes` forces a value of `y`. `no` forces a value of `n`. By default, `zfs-force-override` has a value of `off` and does not override ZFS\_FORCE.
- `debug-path`  
Specifies the path where the debug log is saved. The default is `/var/ndmp`.
- `drive-type`  
Specifies either SystemV or BSD tape drives for the data management application. Valid values are `sysv` and `bsd`. The default is `sysv`.
- `dump-pathnode`  
Enables or disables backing up the directories containing modified files or directories in dump(1) backup format. Acceptable values are `yes` or `no`. The default is `no`. Nexsan recommends using tar for backups.

- `fs-export`  
Specifies an optional list of mount points that are only exported paths for backup. This has no effect if you leave it empty.
- `ignore-ctime`  
Determines whether the change timestamp (ctime) of files and directories is used to determine whether a file should be backed up in level backup. If this parameter is set to `yes`, only the modification time (mtime) of the file or directory determines whether it should be backed up. Acceptable values are `yes` or `no`. The default is `no`.
- `restore-quarantine`  
Restores the files that had been marked as quarantined by AV and are backed up. Acceptable values are `yes` or `no`. The default is `no`.
- `tar-pathnode`  
Enables or disables backing up the directories containing modified files or directories in tar backup format. Acceptable values are `yes` or `no`. The default is `no`. Nexsan recommends using tar for backups, based on recent updates.
- `token-maxseq`  
Sets the maximum sequence number for subsequent token-based incremental backup in NDMP-V4. The default value is 9. There are two limits for this value: `soft-limit`, which is 59, and `hard-limit`, equal to 64. If the token sequence number, passed by the DMA, is between the soft and hard limits, a warning message is issued to the DMA. The token sequence number can never exceed the hard-limit value.
- `type-override`  
Override the value of TYPE. Valid values are `zfs` and `off`. By default, `type-override` has a value of `off` and does not override TYPE. Invalid values are treated as `off`. If it is set to `zfs`, make sure that the path format used in the data management application is consistent with the `zfs` backup type.
- `version`  
Sets the maximum active NDMP protocol version. Valid values are currently 2, 3, and 4. The default is 4.
- `zfs-token-support`  
Enables or disables token based method for ZFS backup type. Acceptable values are `yes` or `no`. The default is `no`.
- `zfs-force-override`  
Overrides the value of ZFS\_FORCE. `yes` forces a value of `y`. `no` forces a value of `n`. By default, `zfs-force-override` has a value of `off` and does not override ZFS\_FORCE.
- `set -p <property value> [-p <property value>]...`  
This command sets a value for the specified property. The values are the same as those provided for `get`.
- `show-devices`  
This option lists the name, vendor, serial number, and other information about the storage connected to the Unity Storage System.

```
show-sessions [-i tape,scsi,data,mover] [session id]...
```

This option displays details of an NDMP session. You can use these arguments with `show-sessions`:

- `-i tape,scsi,data,mover` identifies a type of interface about which to obtain data. If you don't specify an interface, information for all types of interfaces is displayed.
- `ID` specifies a particular session about which to display data. If you don't specify an ID, data for all sessions is displayed.

```
kill-sessions <session id...>
```

This option enables you to terminate the specified session, which is identified by a number.

```
enable -a <authentication type> -u <user name>
```

This option prompts for the user's password twice for confirmation and activates the specified authentication type with the given user name and password for NDMP client access. Authentication type values can be `cram-md5` or `cleartext`.

```
disable -a <authentication type>
```

This option disables the specified authentication type for an NDMP client's remote access. Authentication type values can be `cram-md5` or `cleartext`.

#### Example

We display the current properties set for NDMP support on the Unity Storage System:

```
nstndmp get
debug-path=/var/ndmp
dump-pathnode=no
tar-pathnode=no
ignore-ctime=no
token-maxseq=9
version=4
dar-support=no
tcp-port=10000
backup-quarantine=no
restore-quarantine=no
overwrite-quarantine=no
nstfs-force-override=off
drive-type=sysv
vendor-name=Nexsan Technologies
product-name=NestOS v2
mover-nic=
debug-enable=false
```



#### **Nexsan Headquarters**

325 E. Hillcrest Drive, Suite #150  
Thousand Oaks, CA 91360  
United States of America

#### **Nexsan Shipping**

302 Enterprise Street , Suite A  
Escondido, CA 92029  
United States of America

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#### **Nexsan Canada**

1405 Trans Canada Highway, Suite 300  
Dorval, QC H9P 2V9  
Canada

#### **Nexsan UK**

Units 33–35, Parker Centre, Mansfield Road  
Derby, DE21 4SZ  
United Kingdom

#### **Nexsan Unity support:**

[https://helper.nexsansupport.com/unt\\_support](https://helper.nexsansupport.com/unt_support)

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