DXi-Series Command Line Interface (CLI) Guide

This document contains the following topics:

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About the DXi-Series CLI Guide

The Command Line Interface (CLI) for DXi-Series systems serves as a command line equivalent of the web-based remote management GUI. This guide describes the CLI commands available in DXi 3.4 Software for DXi4700 and DXi6900 disk backup systems and in Q-Cloud Protect virtual appliances. For more information about concepts and terms used in this guide, see your *DXi User's Guide* or the Q-Cloud Protect Documentation Center.

Terminology

The "DXi-Series" terminology used throughout this guide refers in general to both DXi and Q-Cloud Protect platforms, unless specifically noted.

Important

When using this help, keep in mind that not all CLI commands are available to DXi-Series or Q-Cloud Protect systems.

In addition, you *will not* be able to use the majority of CLI commands for your Q-Cloud Protect appliance until its serial number is set through the cloud appliance's virtual console or command line.

DXi-Series CLI Users

The Command Line Interface (CLI) for DXi has three user accounts: CLI administrator (**cliadmin**), CLI viewer (**cliviewer**), and Service user **ServiceLogin**.

- You can enable or disable the CLI user accounts, or change login options, on the **Configuration > System > Security > Access Control** page in the web-based remote management console. See our *DXi User's Guide* or Q-Cloud Protect Documentation Center.
- The **cliadmin** and **cliviewer** accounts are disabled by default, and the **ServiceLogin** account is enabled by default.

Note: Before logging on to a CLI user account, Quantum recommends changing the account password. Passwords can be up to 32 characters, and alphanumeric characters and special characters are allowed. For more information, see the section “Security” in your *DXi User's Guide* or Q-Cloud Protect Documentation Center.

cliviewer

The **cliviewer** user can view and retrieve information, but it cannot add, change, or delete information. If the **cliviewer** user attempts to run an intrusive command that changes system information, such as **`add`**, **`edit`**, or **`delete`**, an error is returned.

Login credentials for the cliviewer user

- user name – **`cliviewer`**
- password – set by the DXi administrator when the account is enabled

cliadmin

The **cliadmin** user can view and retrieve information, as well as add, change, or delete information.

Login credentials for the cliadmin user

- user name – **`cliadmin`**
- password – set by the DXi administrator when the account is enabled

ServiceLogin

After deploying your Q-Cloud Protect appliance or DXi system, you can immediately connect to it through an SSH client using the **ServiceLogin** account. This account is authenticated using the key pair assigned to the instance during launch.

SSH Security

The **cliadmin** and **cliviewer** accounts use SecureShell (SSH) to log in to the DXi or Q-Cloud Protect system, and both accounts are confined to a restricted shell for security.

A limited number of shell commands are available to both CLI users to support scripting. These commands are restricted, meaning that they only work with files in the CLI user's home directory. Review the following list of commands available to CLI users in the restricted shells.

To add a SSH public key to the **cliadmin**,**cliviewer**, and **ServicLogin** user accounts, see SSH Public Keys on page 6.

Note: The CLI command (**`syscli`**) is available to both CLI users.

Shell Commands

The following commands are available to both cliviewer and cliadmin users.

cat
Displays the contents of a file.
cp
Copies a file.
date
Displays information for a specific time range.
ftp (lftp)*
Transfers a file from the user's home directory to a remote system.
grep
Searches for a pattern in files.
head
Displays the first part of the file.
help
Displays help text for a specific command, such as **cat --help**.
less
Displays text on one screen at a time.
ll
Displays a list of files with attributes.
ls
Displays a list of files.
mv
Renames a file in the restricted shell.
rm
Deletes files.
scp
Copies files securely.
tail
Displays the last part of the file.
vi
Opens a file for editing.
wbinfo*
Queries and returns information about Samba related operations on the system.

*This command is available only to the **cliadmin** user.

Disable CLI User Account Using SSH

Use the following command to disable CLI user accounts:

Command

```
syscli --edit sysuser --name cliadmin|monitor|cliviewer|service|servicelogin --
account lock|unlock [--passwd lock|unlock]
```

Command Attributes

Review the following attribute descriptions.

--edit sysuser	Configures access for the specified user.
--name cliadmin|monitor|cliviewer|service|servicelogin	Enter the account for which to change access restrictions.
--account lock|unlock	Regulates the user's ability to log in to the system.
--passwd lock|unlock	Regulates the user's ability to log in to the system with a password-based login.

SSH Public Keys

Use the following commands to manage SecureShell (SSH) public keys for the CLI administrator (**cliadmin**), CLI viewer (**cliviewer**), and Service **ServiceLogin** user accounts.

Note: If the Veeam feature on the system is supported, licensed, and enbabled, the SSH public key commands can be used to manage the public keys for the Veeam agent (veeam).

List Public Keys

This command imports list public keys associated with the CLI administrator, CLI viewer, and Service user accounts.

Command

```
syscli --list publickey [--user cliadmin|cliviewer|servicelogin|veeam]
```

Command Attributes

Review the following attribute descriptions.

--list publickey	Prints a list of public keys containing the following information: user and key alias.
--user cliadmin|cliview|servicelogin|veeam	CLI users whose keys are to be listed. If no user is specified, all key users are printed.

Add a Public Key

This command imports a public key and associates it with the specified CLI user.

Command

```
syscli --add publickey --user cliadmin|cliviewer|servicelogin|veeam --alias <key alias> --key <public key>
```

Command Attributes

Review the following attribute descriptions.

--add publickey	Imports a public key.
--user cliadmin|cliview|servicelogin|veeam	CLI user whose key is to be renamed.
--alias <key alias>	Short alpha-numeric string (up to 20 characters) alias used to identify the key to be added.
--key <public key>	The RSA/DSA public key to be added. The key must be in the following form: **<key type> <base64 encoded string (letters, numbers, '+', '/', '=')>**

Edit a Public Key

This command allows the CLI administrator to rename public key aliases of the CLI users.

Command

```
syscli --edit publickey --user cliadmin|cliviewer|servicelogin|veeam --alias <key alias> --newalias <new key alias>
```

Command Attributes

Review the following attribute descriptions.

--edit publickey	Changes key alias of the specified key.
--user cliadmin|cliview|servicelogin|veeam	Associates the imported public key to a specified CLI user: CLI administrator (**cliadmin**), CLI viewer (**cliviewer**), Service **ServiceLogin**, or Veeam agent (if installed and enabled on the system).
--alias <key alias>	Current key alias.
--key <public key>	New key alias to identify the key. The key alias must be a short alpha-numeric string (up to 20 characters) alias used to identify the key to be added.

Delete a Public Key

This command deletes a public key associated with a specified CLI user.

Command

```
syscli --delete publickey --user cliadmin|cliviewer|servicelogin|veeam --alias
<key alias> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--delete publickey	Removes a specified key associated with a specified CLI user.
--user cliadmin|cliview|servicelogin|veeam	Name of the CLI user whose key is to be removed.
--alias <key alias>	Key alias that identifies the key to be removed.
[--sure]	If specified, this command will execute immediate without asking for confirmation.

Delete All Public Keys

This command deletes all public keys associated with a CLI user.

Command

```
syscli --deleteall publickey --user cliadmin|cliviewer|servicelogin|veeam [--
sure]
```

Command Attributes

Review the following attribute descriptions.

--deleteall publickey	Removes all public keys associated with the specified CLI user.
--user cliadmin|cliview|servicelogin|veeam	Name of the CLI user whose keys are to be removed.
[--sure]	If specified, this command will execute immediate without asking for confirmation.

CLI Syntax Conventions

The program you will use to operate your Command Line Interface (CLI) is **syscli**. The **syscli** program contains predefined tasks that you invoke through parameters. Parameters are comprised of commands, subcommands, options, and values that follow a specific syntax conventions.

Definitions

Review the following definitions of parameter components

Commands (`cmd`)

A command provides an action to be performed, such as **`add`**, **`del`**, **`edit`**, or **`list`**.

Subcommand (`subcmd`)

A subcommand provides the set object on which to perform the action, such as **`lsu`**, **`share`**, or **`storageserver`**.

Options

Options can be both commands and subcommands. The first option within a parameter is the command, and subsequent options are subcommands. Options are denoted by a double-dash (**`--`**) that precedes the option.

Values

Values further define subcommand options, such as providing a specific share name for the **`share`** subcommand. Values are denoted by immediately following an option without using a double-dash (**`--`**).

Note: Options can stand alone without specifying a value.

Syntax Conventions

The syntax for all syscli commands uses one of the following formats:

- **`syscli --cmd --option1 <value1> --option2 <value2>...`**
- **`syscli --cmd subcmd --option1 <value1> --option2 <value2>...`**

Syntax Characters

Review the following descriptions of syntax characters.

Character	Description
< >	Angle brackets surrounding a value indicates that you need to replace it with an appropriate value. A value displayed without angle brackets indicates literal text that you must enter exactly as it appears. **Example** **`syscli --del share --name <share_name>`** The above command has two options (**`del`** and **`name`**), one literal value (**`share`**), and one appropriate value (**`<share_name>`**). Enter the command as follows, where **`S1`** is the name of the appropriate share to delete: **`syscli --del share -- name S1`**
[ ]	Square brackets surrounding options or values indicate that it is not mandatory to enter an option or value. If you do not specify an option or value, the CLI provides a default replacement.
|	The pipe character indicates that you need to specify only one of the possible options or values. Read this character as "**OR**".
( )	Parentheses surrounding options indicates that you must specify one or more of the displayed options. **Example** **`syscli --add sanclientgroup... (--device <device_serial_number> --lun <desired_LUN>)`** In the above command, you must specify one or more pairs of devices and luns.

Character	Description
{ }	Curly brackets are used to group options or values for readability purposes. Do not use these characters in the actual command.
,	A comma separating values indicates that you can specify one or more of the values.
' '	Single quotation marks surrounding options or values indicate that the options or values are a single token. Otherwise,the shell interprets each word in the option or value as a single token. **Example** **syscli --add share... --desc 'This is a test share'**

Notes

Review the following CLI syntax notes for further information.

Special Characters

If a value contains a character special to the shell, make sure to escape the character correctly so the shell treats the character as a regular character.

Example

syscli --add share... --desc Testing\!

If you do not want the shell to interpret any special characters, use single quotation marks (**'**) around the character.

Note: The **bash** shell is used in the CLI user accounts. Refer to the **bash** shell documentation (http://www.gnu.org/software/bash/manual/bashref.html) for a list of characters special to the shell.

Password Option

If a command requires a **--password** option and you do not specify the **<password_value>** on the command line, the **syscli** program prompts for the password. For security purposes, the program does not echo the password response on the screen.

Updates

Keep in mind that option and value names can change in subsequent **syscli** program versions.

CLI Commands, Codes, and Options

The Command Line Interface (CLI) contains the following help commands, error and exit codes, and special options.

CLI Help Commands

Use the following CLI help commands as needed.

`syscli`

Displays a summary of help commands.

`syscli help`

Displays syntax for all syscli commands.

`syscli help NAS | VTL | OST | REPLICATION |...`

Displays syntax for all Network Attached Storage (NAS) commands, Virtual Tape Library (VTL) commands, Open Storage Technology (OST) commands, replication commands, and so on, respectively.

`syscli help --<cmd>`

Displays syntax for all commands for the specified value.

Examples

`syscli help --list` displays all **`--list`** commands.

`syscli help --add` displays all **`--add`** commands.

`syscle help --<cmd> <subcmd>`

Displays detailed help for the specific command and subcommand.

Example

`syscli help --list nas` displays the complete help for the **`--list nas`** command.

CLI Error Codes

If the system encounters an error when you run a command, it returns an error code. Enter the following command to view the information associated with the error code. This information can assist you in determining the reason for the error.

`syscli --get error --value <error_code>`

Example

If the system returns error code E1000011, enter the following command to view the information associated with the error code:

`syscli --geterror --value E1000011`

```
Output data:
   Error Message = CIFS server is disabled! (E1000011)
Command completed successfully
```

CLI Exit Code

If a command runs to completion successfully, it returns an exit code of zero (0) along with the following message:

Command completed successfully.

If a command fails, it returns an exit code of one (1) along with a one line error message that summarizes the error, such as the following:

ERROR: CIFS server is disabled! (E1000011)

CLI Special Options

The following options are accepted by every command:

- **--outfile <output_filename>**
- **--errfile [<errfile_name>]**
- **--file <options_filename>**
- **--lockwait <seconds>**

See the following sections for additional information about these options.

--outfile <output_filename> and --errfile [<errfile_name>]

These options replace the shell output redirection characters "<" and ">," which are forbidden in the restricted shell.

- **--outfile** specifies that the standard output is saved to the file specified in **<output_filename>**.
- **--errfile** specifies that the standard error is saved to the file specified in **<errfile_filename>**. If you do not specify a file in this command, the **syscli** program saves the file to the same file named in **<output_filename>**.

--file <options_filename>

This option is supported to avoid the problem of quoting and escaping special characters. Instead **--file** instructs the program to open the file specified in **<options_filename>** to read additional options.

Within the **Options** file, each option or each **option=value** pair is listed on a separate line. Blank lines or lines beginning with **#** are ignored.

Example

```
syscli --add share --name abc --proto cifs
```

The above command is functionally equivalent to any of the following commands:

1. **syscli --file <myfile>**, where **<myfile>** is a file containing:
   ```
   --add=share
   --name=abc
   --proto=cifs
   ```
2. **syscli --add share --file <file1>**, where **<file1>** is a file containing:
   ```
   --name=abc
   --proto=cifs
   ```
3. **syscle --add share --file <file2> -- proto cifs**, where **<file2>** is a file containing:
   ```
   --name=abc
   ```

Options File Syntax

The following syntax conventions are used for the **Options** file.

Left to Right Processing

The **syscli** program processes command line options from left to right. You can override any option in the file by listing it after the **--file** option on the command line.

Example

syscli --add share --file barcodes --barcode mybarcode

In the above command, syscli processes **--barcode mybarcode** after **--file barcodes**, thus **--barcode mybarcode** overrides **--file barcodes**.

Spaces

Spaces before option values are insignificant.

Example

The following are equivalent:

- **--nameabc**
- **--name abc**

Characters following =

The **syscli** program processes all characters following = as significant, including space, tab, backslash, and quotation marks. Because the program does not treat characters following = as special, you should not escape them. This rule is enforced to support values that contain leading or trailing spaces/quotation marks, such as passwords.

Example

- **`--password=abc`**
- **`--password= abc`**
- **`--password=a\!bc`**
- **`--password="abc"`**

The syscli program processes the above passwords as unique passwords.

- The first password has three characters: a, b, and c.
- The second password has four characters: space, a, b, and c.
- The third password has five characters: a, \, !, b, and c.
- The fourth password has five characters: ", a, b, c, and ".

`--lockwait <seconds>`

This option specifies how long the command can wait for its turn to access a system resource. The default is 15 seconds. In general, when a command needs to change system configuration settings, it has to lock the relevant resources to prevent other commands from changing them at the same time. If a second command tries to read or change the same system settings that are being locked, it has to wait for the first command to complete and release the lock. However, there is a limit on how long it can wait. This limit is called the lock waiting time (15 seconds by default). After the time limit is reached, the second command will give up and fail with a message similar to the following:

```
Locking failed because file was locked by another process! Try again later.
```

You can run the command later or rerun it with the **`--lockwait`** option. For example, use the following command to increase the waiting time to 60 seconds:

`syscli --<command> --lockwait 60`

Note: Specifying **`--lockwait 0`** instructs the command to not wait, and to fail immediately if the resource is busy.

Administrative Alert CLI Commands

This topic presents supported administrative alert CLI commands.

List Administrative Alerts

List administrative alerts within the system.

Command

```
syscli --list adminalert [--alert <alert_item>]
```

Example Output

```
Output data:
List of Administration Alerts
Total count = 3
[Alert Number = 1]
   Alert = NewUpgrade
   Library = N/A
   Last Update = 2015-05-14T03:52:56+00:00
   Summary = <subject_line>Failure retrieving upgrade information.</subject_line>
   <email_bod
[Alert Number = 2]
   Alert = EmailReports
   Library = N/A
   Last Update = 2015-05-10T12:15:00+00:00
   Summary = Email report could not be sent, because Email Server is not
   configured.
```

Command Attributes

Review the following attribute descriptions.

--list adminalert	Lists administrative alerts within the system.
--alert <alert_item>	Enter a specific alert item to list information for that item only.

Delete an Administration Alert

Delete the specified administration alert.

Command

```
syscli --del adminalert (--alert <alert_name>)
```

Delete All Administration Alerts

Delete all existing administration alerts. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --del adminalert (--alert <alert_name>)
```

Analyzer CLI Commands

This topic presents supported Analyzer CLI commands.

Enable or Disable NetServer

Enable or disable NetServer on the current DXi system. Use this system to perform analysis on another DXi system.

Command

```
syscli --set netserver --enable | --disable
```

Display NetServer Status

Display whether Netserver is enabled on the current DXi system.

Command

```
syscli --getstatus netserver
```

Analyze the Network

Perform a network analysis of the current DXi system using another DXi system.

Note: Enable NetServer on the system performing the analysis using the **--set netserver** command.

Command

```
syscli --analyze network --ipaddress <ipaddress>
```

Command Attributes

Review the following attribute description.

--analyze network	Runs a network analysis of the DXi system on which you are entering the command.
--ipaddress <ipaddress>	Enter the IP address of the system running the analysis.

Analyze System Disks

Perform a disk analysis on the DXi system.

Command

```
syscli --analyze disk
```

Display Analysis Results

Displays results for the most recent disk **OR** network analysis.

Command

```
syscli --show throughput --disk | --network
```

Application Environment CLI Commands

This section presents application environment CLI commands. Use these commands to do the following:

- Manage DAE on the next page
- Manage Veeam on page 27

Manage DAE

Use the following commands to manage a Dynamic Application Environment (DAE).

Query DAE Settings

This command returns the current DAE settings.

Command

```
syscli --get dae
```

Example output

```
Output data:

AE state = aeDaeRunning

Enabled = enabled
```

Query Host System

This command returns the resource limitations and supported options for the host system.

Command

```
syscli --getlimits dae
```

Example output

```
Output data:
Minimum CPUs = 2
Maximum CPUs = 4
Minimum Memory (RAM) = 1024 MB
Maximum Memory (RAM) = 32768 MB
Minimum Disk Space = 8 GB
Maximum Disk Space = 100 GB
Avalable NICs = eth3
NICs In Use = eth2
```

Enable DAE

This command enables or disables DAE.

Command

```
syscli --set dae --enable on|off [--sure]
```

Command Attributes

Review the following attribute descriptions.

--set dae	Enable DAE. **Note:** The system will reboot if the DAE enable state is changed.
--enable on|off	Turns DAE on or off, as specified.
--sure	If specified, this command will execute immediately without asking for confirmation.

Add a Virtual Machine

This command allows for the creation of a new virtual machine (VM) instance.

Command

```
syscli --add dae --name <vm name> --cpus <num cpus> --memory <ram> --diskspa ce
<vm diskspace> --isoimage <iso pathToImage> [(--appnetwork <nic port>)] [--
autostart yes|no] --password <password> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--add dae	Create a new VM instance.
--name <vm name	The name of the VM.
--cpus <num cpus>	The number of CPUs for the VM.
--memory <ram>	Amount of RAM memory (in MB) for the VM.
--diskspace <vm diskspace>	Amount of disk space (in GB) for the VM operating system.
--isoimage <iso pathToImage>	Selection of the path and image file to use for the operating system install.
--appnetwork <nic port>	Selection of the application network devices (NIC ports). More than one may be specified.
--autostart yes|no]	Autostart the VM on the system boot. The default is no.
--password <password>	Password for accessing the console over VNC.
--sure	If specified, this command will execute immediately without asking for confirmation.

Edit a Virtual Machine

This command allows for the modification of an existing DAE virtual machine (VM) instance. The VM may be updated in a running state but a restart may be required.

Use to obtain valid ranges and values.

Command

```
syscli --edit dae --name <vm name> [--cpus <num cpus>] [--memory <ram>] [(--
appnetwork <nic port>)] [--autostart yes|no] [--password <password>]
```

Command Attributes

Review the following attribute descriptions.

--edit dae	Edit VM instance.
--name <vm name>	Edit the name of the VM.
--cpus <num cpus>	Edit the number of CPUs for the VM.
--memory <ram>	Modify the amount of RAM memory (in MB) for the VM.
--appnetwork <nic port>	Modify the application network devices (NIC ports). More than one may be specified.
--autostart yes|no]	Change the autostart status of the VM on the system boot. The default is no.
--password <password>	Change the password for accessing the console over VNC.
--sure	If specified, this command will execute immediately without asking for confirmation.

Delete a Virtual Machine

This command deletes an existing virtual machine (VM) instance.

Command

```
syscli --delete dae --name <vm name> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--delete dae	Delete the VM instance.
--name <vm name	The name of the VM to be deleted.
--sure	If specified, this command will execute immediately without asking for confirmation.

List Virtual Machines

This command lists current DAE virtual machines (VMs) and summary information on each VM.

Note: Only the **cliadmin** can access the VM with VNC Viewer

Command

```
syscli --list dae --name <vm name>
```

Example output

```
Output data:

List of VMs:

Total count = 1

[VM = 1]

VM name = caspervm01

State = running

Auto Start = yes

Net Port(s) = eth2

Max CPU(s) = 4

Used CPU(s) = 4

Max Memory = 32768 MB

Used Memory = 32768 MB

Disk Capacity = 100 GB

Image File = /Q/shares/VM/VMImages/<vmname>.qcow2

VNC port = 127.0.0.1:0
```

Command Attributes

Review the following attribute descriptions.

--list dae	List the VM instance(s).
--name <vm name>	The name of a specific VM to show (optional).

Export a Virtual Machine

This command exports a virtual machine (VM) image to a file suitable for import on another system.

Command

```
syscli --export dae --name <vm name> --path <path for image>
```

Command Attributes

Review the following attribute descriptions.

--export dae	Export a VM image.
--name <vm name>	The name of the VM image to save.
--path <path for image>	Destination for the exported image.

List Exported Virtual Machines

This command lists DAE virtual machine (VM) image files in a specified directory.

Command

```
syscli --list daeexport [--path <export file path>]
```

Command Attributes

Review the following attribute descriptions.

--list daeexport	Retrieves a list of VM image export files in a specified directory.
--path <export file path>	The directory to search for VM image export files. If not specified, the default path is `/Q/shares/VM`.

Import a Virtual Machine

This command imports a virtual machine (VM) image exported using `--export dae`.

Command

```
syscli --import dae --image <path name> [--name <new name>]
```

Command Attributes

Review the following attribute descriptions.

--import dae	Import a VM image.
--image <path name>	The name of file containing the VM image to import.
--name <new name>	The name of the imported VM if different from the original name.

Start a Virtual Machine

This command starts a virtual machine (VM) that has been shutdown or stopped.

Command

```
syscli --start dae --name <vm name>
```

Command Attributes

Review the following attribute descriptions.

--start dae	Starts the VM instance.
--name <vm name>	The name of the VM to start.

Stop a Virtual Machine

This command stops a virtual machine (VM) and saves the current state to disk.

Command

```
syscli --stop dae --name <vm name>
```

Command Attributes

Review the following attribute descriptions.

--stop dae	Stops the VM instance.
--name <vm name>	The name of the VM to stop.
--sure	If specified, this command will execute immediately without asking for confirmation.

Shutdown a Virtual Machine

This command performs a clean operating system (OS) shutdown of the virtual machine (VM). All services are cleanly shutdown within the VM before it is powered off.

Command

```
syscli --shutdown dae --name <vm name> [--poweroff] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--shutdown dae	Shutdown the VM instance.
--name <vm name>	The name of the VM to shutdown.
--poweroff	If specified, the VM instance is immediately powered off. The current state is not preserved, so any open files or active I/O could result in VM corruption.
--sure	If specified, this command will execute immediately without asking for confirmation.

List ISO Files

This command lists .iso files in a specified directory.

Command

```
syscli --list daeiso [--path <iso path>]
```

Command Attributes

Review the following attribute descriptions.

--list daeiso	Retrieves a list of .iso files in the specified directory.
--path <iso path>	The directory to search for the .iso files. If not specified, the default path is `/Q/shares/VM`.

Eject ISO Files

This command eject the .iso file for the virtual machine (VM).

Command

```
syscli --eject daeiso --name <vm name>
```

Command Attributes

Review the following attribute descriptions.

--eject daeiso	Ejects the .iso file for the VM.
--name <vm name>	The name of the VM to eject the .iso file.

Manage Veeam

Use the following commands to manage Veeam agent integration.

Query Veeam Settings

This command returns the current Veeam agent settings.

Command

```
syscli --get veeam
```

Example output

```
Output data:

AE state = aeDaeRunning

Enabled = disabled

Password is = locked
```

Enable Veeam

This command enables or disables the Veeam agent.

Command

```
syscli --set veeam [--enable on|off] [--passwd lock|unlock] [--password
<password>] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--set veeam	Enable access for the Veeam agent. Either the password or the key must be entered. The system will reboot if the enable state is changed. A password change does not require a reboot.
--enable on|off	If specified, the Veeam agent login will be enabled or disabled. If the state is changed, the system will reboot.
--passwd lock|unlock	Specifies if a password access is allowed.
--password <password>	If the password is not specified, the command will prompt for the password and it will not be echoed.
--sure	If specified, this command will execute immediately without asking for confirmation.

Date And Time CLI Commands

This topic presents supported CLI commands to use in managing system date and time.

Display System Date and Time

Display the system's date, time, time zone, time format, and Network Time Protocol (NTP) server information.

Command

```
syscli --get datetime
```

Set System Date and Time

Set the system's date and time using one of the following options:

- Synchronize the system's date and time with an NTP server

  OR

- Manually set the system's date and time.

Command

```
syscli --set datetime [--ntpserver <ntpserver> | {--date <yyyymmdd> --time
<time>}] [--timeformat 12|24] [--timezoneid <time_zone_id>] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--set datetime	Sets the date and time of the system.
--ntpserver <ntpserver>	If using and NTP server, enter the name or IP address of the NTP server with which to synchronize the system's date and time.
--date <yyyymmdd>	If manually setting the date, enter the current date.
--time <time>	If manually setting the time, enter the current time. • For 12-hour formats, enter the time as HH:MM:SS am/pm. • For 24-hour formats, enter the time as HH:MM:SS.
--timeformat 12|24	Enter the format to apply to the system's time, either 12-hour or 24-hour format.
--timezoneid <time_zone_id>	Enter the ID of the time zone to apply to the system. Use **syscli --list timezone** to retrieve a list of time zone IDs.
--sure	If specified, the CLI executes the command without prompting for confirmation.

List the NTP Server Pool

List the public NTP server pool.

Command

```
syscli --list ntpserver
```

List Time Zone Details

List information for all time zones.

Command

```
syscli --list timezone [--matching <pattern>]
```

Command Attributes

Review the following attribute descriptions.

--list timezone	Lists information for time zones.
--matching <pattern>	If specified, only times zones with file names that match the specified pattern display. The match is case insensitive. **Example Patterns** **--matching pacific** **--matching bangkok**

Email Configuration CLI Commands

This section presents email configuration CLI commands. Use these commands to do the following:

- Manage Outgoing Email Server below
- Manage Service Ticket Recipients on the next page
- Manage Report Recipients on page 34
- Manage SNMP Trap Destinations on page 35
- Test Email and SNMP Configuration on page 40

Manage Outgoing Email Server

Use the following commands to manage the outgoing email server.

Display Outgoing Email Server Information

Display the outgoing email server's hostname or IP address, and it's From email address.

Command

```
syscli --get emailserver
```

Example Output

```
Outgoing E-mail Server
   Host name or IP address = 10.40.164.50
   From Email address = DX75@quantum.com
```

Assign the Outgoing Email Server

Assign an email server to send all outgoing email to configured recipients.

Command

```
syscli --set emailserver --hostname <server_name_or_IP> --emailaddr <from_email_
address>
```

Command Attributes

Review the following attribute descriptions.

--set emailserver	Assigns the specified email server to send all outgoing email to configured recipients.
--hostname <server_name_or_IP>	Enter the hostname or IP address of the email server to set as the outgoing email server.
--emailaddr <from_email_address>	Enter the address to use as the server's From email address.

Delete the Outgoing Email Server

Delete the outgoing email server.

Command

```
syscli --del emailserver
```

Manage Service Ticket Recipients

Use the following commands to manage email recipients of DXi service tickets.

List Service Ticket Recipients

List email recipients who are configured to receive service tickets.

Command

```
syscli --list emailrecipient [--name <email_recipient>]
```

Example Output

```
List of Recipients
Total count = 1
[Recipient = 1]
   Name = User1
   Email Address = user1@mycomapny.com
   Notification Type = all
   Notification Status = Disabled
```

Add a Service Ticket Recipient

Add an email recipient to receive service tickets.

Command

```
syscli --add emailrecipient --name <recipient_name> --emailaddr <recipient_email_
address> [--type {high | highmed | all}] [--disable]
```

Command Attributes

Review the following attribute descriptions.

--add emailrecipient	Adds an email recipient to receive service tickets.
--name <recipient_name>	Enter the name of the email recipient.
--emailaddr <recipient_email_address>	Enter the email address for the recipient.
--type {high | highmed | all	Enter the type of service ticket to send to the recipient: • **high** – Only service tickets with a status of high are sent. • **highmed** – Service tickets with the status of high and medium are sent. • **all** – All service tickets are sent.
--disable	If specified, the recipient's email notification is disabled.

Edit a Service Ticket Recipient

Edit an existing service ticket recipient's email information.

Command

```
syscli --edit emailrecipient --name <recipient_name> [--emailaddr <recipient_
email_address>] [--type {high | highmed | all}] [--disable]
```

Command Attributes

Review the following attribute descriptions.

--add emailrecipient	Edits an email recipient's information.
--name <recipient_name>	Enter the name of the email recipient.
--emailaddr <recipient_email_address>	Enter the email address for the recipient.
--type {high | highmed | all	Enter the type of service ticket to send to the recipient: • **high** – Only service tickets with a status of high are sent. • **highmed** – Service tickets with the status of high and medium are sent. • **all** – All service tickets are sent.
--disable	If specified, the recipient's email notification is disabled.

Delete a Service Ticket Recipient

Delete the specified service ticket recipient from the email list.

Command

```
syscli --del emailrecipient --name <recipient_name>
```

Delete All Service Ticket Recipients

Delete all service ticket recipients from the email list. If you specify the **--sure** option, the CLI deletes all recipients from the email list without asking for confirmation.

Command

```
syscli --deleteall emailrecipient [--sure]
```

Manage Report Recipients

Use the following commands to manage the recipients of configuration and status reports, as well as to send the reports on demand to specified recipients.

List Report Recipients

List recipients of emailed configuration and status reports. These recipients receive the reports when a scheduled email report event is executed.

Command

```
syscli --get emailhome
```

Example Output

```
Email home (reports) to the following recipients:
   Recipient 1 = receiver1@ehome.com
   Recipient 2 =
   Recipient 3 =
   Recipient 4 =
```

Note: This command used to output the schedule information, but this command feature has been deprecated. Instead use **`syscli --list events --type emailreports`** to see the schedule.

Add Report Recipients

Add recipients of emailed configuration and status reports. You can add up to four e-mail recipients.

Command

```
syscli --add emailhome (--emailaddr <recipient_email_address>)
```

Command Attributes

Review the following attribute descriptions.

--add emailhome	Adds the specified recipients to the email list.
--emailaddr <recipient_email_address>	Enter each recipient's email address. Precede each address by the **--emailaddr** command.

Delete a Report Recipient

Delete the specified report recipient from the email list.

Command

```
syscli --del emailhome --emailaddr <recipient_email_addr>
```

Delete All Report Recipients

Delete all report recipients from the email list. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --deleteall emailhome [--sure]
```

Send the Status Report

Send the status report on demand to the specified recipient.

Command

```
syscli --send statusondemand --emailaddr <recipient_email_address>
```

Send the Configuration Report

Send the configuration report on demand to the specified recipient.

Command

```
syscli --send configondemand --emailaddr <recipient_email_address>
```

Manage SNMP Trap Destinations

Use the following commands to manage Simple Network Management Protocol (SNMP) on your system.

List SNMP Trap Destinations

List configured SNMP trap destinations.

Command

```
syscli --list snmptrapdest
```

Example Output

```
Total TrapDestinations = 2
Trap Destination number = 1
IP Address = 10.40.166.87
Name = public
   Selected Traps = Failure,Warning,Informational,Available,Unavailable
   Trap Destination number = 2
   IP Address = 10.40.167.77
   Name = public
   Selected Traps = Failure,Warning,Informational,Available,Unavailable
```

Add an SNMP Trap Destination

Add an SNMP trap destination.

Command

```
syscli --add snmptrapdest --ipaddress <trap_dest_address> --name <trap_dest_name>
[--enable fail, warn, info, avail, unavail]
```

Command Attributes

Review the following attribute descriptions.

--add snmptrapdest	Adds an SNMP trap destination to your system.
--ipaddress <trap_dest_address>	Enter the IP address of the trap destination.
--name <trap_dest_name>	Enter the name of the trap destination.
--enable fail, warn, info, avail, unavail	If specified, indicates the types of traps to send to the destination.

Edit an SNMP Trap Destination

Edit an SNMP trap destination.

Command

```
syscli --edit snmptrapdest --ipaddress <trap_dest_address>
[--name <trap_dest_name>] [--enable fail, warn, info, avail, unavail]
```

Command Attributes

Review the following attribute descriptions.

`--edit snmptrapdest`	Adds an SNMP trap destination to your system.
`--ipaddress <trap_dest_address>`	Enter the IP address of the trap destination.
`--name <trap_dest_name>`	Enter the name of the trap destination.
`--enable fail, warn, info, avail, unavail`	If specified, indicates the types of traps to send to the destination.

Delete an SNMP Trap Destination

Delete the specified SNMP trap destination.

Command

```
syscli --del snmptrapdest --ipaddress <trap_dest_address>
```

Delete All SNMP Trap Destinations

Delete all SNMP trap destinations. If you specify the **`--sure`** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --deleteall snmptrapdest [--sure]
```

List SNMP Communities

List the SNMP communities configured on the system.

Command

```
syscli --list snmpcom
```

Example Output

```
Total Communities =
   Community Number =
   Name =
   IP Address =
   Network Mask =
   Access Type =
   Community Status =
```

Add an SNMP Community

Add an SNMP community to the system.

Command

```
syscli --add snmpcom --name <community_name> --ipaddress <community_IP_address>
--netmask <community_net_mask> --accesstype {get | getset} [--disable]
```

Command Attibutes

Review the following attribute descriptions.

--add snmpcom	Adds an SNMP community to the system.
--name <community_name>	Enter the name of the SNMP community.
--ipaddress <community_IP_address>	Enter the IP address of the SNMP community.
--netmask <community_net_mask>	Enter the network mask of the SNMP community.
--accesstype {get | getset}	Enter one of the following access types for the community: • **get** – Allows SNMP get operations. • **getset** – Allows SNMP get and put operations.
--disable	If specified, disables the community.

Edit an SNMP Community

Edit an SNMP community on the system.

Command

```
syscli --edit snmpcom --name <community_name> [--ipaddress <community_IP_
address>] [--netmask <community_net_mask>] [--accesstype {get | getset}]
[--disable]
```

Command Attibutes

Review the following attribute descriptions.

--edit snmpcom	Edit the specified SNMP community on the system.
--name <community_name>	Enter the name of the SNMP community.
--ipaddress <community_IP_address>	Enter the IP address of the SNMP community.
--netmask <community_net_mask>	Enter the network mask of the SNMP community.
--accesstype {get | getset}	Enter one of the following access types for the community: • **get** – Allows SNMP get operations. • **getset** – Allows SNMP get and put operations.
--disable	If specified, disables the community.

Delete an SNMP Community

Delete the specified SNMP community.

Command

```
syscli --del snmpcom --name <community_name>
```

Delete All SNMP Communities

Delete all SNMP communities from the system. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --deleteall snmpcom [--sure]
```

Test Email and SNMP Configuration

Use the following commands to test email and Simple Network Management Protocol (SNMP) configuration settings.

Test Email Configuration

Verify your system's email configuration by sending a test email to the specified recipient.

Command

```
syscli --send testemail --name <recipient_name>
```

Test SNMP Configuration

Verify your system's SNMP configuration by sending test traps to one or more specified destinations.

Command

```
syscli --test snmptrap (--trapip <trap_destination>)
```

Encryption CLI Commands

Data-at-Rest Encryption uses Self Encrypting Drive (SED) technology to secure all data stored on DXi systems, including:

- File data and metadata
- Configuration files
- DXi and operating system software

When Data-at-Rest Encryption is enabled, all hard drives in the DXi are paired with the disk controllers through encryption keys. After this pairing, accessing data on the drives requires the same encryption keys and controllers that were used to write the data. This access method ensures that a drive physically removed from the DXi cannot be read using another system or device.

System Requirements

To enable Data-at-Rest Encryption, you must ensure that the following requirements are met.

Hardware Requirements

- All drive controllers and hard drives (active and hot spares) in the DXi support SED technology.
- All physical drives are Self Encrypting.

Software Requirement

- A DXi hard drive security license is intalled.

Caution: After you enable Data-at-Rest Encryption, you cannot disable it or turn it off. Make sure to back up your passphrase and security files, as they may be required for future capacity expansion or rare hardware failure scenarios.

See the following topic for Encryption CLI commands: Manage Encryption below

Manage Encryption

Use the following CLI commands to manage encryption for a DXi system.

Note: Data-at-Rest Encryption is also referred to as hard drive (HD) security.

Enable SSL

This command allows the administrator to enable or disable SSL/TLS for the web interface to the system.

Command

```
syscli --set tls --enabled | --disabled [--sure]
```

Command Attributes

Review the following attribute descriptions.

--set tls	Allows the administrator to enable or disable TLS/SSL.
--enabled	Enable TLS/SSL.
--disabled	Disable TLS/SSL.
--sure	If specified, the command will execute immediately without asking for confirmation.

Check for HD Security Capability

Check whether the system is capable of HD security.

Command

```
syscli --getstatus hdsecuritycapable
```

Query HD Security Status

Query the system's HD security status.

Command

```
syscli --getstatus hdsecurity
```

Enable HD Security

Enable the system's HD security, as well as optionally email the HD security keys file to one or more recipients.

Note: Before enabling HD security, make sure the DXi system supports this type of security. See Encryption CLI Commands on page 40.

Caution: After you enable Data-at-Rest Encryption, you cannot disable it or turn it off. Make sure to back up your passphrase and security files, as they may be required for future capacity expansion or rare hardware failure scenarios.

Command

```
syscli --enable hdsecurity --passphrase <passphrase> [(--emailaddr <recipient_
email_address>) [--zippassword <zippassword>]] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--enable hdsecurity	Enables the system's HD security.

--passphrase <passphrase>	Enter the passphrase needed to enable HD security. **Passphrase minimum requirements** • Minimum of 8 characters • Not more than 33 characters • At least 1 upper case character • At least 1 lower case character • At least 1 numerical character • At least 1 non-alphanumerical character, excluding space, tab, single quote, double quote, or dollar sign.
--emailaddr <recipient_email_address	Enter the email address of the recipient receiving the HD security keys file. To email to more than one recipients, precede each recipient's email address by the –emailaddr option. **Example** `--emailaddr a@xxx.com --emailaddr b@yyy.com`
--zippassword <zippassword>	Enter the password needed to zip or unzip the HD security keys file.
--sure	If specified, the CLI executes the command without prompting for confirmation.

List HD Security Storage Array Information

List the following:

- System's serial number
- Each storage array's name
- Whether the premium feature key is installed for each array
- Each array's serial number
- Each array's feature activation code

Command

```
syscli --list hdsecuritystoragearray
```

Install PFK to the HD Security Controller

Install the Premium Feature Key (PFK) file to the HD security controller.

Command

```
syscli --install hdsecuritypfk --pfkfile <pfk_file> --name
Qarray1|Qarray2|Qarray3|Qarray4
```

Command Attibutes

Review the following attribute descriptions.

--install hdsecuritypfk	Installs the PFK file to the HD security controller.
--pfkfile <pfk_file>	Enter the name of the PFK file.
--name Qarray1|Qarray2|Qarray3|Qarray4	Enter the name of the storage array.

Install Turbo PFK to the System

Install the turbo PFK file to the DXi system.

Command

```
syscli --install turbopfk --turbopfkfile <turbopfk_file> --name
Qarray1|Qarray2|Qarray3|Qarray4
```

Command Attibutes

Review the following attribute descriptions.

--install turbopfk	Installs the PFK file to the DXi system.
--turbopfkfile <turbopfk_file>	Enter the name of the turbo PFK file.
--name Qarray1|Qarray2|Qarray3|Qarray4	Enter the name of the storage array.

Email HD Security Keys File

Send the HD security keys file to one or more recipients.

Command

```
syscli --send hdsecuritykey [--zippassword <password>] (--emailaddr <recipient_email_address>)
```

Command Attibutes

Review the following attribute descriptions.

--send hdsecuritykey	Sends the HD security key files to the specified recipient(s).
--zippassword <password>	Enter the password needed to zip or unzip the HD security keys file.
--emailaddr <recipient_email_address>	Enter the email address of the recipient receiving the HD security keys file. To email to more than one recipients, precede each recipient's email address by the –emailaddr option. **Example** `--emailaddr a@xxx.com --emailaddr b@yyy.com`

Download the HD Security Keys File

Downloads the HD security keys file to the current directory.

Command

```
syscli --download hdsecuritykeysfile [--zippassword <password>]
```

Command Attibutes

Review the following attribute descriptions.

--download hdsecuritykeysfile	Downloads the HD security keys file to the current directory.
--zippassword <password>	Enter the password needed to zip or unzip the HD security keys file.

List Premium Storage Information

List the following:

- System's serial number
- Each storage array's name
- Whether turbo and encryption premium feature key is installed for each storage array.
- Each storage array's serial number

Each storage array's feature activation code (ID).

Command

```
syscli --list premiumstorageinfo
```

Health Check CLI Commands

This topic presents supported Health Check CLI commands.

Enable or Disable a Health Check

Enable or disable a specified Health Check.

Command

```
syscli --edit healthcheck --name <healthcheck_name> --enable | --disable
```

Command Attributes

Review the following attribute descriptions.

`--edit healthcheck`	Enables or disables the specified Health Check.
`--name <healthcheck_name>`	Enter the name of the Health Check to enable or disable.
`--enable`	Enter to enable the Health Check.
`--disable`	Enter to disable the Health Check.

Start a Health Check

Start a Health Check on the system if it is not currently running.

Command

```
syscli --start healthcheck
```

Stop a Health Check

Stop a running Health Check.

Command

```
syscli --stop healthcheck
```

List Health Check Status

List the Health Check status of the system.

Command

```
syscli --list healthcheckstatus
```

Example Output

```
Output data:
Healthcheck Status
Total count = 1
HealthCheck = 1
   Healthcheck Name = De-Duplication
   State = enabled
   Started = Sun Dec 19 05:00:05 2010
   Finished = Sun Dec 19 05:00:05 2010
   Status = Success
```

List the General Status of System Health Checks

List the general status of system Health Checks.

Command

```
syscli --getstatus healthcheck
```

Example Output

```
Output data:
   General Healthchecks
   Status = Success
   Progress = 100 %
   Start Time = Sun Dec 19 05:00:04 2010
   End Time = Sun Dec 19 05:00:09 2010
```

NAS Configuration CLI Commands

This topic lists supported Network Attached Storage (NAS) configuration CLI commands. Use these commands to do the following:

- Manage NAS Shares for a DXi System
- Manage Workgroups and ADS Domains
- Manage CIFS Shares
- Manage NFS Shares

Note: NAS is only available on certain DXi models. See your *DXi User's Guide* to determine whether NAS is available for your model.

Manage NAS Shares for a DXi System

Use the following commands to manage Network Attached Storage (NAS) shares for your DXi system.

Note: NAS is only available on certain DXi models. See your *DXi User's Guide* to determine whether NAS is available for your model.

List NAS Shares

View a list of all existing NAS shares and their attributes.

Command

```
syscli --list share [{--proto cifs|nfs|app_specific} | {--name <share name>}]
[--namematch <pattern>]
```

Command Attributes

Review the following attribute descriptions.

--list share [{--proto cifs|nfs|app_specific} | {--name <share name>}]	Lists all NAS shares. You can limit the list to the type of protocol by defining a value for the **--proto** option, either Common Internet File System (CIFS) / Server Message Block (SMB), Network File System (NFS), Application Specific, OR you can limit the list to a specific share by using the **--name** option.
--namematch <pattern>	If you use this option, only shares whose names match the specified pattern are listed. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To list all shares ending with test in the names, enter the following command: **syscli --list share --namematch test\$**

List NAS Share Names

View a list of all names for both CIFS/SMB, Network File System (NFS), and Application Specific shares.

Command

```
syscli --list sharename [--proto cifs|nfs|app_specific] [--namematch <pattern>]
```

Command Attributes

Review the following attribute descriptions.

--list sharename [--proto cifs|nfs|app_specific]	Lists all NAS share names. You can limit the list to the type of protocol by defining a value for the **--proto** option, either CIFS/SMB, NFS, or Application Specific.

--namematch <pattern>	If you use this option, only shares whose names match the specified pattern are listed. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To list all shares ending with test in the names, enter the following command: **syscli --list sharename --namematch test\$**

List a Single NAS Share Name

List a single NAS share by specifying the share name.

Command

```
syscli --get share --name <sharename>
```

Example Output

```
Output data:
   Share name = NAS1
   Protocol = nfs
   Export Path = /Q/shares/NAS1
   Hidden = false
   Dedup = Enabled
   Permissions = rw
   Access = All hosts
   Description =
   Squash = root
   Commit = sync
   Allow Links = Disabled
   Anonymous uid = 4294967294
   Anonymous gid = 4294967294
```

List Total NAS Share Count

List the total count of NAS shares defined in the system.

Command

```
syscli --getcount share [--proto cifs|nfs|app_specific] [--namematch <pattern>]
```

Command Attributes

Review the following attribute descriptions.

--getcount share [--proto cifs|nfs|app_specific]	Lists the total count of NAS shares. You can limit the count to the type of protocol by defining a value for the **--proto** option, either CIFS/SMB, NFS, or Application Specific.
--namematch <pattern>	If you use this option, only shares whose names match the specified pattern are listed. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To list all shares ending with test in the names, enter the following command: **syscli --getcount share --namematch test\$**

List NAS Share Content

View a list of all existing NAS shares and their attributes.

Command

```
syscli --list share [{--proto cifs|nfs|app_specific} | {--name <share name>}]
[--namematch <pattern>]
```

Command Attributes

Review the following attribute descriptions.

--list share [{--proto cifs|nfs|app_specific} | {--name <share name>}]	Lists all NAS shares. You can limit the list to the type of protocol by defining a value for the **--proto** option, either Common Internet File System (CIFS) / Server Message Block (SMB), Network File System (NFS), Application Specific, OR you can limit the list to a specific share by using the **--name** option.
--namematch <pattern>	If you use this option, only shares whose names match the specified pattern are listed. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To list all shares ending with test in the names, enter the following command: **syscli --list share --namematch test\$**

List Application Specific NAS Share Content

List contents of a given Application Specific NAS share.

Command

```
syscli --list appsharecontents --name <sharename> [--terse]
```

Command Attributes

Review the following attribute descriptions.

--list appsharecontents	Lists all files and directories on a Application Specific NAS share.

--name <sharename>	Enter the name of the Application Specific NAS share to be listed.
--terse	If specified, only the directory listing will be displayed in the output.

Edit NAS Shares

Modify one or more attributes of a NAS share. You must specify at least one attribute to edit, even though the syntax implies that all attributes are optional.

Command

```
syscli --edit share --name <sharename> [--desc <description>] [--perms rw|ro
[--restart]] [--hidden false|true] [--squash root|none] [--anonuid <anonymous_
uid>] [--anongid <anonymous_gid>] [--namecase default [--sure]]
```

Command Attributes

Review the following attribute descriptions.

--edit share	Edits the specified attributes of a NAS share.
--name <sharename>	Enter the name of the share to edit. You must use alphanumeric characters for the share name.
--desc <description>	Edit the description for the share.
--perms rw|ro	Change share permissions to either read-write (rw) or read-only (ro). **Note:** If a CIFS/SMB share's permissions are changed, users who are currently logged on the share will not see the changes until they log off and log in again, or until CIFS/SMB service is restarted
--restart	For CIFS/SMB share only, restarts the CIFS/SMB service. **Caution:** If CIFS/SMB service is restarted, users who are currently logged on to CIFS/SMB shares may experience disconnection and/or I/O disruption. In addition, backup jobs connected to CIFS/SMB shares may fail I/O.
--hidden false|true	If you specify **true** for this option, the share name will not be displayed in the browser. This option is applicable to CIFS/SMB shares only.

--squash root|none	For NFS only, squashes (maps) NFS client users to a nobody user. • If you select the **root** value, the client root is mapped to a nobody user . • If you select the **none** value, all client users are preserved. **Note:** When files are replicated from a share with **no_root_squash** enabled to a target DXi without **no_root_squash**support, NFS hosts accessing the target DXi will have root access permissions mapped (squashed) to the anonymous user. By default, if **--squash** is not specified, root_squash is enabled.
--anonuid <anonymous_uid>	For NFS only, the anonymous user ID. This ID is usually **4294967294** on 32-bit systems or **65534** on 16-bit systems. If not specified, the default ID is **4294967294**.
--anongid <anonymous_gid>	For NFS only, the anonymous group ID. This ID is usually **4294967294** on 32-bit systems or **65534** on 16-bit systems. If not specified, default ID is **4294967294**.

--namecase default	For CIFS/SMB shares only, client file/directory names are treated as case-insensitive and case-preserved. File/directory names will be saved in the original character case as is, and all search will be performed in a case-insensitive manner. Use this option in the following situations: • Users creates a share using option **--namecase lower** so that all incoming client file/directory names will be converted to lower case before saving or searching. • Files/directories with mixed case are copied over to the share without using CIFS/SMB. • Users can seach for these files in browsers but cannot open, rename, move, copy, or delete the files. In this case, to access the files through a CIFS/SMB share, the file names have to be changed to lower case. However, this task is impossible to do over CIFS/SMB. A solution to this issue is to use this edit command to revert name support to the default (case-insensitive and case-preserved). After the **--namecase** option is executed successfully, the following occurs: • Old file/directory names in the share remain unchanged. • New file/directory names will be saved as is (case-preserved). • File/directory search is performed in a case-insensitive manner. **Note:** After specifying the **--namecase** default option in this command, you cannot change the share back to support lower case file/directory names.
--sure	If specified, the CLI executes the command without prompting for confirmation.

NAS Server Side Copy

This command copies files directly on the DXi without the need to move the data between the DXi and the client requesting the copy. This feature leverages deduplicated data and avoids retrieving and storing a copy of the file over the network.

Use this command for making a restore point copy of a rolling full image, before updating that image with the latest incremental changes.

For example, when using Oracle RMAN's Rolling Forward Image Copy Backups on a DXi NAS (NFS or SMB) share, a copy of the current backup image can be made quickly and efficiently on the DXi using this feature. The copy can then be added to the RMAN catalog via scripted commands on the Oracle server, before the next set of incremental changes are made to the image.

Note: Server Side Copy (SSC) is only available for RMAN disk backups on DXi NAS shares. It is not available for RMAN sbt backups (RMAN plug-in with Application Specific shares).

Command

```
syscli --copy path --name <sharename> --source <path> [--destname <sharename>] --
dest <path> [--terse]
```

Command Attributes

Review the following attribute descriptions.

--copy path	Copies the specified file or directory in a NAS share.
--name <sharename>	Enter the name of the NAS share to be copied. You must use alphanumeric characters for the share name.
--source <path>	Enter the path to the directory or file to be copied.
--destname <sharename>	The NAS share to copy the directory or file to. If not specified, the copy is made to the source share.
--dest <path>	Enter the path to copy to in the destination share.
--terse	If specified, output will only be shown if an error occurs.

Enable Allowlinks

Enable the **allowlinks** attribute for a single share by entering the share name **OR** for all shares. When the **allowlinks** attribute is enabled, the share supports hard links. By default, all shares are created the with **allowlinks** attribute disabled. If you enable the attribute, it cannot be disabled.

Note: If you enable hard link support (**--enable allowlinks**) for an NFS share, replication cannot be enabled for the share; likewise, if you enable replication for the share, hard link support is disabled.

Command

```
syscli --enable allowlinks {--share <sharename>} | --all
```

Delete a NAS Share

Delete one or more existing NAS shares. You must enter the NAS share name to delete a share.

When a share is deleted, all connections to the share are severed and all data stored on it is removed permanently. Any scheduled replications will be removed.

Command

```
syscli --del share (--name <sharename>)
```

Delete All NAS Shares

Delete all NAS shares on your DXi system.

Command

```
syscli --deleteall share [--proto {cifs|nfs|app_specific}] [--namematch
<pattern>] [--sure]
```

Command Attributes

Review the following attribute descriptions

--deleteall share	Deletes all NAS shares.
--proto {cifs|nfs|app_specific}	If you use this option, deletes only shares of the specified protocol type.
--namematch <pattern>	If you use this option, only shares whose names match the specified pattern are deleted. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To delete all shares ending with test in the names, enter the following command: **syscli --deleteall share --namematch test\$**
--sure	If specified, the CLI executes the command without prompting for confirmation.

Manage Workgroups and ADS Domains

Use the following CLI commands to manage your DXi system's connection to workgroups or Active Directory Service (ADS) domains.

Note: NAS is only available on certain DXi models. See your *DXi User's Guide* to determine whether NAS is available for your model.

Join a Workgroup

Join the Samba server to the specified workgroup.

Command

```
syscli --join workgroup --name <workgroup_name>
```

Disjoin a Workgroup

Disjoin the Samba server from its workgroup.

Command

```
syscli --disjoin workgroup
```

Join ADS

Join the Samba server to an ADS domain.

Command

```
syscli --join ads --domain <domain_name> [--org <organizational_unit>] --admin
<domain_user_authorized_to_join> [--password <domain_user_password>] [--pdc
<primary_domain_controller>] [--prewin2kdomain <preWindows 2000 domain_name>]
```

Command Attributes

Review the following attribute descriptions

--join ads	Joins the Samba server to an ADS domain.
--domain <domain_name>	Enter the name of the ADS domain to which to join the Samba server.
--org <organizational_unit>	If specified, an organizational unit to assign to the domain.

--admin <domain_user authorized_to_join>	Enter the user name for the account that has the right to join the domain. **Note:** This domain user is defined in the ADS domain and is not necessarily the system's admin user.
--password <domain_user_password>	Enter the password for the admin account. You can choose not to supply the password on the command line. In this case the CLI prompts you for the password and does not echo the response for security purposes.
--pdc <primary_domain_controller>	Enter the host name or IP address of the Primary Domain Controller (PDC). If you do not specify the PDC, the CLI tries to discover it automatically.
--prewin2kdomain <preWindows_2000_domain_name>	The pre-Windows 2000 domain name is also known as the NetBIOS domain name, which is 15 characters or less. This name can be specified via the **--prewin2kdomain** option. Normally you do not need to specify this option because the **--join** command can query the AD DS for the pre-Windows 2000 domain name. However, the NetBIOS domain name is sometimes incorrect, such as being longer than 15 characters, causing the **--join** command to fail. This failure can happen in an environment with multiple domain controllers with some of them being misconfigured. If a failure occurs • Specify **--prewin2kdomain** explicitly in the join command. The CLI uses the value instead of querying the domain server/controller. • If the domain has more than one domain controllers, specify **--pdc** explicitly with the hostname or IP of each domain controller. If a domain controller returns the correct NetBIOS domain name, the join command succeeds. You may need to try rerunning the command with multiple domain controllers until the join command succeeds.

Disjoin ADS

Disjoin the Samba server from an ADS domain. The command only works when the server is currently joined to an ADS domain.

Command

```
syscli --disjoin ads [--admin <admin_user> --password <admin_password>]
```

Regardless of the credential provided, the command always succeeds in disjoining the Samba server

from the AD DS, with the only difference being the folliowing:

- If the credential is correct, the server leaves the AD DS, and its computer account on the AD DS will be disabled.
- If the credential is incorrect or not specified, the server leaves the AD DS, and the computer account on the AD DS is not disabled.

This functionality allows you to disjoin the server in cases where the AD DS name has been changed, or the **admin_user** account is no longer available, such as when the **admin_user** account owner no longer has this authority or the owner of the is no longer with the company.

Command Attributes

Review the following attribute descriptions.

`--disjoin ads`	Disjoins the Samba server from the ADS domain.
`--admin <admin_user>`	Enter the user name of any account that has the right to disjoin the ADS domain.
`--password <admin_password>`	Enter the password for the admin account. You can choose not to supply the password on the command line. In this case the CLI prompts you for the password and does not echo the response for security purposes. A password is required when disjoining from an ADS domain.

Manage CIFS Shares

Use the following CLI commands to manage Common Internet File System (CIFS) shares for your DXi system.

CIFS Share Administrator Privileges

When the Samba server is joined to an Active Directory Service (ADS) domain, domain users can access CIFS shares but they cannot manage the shares using the CLI. The CLI merely provides a limited capability to grant share administrator privileges to certain domain users. A share administrator is a domain user or domain group that is granted the privilege of setting share permissions.

To manage the CIFS shares, the Windows domain administrator needs to log in to the Windows server and use the Microsoft Management Console (MMC).

CIFS Share Users

Two types of users are allowed access to CIFS shares depending on whether the system is joined to a workgroup or an ADS domain. When the server is joined to a workgroup, only workgroup users can access CIFS shares, and various CLI commands provides the capabilities to manage them. Workgroup users are stored in both the local Linux database and the Samba password database.

Note: NAS is only available on certain DXi models. See your *DXi User's Guide* to determine whether NAS is available for your model.

Query Status of CIFS Services

Display the status of the CIFS service.

Command

```
syscli --getstatus cifs
```

Example Output

```
CIFS status = disabled (unconfigured)
Details:
NMB daemon not running
SMB daemon not running
```

Query CIFS Settings

Query CIFS server settings. You can query a single setting **OR** all settings.

Command

```
syscli --get smbsetting --oplocks | --dbglevel | --ldapsigning | --maxprocesses |
--clientntlmv2auth | --serversigning | --strictwritethrough | --all}
```

Command Attributes

Review the following attribute descriptions.

--get smbsetting	Queries the specified settings of the CIFS server.
--oplocks	Queries various oplocks settings.

--dbglevel	Queries the debug level setting in the CIFS server.
--ldapsigning	Queries the LDAP client signing setting: **client ldap sasl wrapping**.
--maxprocesses	Queries the limit on the number of Samba processes: **max smbd processes**.
--clientntlmv2auth	Queries the NTLMv2 login setting: **client NTLMv2 auth**.
--strictwritethrough	Queries the strict write through setting.
--all	Queries all global and pre-share CIFS settings.

Change CIFS Settings

Change CIFS server settings. You can change a single setting at a time.

Command

```
syscli --set smbsetting {--oplocks yes|no} | {--dbglevel <n>} | {--ldapsigning
disabled|enabled} | {--maxprocesses <max_smbd_processes>} | {--clientntlmv2auth
yes|no} | {--serversigning disabled|enabled}} | {--strictwritethrough yes|no}}
```

Command Attributes

Review the following attribute descriptions.

--set smbsetting	Changes the specified CIFS server settings.
--oplocks yes|no	Changes the kernel oplocks setting in CIFS. In an unstable network environment, you should set the the kernel oplocks setting to **no**.
--dbglevel <n>	Changes the debug level to a nonnegative number (**<n>**). The higher the value, the more verbose the log files are. A value of zero gives minimum logging (for errors only).
--ldapsigning disabled|enabled	Enables or disables LDAP client signing. You must enable this setting if the LDAP server signing is enabled on the ADS domain server. Otherwise, disable this setting. For more information on how to enable LDAP server signing on the ADS domain server, see Microsoft documentation at: http://support.microsoft.com/kb/935834.

--maxprocesses <max_smbd_processes>	Changes the maximum number of Samba processes at any given time. By default, the limit is 100.
--clientntlmv2auth yes|no	Changes NTLMv2 login setting to **yes** or **no**. By default, this setting is set to **yes**. Do not change the default setting unless the domain group policy on the ADS domain is set to exclusively use the older NTLM (v1).
--serversigning disabled|enabled	Changes the server signing setting to **disabled** or **enabled**.
--strictwritethrough	Changes strict write through setting to **yes** or **no**.

Delete a Share Administrator

Remove the share admin rights from an existing share administrator.

Command

```
syscli --del shareadmin --name <domain_user_or_group_name>
```

Command Attributes

Review the following attribute descriptions.

--del shareadmin	Reomves share administrator privileges from the specified user/group .
--name <domain_user_or_group_name>	You must enter the domain name after the **--name** option, and then enter the name of the specific user or group, as follows: **--name <domain_name>\<user_or_group_name>** If you are typing in a shell, make sure to type the backslash twice. **Example** If the domain name is quantum.com and the user is joe, type the following command at the shell prompt: **syscli --del shareadmin --name quantum\\joe**

Delete All Share Administrators

Remove the share administrator rights from all domain users or groups previously granted this privilege,

with the exception of the built-in domain admins group. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --deleteall shareadmin [--sure]
```

List Workgroup Users

List of workgroup users created for your system.

Command

```
syscli --list user [--name <username> |--namematch <pattern>]
```

Command Attributes

Review the following attribute descriptions.

--list user	Lists workgroups users.
--name <username>	If you use this option, only information for the specified user name is listed.
--namematch <pattern>	If you use this option, only workgroup users whose names match the specified pattern are listed. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To list all shares ending with test in the names, enter the following command: **syscli --list user --namematch test\$**

Add Workgroup Users

Add a workgroup user if the system is joined to a workgroup.

Command

```
syscli --add user --name <username> [--password <user_password [--desc
<description>] [--admin]
```

Command Attributes

Review the following attribute descriptions.

--add user	Adds a user to a workgroup.
--name <username>	Enter the user name to assign to the workgroup user.
--password <user_password>	Enter the password for the workgroup user account. You can choose not to supply the password on the command line. In this case the CLI prompts you for the password and does not echo the response for security purposes. A password is required when creating a workgroup user.
--desc <description>	If you use this option, a description for the workgroup user.
--admin	Grants the workgroup user administrative rights.

Edit Workgroup Users

Modify a workgroup user's attributes.

Command

```
syscli --edit user --name <workgroup_user_name> [--password <user_password>]
[--desc <description>] [--admin enabled|disabled]
```

Command Attributes

Review the following attribute descriptions.

--edit user	Edits a workgroup user's attributes.
--name <workgroup_user_name>	Enter the name of the workgroup user. You cannot edit the workgroup user name.
--password <user_password>	Edit the password for the workgroup user account.
--desc <description>	Edit the description for the workgroup user.

--admin enabled|disabled	Edit the admin attribute for the workgroup user, either enabling or disabling administrative rights.

Delete a Workgroup User

Delete an existing workgroup user. The user will no longer exist in the local Linux user database as well as Samba password database.

Command

```
syscli --del user --name <workgroup_user_name>
```

Delete All Workgroup Users

Delete all existing workgroup users. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --deleteall user [--sure]
```

List Share Users

Display a list all workgroup users that have access to the specified CIFS share. If the returned list is empty, it means all workgroup users are allowed read-write access to the specified share.

Command

```
syscli --list shareuser --share <share_name>
```

Example Output

```
Total count = 1
[User = 1]
   Username = userone
   Access Rights = rw
```

Add Share Users

Grant an existing workgroup user the right to access the specified CIFS share.

By default, a CIFS share is created with an empty initial share access list if the server is joined to a workgroup. When the share access list is empty, all workgroup users are allowed read-write access to it. Use this command to add a workgroup user to the share access list of the specified CIFS share. As soon as the share access list contains workgroup user names, only these users have access to the share.

Command

```
syscli --add shareuser --share <CIFS_share_name> --user <username> [--rw]
```

Command Attributes

Review the following attribute descriptions.

--add shareuser	Adds a workgroup user to the share access list for the specified CIFS share.
--share <CIFS_share_name>	Enter the name of the CIFS share to which you are granting access.
--user <username>	Enter the name of the user to whom you are granting access.
--rw	If you specify this option, the user is allowed complete read-write access to the specified share. However, the effective access rights depend on the share access mode. If the share is read-only, all users can only have read-only access regardless of their settings. By default, the user has read-only access to the share.

Delete a Share User

Remove a workgroup user's right to access the specified CIFS share.

Note: When the last workgroup user is deleted from a CIFS share, the share access list of the specified share is empty, which means the share now allows read-write access to all workgroup users.

Command

```
syscli --del shareuser --share <share_name> --user <username>
```

Command Attributes

Review the following attribute descriptions.

--del shareuser	Removes a workgroup user's access from the specified CIFS share.
--share <share_name>	Enter the name of the CIFS share from which you are removing user-access.
--user <username>	Enter the name of the user from whom you are removing access.

Delete All Share Users

Remove all workgroup user rights in accessing the specified CIFS share. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Note: When all workgroup users are deleted from a CIFS share, the share access list of the specified share is empty, which means the share now allows read-write access to all workgroup users.

Command

```
syscli --deleteall shareuser --share <share_name> [--sure]
```

Manage NFS Shares

Use the following CLI commands to manage Network File System (NFS) shares.

Note: NAS is only available on certain DXi models. See your *DXi User's Guide* to determine whether NAS is available for your model.

Query Status of NFS Services

Display the status of the NFS service.

Command

```
syscli --getstatus nfs
```

Example Output

```
Output data:
   NFS status = running
Details:
   NFS daemon running
```

```
MOUNT daemon (rpc.mountd) running
LOCK daemon (locked) running
STATUS daemon (rpc.statd) running
```

Get NFS Share Settings

Display one or more NFS share settings.

Command

```
syscli --get nfssetting --secure
```

Command Attributes

Review the following attribute descriptions.

--get nfssetting	Displays settings for all NFS shares.
--secure	Queries the **secure** setting.

Change NFS Share Settings

Changes one or more NFS share settings.

Command

```
syscli --set nfssetting --secure yes|no
```

Command Attributes

Review the following attribute descriptions.

--set nfssetting	Changes settings for all NFS shares.
--secure yes|no	• Indicate **yes** to assign the **secure** setting to all NFS shares. • Indicate **no** to remove the **secure** setting from all NFS shares.

Commit NFS Synchronously

Set up NFS shares to commit data synchronously. When using the synchronous setting:

a. All data that is to be written to the share must be committed to physical storage.

b. All the data must be written to that storage before the system will accept stable write or commit commands.

This setting ensures that all the data resides on disk when a backup completes. By default, NFS shares are created to commit data synchronously.

NFS Commit is an NFSv3 client call to request the NFS server to commit cached data to stable storage. The server has two choices:

Accelerated mode

Allows the NFS server to violate the NFS protocol and reply to commit requests before cached data is committed to stable storage. This mode improves I/O performance, but it may cause data inconsistencies in cases of power failure or severe interruptions.

Standard mode

Honor the NFS commit calls truthfully by committing cached data to stable storage before responding to the clients. This mode guarantees data integrity in cases of power failures or severe interruptions.

Use this CLI command to set up the NFS server to run in Standard mode, with NFS commits running synchronously between server and client.

Command

```
syscli --nfscommit sync {--share <sharename>} | --all
```

Command Attributes

Review the following attribute descriptions.

`--nfscommit sync`	Sets up the specified NFS share to commit data synchronously.
`--share <sharename>`	Enter a specific share for which to set synchronous data commit.
`--all`	Enter to set all NFS shares to commit data synchronously.

Commit NFS Asynchronously

Set up NFS shares to commit data asynchronously. With this setting, the system allows receipt of stable write or commit commands without requiring the data and related metadata being fully written to disk. This mode allows backups to be completed faster from the backup application point of view.

This CLI command sets up NFS server to run in Accelerated mode (see Commit NFS Synchronously on page 69), where NFS commit messages are acknowledged asynchronous after receipt. However, this mode can cause incomplete backups if the system fails before all data is written to disk.

By default, NFS shares are created to commit data synchronously.

Note: Simultaneous inline deduplication of VTL/ OST and Linux NFS traffic represents the mixing of a heavy, intensive IO payload with an out-of-order, bursty, and response-sensitive protocol. For DXi 2.x, we recommend changing the configuration to run shares as asynchronous shares.

Command

```
syscli --nfscommit async {--share <sharename>} | --all
```

Command Attributes

Review the following attribute descriptions.

--nfscommit async	Sets up the specified NFS share to commit data asynchronously.
--share <sharename>	Enter a specific share for which to set asynchronous data commit.
--all	Enter to set all NFS shares to commit data asynchronously.

List a Share Host

Display a list of specific NFS hosts with access to the specified NFS share. By default, if this list is empty, all NFS hosts are allowed read-write access to the share.

Command

```
syscli --list sharehost --share <share_name>
```

Add a Share Host

Grant a host the right to access the specified NFS share.

By default, an NFS share is created with an empty initial share access list. When the share access list is empty, all NFS hosts are allowed read-write access to it. Use this command to add an NFS host to the share access list of the specified NFS share. As soon as the share access list contains NFS host names, only these hosts have access to the share.

Command

```
syscli --add sharehost --share <NFS_share_name> --host <NFS_host_name> [--rw]
```

Command Attributes

Review the following attribute descriptions.

--add sharehost	Adds an NFS host to the share access list for the specified NFS share.
--share <NFS_share_name>	Enter the name of the NFS share to which you are granting access.
--host <NFS_host_name>	Enter the name of the NFS host to whom you are granting access.
--rw	If you specify this option, the user is allowed complete read-write access to the specified share. However, the effective access rights depend on the share access mode. If the share is read-only, all users can only have read-only access regardless of their settings. By default, the user has read-only access to the share.

Delete a Share Host

Remove an NFS host's right to access the specified NFS share.

Note: When the last NFS host is deleted from an NFS share, the share access list of the specified share is empty, which means the share now allows read-write access to all NFS hosts.

Command

```
syscli --del sharehost --share <NFS_share_name> --host <NFS_host_name>
```

Command Attributes

Review the following attribute descriptions.

--del sharehost	Removes an NFS host's access from the specified NFS share.
--share <NFS_share_name>	Enter the name of the NFS share from which you are removing user-access.
--host <NFS_host_name>	Enter the name of the NFS host from whom you are removing access.

Delete All Share Users

Remove all NFS host rights in accessing the specified NFS share. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Note: When all NFS hosts are deleted from an NFS share, the share access list of the specified share is empty, which means the share now allows read-write access to all NFS hosts.

Command

```
syscli --deleteall sharehost --share <NFS_share_name> [--sure]
```

Network Configuration CLI Commands

This section presents network configuration CLI commands. Use these commands to do the following:

- Manage Network Configurations on the next page
- Manage Network Throttle on page 83
- Manage Network Throttle on page 83

Considerations

Before using network configuration CLI commands, review the following:

- Only administrators with advanced knowledge of networking should use these commands.
- These commands are not appropriate for sites that rely on host-based security because this type of security does not provide a firewall.
- Make sure to manually back up the network's current configuration before changing it.
- You must reboot your DXi to apply network configuration changes made with network configuration CLI commands. You can reboot the system using the **syscli --nodemanage --reboot** command.
- Several network configuration CLI commands are deprecated. See Deprecated Network Configuration CLI Commands on page 86.

Caution: Changes made with network configuration CLI commands might cause the system to become inoperable or unreachable.

Manage Network Configurations

Use the following CLI commands to manage your network configuration. In general, use these commands to set individual IP subnet information for each physical interface. In addition to configuring independent ports, you can create multiple bonds, although all ports in a bond must be the same type.

Add Network Device Configurations

Add and configure a network device with the specified IP, netmask, and optional gateway.

Command

```
syscli --add netcfg --devname <DEVNAME> [--dhcp] |[--ipaddr <IPADDR> --netmask
<NETMASK> --gateway <GATEWAY>] [--slaves <DEV1>,<DEV2>,<...>] [--mode RR|AB|LACP]
[--mtu <1500|9000>] [--defaultgw YES] [--segments REP,MGMT,DATA] [--nat <NAT_
IPADDR>] [--hosts <IP1,IP2,IP3>] [--extHostIp YES] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--add netcfg	Adds and configures a network device with the specified settings.

--devname <DEVNAME>	Enter the name of the device to add. **Note:** Entering the name of a previously configured device will override the previous network configuration values. **General Device Name Format** The following is the general device name format: **<label><devno>[<vlanid>]:[<vinfo>]** • **label** – The device label, which is an alphanumeric string, such as **bond** or **eth**. • **devno** – The device number, which can range from 1 to 99. • **vlanid** – The VLAN ID can range from 2 to 4094. • **vinfo** – The virtual interface (VIF) number, which is used to distinguish each set of network layer (L3) values, such as the IP address from the netmask values. This number can range from 1 to 99. **Note:** Virtual interface numbers are used to configure multiple IP addresses for an interface. **Device Name Examples** `eth0:1 or bond0:2`
--dhcp	Enter the Dynamic Host Configuration Protocol (DHCP) for network device configuration. **Note:** If you specify this option, the DHCP server automatically assigns the IP address, netmask, and gateway. **Note:** Keep in mind that DHCP supports only one IP address and does not provide VLAN support. In addition, DHCP does not supply a VIF number.
--ipaddr <IPADDR>	Enter the device's IP address, as needed.
--netmask <NETMASK>	Enter the device's netmask, as needed.

--gateway <GATEWAY>	Enter one of the following: • IP address of the gateway used to get to a different network (subnet) • IP address of the device if you want to limit packets to this network. **Note:** If the port is directly connected to another port, or if the port is not connected to a router, then the gateway IP address should be the same as the device IP address.
--slaves <DEV1>,<DEV2>	Enter names for slave devices, as needed. If you enter multiple slave devices, separate the devices with a comma. **Note:** You must enter slave devices when creating a bond.
--mode RR|AB|LACP	Enter a mode, as needed. Currently Round Robin (mode 0), Active Backup (mode 1), and Link Aggregation Control Protocol (LACP) (mode 4 are supported. **Note:** You must enter a mode when creating a bond.
--mtu <1500|9000>	Enter one of the following: • **--mtu 1500** – Set MTU size to the standard (STD) frame size of 1500 bytes. • **--mtu 9000** – Set MTU size to allow up to the max JUMBO frame size of 9000 bytes. **Note:** If you do not specify this option, the STD frame size (1500) is used.
--defaultgw YES	Specify this option to use the gateway IP address as the default gateway. The default for this option is **NO**.
--segments REP,MGMT,DATA	Specify this option to allow only the specified traffic types on this interface. **Note:** If you are configuring a replication segment for a device interface along with other segments on the same subnet, make sure to add a route that exclusively reserves the replication segment for replication between a source and a target DXi.
--nat <NAT_IPADDR>	Enter the network address translation (NAT) IP address specified on the target DXi if the the source DXi needs it for replication.

--hosts <IP1,IP2,IP3>	Enter the hosts for which to allow communication through the specified gateway, as needed.
--extHostIp YES	Specify this option to use the host IP address from **--hosts <IP1,IP2,IP3>** as the default external host IP adress. The default for this option is **NO**.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Edit Network Device Configurations

Edit the specified network device.

Command

```
syscli --edit netcfg --devname <DEVNAME> [--mtu <1500|9000>] [--mode RR|AB|LACP]
[--slaves<DEV1>,<DEV2>,<...>] [--nat <NAT_IPADDR>] [--extHostIp YES|NO] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--edit netcfg	Edits settings for the specified network device.
--devname <DEVNAME>	Enter the name of the device to edit. **Note:** Entering the name of a previously configured device will override the previous network configuration values. **General Device Name Format** The following is the general device name format: **<label><devno>[<vlanid>]:[<vinfo>]** • **label** – The device label, which is an alphanumeric string, such as **bond** or **eth**. • **devno** – The device number, which can range from 1 to 99. • **vlanid** – The VLAN ID can range from 2 to 4094. • **vinfo** – The VIF number, which is used to distinguish each set of network layer (L3) values, such as the IP address from the netmask values. This number can range from 1 to 99.

--mtu <1500|9000>	Enter one of the following: • **--mtu 1500** – Set MTU size to the standard (STD) frame size of 1500 bytes. • **--mtu 9000** – Set MTU size to allow up to the max JUMBO frame size of 9000 bytes. **Note:** If you do not specify this option, the STD frame size (1500) is used.
--mode RR|AB|LACP	Enter a mode, as needed. Currently RR (mode 0), AB (mode 1), and LACP (mode 4) are supported. **Note:** You must enter a mode when creating a bond.
--slaves <DEV1>,<DEV2>	Enter names for slave devices, as needed. If you enter multiple slave devices, separate the devices with a comma. **Note:** You must enter slave devices when creating a bond.
--nat <NAT_IPADDR>	Enter the NAT IP address specified on the target DXi if the the source DXi needs it for replication.
--extHostIp YES|NO	Specify this option to use the host IP address from **--hosts <IP1,IP2,IP3>** as the default external host IP adress. The default for this option is **NO**.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Delete Network Device Configurations

Delete the specified network device and its IP address information. Any slaves associated with the network device are also deleted.

Command

```
syscli --del netcfg --devname <DEVNAME> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--del netcfg	Deletes the specified network device and its IP information.

--devname <DEVNAME>	Enter the name of the device to delete. **General Device Name Format** The following is the general device name format: **<label><devno>[<vlanid>]:[<vinfo>]** • **label** – The device label, which is an alphanumeric string, such as **bond** or **eth**. • **devno** – The device number, which can range from 1 to 99. • **vlanid** – The VLAN ID can range from 2 to 4094. • **vinfo** – The VIF number, which is used to distinguish each set of network layer (L3) values, such as the IP address from the netmask values. This number can range from 1 to 99. **Note:** If you specify a device using only its device number, the system will also delete all of its associated IP information that was added when using the virtual interface number.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Display Network Device Configurations

Display the IP address and routing information for a specified network device. If you do not specify a network device, information for all network devices is displayed.

Note: This command displays the network settings that are currently in effect. If you have made changes to the custom network configuration since rebooting the DXi, they will not take effect until after the next reboot.

Command

```
syscli --show netcfg [--devname <DEVNAME>]
```

Command Attributes

Review the following attribute descriptions.

--show netcfg	Displays network device information.

--devname <DEVNAME>	Enter the name of a network device for which to display information. If you do not specify a device, information for all network devices is displayed. **General Device Name Format** The following is the general device name format: **<label><devno>[<vlanid>]:[<vinfo>]** • **label** – The device label, which is an alphanumeric string, such as **bond** or **eth**. • **devno** – The device number, which can range from 1 to 99. • **vlanid** – The VLAN ID can range from 2 to 4094. • **vinfo** – The VIF number, which is used to distinguish each set of network layer (L3) values, such as the IP address from the netmask values. This number can range from 1 to 99.

Back Up a Custom Network Configuration

Back up the current custom network configuration.

Command

```
syscli --backup netcfg
```

Restore a Custom Network Configuration

Restore the previously backed-up custom network configuration. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --restore netcfg [--sure]
```

Display the System Network Configuration

Display the system network configuration.

Command

```
syscli --get network
```

Example Output

```
Output data:

# syscli --get network
   Hostname = DXi000C2952EE22
   Default Gateway =
   DNS Search Path = quantum-sqa.com
   DNS Primary IP Address = 10.40.167.167
   DNS Secondary IP Address = 10.40.164.157
```

Set System Network Parameters

Set the system's network parameters.

Command

```
syscli --set network [--hostname <HOSTNAME>] [--domain <DOMAINNAME>] [--dns
<IPADDR,...>] [--defaultgateway <DEFAULTGATEWAY>] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--set network	Sets the specified system network parameters.
--hostname <HOSTNAME>	Enter the host name to assign to the system.
--domain <DOMAINNAME>	Enter the domain name to assign to the system.
--dns <IPADDR,...>	Enter the Domain Name Server (DNS) search path to assign to the system. You can specify up to 3 IP addresses. DNS will search each path in the order they are entered.
--defaultgateway <DEFAULTGATEWAY>	Enter the system's default gateway.
--sure	If specified, the CLI executes the command without prompting for confirmation.

List Network Interfaces

List available and configured network interfaces.

Command

```
syscli --list interface [--xml [<filename>]] [--type [configured|runtime]
```

Example Output

```
Output data:
List of Interfaces:
Total interface count = 4
…
   [Device = 3]
   Device Name = eth2
   Boot Protocol = dhcp
   Type = Port
   Maximum Speed = 10GbE
   Connection = up
   State = up
   Configured = true
   MTU = STD
   IP Properties:
      Interface Name = eth2
      IP Address = 10.20.190.34
      Netmask = 255.255.248.0
      Gateway = 10.20.184.1
      ExtHost = NO
      Routes:
      Segments:
         Segment = ALL
```

Note: The **Boot Protocol** value is **dhcp** if it was specified. Otherwise the value is **static** or **none**.

Command Attributes

Review the following attribute descriptions.

--list interface	Lists available and configured network interfaces.
--xml [<filename>]	Enter to list XML output to the screen or to write XML output to the specified file.

--type [configured|runtime]	Enter to display the interface's configured **OR** runtime values. If you do not specify a value, the configured values are displayed.

Manage Network Throttle

Use the following CLI commands to manage network throttle.

Add Throttle to the Source System

Add throttling to the source system for the specified network services.

Command

```
syscli --add throttle [--service REP] --bw <bandwidth><K|M>
```

Command Attributes

Review the following attribute descriptions.

--add throttle	Adds throttling to the source system.
--service REP	Enter a service for which to enable throttling. The default service is replication.
--bw <bandwidth><K|M>	Enter the amount of bandwidth to throttle. You can specify the following amounts: • Between 32 KB/s and 125 MB/s for 1 GbE systems • Between 32 KB/s and 500 MB/s for 10 GbE systems **Examples** Enter the following for 500 KB/s: **--bw 500K** Enter the following for 100 MB/s: **--bw 100M**

Delete Throttle from the Source System

Delete throttling from the source system for the specified network services.

Command

```
syscli --del throttle [--service REP] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--del throttle	Deletes throttling from the source system.
--service REP	Enter a service for which to disable throttling. The default service is replication.
--sure	If specified, the CLI executes the command without prompting for confirmation.

List Throttle States

List the throttling state and bandwidth for a service.

Command

```
syscli --list throttle
```

Example Output

```
Output data:
   Throttle State = off
   Throttles:
   Total Throttles = 0
```

Manage Network Routes

Use the following CLI commands to manage network routes.

Add a Static Route

Add a static route to the system using the specified network IP address, netmask, and gateway.

Note: If you are configuring a replication segment for a device interface along with other segments on the same subnet, make sure to add a route that exclusively reserves the replication segment for replication between a source and a target DXi.

Command

```
syscli --add route [--devname <DEVNAME>] --network <IPADDR> --netmask <NETMASK>
--gateway <GATEWAY> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--add route	Adds a static route to the system or specified network device.
--devname <DEVNAME>	Enter the name of a network device to add the static route to the device. **General Device Name Format** The following is the general device name format: **<label><devno>[<vlanid>]:[<vinfo>]** • **label** – The device label, which is an alphanumeric string, such as **bond** or **eth**. • **devno** – The device number, which can range from 1 to 99. • **vlanid** – The VLAN ID can range from 2 to 4094. • **vinfo** – The virtual interface (VIF) number, which is used to distinguish each set of network layer (L3) values, such as the IP address from the netmask values. This number can range from 1 to 99.
--network <IPADDR>	Enter the IP address for the network.
--netmask <NETMASK>	Enter the netmask for the network.
--gateway <GATEWAY>	Enter the IP address for the gateway.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Delete a Static Route

Delete a static route from the system.

Command

```
syscli --del route [--devname <DEVNAME>] --network <IPADDR> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--del route	Deletes the static route from the system or specified network device.

--devname <DEVNAME>	Enter the name of the device from which to delete the static route. **General Device Name Format** The following is the general device name format: **<label><devno>[<vlanid>]:[<vinfo>]** • **label** – The device label, which is an alphanumeric string, such as **bond** or **eth**. • **devno** – The device number, which can range from 1 to 99. • **vlanid** – The VLAN ID can range from 2 to 4094. • **vinfo** – The VIF number, which is used to distinguish each set of network layer (L3) values, such as the IP address from the netmask values. This number can range from 1 to 99. **Note:** If you specify a device using only its device number, the system will also delete all of its associated IP information that was added when using the virtual interface number.
--network <IPADDR>	Enter the IP address for the network.
--sure	If specified, the CLI executes the command without prompting for confirmation.

List Static Routes

Display the static routes set up for the system.

Command

```
syscli --list route
```

Deprecated Network Configuration CLI Commands

The following table lists deprecated network configuration CLI commands. Use the referenced commands in place of the deprecated commands.

Use	Deprecated Command	New Command
Enable jumbo frames	**syscli --enable jumbo**	syscli --add netcfg... --mtu <1500|9000>

Use	Deprecated Command	New Command
Disable jumbo frames	**syscli --disable jumbo**	**syscli --add netcfg... --mtu <1500|9000>**
Retrieve jumbo frame status	**syscli --getstatus jumbo**	**syscli --list interface**
Set up segmented networks	**syscli --setnetwork segmented**	**syscli --add netcfg... --segments**
Set up unsegmented networks	**syscli --setnetwork unsegmented**	**syscli --add netcfg... --segments**
Display network information	**syscli --query network**	**syscli --get network**
Undo a network configuration	**syscli --undo netcfg [--sure]**	No longer applicable in versions 2.1 or greater

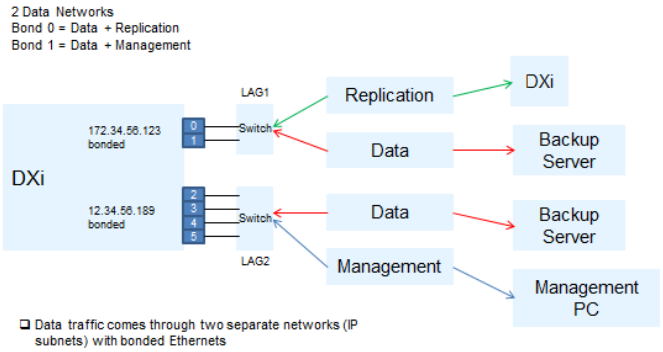
Network Configuration Examples

This topic presents examples of advanced network configuration CLI commands. When reviewing these examples, keep the following in mind.

- These examples are intended for customer network administrators. We recommend that only administrators who understand network configurations use these commands.
- Bonded Ethernet ports must be connected to a switch with the same link aggregation setup, either Round Robin (RR) or Link Aggregation Control Protocol (LACP).

DXi Connected to Two Different Networks Through Two Bonds

In this example, the bonded interfaces on the DXi are connected to two different subnets. You can configure two different default gateways for the subnet.



Configure a similar setup

1. Display the existing configuration:

   ```
   syscli --list interface
   ```

2. Delete the default bond configuration with all customer ports connected together:

   ```
   syscli --del netcfg --devname bond0
   ```

3. Configure Bond 0 for the first subnet, and configure Gateway 1, as needed:

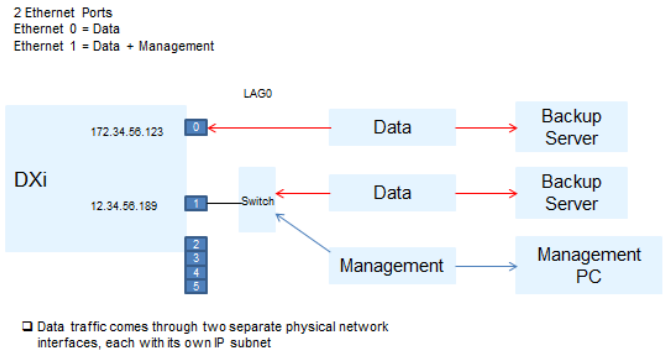
   ```
   syscli --add netcfg --devname bond0:1 --slaves eth0, eth1 --segments DATA,REP
   --ipaddr IPADDR1 --netmask NETMASK1 --gateway GATEWAY1
   ```

4. Configure Bond 1 for the other subnet, and configure Gateway 2, as needed.

   ```
   syscli --add netcfg --devname bond1:1 --slaves eth2, eth3 --ipaddr IPADDR2
   --netmask NETMASK2 --gateway GATEWAY2 --segments DATA,MGMT
   ```

DXi With Only Two Independent Ports Being Used

In this example, there are only two independent customer ports that are configured. These independent customer ports need to be connected to two independent non-aggregated ports on the switch. You can configure the IP subnet dependent gateways.



Configure a similar setup

1. Display the existing configuration:

   ```
   syscli --list interface
   ```

2. Delete the default bond configuration with all customer ports connected together:

   ```
   syscli --del netcfg --devname bond0
   ```

3. Configure Eth0 for IP Address 1 and the replication source, and configure Gateway 1, as needed:

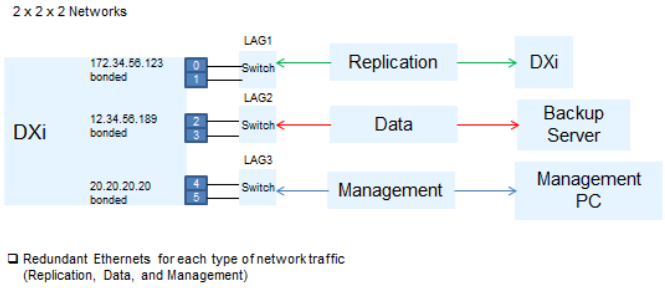
   ```
   syscli --add netcfg --devname eth0:1 --segments DATA,REP --ipaddr IPADDR1
   --netmask NETMASK1 --gateway GATEWAY1
   ```

4. Configure Eth0 for the other subnet, and configure Gateway 2, as needed:

   ```
   syscli --add netcfg --devname eth0:2 --ipaddr IPADDR2 --netmask NETMASK2
   --gateway GATEWAY2 --segments DATA,MGMT
   ```

DXi With Three Bonds of Two Ports Each (2 x 2 x 2 Networks)

In this example, there are three bonds, and each bond has two ports. Ensure the switch ports are appropriately aggregated and the gateways, if applicable, are configured.



Configure a similar setup

1. Display the existing configuration:

   ```
   syscli --list interface
   ```

2. Delete the default bond configuration with all customer ports connected together:

   ```
   syscli --del netcfg --devname bond0
   ```

3. Configure Bond 0 for IP Address 1 and the replication source, and configure Gateway 1, as needed:

   ```
   syscli --add netcfg --devname bond0:1 --slaves eth0, eth1 --segments REP
   --ipaddr IPADDR1 --netmask NETMASK1 --gateway GATEWAY1
   ```

4. Configure Bond 1 for IP Address 2, and configure Gateway 2, as needed:

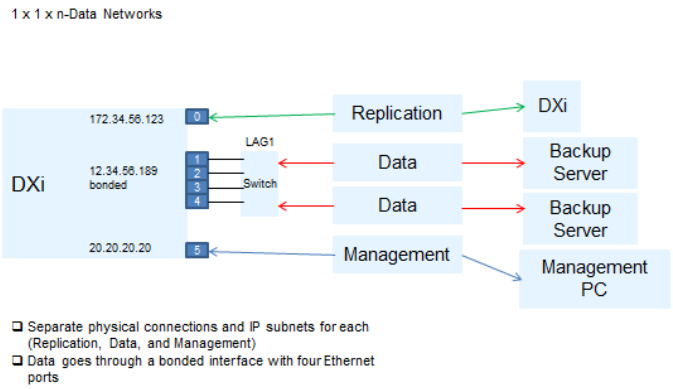
   ```
   syscli --add netcfg --devname bond1:1 --slaves eth2, eth3 --ipaddr IPADDR2
   --netmask NETMASK2 --gateway GATEWAY2 --segments DATA
   ```

5. Configure Bond 2 for IP Address 3, and configure Gateway 3, as needed:

   ```
   syscli --add netcfg --devname bond2:1 --slaves eth4, eth5 --ipaddr IPADDR3
   --netmask NETMASK3 --gateway GATEWAY3 --segments MGMT
   ```

DXi With One Bond and Two Independent Interfaces (1 x 1 x n-Data Networks)

In this example, the two independent interfaces need to be connected to a non-aggregated port on a switch. The bonded ports are connected to appropriately link the aggregated switch ports.



Configure a similar setup

1. Display the existing configuration:

   ```
   syscli --list interface
   ```

2. Delete the default bond configuration with all customer ports connected together:

   ```
   syscli --del netcfg --devname bond0
   ```

3. Configure Bond 0 for IP Address 1 and the replication source, and configure Gateway 1, as needed:

   ```
   syscli --add netcfg --devname bond0:1 --slaves eth1, eth2, eth3, eth4 --ipaddr
   IPADDR1 --netmask NETMASK1 --gateway GATEWAY1 --segments REP
   ```

4. Configure Eth0 for IP Address 2, and configure Gateway 2, as needed:

   ```
   syscli --add netcfg --devname eth0:1 --ipaddr IPADDR2 --netmask NETMASK2
   --gateway GATEWAY2 --segments REP
   ```

5. Configure Eth5 for IP Address 3, and configure Gateway 3, as needed:

   ```
   syscli --add netcfg --devname eth5:1 --ipaddr IPADDR3 --netmask NETMASK3
   --gateway GATEWAY3 --segments MGMT
   ```

Tip

If you are configuring a replication segment for a device interface along with other segments on the same subnet, make sure to add a route that exclusively reserves the replication segment for replication between a source and a target DXi, as shown in the following examples:

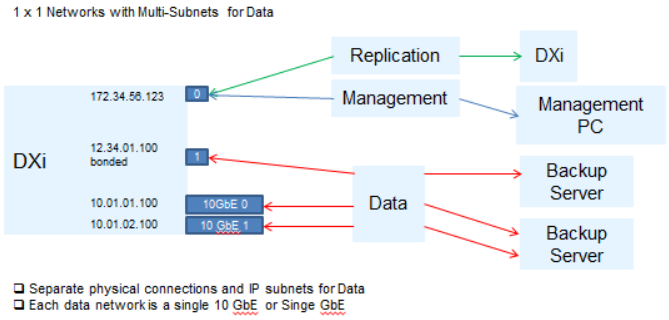
```
syscli --add netcfg --devname eth1:1 --ipaddr IPADDR1 --netmask NETMASK1
--gateway GATEWAY1 --segments DATA,MGMT
```

```
syscli --add netcfg --devname eth2:1 --ipaddr IPADDR2 --netmask NETMASK1 --
gateway GATEWAY1 --segments REP
```

```
syscli --add route --devname eth2:1 --network DEST_IP_ADDRESS --netmask
255.255.255.255 --gateway IPADDR2
```

DXI With All Customer Interfaces Used Independently

In this example, data traffic comes from two media servers going thru GbE port 1 and the two 10 GbE ports. Replication and management traffic are routed to GbE port 0.



Configure a similar setup

1. Display the existing configuration:

   ```
   syscli --list interface
   ```

2. Delete the default bond configuration with all customer ports connected together:

   ```
   syscli --del netcfg --devname bond0
   ```

3. Configure Eth0 for IP Address 1, and configure Gateway 1, as needed:

   ```
   syscli --add netcfg --devname eth0:1 --ipaddr IPADDR1 --netmask NETMASK1
   --gateway GATEWAY1
   ```

4. Configure Eth1 for IP Address 2, and configure Gateway 2, as needed:

   ```
   syscli --add netcfg --devname eth1:1 --ipaddr IPADDR2 --netmask NETMASK2
   --gateway GATEWAY2
   ```

Delete a Bond and Set Up Independent Interfaces

This example demonstrates how to delete a bond that has eth0 and eth1 as slaves and set them up as independent interfaces.

1. Display the output of the current runtime network values.

Runtime values are values currently being used by the network service. You must first configure values using **--add netcfg** and **--del netcfg**. In order for these values to become runtime values, you must reboot the system to restart the network service. Use the **syscli --nodemanage --reboot** command to reboot the system.

```
[root@rok-dxi92 DXi]# syscli --show netcfg

bond0 Link encap:Ethernet HWaddr 00:50:56:AB:00:48
      UP BROADCAST RUNNING MASTER MULTICAST MTU:1500 Metric:1
      RX packets:557471 errors:155 dropped:0 overruns:0 frame:0
      TX packets:48114 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:0
      RX bytes:48747984 (46.4 MiB) TX bytes:6195223 (5.9 MiB)

bond0:2 Link encap:Ethernet HWaddr 00:50:56:AB:00:48
      inet addr:10.20.185.92 Bcast:10.20.191.255

Mask:255.255.248.0
      UP BROADCAST RUNNING MASTER MULTICAST MTU:1500 Metric:1

eth0 Link encap:Ethernet HWaddr 00:50:56:AB:00:48
      UP BROADCAST RUNNING SLAVE MULTICAST MTU:1500 Metric:1
      RX packets:278735 errors:5 dropped:0 overruns:0 frame:0
      TX packets:24057 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:24372519 (23.2 MiB) TX bytes:3113468 (2.9 MiB)
      Interrupt:51 Base address:0x2080

eth1 Link encap:Ethernet HWaddr 00:50:56:AB:00:48
      UP BROADCAST RUNNING SLAVE MULTICAST MTU:1500 Metric:1
      RX packets:278736 errors:150 dropped:0 overruns:0 frame:0
      TX packets:24057 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:24375465 (23.2 MiB) TX bytes:3081755 (2.9 MiB)
      Interrupt:67 Base address:0x20c0

lo Link encap:Local Loopback
      inet addr:127.0.0.1 Mask:255.0.0.0
```

```
      UP LOOPBACK RUNNING MTU:16436 Metric:1
      RX packets:5872300 errors:0 dropped:0 overruns:0 frame:0
      TX packets:5872300 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:0
      RX bytes:564058955 (537.9 MiB) TX bytes:564058955 (537.9 MiB)
10.20.184.0/21 dev bond0 proto kernel scope link src 10.20.185.92
default via 10.20.184.1 dev bond0 src 10.20.185.92
0:     from all lookup 255
32766: from all lookup main
32767: from all lookup default
WARNING: No Replication IP configured
Command completed successfully.
```

Note: If **`WARNING: No Replication IP configured`** in the CLI, an interface was not configured specifically for replication. Configure the interface for replication using the **`--policy REP`** option in the **`--add netcfg`** command.

2. Delete Bond 0.

```
[root@rok-dxi92 DXi]# syscli --del netcfg --devname bond0
You have specified the following data for command "DelNetcfg":
   --devname = bond0
Are you sure you want to proceed? [yes|no] > yes
Command completed successfully.
```

Note: This command does not effect runtime values.

3. Add the Eth0 and Eth1 interfaces.

```
[root@rok-dxi92 DXi]# syscli --add netcfg --devname eth0:1 --ipaddr
10.20.185.92 --netmask 255.255.248.0 --gateway 10.20.184.1
You have specified the following data for command "AddNetcfg":
   --devname = eth0
   --ipaddr = 10.20.185.92
   --netmask = 255.255.248.0
   --gateway = 10.20.184.1
```

```
Are you sure you want to proceed? [yes|no] > yes

Command completed successfully.

[root@rok-dxi92 DXi]# syscli --add netcfg --devname eth1:1 --ipaddr
10.20.185.117 --netmask 255.255.248.0 --gateway 10.20.184.1

You have specified the following data for command "AddNetcfg":
   --devname = eth1
   --ipaddr = 10.20.185.117
   --netmask = 255.255.248.0
   --gateway = 10.20.184.1

Are you sure you want to proceed? [yes|no] > yes

Command completed successfully.
```

4. Reboot the system.

```
[root@rok-dxi92 DXi]# syscli --nodemanage --reboot

You have specified the following data for command "Nodemanage":
   --reboot

Are you sure you want to proceed? [yes|no] > yes

Broadcast message from root (pts/1) (Wed Jun 8 09:51:50 2011):

The system is going down for reboot NOW!

Command completed successfully.
```

5. After the system comes back up, display the runtime network values.

   These vlaues should now reflect the configured network values, with Eth0 and Eth1 as independent interfaces.

```
[root@rok-dxi92 DXi]# syscli --show netcfg

eth0 Link encap:Ethernet HWaddr 00:50:56:AB:00:48
      inet addr:10.20.185.92 Bcast:10.20.191.255
Mask:255.255.248.0
      UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
      RX packets:373 errors:0 dropped:0 overruns:0 frame:0
      TX packets:80 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:32420 (31.6 KiB) TX bytes:9160 (8.9 KiB)
```

```
      Interrupt:51 Base address:0x2080
eth1  Link encap:Ethernet HWaddr 00:50:56:AB:00:56
      inet addr:10.20.185.117 Bcast:10.20.191.255
Mask:255.255.248.0
      UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
      RX packets:260 errors:0 dropped:0 overruns:0 frame:0
      TX packets:4 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:21262 (20.7 KiB) TX bytes:168 (168.0 b)
      Interrupt:67 Base address:0x20c0
lo    Link encap:Local Loopback
      inet addr:127.0.0.1 Mask:255.0.0.0
      UP LOOPBACK RUNNING MTU:16436 Metric:1
      RX packets:2000 errors:0 dropped:0 overruns:0 frame:0
      TX packets:2000 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:0
      RX bytes:177098 (172.9 KiB) TX bytes:177098 (172.9 KiB)
10.20.184.0/21 dev eth0 proto kernel scope link src 10.20.185.92
10.20.184.0/21 dev eth1 proto kernel scope link src 10.20.185.117
169.254.0.0/16 dev eth1 scope link
default via 10.20.184.1 dev eth0
0:     from all lookup 255
32764: from 10.20.185.117 lookup eth1
32765: from 10.20.185.92 lookup eth0
32766: from all lookup main
32767: from all lookup default
WARNING: No Replication IP configured
Command completed successfully.
```

6. Create a bond using Eth0 and Eth1 as slaves.

```
[root@rok-dxi92 DXi]# syscli --add netcfg --devname bond0:1 --ipaddr
10.20.185.92 --netmask 255.255.252.0 --gateway 10.20.184.1 --slaves eth0,eth1
--mode RR
You have specified the following data for command "AddNetcfg":
```

```
   --devname = bond0
   --ipaddr = 10.20.185.92
   --netmask = 255.255.252.0
   --gateway = 10.20.184.1
   --slaves = eth0,eth1
   --mode = RR
Are you sure you want to proceed? [yes|no] > yes
Command completed successfully.
```

OST CLI Commands

This topic lists supported OpenStorage Technology (OST) CLI commands. Use these commands to do the following:

- Manage OST Global Settings below
- Manage Storage Servers and LSUs on page 99
- Manage TLS Certificate Files for OST on page 105
- Manage AIR for OST on page 106

Note: OST is only available on certain DXi models. See your *DXi User's Guide* to determine whether OST is available for your model.

Manage OST Global Settings

Use the following commands to manage global settings for OpenStorage Technology (OST).

Note: OST is only available on certain DXi models. See your *DXi User's Guide* to determine whether OST is available for your model.

Set OST Global Settings

Set various OST global settings for DXi systems.

Command

```
syscli --set ostsetting [--accent on|off] [--encryption on|off [--encryptiontype
aes128|aes256|tlsaes256]]
```

Command Attributes

Review the following attribute descriptions.

--set ostsetting	Sets the specified OST settings.
--accent on|off	Turns the global accent setting on or off, as specified
--encryption on|off	Turns the global accent encryption setting on or off, as specified. **Note:** To enable encryption, the Data-In-Flight License must be installed. Encryption is not available in all regions. See Manage Encryption on page 41.
--encryptiontype aes128|aes256|tlsaes256	If you enabled encryption, specify the Accent encryption type, either AES 128 bits, AES 256 bits, or TLS 256 bits.

Get OST Global Settings

Display the OST global settings for DXi systems.

Command

```
syscli --get ostsetting
```

List Accent Global Statistics

List currently running Accent statistics obtained from OST. By default, the displayed report lists the aggregate statistics of all media servers. If you specify the **--all** option, the report consists of the aggregate statistics followed by the statistics of individual media servers.

Command

```
syscli --list accentstats [--all]
```

Example Output with Accent statistics

```
syscli --list accentstats
Output data:
OST Statistics:
   Total count = 1
   [Client = 1]
   Client id = AGGREGATE
   Media Server count = 1
   Time stamp = 1360085335 (Tue Feb 5 09:28:55 2013)
```

```
   Measure period = 60000 ms

      Accent Statistics:
   Before Accent (received) = 312606720 bytes
   After Accent (received) = 663488 bytes
   Before Accent (sent) = 0 bytes
   After Accent (sent) = 258912 bytes
   Unique data = -1
   Receive ratio = 471.16:1
   Ethernet bandwidth rate (received) = 11058.13 bytes/s
   Ethernet bandwidth rate (sent) = 4315.20 bytes/s
   Virtual rate (received) = 5210112.00 bytes/s
   Virtual rate (sent) = 0.00 bytes/s
   Bandwidth Reduction = 99.79%%
   Ethernet In = 0.01 MB/s
   Inline = 5.21 MB/s

      Optimized Duplication Statistics:
   Images in-progress = 5
   Remaining in rep-queue = 1345000 bytes
   Processed last 60 seconds = 5000000 bytes
   Unique last 60 seconds = 2500000 bytes
   Processed to Unique ratio = 2.00:1
   Ethernet bandwidth rate = 41666.67 bytes/s
   Virtual rate = 83333.34 bytes/s
   Bandwidth Reduction = 50.00
   Ethernet In = 0.04 MB/s
   Inline = 0.08 MB/s


Command completed successfully.
```

Example Output without Accent statistics

```
syscli --list accentstats

Output data:
   OST Statistics:
   Total count = 1
[Client = 1]
```

```
   Client id = AGGREGATE
   Media Server count = 1
   Time stamp = 1360085335 (Tue Feb 5 09:28:55 2013)
   Measure period = 60000 ms

      Accent Statistics: disabled

      Optimized Duplication Statistics:
   Images in-progress = 5
   Remaining in rep-queue = 1345000 bytes
   Processed last 60 seconds = 5000000 bytes
   Unique last 60 seconds = 2500000 bytes
   Processed to Unique ratio = 2.00:1
   Ethernet bandwidth rate = 41666.67 bytes/s
   Virtual rate = 83333.34 bytes/s
   Bandwidth Reduction = 50.00
   Ethernet In = 0.04 MB/s
   Inline = 0.08 MB/s


Command completed successfully.
```

Manage Storage Servers and LSUs

Use the following commands to manage OpenStorage Technology (OST) storage servers and attached logical storage units (LSUs).

Note: OST is only available on certain DXi models. To see if OST is enabled for your system, check the **Utilities > License Keys** page in the remote management console.

Add a Storage Server

Add an OST storage server.

Command

```
syscli --add storageserver --name <server_name> --maxconnect <connect_count>
[(--target <host_name_or_ip>)] [--desc <description>] [--concurrentopdup
disabled|enabled]
```

Command Attributes

Review the following attribute descriptions.

--add storageserver	Adds an OST storage server.
--name <server_name>	Enter the name of the storage server to add.
--maxconnect <connect_count>	Enter the maximum number of connections allowed to the storage server. You can use any number between 0 and 65536, which is an inclusive range.
--target <host_name_or_ip>	Enter the replication target system's IP address or hostname, as needed. If a target system has not been configured for the source system, invoking this command returns an error.
--desc <description>	Enter a description for the storage server, as needed.
--concurrentopdup disabled|enabled	If specified, sets the OST Concurrent Optimized Duplication setting of the given storage server. The default setting is disabled.

Delete a Storage Server

Delete the specified OST storage server.

Command

```
syscli --del storageserver --name <server_name>
```

Edit a Storage Server

Edit one or more attributes of an existing storage server.

Command

```
syscli --edit storageserver --name <server_name> [--maxconnect <connect_count>]
[(--target <host_name_or_ip>)] [--desc <storageserver_description>]
[--concurrentopdup disabled|enabled]
```

Command Attributes

Review the following attribute descriptions.

--edit storageserver	Edits an existing OST storage server.
--name <server_name>	Enter the name of the storage server to edit.
--maxconnect <connect_count>	Enter the maximum number of connections allowed to the storage server. You can use any number between 0 and 65536, which is an inclusive range.
--target <host_name_or_ip>	Enter the replication target system's IP address or hostname, as needed. If a target system has not been configured for the source system, invoking this command returns an error.
--desc <storageserver_description>	Enter a description for the storage server, as needed.
--concurrentopdup disabled|enabled	If specified, sets the OST Concurrent Optimized Duplication setting of the given storage server. The default setting is disabled.

List Storage Servers

List existing OST storage servers and their associated attributes.

Command

```
syscli --list storageserver [--name <server_name> |--namematch <pattern>]
```

Command Attributes

Review the following attribute descriptions.

--list storageserver	Lists storage servers.
--name <server_name>	If you use this option, only information for the specified storage server displays.

--namematch <pattern>	If you use this option, only storage servers whose names match the specified pattern are listed. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To list all shares ending with test in the names, enter the following command: **syscli --list storageserver --namematch test\$**

Add an LSU

Add an LSU to a specified storage server.

Command

```
syscli --add lsu {--name <lsu_name> --capacity <lsu_capacity_GB>} | --unlimited
--storageserver <server_name> [--desc <lsu_description>]
```

Command Attributes

Review the following attribute descriptions.

--add lsu	Adds an LSU to the specified storage server.
--name <lsu_name>	Enter the name of the LSU. If you specify the **--unlimited** option, the new LSU will be added with the name **_PhysicalLSU**.
--capacity <lsu_capacity_GB>	Enter the capacity of the LSU in GB.
--unlimited	If specified, the capacity is set to the available physical capacity on the system.
--storageserver <server_name>	Enter the name of the storage server to which to add the LSU.
--desc <lsu_description>	Enter a description of the LSU, if needed.

Delete an LSU

Delete an LSU from a specified storage server.

Command

```
syscli --del lsu --name <lsu_name> --storageserver <server_name> --force
```

Command Attributes

Review the following attribute descriptions.

--del lsu	Deletes the specified LSU from the specified storage server.
--name <lsu_name>	Enter the name of the LSU to delete.
--storageserver <server_name>	Enter the name of the storage server from which to delete the LSU.
--force	If specified, the LSU is deleted even if it contains files or backup images.

Edit an LSU

Edit an LSU of the specified storage server.

Command

```
syscli --edit lsu --name <lsu_name> --storageserver <server_name> [--desc <lsu_
description>] [--capacity <lsu_capacity_GB>]
```

Command Attributes

Review the following attribute descriptions.

--edit lsu	Edits the specified LSU attached to the specified storage server.
--name <lsu_name>	Enter the name of the LSU to edit. You cannot edit an LSU's name if it is **_PhysicalLSU**. Instead edit the LSU's description.
--storageserver <server_name>	Enter the name of the storage server to which to add the LSU.

--desc <lsu_description>	Enter a description of the LSU, if needed.
--capacity <lsu_capacity_GB>	Enter the capacity of the LSU in GB.

List LSUs

List LSUs attached to a storage server.

Command

```
syscli --list lsu --storageserver <server_name> [--name <lsu_name>]
```

Example Output

```
Total count = 1

[LSU = 1]
   LSU name = Lsu1
   Server name = Back_Server
   Physical capacity = 20.00 GB
   Backup images = 0
   Description = LSU_One
   OST AIR = enabled
   AIR user = JohnD
   Target Server name = TargSS
   Target LSU name = TargLSU
```

Note: The last 3 items in the example output display only when OST AIR is enabled. Otherwise, the output displays **OST AIR = disabled**.

Command Attributes

Review the following attribute descriptions.

--list lsu	Lists LSUs for the specified storage server.
--storageserver <server_name>	Enter the name of the storage server for which to list LSUs.
--name <lsu_name>	If you use this option, only information for the specified LSU displays.

Manage TLS Certificate Files for OST

Use the following commands to manage Transport Layer Security (TLS) certificate files for OpenStorage Technology (OST).

Note: OST is only available on certain DXi models. See your *DXi User's Guide* to determine whether OST is available for your model.

Install TLS Certificates

Install user-provided TLS certificate files. The system needs the certificate files to support TLS 256 bit encryption.

Command

```
syscli --install tlscertificate [--certificate <certificate_fullpath>]
[--privatekey <key_fullpath>] [--certificateauthority <authority_fullpath>]
[--rejectionlist <rejection_fullpath>]
```

Command Attributes

Review the following attribute descriptions.

`--install tlscertificate`	Installs the user-provided TLS certificate files.
`--certificate <certificate_fullpath>`	Enter the absolute path of the TLS certificate files. **Note:** The absolute path of the certificate files is user-provided. **Note:** Always install the certificate and private key files together.
`--privatekey <key_fullpath>`	Enter the absolute path of the private key file. **Note:** The absolute path of the private key files is user-provided. **Note:** Always install the certificate and private key file together.
`--certificateauthority <authority_fullpath>`	Enter the absolute path of the certificate authority file. **Note:** The absolute path of the certificate files is user-provided.

--rejectionlist <rejection_fullpath>	Enter the absolute path of the rejection file. **Note:** The absolute path of the rejection file is user-provided.

Restore Default TLS Certificates

Restore the TLS certificates to factory default certificates.

Command

```
syscli --restore tlscertificate
```

Access TLS Status

Access the current status of your system's TLS certificate files.

Command

```
syscli --getstatus tlscertificate
```

Manage AIR for OST

Use the following commands to manage Automatic Image Replication (AIR) for OpenStorage Technology (OST).

Note: OST is only available on certain DXi models. See your *DXi User's Guide* to determine whether OST is available for your model.

Add an AIR User

Add a user who can manage replication tasks on the AIR server.

Command

```
syscli --add airuser --username <air_user_name> --password <air_user_password>
[--desc <description>]
```

Command Attributes

Review the following attribute descriptions.

--add airuser	Adds a user to the AIR server.
--username <air_user_name>	Enter a name for the AIR user. **Note:** An AIR user name can contain the following characters: 'a-z', 'A-Z', '0-9', '_', and '.'
--password <air_user_password>	Enter a password for the AIR user. You can choose not to supply the password on the command line. In this case the CLI prompts you for the password and does not echo the response for security purposes.
--desc <description>	Enter a description of the AIR user, as needed. If you include spaces or special characters in the description, enclose it in quotation marks.

Delete an AIR User

Delete the specified user from the AIR server.

Command

```
syscli --del airuser --username <air_user_name>
```

Edit an AIR User

Edit a user on the AIR server.

Command

```
syscli --edit airuser --username <air_user_name> [--password <air_user_password>]
[--desc <description>]
```

Command Attributes

Review the following attribute descriptions.

--edit airuser	Edits a user on the AIR server.
--username <air_user_name>	Enter a name of the AIR user to edit

--password <air_user_password>	Edit the password for the AIR user, as needed. You can choose not to supply the password on the command line. In this case the CLI prompts you for the password and does not echo the response for security purposes.
--desc <description>	Edit the description of the AIR user, as needed. If you include spaces or special characters in the description, enclose it in quotation marks.

Get an AIR User

Retrieve the specified AIR user's information.

Command

```
syscli --get airuser --username <air_user_name>
```

List AIR Users

List all users defined for the AIR server.

Command

```
syscli --list airuser
```

Add a Replication Source to a Target LSU for AIR

Set up the initial relationship that directs a storage server's logical storage unit (LSU) to replicate to a target storage server's LSU for AIR.

Command

```
syscli --add ostair --sourcess <source_server_name> [--sourcelsu <source_lsu_
name>] --targetss <target_server_name> [--target <host_name_or_ip>] [--targetlsu
<target_lsu_name>] --airuser <air_username>
```

Command Attributes

Review the following attribute descriptions.

--add ostair	Directs an LSU to a target AIR storage server.
--sourcess <source_server_name>	Specify the storage server to be replicated. Use the **--list storageserver** command to get a listing of storage server names.
--sourcelsu <source_lsu_name>	Specify the LSU on the storage server to be replicated. If you do not specify an LSU, the CLI uses **_PhysicalLSU**. Use the **--list lsu --storageserver <server_name>** command to get a listing of LSU names.
--targetss <target_server_name>	Specify the storage server on the target system to receive the replicated image.
--target <host_name_or_ip>	Specify the target system's IP address or hostname, as needed. If a target system has not been configured for the source system, invoking this command returns an error.
--targetlsu <target_lsu_name>	Specify the LSU on the storage server receiving the replicated image. If you do not specify an LSU, the CLI uses **_PhysicalLSU**.
--airuser <air_username>	Specify the username defined for the AIR server.

Delete a Target AIR Storage Server

Delete a target AIR storage server from a specified source storage server and LSU.

Command

```
syscli --del ostair --sourcess <source_server_name> [--sourcelsu <source_lsu_
name>]
```

Command Attributes

Review the following attribute descriptions.

--del ostair	Deletes a target AIR storage server from a specified source storage server and LSU.
--sourcess <source_server_name>	Specify the source storage server from which to delete the target AIR storage server. Use the **--list storageserver** command to get a listing of storage server names.

--sourcelsu <source_lsu_name>	Specify the LSU on the source storage server from which you are deleting the AIR storage server. If you do not specify an LSU, the CLI uses **_PhysicalLSU**. Use the **--list lsu --storageserver <server_name>** command to get a listing of LSU names.

Edit a Replication Source to a Target LSU for AIR

Edit the relationship that directs a storage server's LSU to replicate to a target storage server's LSU for AIR.

Command

```
syscli --edit ostair --sourcess <source_server_name> [--sourcelsu <source_lsu_
name>] [--disabled | --enabled] [--targets <target_server_name>] [--target <host_
name_or_ip>] [--targetlsu <target_lsu_name>] [--airuser <air_username>]
```

Command Attributes

Review the following attribute descriptions.

--Edit ostair	Edits the relationship that directs an LSU to a target AIR storage server.
--sourcess <source_server_name>	Specify the storage server to be replicated. Use the **--list storageserver** command to get a listing of storage server names.
--sourcelsu <source_lsu_name>	Specify the LSU on the storage server to be replicated. If you do not specify an LSU, the CLI uses **_PhysicalLSU**. Use the **--list lsu --storageserver <server_name>** command to get a listing of LSU names.
--disabled | --enabled	Specify one of the following: • **--disable** – Disable AIR on the source LSU. **OR** • **--enable** – Enable AIR for the source LSU if it has been disabled.
--targets <target_server_name>	Specify the storage server on the target system to receive the replicated image.
--target <host_name_or_ip>	Specify the target system's IP address or hostname, as needed. If a target system has not been configured for the source system, invoking this command returns an error.

--targetlsu <target_lsu_name>	Specify the LSU on the storage server receiving the replicated image. If you do not specify an LSU, the CLI uses **_PhysicalLSU**.
--airuser <air_username>	Specify the username defined for the AIR server.

Path To Tape CLI Commands

This section presents Path To Tape (PTT) CLI commands. Use these commands to do the following:

- Manage Path To Tape Configuration below

Note: PTT is only available on certain DXi models. See your *DXi User's Guide* to determine whether PTT is available for your model.

Manage Path To Tape Configuration

Use the following CLI commands to manage path to tape (PTT) configuration.

Note: PTT is only available on certain DXi models. See your *DXi User's Guide* to determine whether PTT is available for your model.

List PTT Initiator

List PTT initiators configured on the DXi system.

Command

```
syscli --list pttinitiator
```

List PTT Ports

List PTT initiators and ports configured on the DXi system.

Command

```
syscli --list port
```

List Medium Changers

List medium changers configured on the DXi system.

Note: This command only lists PTT devices. To see a list of virtual tape library (VTL) devices, use the **--list vtl** command (see Manage VTLs for a DXi System on page 196).

Command

```
syscli --list medchanger
```

Set the Intended Use for Medium Changers

Set the intended user for the specified medium changer.

Command

```
syscli --use medchanger --sernum <medium_changer_serial_number> --usetype
{backupapplicationspecific | ignore}
```

Command Attributes

Review the following attribute descriptions.

--use medchanger	Sets the intended use for the specified medium changer.
--sernum <medium_changer_serial_number>	Enter the serial number of the medium changer for which to set an intended user. Use the **--list medchanger** command to list all medium changer serial numbers.
--usetype {backupapplicationspecific | ignore}	Enter the type of intended use for the medium changer.

Detect Libraries

Detect all physical tape libraries attached to the system.

Command

```
syscli --scan device
```

List Tape Drives

List tape drives on the physical library.

Command

```
syscli --list tapedrive --serialnumber <serialnumber>
```

Command Attibutes

Review the following attribute descriptions.

--list tapedrive	List tape drives on the specified library.
--serialnumber <serialnumber>	Enter the serial number of the library for which to list tape drives.

Set the Intended Use for Tape Drives

Set the intended use for the specified tape drive.

Command

```
syscli --use tapedrive --sernum <tape_drive_serial_number> --usetype
{backupapplicationspecific | ignore}
```

Command Attributes

Review the following attribute descriptions.

--use tapedrive	Sets the intended use for the specified tape drive.
--sernum <tape_drive_serial_number>	Enter the serial number of the tape drive for which to set an intended user. Use the **--list tapedrive** command to list all medium changer serial numbers.
--usetype {backupapplicationspecific | ignore}	Enter the type of intended use for the tape drive.

List Fibre Channel Ports

List only fibre channel (FC) ports for the system. The results could be empty if the proper licenses or FC board is not present.

Note: If **`Changeable = yes`** displays in the output, the FC port type can be changed from initiator to target or from target to initiator by the **`--set fcport`** command.

Command

```
syscli --list fcport
```

Set Fibre Channel Port Type

Set a Fibre Channel port type, either initiator or target. Keep in mind that you can change only disconnected ports. Use the **`--list fcport`** command to list all port names and to determine whether a port can be changed.

Command

```
syscli --set fcport --alias <port_alias> --type initiator|target [--sure]
```

Command Attributes

Review the following attibute descriptions.

`--set fcport`	Sets the specified Fibre Channel's port type.
`--alias <port_alias>`	Enter the alias or name of the port for which to set a type.
`--type initiator|target`	Enter the type to which to set the Fibre Channel port, either initiator **OR** target.
`--sure`	If specified, the CLI executes the command without prompting for confirmation.

Replication CLI Commands

This topic lists supported Replication CLI commands. Use these commands to do the following:

- Manage System Replication
- Manage VTL Replication
- Manage NAS Replication
- Manage OST Replication

Manage System Replication

Use the following commands to manage replication for your DXi system.

List Replication Sources

List source IP addresses or hostnames from which the system can receive replicated data.

Command

```
syscli --list sourcerep
```

Example Output

```
List of all allowed replication source IP for this system as a target:
Total count = 2
[sourcerep = 1]
   IP = 10.40.50.70
[sourcerep = 2]
   IP = 10.40.50.71
```

Add a Replication Source

Add a source from which the system can receive replicated data by specifying the source's IP address or hostname.

Command

```
syscli --add sourcerep --hostid <host_id>
```

Delete a Replication Source

Delete a source from which the system is allowed to receive replicated data by specifying the source's IP address or hostname.

Command

```
syscli --del sourcerep --hostid <host_id>
```

List Replication Targets

List target IP addresses or hostnames to which the system can send replicated data.

Command

```
syscli --list targetrep
```

Example Output

```
List of all allowed replication target IP for this system as a source:
Total count = 2
[targetrep = 1]
   TargetHost = 10.40.162.229
   Source IP = 0.0.0.0
   Encryption = Enabled
   Encryption Type = 256-BIT
   Program Rep Paused = no
   User Rep Paused = no
   NAS Rep Supported = yes
   VTL Rep Supported = yes
   Rep Revision = 6
```

Add a Replication Target

Add a target to which the system can send replicated data.

Command

```
syscli --add targetrep --hostid <host_id> [--encrypt {--encrypttype 128|256|tls}]
--sourceip <source_ip>
```

Command Attributes

Review the following attribute descriptions.

--add targetrep	Adds a target to which the system sends replicated data. **Note:** The target must be configured to receive replications from this source before you can add the replication target to the source. Log on to the target and run the CLI command **syscli --add sourcerep** to add the source system's IP or hostname to the target's list of replication sources. **Note:** At least one VTL or NAS share should exist on the target.
--hostid <host_id>	The target's IP address or hostname.
--encrypt	Specify to encrypt data before replicating it and sending it to the target. **Note:** To enable encryption, the Data-In-Flight license must be installed. Encryption is not available in all regions. See Manage Encryption on page 41.
--encrypttype 128|256|tls	If you enabled encryption, specify the encryption type, either 128 bit, 256 bit, or TLS 256 bit encryption. **Caution:** Specify 128 if you are sending data to a DXi running a system software version prior to DXi 2.1 Software.
--sourceip <source_ip>	Enter the IP address that is used to uniquely identify the source DXi to the target, which may be different than the actual network IP address of the source DXi. If the target system is uses DXi versions 2.1 or higher, this address is not required. If the target system uses DXi versions 2.0.1.x or lower, then you must enter the IP address by which the target system recognizes the source system. The default value is 0.0.0.0.

Delete a Replication Target

Delete a target to which the system is allowed to send replicated data by specifying the target's IP address or hostname.

Command

```
syscli --del targetrep --hostid <host_id>
```

Pause Replication Services

Pause active replication services for targets.

Command

```
syscli --pause replication [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--pause replication	Pauses all **OR** specified active replication services for targets.
--target <host_name_or_ip>	Specify the target(s) for which to pause active replication services. If you do not specify targets, replication services are paused for all targets.

Resume Replication Services

Resume replication services for targets.

Command

```
syscli --resume replication [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--resume replication	Resumes all **OR** specified active replication services for targets.
--target <host_name_or_ip>	Specify the target(s) for which to resume active replication services. If you do not specify targets, replication services are resumed for all targets.

Enable Replication for All Configured Targets

Enable replication for all configured targets on deduplicated Virtual Tape Libraries (VTLs) and Network Attached Storage (NAS) shares.

Command

```
syscli --enablerep all
```

Disable Replication for All Configured Targets

Disable replication for all configured targets on deduplicated Virtual Tape Libraries (VTLs) and Network

Attached Storage (NAS) shares.

Command

```
syscli --disablerep all
```

Clearing Replication Statistics

Clear replication statistics.

Command

```
syscli --clear stats [--sent] [--received]
```

Command Attributes

Review the following attribute descriptions.

--clear stats	Clear replication statistics.
--sent	If specified, only sent replication statistics are cleared.
--received	If specified, only received replication statistics are cleared.

Generate a Replication Report

Generate a replication report for the system.

Command

```
syscli --genrpt replication [--target <host_name_or_ip>] [--start <start_time>
--end <end_time>]
```

Command Attributes

Review the following attribute descriptions.

--genrpt replication	Generates a replication report for the system.

--target <host_name_or_ip>	Enter the target system IP address or hostname. If a target system has not been configured for the source system, invoking this command returns an error.
--start <start_time>	Enter the start time in Coordinated Universal Time (UTC) count for which to run the replication report.
--end <end_time>	Enter the end time in Coordinated Universal Time (UTC) count for which to run the replication report.

Download a Replication Report

Download or copy the generated replication report to the home directory. You can then copy the file to another host, if needed.

Command

```
syscli --downloadrpt replication
```

Query Replication Status

Query the status of active replication on the specified source **OR** target system.

Command

```
syscli --getstatus trigger --source | --target
```

Command Attributes

Review the following attribute descriptions.

--getstatus trigger	Gets the status of the active VTL cartridge based or NAS share file/directory replication.
--source | --target	Enter the source system for which to query replication status. **OR** Enter the target system for which to query replication status.

Query Active Synchronization Request Status

Query the status of active synchronization requests on the specified source **OR** target.

Command

```
syscli --getstatus sync --source | --target
```

Command Attributes

Review the following attribute descriptions.

--getstatus sync	Gets the status of active synchronization requests on the specified source **OR** target.
--source | --target	Enter the source system for which to query synchronization request status. **OR** Enter the target system for which to query synchronization request status.

Retrieve Snapshot Statistics

Retrieve the maximum, minimum, and current number of snapshots per NAS share or VTL partition.

Command

```
syscli --get snapshotspersharepartition
```

Set Snapshot Limits

Set the and number of snapshots per NAS share or VTL partition to allow.

Command

```
syscli --set snapshotspersharepartition --current <value>
```

Command Attributes

Review the following attribute descriptions.

--set snapshotspersharepartition	Sets the number of snapshots per NAS share or VTL partition.
--current <value>	Enter the number of snapshots per NAS share or VTL partition to allow.

Manage VTL Replication

Use the following commands to manage replication for Virtual Tape Libraries (VTLs).

Initiate Replication for a VTL or VTL Cartridge

Initiate replication for a specified VTL.

Command

```
syscli --replicate vtl --name <VTL_name> [--target <host_name_or_ip>] --barcode
<barcode> | --namespace
```

Command Attributes

Review the following attribute descriptions.

--replicate vtl	Initiates replication for the specified VTL.
--name <VTL_name>	Enter the name of the VTL for which to initiate replication.
--target <host_name_or_ip>	Enter the replication's target host name or IP address. If the system or the share/partition has two targets configured, you must use this option to specify a target IP or hostname. If the system or the share/partition does not have a target configured, invoking this command results in error.
--barcode <barcode>	Enter the barcode of the VTL's cartridge on which to initiate replication. **Note:** To replicate a VTL cartridge, the VTL must have cartridge base replication enabled.
--namespace	Enter to indicate namespace replication of the entire VTL. If you do not use this option, cartridge based replication is performed.

Lock a VTL

Lock the specified VTL on a replication target so that cartridge based replication recovery requests are queued. Recovery does not occur until the VTL is unlocked.

Command

```
syscli --lock vtl --name <VTL_name> [--wait]
```

Wait Attribute

Use the **--wait** option to specify whether the CLI should wait to obtain a new lock on a VTL if the VTL already has a lock in place.

- If you do not specify the **--wait** option when trying to obtain a lock on a VTL and the VTL is already locked, the CLI does not wait to obtain the new lock.
- If you specify the **--wait** option when trying to obtain a lock on a VTL and the VTL is already locked, the CLI waits to obtain a new lock.

Unlock a VTL

Unlock the specified VTL on a replication target. If you specify the **--force** option, the lock is forced to unlock.

Command

```
syscli --unlock vtl --name <VTL_name> [--force]
```

Get VTL Lock Status

Retrieve the status of the lock for the specified VTL.

Command

```
syscli --getstatus vtllock --name <VTL_name>
```

Initiate Source to Target Cartridge Synchronization

Initiate source to target cartridge synchronization for a specified VTL with cartridge based replication enabled.

Command

```
syscli --sync vtl --name <VTL_name> [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--sync vtl	Initiates source to target synchronization for the specified VTL.

--name <VTL_name>	Enter the name of the VTL for which to initiate synchronization.
--target <host_name_or_ip>	Enter the replication's target host name or IP address. If the system or the share/partition has two targets configured, you must use this option to specify a target IP or hostname. If the system or the share/partition does not have a target configured, invoking this command results in error.

Add a VTL Replication Target

Add a target to which a VTL can replicate data.

Command

```
syscli --add vtltarget --name <vtl_name> --target <host_name_or_ip>
```

Command Attributes

Review the following attribute descriptions.

--add vtltarget	Add a target to which a VTL can replicate data.
--name <vtl_name>	Enter the name of the VTL partition to which to add a replication target.
--target <host_name_or_ip>	Enter the target's IP address or hostname.

Delete a VTL Replication Target

Remove a target to which a VTL can replicate data.

Command

```
syscli --del vtltarget --name <vtl_name> --target <host_name_or_ip>
```

Command Attributes

Review the following attribute descriptions.

--del vtltarget	Remove a target from which a VTL can replicate data.
--name <vtl_name>	Enter the name of the VTL partition from which to remove a replication target.

--target <host_name_or_ip>	Enter the target's IP address or hostname.

List VTL Replication Targets

List the replication targets for the specified VTL.

Command

```
syscli --list vtltarget --name <vtl_name>
```

Enable VTL Replication

Enable replication of the specified VTL.

Note: This command enables replication to all targets configured for the VTL. You cannot enable replication for a single target using this command. Instead, run the following command to allow or disallow replication to a particular target: **syscli --add/del <vtltarget> --name <vtl_name> --target <host_name_or_ip>**.

Note: You must configure the target system's corresponding partition with a Sync ID prior to configuring the source system's partition.

Command

```
syscli --enablerep vtl --name <vtl_name> [--cartbase] [--syncid <sync_id>]
```

Command Attributes

Review the following attribute descriptions.

--enablerep vtl	Enable replication of the specified VTL.
--name <vtl_name>	Enter the name of the VTL partition on which to enable replication.
--cartbase	Enable cartridge based replication. If you do not specify this option, replication is enabled for the entire VTL partition. **Note:** Before editing replication settings, disable cartridge based replication using **--disable cartrep**, and then add and remove targets using **--add vtltarget** or **--del vtltarget**.

--syncid <sync_id>	Enter the Sync ID of the VTL partition for which you are enabling replication. If you do not specify this option when cartridge based replication is enabled, the CLI uses the VTL name for the Sync ID.

Disable VTL Replication

Disable replication for the specified VTL.

Note: This command disables replication for all targets configured for the VTL. You cannot disable replication for a single target. Instead, run the following command to allow or disallow replication to a particular target: **syscli --add/del <vtltarget> --name <vtl_name> --target <host_name_or_ip>**

Command

```
syscli --disablerep vtl --name <VTL_name> [--nocartbase]
```

Command Attributes

Review the following attribute descriptions.

--disblerep vtl	Disable replication of the specified VTL.
--name <vtl_name>	Enter the name of the VTL partition for which to disable replication.
--nocartbase	Disable cartridge based replication. If you do not specify this option, replication is disabled for the entire VTL partition. **Note:** Before editing replication settings, disable cartridge based replication using **--disable cartrep**, and then add and remove targets using **--add vtltarget** or **--del vtltarget**.

Check Status on a VTL

Check and verify the status of a VTL prior to replicating its data.

DEPRECATED Command

```
syscli --checkrepready vtl --name <vtl_name>
```

Abort VTL Replication

Abort the current replication of a VTL.

Command

```
syscli --abortrep vtl --name <VTL_name> [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--abortrep vtl	Abort the current replication of the specified VTL.
--name <VTL_name>	Enter the name of the VTL for which to abort replication.
--target <host_name_or_ip>	If the system or VTL partition has more than one target configured, you must specify the target to which replicated data is being sent.

Abort VTL Synchronization

Abort the current synchronization of a VTL.

Command

```
syscli --abortsync vtl --name <VTL_name> [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--abortsync vtl	Abort the current synchronization of the specified VTL.
--name <VTL_name>	Enter the name of the VTL for which to abort synchronization.
--target <host_name_or_ip>	If the system orVTL partition has more than one target configured, you must specify the target with which the partition is being synchronized.

List Deduplicated VTLs

List all VTLs that have data deduplication enabled. Replication and synchronization information is also listed if it applies.

Command

```
syscli --list dedupvtl
```

Example Output

```
Total count = 1
   [dedupvtl = 1]
   VTL name = test1
   replication state = Enabled
   replication sync id =
   last replication start = Thu Mar 5 11:02:03 2009
   last replication completion = Thu Mar 5 11:02:07 2009
   last replication status = Success
   last synchronization start =
   last synchronization completion =
   last synchronization status =
```

List All Replicated VTLs

List all VTLs that have been replicated to the target, along with the status of each replication task.

Command

```
syscli --list repvtl
```

Example Output

```
List of all replicated VTL on the target.
Total count = 1
[replicated vtl = 1]
   ID = 1
   VTL Name = test1
   Source Host = Galaxy3.node-1
   Replication Started = Thu Mar 5 13:08:59 2009
   Replication Finished = Thu Mar 5 13:08:59 2009
   Replication Status = Success
```

Recover a VTL Cartridge

Recover and recreate a VTL cartridge from the target system.

When recovering and recreating a VTL cartridge, you must add tape drives to the devices, roboot the

devices, and map the devices before the VTL is accessible. If the partition contains media, you can select only the highest capacity tape drive for that media type. The original cartridge type is not retained during replication.

Example

If the partition contains SDLT600 tape cartridges, you will only be able to select DLT-S4 tape drives when mapping devices to the recovered partition.

Command

```
syscli --recover vtl --repname <replicated_VTL_name> --srchost <source_hostname_
or_IP address> --id <ID_of_the_replicated_VTL> [--recname <recovered_VTL_name >]
[--submit]
```

Command Attributes

Review the following attribute descriptions.

--recover vtl	Recovers and recreates the specified VTL cartridge from the target system.
--repname <replicated_VTL_name>	Enter the name of the replicated VTL on which the cartridge exists. You can retrieve replicated VTL names using the **syscli --list repvtl** command.
--srchost <source_hostname_or_IP address>	Enter the source system's IP address or hostname. You can retrieve the source system's IP address or hostname using the **syscli --list repvtl** command.
--id <ID_of_the_replicated_VTL>	Enter the ID of the replicated VTL on which the cartridge exists. You can retrieve replicated VTL IDs using the **syscli --list repvtl** command.
--recname <recovered_VTL_name >	Enter a name for the recovered VTL. Otherwise the VTL is assigned its replicated name.
--submit	If specified, the CLI does not wait for the recover operation to complete.

Failback a Replicated VTL

Failback a replicated VTL to a specified system.

Before using this command:

- From the system on which the replicated VTL data exists, run the **`--recover vtl`** command specifying the VTL to failback.
- Configure the target role IP address on the system to which to failback the VTL.

Command

```
syscli --failback repvtl --repname <vtl_name> --srchost <source_host> --id <id>
--tgthost <target_host> [--encrypt {--encrypttype 128|256|tls}]
```

Command Attributes

Review the following attribute descriptions.

`--failback repvtl`	Failback a replicated VTL to the specified source system.
`--repname <vtl_name>`	Enter the name of the replicated VTL to failback. You can retrieve replicated VTL names using the **`syscli --list repvtl`** command.
`--srchost <source_host>`	Enter the hostname or IP address of the system to which to failback the VTL. You can retrieve the original source system's IP address or hostname using the **`syscli --list repvtl`** command.
`--id <id>`	Enter the ID of the replicated VTL to failback. You can retrieve replicated VTL IDs using the **`syscli --list repvtl`** command.
`--tgthost <target_host>`	Enter the hostname or IP address of the system on which the replicated VTL data exists. The receiving system must have this system defined as an allowed replication source.
`--encrypt`	Specify to encrypt the failback data. **Note:** To enable encryption, the Data-In-Flight license must be installed. Encryption is not available in all regions. See Manage Encryption on page 41.
`--encrypttype 128|256|tls`	If you enabled encryption, specify the encryption type, either 128 bit, 256 bit, or TLS 256 bit encryption.

Delete a Replicated VTL from the Target

Delete a replicated VTL from the target system.

Command

```
syscli --del repvtl --repname <replicated_VTL_name> --srchost <source_host> --id
<ID>
```

Command Attributes

Review the following attribute descriptions.

--del repvtl	Deletes the specified VTL from the target system.
--repname <replicated_VTL_name>	Enter the name of the replicated VTL to delete from the target system. You can retrieve replicated VTL names using the **syscli --list repvtl** command.
--srchost <source_host>	Enter the source system's IP address or hostname. You can retrieve the source system's IP address or hostname using the **syscli --list repvtl** command.
--id <ID>	Enter the ID of the replicated VTL to delete from the target system. You can retrieve replicated VTL IDs using the **syscli --list repvtl** command.

List Replicated VTL Recovery Jobs

List replicated VTL recovery jobs on the target system, along with recovery status.

Command

```
syscli --list vtlrecjob
```

Example Output

```
List of all replicated VTL recovery jobs:
Total count = 1sysc
[recovery job = 1]
   ID = 1
   Original VTL Name = VTL1
   New VTL Name = VTL1_REC
   Source Host = galaxy.node-1
   Recovery Job Started = Mon Jun 1 11:22:17 2009
```

```
   Recovery Job Finished = Mon Jun 1 11:22:43 2009
   Recovery Job Status = Success
```

Delete Replicated VTL Recovery Jobs

Delete a replicated VTL recovery job from the target system.

Command

```
syscli --del vtlrecjob -repname <VTL_name> --srchost <source_hostname> --id <ID_
of_the_recovery_job>
```

Command Attributes

Review the following attribute descriptions.

--del vtlrecjob	Deletes the specified replicated VTL recovery from the target system.
--repname <VTL_name>	Enter the name of the replicated VTL to delete from the target system. You can retrieve replicated VTL names using the **syscli --list vtlrecjob** command.
--srchost <source_hostname>	Enter the source system's IP address or hostname. You can retrieve the source system's IP address or hostname using the **syscli --list vtlrecjob** command.
--id <ID_of_the_recovery_job>	Enter the ID of the recovery job to delete from the target system. You can retrieve recovery IDs using the **syscli --list vtlrecjob** command.

List Replicated VTL Failback Jobs

List replicated VTL failback jobs on the target system, along with the job's status.

Command

```
syscli --list vtlfailbackjob
```

Example Output

```
List of all replicated VTL failback jobs:
```

```
Total count = 1
[failback job = 1]
   ID = 1
   VTL Name = part4
   Target Host = 10.40.164.70
   Failback Job Started = Wed Jun 3 16:45:53 2009
   Failback Job Finished = Wed Jun 3 16:46:01 2009
   Failback Job Status = Success
```

Delete Replicated VTL Failback Jobs

Delete a replicated VTL failback job from the target system.

Command

```
syscli --del vtlfailbackjob --repname <VTL_name> --tgthost <target_hostname> --id
<ID_of_the_failback_job>
```

Command Attributes

Review the following attribute descriptions.

--del vtlfailbackjob	Deletes the specified replicated VTL failback from the target system.
--repname <VTL_name>	Enter the name of the replicated VTL to delete from the target system. You can retrieve replicated VTL names using the **syscli --list vtlfailbackjob** command.
--tgthost <target_hostname>	Enter the target system's IP address or hostname. You can retrieve the target system's IP address or hostname using the **syscli --list vtlfailbackjob** command.
--id <ID_of_the_failback_job>	Enter the ID of the failback job to delete from the target system. You can retrieve recovery IDs using the **syscli --list vtlfailbackjob** command.

Abort Replicated VTL Failback Jobs

Abort an active replicated VTL failback job on the target system.

Command

```
syscli --abort vtlfailbackjob --repname <VTL_name> --tgthost <target_hostname>
--id <ID_of_the_failback_job>
```

Command Attributes

Review the following attribute descriptions.

--abort vtlfailbackjob	Aborts the specified replicated VTL failback job on the target system.
--repname <VTL_name>	Enter the name of the replicated VTL for which the failback job is running. You can retrieve replicated VTL names using the **syscli --list vtlfailbackjob** command.
--tgthost <target_hostname>	Enter the target system's IP address or hostname. You can retrieve the target system's IP address or hostname using the **syscli --list vtlfailbackjob** command.
--id <ID_of_the_failback_job>	Enter the ID of the failback job to abort. You can retrieve recovery IDs using the **syscli --list vtlfailbackjob** command.

Enable VTL Cartridge Based Replication

Enable VTL cartridge based replication for a target system.

Command

```
syscli --enable cartrep --name <VTL_name> [--syncid <sync_id>] [--locked]
```

Command Attributes

Review the following attribute descriptions.

--enable cartrep	Enable cartridge based replication for the specified VTL.
--name <VTL_name>	The name of the VTL for which to enable cartridge based replication.

--syncid <sync_id>	Enter the Sync ID of the VTL for which you are enabling replication. If you do not specify this option when cartridge based replication is enabled, the CLI uses the VTL name for the Sync ID.
--locked	If specified, locks the VTL partition. Replication requests are queued, but they will not occur until the partition is unlocked.

Disable VTL Cartridge Based Replication

Disable cartridge based replication for the specified VTL.

Note: Before editing replication settings using **--enablerep vtl**, **--disablerep vtl**, or **--disable cartrep**, make sure to finish adding and removing targets.

Command

```
syscli --disable cartrep --name <VTL_name>
```

List Cartridge Based Replication Status and Statistics

List the status and statistics of data sent from a VTL cartridge based replication.

Command

```
syscli --list cartrepstats --name <VTL_name>
```

Command Attributes

Review the following attribute descriptions.

--list cartrepstats	List the replication status and additional statistics of data sent from the specified VTL partition.
--name <VTL_name>	Enter the name of the VTL partition for which the cartridge based replication is occurring.

List VTL Paritions Eligible to Receive Cartridge Based Replication Data

List deduplication-enabled VTL partitions that are eligible to receive cartridge based replication data.

Note: When the output of the partition's state is **Enabled**, the partition is eligible to receive cartridge based data.

Command

```
syscli --list carttarget [--name <VTL_name>]
```

Command Attributes

Review the following attribute descriptions.

--list carttarget	Lists deduplication-enabled VTL partitions that are eligible to receive cartridge based replication data.
--name <VTL_name>	Specify a VTL partition for which to receive its status. If you do not specify this option, the status of all deduplication-enabled VTL partitions is returned.

Manage NAS Replication

Use the following commands to manage replication for Network Attached Storage (NAS) shares.

Initiate Replication for a NAS Share or Individual NAS Share Directory/File

Initiate replication for a specified NAS share, or initiate replication for an individual directory or file on the specified NAS share.

Additional Information

- The share must have the file/directory based replication enabled to replicate a directory or a file.
- The share must specify a namespace or path specified to avoid a full directory/file based replication by default.
- This command cannot be used with application specific shares. Use `syscli --sync nas` instead. See Initiate Source to Target File/Directory Synchronization on page 138

Command

```
syscli --replicate nas --name <NAS_share_name> [--target <host_name_or_ip>]
[--path <directory_path_or_filename_to_the_share> | --namespace] [--disableok]
```

Command Attributes

Review the following attribute descriptions.

--replicate nas	Initiates replication for the specified NAS share.
--name <NAS_share_name>	Enter the name of the NAS share for which to initiate replication.
--target <host_name_or_ip>	Enter the replication's target host name or IP address. If the system or the share/partition has two targets configured, you must use this option to specify a target IP or hostname. If the system or the share/partition does not have a target configured, invoking this command results in error.
--path <directory_path_or_ filename_to_the_share>	Enter the directory or filename used for directory/file based replication.
--namespace	Enter to indicate namespace replication of the entire NAS share. If you do not use this option, directory/file based replication is performed.
--disableok	If you use this option, errors are not returned if directory/file based replication is not enabled.

Lock a NAS Share

Lock the specified NAS share on a replication target so that file/directory based replication recovery requests are queued. Recovery does not occur until the share is unlocked.

Command

```
syscli --lock nas --name <NAS_share_name> [--wait]
```

Wait Attribute

Use the **--wait** option to specify whether the CLI should wait to obtain a new lock on a NAS share if the share already has a lock in place.

- If you do not specify the **--wait** option when trying to obtain a lock on a NAS share and the share is already locked, the CLI does not wait to obtain the new lock.
- If you specify the **--wait** option when trying to obtain a lock on a NAS share and the share is already locked, the CLI waits to obtain a new lock.

Unlock a NAS Share

Unlock the specified NAS share on a replication target. If you specify the **--force** option, the lock is forced to unlock.

Command

```
syscli --unlock nas --name <NAS_share_name> [--force]
```

Get NAS Share Lock Status

Retrieve the status of the lock for the specified NAS share.

Command

```
syscli --getstatus naslock --name <NAS_share_name>
```

Initiate Source to Target File/Directory Synchronization

Initiate source to target file/directory synchronization for a specified NAS share with file/directory based replication enabled.

Command

```
syscli --sync nas --name <NAS_share_name> [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--sync nas	Initiates source to target synchronization for the specified NAS share.
--name <NAS_share_name>	Enter the name of the NAS share for which to initiate synchronization.
--target <host_name_or_ip>	Enter the replication's target host name or IP address. If the system or the share/partition has two targets configured, you must use this option to specify a target IP or hostname. If the system or the share/partition does not have a target configured, invoking this command results in error.

Add a NAS Replication Target

Add a target to which a NAS share can replicate data.

Command

```
syscli --add nastarget --name <NAS_share_name> --target <host_name_or_ip>
```

Command Attributes

Review the following attribute descriptions.

--add nastarget	Add a target to which a NAS share can replicate data.
--name <NAS_share_name>	Enter the name of the NAS share to which to add a replication target.
--target <host_name_or_ip>	Enter the target's IP address or hostname.

Delete a NAS Replication Target

Remove a target to which a NAS share can replicate data.

Command

```
syscli --del nastarget --name <NAS_share_name> --target <host_name_or_ip>
```

Command Attributes

Review the following attribute descriptions.

--del nastarget	Remove a target from which a NAS share can replicate data.
--name <NAS_share_name>	Enter the name of the NAS share from which to remove a replication target.
--target <host_name_or_ip>	Enter the target's IP address or hostname.

List NAS Replication Targets

List the replication targets for the specified NAS share.

Command

```
syscli --list nastarget --name <NAS_share_name>
```

Enable NAS Replication

Enable replication of the specified NAS share.

Additional Information

- This command enables replication to all targets configured for the NAS share. You cannot enable replication for a single target using this command. Instead, run the following command to allow or disallow replication to a particular target: **`syscli --add/del <nastarget> --name <nas_name> --target <host_name_or_ip>`**.
- You must configure the target system's corresponding NAS share with a Sync ID prior to configuring the source system's NAS share.
- Application Specific NAS shares are enabled to send replication only.

Command

```
syscli --enablerep nas --name <nas_share> [--filedirbase] [--syncid <sync_id>]
```

Command Attributes

Review the following attribute descriptions.

`--enablerep nas`	Enable replication of the specified NAS share.
`--name <nas_share>`	Enter the name of the NAS share on which to enable replication.
`--filedirbase`	Enable file/directory based replication. If you do not specify this option, replication is enabled for the entire NAS share. **Note:** Before editing replication settings, disable file/directory replication using **`--disable filedirrep`**, and then add and remove targets using **`--add nastarget`** or **`--del nastarget`**. **Note:** File/directory based replication is automatically selected for Application Specific NAS shares.
`--syncid <sync_id>`	Enter the Sync ID of the NAS share for which you are enabling replication. If you do not specify this option when file/directory based replication is enabled, the CLI uses the NAS share name for the Sync ID.

Disable NAS Replication

Disable replication for the specified NAS share.

Note: This command disables replication for all targets configured for the NAS share. You cannot disable replication for a single target. Instead, run the following command to allow or disallow replication to a particular target: **`syscli --add/del <nastarget> --name <nas_name> --target <host_name_or_ip>`**

Command

```
syscli --disablerep nas --name <nas_share> [--nofiledirbase]
```

Command Attributes

Review the following attribute descriptions.

--disblerep nas	Disable replication of the specified NAS share.
--name <nas_share>	Enter the name of the NAS share for which to disable replication.
--nofiledirbase	Disable file/directory based replication. If you do not specify this option, replication is disabled for the entire NAS share. **Note:** Before editing replication settings, disable file/directory replication using **--disable filedirrep**, and then add and remove targets using **--add nastarget** or **--del nastarget**.

Check Status on a NAS Share

Check and verify the status of a NAS share prior to replicating its data.

DEPRECATED Command

```
syscli --checkrepready nas --name <nas_share>
```

Abort NAS Share Replication

Abort the current replication of a NAS share.

Command

```
syscli --abortrep nas --name <NAS_share_name> [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--abortrep nas	Abort the current replication of the specified NAS share.
--name <NAS_share_name>	Enter the name of the NAS share for which to abort replication.

--target <host_name_or_ip>	If the system or NAS share has more than one target configured, you must specify the target to which replicated data is being sent.

Abort NAS Share Synchronization

Abort the current synchronization of a NAS share.

Command

```
syscli --abortsync nas --name <NAS_share_name> [--target <host_name_or_ip>]
```

Command Attributes

Review the following attribute descriptions.

--abortsync nas	Abort the current synchronization of the specified NAS share.
--name <NAS_share_name>	Enter the name of the NAS share for which to abort synchronization.
--target <host_name_or_ip>	If the system or NAS share has more than one target configured, you must specify the target with which the share is being synchronized.

List Deduplicated NAS Shares

List all NAS shares that have data deduplication enabled.

Command

```
syscli --list dedupnas [--type all|rep|sync] [--name <sharename> |--namematch
<pattern>]
```

Command Attributes

Review the following attribute descriptions.

--list dedupnas	Lists all deduplicated NAS shares on the source system.

--type all|rep|sync	Enter the type of NAS shares to display: • **all** – Lists all deduplication shares . • **rep** – Lists only shares with replication tasks. • **sync** – Lists only shares with synchronization tasks. The default type is **all**.
--name <sharename>	Enter the name of a share for which to list information. Otherwise, information is listed for all shares on the source system.
--namematch <pattern>	If you use this option, only shares whose names match the specified pattern are listed. The wild characters **^** and **$** are supported as follows: • **^xxx** – Matches pattern xxx at the start of names • **xxx$** – Matches pattern xxx at the end of names Because **$** is special to the shell, remember to escape the character with a backslash (\) because it is special to the shell. **Example** To list all shares ending with test in the names, enter the following command: **syscli --list dedupnas --namematch test\$** **Note:** The **--namematch** option is not supported in Web Service

List All Replicated NAS Shares

List all NAS shares that have been replicated to the target, along with the status of each replication task.

Command

```
syscli --list repnas
```

Example Output

```
List of all replicated NAS share on the target:
Total count = 1
[replicated nas = 1]
   ID = 1
   NAS Share Name = nas_cifs1
   Source Host = galaxy.quantum-est.com
```

```
Replication Started = Wed Jun 3 16:38:20 2009
Replication Finished = Wed Jun 3 16:38:30 2009
Replication Status = Success
```

Recover a NAS Share

Recover and recreate a NAS share from the target system.

Command

```
syscli --recover nas --repname <replicated_NAS_share_name> --srchost <source_
hostname_or_IP_address> --id <ID_of_the_replicated_NAS> [--recname <recovered_
NAS_share_name>] [--owner <owner_user_id>] [--submit]
```

Command Attributes

Review the following attribute descriptions.

--recover nas	Recovers and recreates the specified NAS share from the target system.
--repname <replicated NAS_ share_name>	Enter the name of the replicated NAS share. You can retrieve replicated NAs share names using the **syscli --list repnas** command.
--srchost <source_ hostname_or_IP address>	Enter the source system's IP address or hostname. You can retrieve the source system's IP address or hostname using the **syscli --list repnas** command.
--id <ID_of_the_ replicated_NAS>	Enter the ID of the replicated NAS share. You can retrieve replicated NAS share IDs using the **syscli --list repnas** command.
--recname <recovered_NAS_ share_name >	Enter a name for the recovered NAS share. Otherwise the NAS share is assigned its replicated name.
--owner <owner_user_id>	You must specify this option if you are recovering a CIFS share.
--submit	If specified, the CLI does not wait for the recover operation to complete.

Failback a Replicated NAS Share

Failback a replicated NAS share to a specified system.

Before using this command:

- From the system on which the replicated NAS share data exists, run the **--recover NAS** command specifying the NAS share to failback.
- Configure the target role IP address on the system to which to failback the NAS share.

Command

```
syscli --failback repnas --repname <nas_share_name> --srchost <source_host> --id
<id> --tgthost <target_host> [--encrypt {--encrypttype 128|256|tls}]
```

Command Attributes

Review the following attribute descriptions.

--failback repnas	Failback a replicated NAS share to the specified source system.
--repname <nas_share_name>	Enter the name of the replicated NAS share to failback. You can retrieve replicated NAS share names using the **syscli --list repnas** command.
--srchost <source_host>	Enter the hostname or IP address of the system to which to failback the NAS share. You can retrieve the original source system's IP address or hostname using the **syscli --list repnas** command.
--id <id>	Enter the ID of the replicated NAS share to failback. You can retrieve replicated NAS IDs using the **syscli --list repnas** command.
--tgthost <target_host>	Enter the hostname or IP address of the system on which the replicated NAS share data exists. The receiving system must have this system defined as an allowed replication source.
--encrypt	Specify to encrypt the failback data. **Note:** To enable encryption, the Data-In-Flight license must be installed. Encryption is not available in all regions. See Manage Encryption on page 41.
--encrypttype 128|256	If you enabled encryption, specify the encryption type, either 128 bit, 256 bit, or TLS 256 bit encryption.

Deleting a Replicated NAS Share from the Target

Delete a replicated NAS share from the target system.

Command

```
syscli --del repnas --repname <NAS_name> --srchost <source_hostname_or_IP_
address> --id <ID_of_the_replicated_NAS>
```

Command Attributes

Review the following attribute descriptions.

--del repnas	Deletes the specified NAS share from the target system.
--repname <NAS_name>	Enter the name of the replicated NAS share to delete from the target system. You can retrieve replicated NAS share names using the **syscli --list repnas** command.
--srchost <source_ hostname_or_IP_address>	Enter the source system's IP address or hostname. You can retrieve the source system's IP address or hostname using the **syscli --list repnas** command.
--id <ID_of_the_ replicated_NAS>	Enter the ID of the replicated NAS share to delete from the target system. You can retrieve replicated NAS share IDs using the **syscli --list repnas** command.

List Replicated NAS Share Recovery Jobs

List the replicated NAS share recovery jobs on the target system, along with recovery status.

Command

```
syscli --list nasrecjob
```

Example Output

```
List of all replicated NAS share recovery jobs:

Total count = 1

[recovery job = 1]
   ID = 1
   Original NAS Share Name = NAS1
```

```
New NAS Share Name = NAS1_REC
Source Host = galaxy.node-1
Recovery Job Started = Mon Jun 1 11:22:17 2009
Recovery Job Finished = Mon Jun 1 11:22:43 2009
Recovery Job Status = Success
```

Delete Replicated NAS Share Recovery Jobs

Delete a replicated NAS share recovery job from the target system.

Command

```
syscli --del nasrecjob --repname <NAS_share_name> --srchost <source_hostname>
--id <ID_of_the_recovery_job>
```

Command Attributes

Review the following attribute descriptions.

--del nasrecjob	Deletes the specified replicated NAS share recovery from the target system.
--repname <NAS_share_name>	Enter the name of the replicated NAS share to delete from the target system. You can retrieve replicated NAS share names using the **syscli --list nasrecjob** command.
--srchost <source_hostname>	Enter the source system's IP address or hostname. You can retrieve the source system's IP address or hostname using the **syscli --list nasrecjob** command.
--id <ID_of_the_recovery_job>	Enter the ID of the recovery job to delete from the target system. You can retrieve recovery IDs using the **syscli --list nasrecjob** command.

List Replicated NAS Share Failback Jobs

List replicated NAS share failback jobs on the target system, along with the job's status.

Command

```
syscli --list nasfailbackjob
```

Example Output

```
List of all replicated NAS share failback jobs:

Total count = 1

[failback job = 1]
   ID = 1
   NAS Share Name = part4
   Target Host = 10.40.164.70
   Failback Job Started = Wed Jun 3 16:45:53 2009
   Failback Job Finished = Wed Jun 3 16:46:01 2009
   Failback Job Status = Success
```

Delete Replicated NAS Share Failback Jobs

Delete a replicated NAS share failback job from the target system.

Command

```
syscli --del nasfailbackjob --repname <NAS_share_name> --tgthost <target_
hostname> --id <ID_of_the_failback_job>
```

Command Attributes

Review the following attribute descriptions.

--del nasfailbackjob	Deletes the specified replicated NAS share failback from the target system.
--repname <NAS_share_name>	Enter the name of the replicated NAS share to delete from the target system. You can retrieve replicated NAS share names using the **syscli --list nasfailbackjob** command.
--tgthost <target_hostname>	Enter the target system's IP address or hostname. You can retrieve the target system's IP address or hostname using the **syscli --list nasfailbackjob** command.
--id <ID_of_the_failback_job>	Enter the ID of the failback job to delete from the target system. You can retrieve recovery IDs using the **syscli --list nasfailbackjob** command.

Abort Replicated NAS Share Failback Jobs

Abort an active replicated NAS share failback job on the target system.

Command

```
syscli --abort nasfailbackjob --repname <NAS_share_name> --tgthost <target_
hostname> --id <ID_of_the_failback_job>
```

Command Attributes

Review the following attribute descriptions.

--abort nasfailbackjob	Aborts the specified replicated NAS share failback job on the target system.
--repname <NAS_share_name>	Enter the name of the replicated NAS share for which the failback job is running. You can retrieve replicated NAS share names using the **syscli --list nasfailbackjob** command.
--tgthost <target_hostname>	Enter the target system's IP address or hostname. You can retrieve the target system's IP address or hostname using the **syscli --list nasfailbackjob** command.
--id <ID_of_the_failback_job>	Enter the ID of the failback job to abort. You can retrieve recovery IDs using the **syscli --list nasfailbackjob** command.

Enable NAS Share File/Directory Based Replication

Enable NAS share file/directory based replication for a target system.

Command

```
syscli --enable filedirrep --name <NAS_share_name> [--syncid <sync_id>]
[--locked]
```

Command Attributes

Review the following attribute descriptions.

--enable filedirrep	Enable file/directory based replication for the specified NAS share.
--name <NAS_share_name>	The name of the NAS share for which to enable cartridge based replication.
--syncid <sync_id>	Enter the Sync ID of the NAS share for which you are enabling replication. If you do not specify this option when file/directory based replication is enabled, the CLI uses the NAS share name for the Sync ID.
--locked	If specified, locks the NAS share. Replication requests are queued, but they will not occur until the share is unlocked.

Disable NAS Share File/Directory Based Replication

Disable file/directory based replication for the specified NAS share.

Note: Before editing replication settings using using **--enablerep nas**, **--disablerep nas**, or **--disable filedirrep**, make sure to finish adding and removing targets.

Command

```
syscli --disable filedirrep --name <NAS_share_name>
```

List Unpack Queue Items

List NAS share file/directory based replications for data received from the source system. This data is referred to as "unpack queue items."

Command

```
syscli --list unpackqueueitems
```

List File/Directory Based Replication Status and Statistics

List the status and statistics of data sent from a NAS share file/directory-based replication.

Command

```
syscli --list filedirrepstats --name <share_name>
```

Command Attributes

Review the following attribute descriptions.

--list filedirrepstats	List the replication status and additional statistics of data sent from the specified NAS share.
--name <share_name>	Enter the name of the NAS share for which the file/directory based replication is occurring.

List NAS Shares Eligible to Receive File/Directory Based Replication Data

List deduplication-enabled NAS shares that are eligible to receive file/directory based replication data.

Note: When the output of the share's state is **Enabled**, the share is eligible to receive file/directory based data.

Command

```
syscli --list filedirtarget [--name <share_name>]
```

Command Attributes

Review the following attribute descriptions.

--list filedirtarget	Lists deduplication-enabled NAS shares that are eligible to receive file/directory based replication data.
--name <share_name>	Specify a NAS share for which to receive its status. If you do not specify this option, the status of all deduplication-enabled NAS shares is returned.

Manage OST Replication

Use the following commands to manage replication for OpenStorage Technology (OST).

Map OST Targets

Process an OST replication request by mapping the OST replication target translation (OST target IP address) to the corresponding replication IP address.

Command

```
syscli --add opduptranslate --replicationip <replication_ip> --dataip <data_ip>
```

Command Attributes

Review the following attribute descriptions.

--add opduptranslate	Map an OST replication target translation (OST target IP address) to the corresponding replication IP address.
--replicationip <replication_ip>	Enter the replication system's IP address to which to map the OST target IP address.
--dataip <data_ip>	Enter the target OST IP address to map to the replication system.

Get an OST Target Mapping

Gets the replication IP address for a OST replication target translation (OST target IP address).

Command

```
syscli --get opduptranslate --dataip <data_ip>
```

Command Attributes

Review the following attribute descriptions.

--del opduptranslate	Gets the replication IP address for a OST replication target translation (OST target IP address).
--dataip <data_ip>	Enter the target OST IP address for which to get the replication IP address.

List All OST Target Mappings

List all mappings from OST target IP addresses to replication IP addresses on the system.

Command

```
syscli --list opduptranslate
```

Edit OST Target Mappings

Edit a mapping of an OST replication target translation (OST target IP address) to a replication IP address.

Command

```
syscli --edit opduptranslate --replicationip <replication_ip> --dataip <data_ip>
```

Command Attributes

Review the following attribute descriptions.

--edit opduptranslate	Edit the mapping of an OST replication target translation (OST target IP address) to the corresponding replication IP address.
--replicationip <replication_ip>	Enter the replication system's IP address to which to map the OST target IP address.
--dataip <data_ip>	Enter the target OST IP address to map to the replication system.

Delete an OST Target Mapping

Deletes the mapping of an OST replication target translation (OST target IP address) to a replication IP address.

Command

```
syscli --del opduptranslate --dataip <data_ip>
```

Command Attributes

Review the following attribute descriptions.

--del opduptranslate	Deletes the mapping of an OST replication target translation (OST target IP address) to the corresponding replication IP address.
--dataip <data_ip>	Enter the target OST IP address to delete.

Scheduler CLI Commands (Deprecated)

Deprecated Commands

Configuring scheduled events using the CLI interface will be discontinued in a future release. Instead, use the **Configuration > Scheduler** page in your DXI system's GUI.

This topic lists supported Scheduler CLI commands that you can use to establish and maintain schedules for certain events. The events can be a single occurrence or can be set to recur on a specified schedule. Use these commands to do the following:

Add Events

DEPRECATED

Use the following command to add an event and to establish its schedule. With this command, you can add a single occurrence of the event or you can set the event to recur on a specified schedule.

Note: Application Specific NAS shares use file/directory replication and cannot be scheduled.

Command

```
syscli --add event [--desc <event_name>] {--throttle <bandwidth><K|M> [--service
REP]} | --reclamation | --healthcheck | {--emailreports --type config|status} |
{--replication vtl|nas --name <name> [--target <host_name_or_ip>]} --start
<datetime> [--end <datetime>] [--daily | --weekly sun,mon,tue,wed,thu,fri,sat |
--monthly | --monthday last | {1|2|3|4}{sun|mon|tue|wed|thu|fri|sat} | --yearly |
--yearday {1|2|3|4}{sun|mon|tue|wed|thu|fri|sat} [--interval <interval>] [--until
<date> | --count <count>]]
```

Command Attributes

Review the following attribute descriptions.

--add event	Establishes a schedule for the specified event.
--desc <event_name>	Enter a description for the event. Review the following standards when entering an event description: • You can use spaces within the description. • You must use quotation marks around the event name.
--throttle <bandwidth><K|M>	Indicates a scheduled throttle event. If you specify this option, set the threshold bandwidth. **Example** • To set a 100 KB/s threshold, enter **--throttle 100K**. • To set a 100 MB/s threshold, enter **--throttle 100M**.
--service REP	Specify the service to throttle, as needed.
--reclamation	Indicates a scheduled reclamation event. **Note:** Reclamation requires a daily recurrence that must not exceed every 7 days, or a weekly recurrence set at a maximum of one time per week.
--healthcheck	Indicates a scheduled healthcheck event. **Note:** Healthchecks requires a daily recurrence that must not exceed every 7 days, or a weekly recurrence set at a maximum of one time per week.
--emailreports	Indicates a scheduled email reports event. This type of event sends the specified report to all defined recipients. You can obtain a list of defined recipients by using the **syscli --get emailhome** command.
--type config|status	Specify the type of report to email, as needed.
--replication vtl|nas	Indicates a scheduled replication event.
--name <name>	Specify the name of the VTL partition or NAS share to replicate.
--target <host_name_or_ip>	Enter the replication target's host name or IP address. If a target is not configured for the replication source, invoking this command returns an error.

--start <datetime>	Enter the date and time on which to start the event. You can enter the date and time in any order. If you use spaces to separate the date and time, you must use quotation marks around the date and time. In the case of a recurring event, only portions of the specified date and time will be used for recurrence. **Example** A weekly recurrence will recur on the same weekday and time.
--end <datetime>	Enter the date and time on which to end the event. You can enter the date and time in any order. If you use spaces to separate the date and time, you must use quotation marks around the date and time. If you do not specify an end date and time, then the even will be generated as an open-ended event.
--daily	Indicates the event recurs daily, starting at the time obtained from the **--start** value.
--weekly sun,mon,tue,wed,thu,fri,sat	Indicates the event recurs weekly on the specified days, starting at the time obtained from the **--start** value. Use a comma to separate multiple days.
--monthly	Indicates the event recurs monthly on the day and time obtained from the **--start** value.
--monthday last | {1|2|3|4} {sun|mon|tue|wed|thu|fri|sat}	Indicates the event recurs monthly on the specified day of the month, starting at the time obtained from the **--start** value. **Example** If you want the event to occur on the second Monday of every month, enter **--monthday 2mon**. If you want the event to occur on the last day or every month, enter **--monthday last**.
--yearly	Indicates the event recurs yearly on the month, day, and time obtained from the **--start** value.

--yearday {1|2|3|4} {sun|mon|tue|wed|thu|fri|sat}	Indicates the event recurs yearly on the specified week day within the month and at the time entered in the **--start** value. **Example** If you want the event to occur every year on the second Monday in April at 12am, enter the following: **syscli... --start "April 0:00"... --yearday 2mon...**
--interval <interval>	Specifies the regular interval at which to repeat the event. The default is 1 if you do not specify an interval. **Example** If you want the event to repeat every 3 months, enter **3** for the interval value.
--until <date>	Specifies the date on which to end the event recurrence. Enter the date in one of the following formats: • **yyyy/mm/dd** • **yyyy-mm-dd**
--count <count>	Specifies the number of times to run the event recurrence. **Example** If the event recurs monthly and you want it to recur for five months, enter **5** for the count value.

Change Events

DEPRECATED

Use the following command to change specific properties of an event. With this command, you can change a single event, an instance of an event series, or all instances of an event series.

If you are changing the event's recurrence, you must specify all previously specified attributes regardless of whether they change or not.

Example

The event was originally scheduled to recur on the first Thursday of every month and was set to end on 2016/04/04:

syscli... --monthday 1thu... --until 2016/04/04

You need to change the even to recur on the second Friday of every month but keep the same end date. You must still specify the following:

syscli... --monthday 2fri... --until 2016/04/04

Command

```
syscli --change event --id <event_id> [--desc <event_name>] [{--throttle
<bandwidth><K|M> [--service REP]} | --reclamation | --healthcheck |
{--emailreports --type config|status} | {--replication vtl|nas --name <name>}
[--target <host_name_or_ip>]] [--start <datetime>] [--end <datetime>] [--none |
--daily | --weekly sun,mon,tue,wed,thu,fri,sat | --monthly | --monthday last |
{1|2|3|4}{sun|mon|tue|wed|thu|fri|sat} | --yearly | --yearday {1|2|3|4}
{sun|mon|tue|wed|thu|fri|sat} [--interval <interval>] [--until <date> | --count
<count>]] [--all]
```

Command Attributes

Review the following attribute descriptions.

--change event	Changes the specified properties of an event.
--id <event_id>	Enter the ID of the event to change. You can find an event ID using the **--list events** command.
--desc <event_name>	Enter a description for the event. Review the following standards when entering an event description: • You can use spaces within the description. • You must use quotation marks around the event name.
--throttle <bandwidth><K|M>	Indicates a scheduled throttle event. If you specify this option, set the threshold bandwidth. **Example** To set a 100 KB/s threshold, enter **--throttle 100K**. To set a 100 MB/s threshold, enter **--throttle 100M**.

--service REP	Specify the service to throttle, as needed.
--reclamation	Indicates a scheduled reclamation event. **Note:** Reclamation requires a daily recurrence that must not exceed every 7 days, or a weekly recurrence set at a maximum of one time per week.
--healthcheck	Indicates a scheduled healthcheck event. **Note:** Healthchecks requires a daily recurrence that must not exceed every 7 days, or a weekly recurrence set at a maximum of one time per week.
--emailreports	Indicates a scheduled email reports event. This type of event sends the specified report to all defined recipients. You can obtain a list of defined recipients by using the **syscli --get emailhome** command.
--type config|status	Specify the type of report to email, as needed.
--replication vtl|nas	Indicates a scheduled replication event.
--name <name>	Specify the name of the VTL partition or NAS share to replicate.
--target <host_name_or_ip>	Enter the replication target's host name or IP address. If a target is not configured for the replication source, invoking this command returns an error.
--start <datetime>	Enter the date and time on which to start the event. You can enter the date and time in any order. If you use spaces to separate the date and time, you must use quotation marks around the date and time. In the case of a recurring event, only portions of the specified date and time will be used for recurrence. **Example** A weekly recurrence will recur on the same weekday and time.

--end <datetime>	Enter the date and time on which to end the event. You can enter the date and time in any order. If you use spaces to separate the date and time, you must use quotation marks around the date and time. If you do not specify an end date and time, then the even will be generated as an open-ended event.
--none	Removes recurrence information for the specified event, forcing it to be a one time event. **Note:** Healthcheck and Reclamation events cannot be changed to a one time event.
--daily	Indicates the event recurs daily, starting at the time obtained from the **--start** value.
--weekly sun,mon,tue,wed,thu,fri,sat	Indicates the event recurs weekly on the specified days, starting at the time obtained from the **--start** value. Use a comma to separate multiple days.
--monthly	Indicates the event recurs monthly on the day and time obtained from the **--start** value.
--monthday last | {1|2|3|4} {sun|mon|tue|wed|thu|fri|sat}	Indicates the event recurs monthly on the specified day of the month, starting at the time obtained from the **--start** value. **Example** If you want the event to occur on the second Monday of every month, enter **--monthday 2mon**. If you want the event to occur on the last day or every month, enter **--monthday last**.
--yearly	Indicates the event recurs yearly on the month, day, and time obtained from the **--start** value.

--yearday {1|2|3|4} {sun|mon|tue|wed|thu|fri|sat}	Indicates the event recurs yearly on the specified week day within the month and at the time entered in the **--start** value. **Example** If you want the event to occur every year on the second Monday in April at 12am, enter the following: **syscli... --start "April 0:00"... --yearday 2mon...**
--interval <interval>	Specifies the regular interval at which to repeat the event. The default is 1 if you do not specify an interval. **Example** If you want the event to repeat every 3 months, enter **3** for the interval value.
--until <date>	Specifies the date on which to end the event recurrence. Enter the date in one of the following formats: • **yyyy/mm/dd** • **yyyy-mm-dd**
--count <count>	Specifies the number of times to run the event recurrence. **Example** If the event recurs monthly and you want it to recur for five months, enter **5** for the count value.
--all	Specifies that the changes apply to all instances of an event.

List Events

DEPRECATED

Use the following command to list scheduled events. You can use this command to list all scheduled events, or to list events with specific attributes, such as event type.

Note: If you enter multiple event attributes for which , the CLI uses the **AND** operator to satisfy the query.

Command

```
syscli --list events [--instances | --series] [--type
[all|throttle|healthcheck|reclamation|emailreports|vtlrep|nasrep] [--start
<datetime>] [--end <datetime>] [--desc <event_name>] [--bw <bandwidth><K|M>]
[--emailtype config|status]} [--repname <name>] [--reptarget <host_name_or_ip>]
[--recurrence <recurstr>]
```

Command Attributes

Review the following attribute descriptions.

Note: All attributes following the --list events command are optional.

--list events	Displays event instances matching the specified attributes.
--instances	Lists all instances matching the specified attributes. This option is the default.
--series	Lists only the series (or parent) events.
--type [all|throttle|healthcheck|reclamation| emailreports|vtlrep|nasrep]	Lists only events matching the specified event type.
--start <datetime>	Lists all events with the specified starting date. Enter the start date in one of the following formats: • **yyyy/mm/dd** • **yyyy-mm-dd** If you do not specify a value for **--start**, the CLI lists events starting today. **Note:** Time is not specified, and so all instances on the date will be shown. **Note:** If you used the **--series** option, start and end dates are not applicable.

--end <datetime>	Lists all events with the specified ending date. Enter the end date in one of the following formats: • **yyyy/mm/dd** • **yyyy-mm-dd** If you do not specify a value for --end, the CLI lists events scheduled for the next 30 days. **Note:** Time is not specified, and so all instances on the date will be shown. **Note:** If you used the **--series** option, start and end dates are not applicable.
--desc <event_name>	Lists events that match the specified description. Review the following standards when entering an event description: • You can enter a string fragment. • You can use spaces within the description. • You must use quotation marks around the event name.
--bw <bandwidth><K|M>	Lists events with the specified bandwidth.
--emailtype config|status	Lists events with the specified email report type.
--repname <name>	Lists events with the specified replication name.
--reptarget <host_name_or_ip>	Lists events with the specified replication target.
--recurrence <recurstr>	Lists events with the specified recurrence pattern. You can enter a string fragment.

Interpreting the Recurrence String

As part of the **--list events** command output, event recurrence information is listed. The recurrence string can be difficult to interpret, as shown in the following example.

```
Example Output
Output data:
Total items = 2
[Event number = 1]
   id = 4@22363860
   desc = Description for event
   has exception = no
```

```
type = reclamation
target = 10.40.164.17
start = Mon Jul 9 04:00:00 2012
recurrence = FREQ=WEEKLY;BYDAY=MO,WE,FR
```

Recurring Frequency Descriptions

Review the following recurrence frequencies to be able to better interpret the listed information.

Recurrence Frequency (FREQ=)	Description
DAILY	The event occurs every day,
WEEKLY;BYDAY=<day>	The event occurs weekly on the specified day. If the event occurs on more than one day, each day is listed and separated by a comma. **Example** If the event occurs every Monday, Wednesday, and Friday, the string would display as follows: `recurrence = FREQ=WEEKLY;BYDAY=MO,WE,FR`
MONTHLY;BYMONTHDAY=<day>	The event occurs monthly on the specified date. **Example** If the event occurs on the 15th of every month, the string would display as follows: `recurrence = FREQ=MONTHLY;BYMONTHDAY=15`

Recurrence Frequency (FREQ=)	Description
MONTHLY;BYMONTHDAY=#<day>	The event occurs monthly on the specified day of the month, such as the 1st Thursday of every month. **Example** If the event occurs on the 2nd Wednesday of every month, the string would display as follows. `recurrence = FREQ=MONTHLY;BYDAY=2WE`
YEARLY;BYMONTH=<month>;BYMONTHDAY=<day>	The event occurs yearly on the specified month and day. The months are represented by the numbers 1-12. **Example** If the event occurs yearly on February 15th, the string would display as follows: `recurrence = FREQ=YEARLY;BYMONTH=2;BYMONTHDAY=15`
YEARLY;BYMONTH=<month>;BYMONTHDAY=#<day>	The event occurs yearly on the specified day of the specified month, such as the 3rd Tuesday of January. The months are represented by the numbers 1-12. **Example** If the event occurs yearly on the 3rd Tuesday in January, the string would display as follows: `recurrence = FREQ=YEARLY;BYMONTH=1;BYDAY=3TUE`

Recurrence Frequency (FREQ=)	Description
INTERVAL=#	Indicates the regular interval at which the event is repeated, such as every 2 months. **Example** If the event occurs on the 1st of the month at 2-month intervals, the string would display as follows: `recurrence = FREQ=MONTHLY;INTERVAL=2;BYMONTHDAY=1`
COUNT=#	Indicates the number of times the event will occur before ending. **Example** If the event occurs on the first of each month and is set to end after 10 months, the string would display as follows: `recurrence = FREQ=MONTHLY;COUNT=10;BYMONTHDAY=1`
UNTIL=<epoch_time>	Indicates a specific date on which the event will end. **Note:** The value is displayed in epoch time, which is the number of milliseconds since January 1, 1970. **Example** If the event occurs daily until the specified end date, the sting would display as follows: `recurrence = FREQ=DAILY;UNTIL=1346482740000`

Delete Events

DEPRECATED

Use the following command to delete an event. You can use this command to delete a single event, an instance of an event series, or all instances of an event series.

Command

```
syscli --del event --id <event_id> [--all] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--del event	Deletes the specified event.
--id <event_id>	Enter the ID of the event to delete. You can find an event ID using the **--list events** command.
--all	Deletes all occurrences of the event.
--sure	Forces the deletion to occur.

Service Ticket CLI Commands

This topic presents supported service ticket CLI commands.

List Service Tickets

List service tickets within the system.

Command

```
syscli --list serviceticket [--all | --closed | --open] | [--ticketnum
<ticketnum>]
```

Command Attribtues

Review the following attribute descriptions.

--list serviceticket	Lists service tickets within the system.
--all	Enter to list all service tickets within the system.
--closed	Enter to list only closed service tickets.

--open	Enter to list only open service tickets.
--ticketnum <ticketnum>	Enter a service ticket's number to list information for that ticket only.

Show Service Ticket Details

Show details of the specified service ticket.

Command

```
syscli --show ticketdetail --ticketnum <ticketnum>
```

Show a Service Ticket's Analysis

Show the analysis of the specified service ticket.

Command

```
syscli --show ticketanalysis --ticketnum <ticketnum>
```

Edit a Service Ticket's Analysis

Edit the analysis of a service ticket.

Command

```
syscli --edit ticketanalysis --ticketnum <ticketnum> {--textline <text> |
--textfile <text_file_name>} [--close]
```

Command Attribute

Review the following attribute descriptions.

--edit ticketanalysis	Edits information in the specified service ticket's analysis.
--ticketnum <ticketnum>	Enter the number of the service ticket to edit.
--textline <text>	Enter the text of the analysis.
--textfile <text_file_name>	Enter the name of the text file in which to save the analysis.
--close	Enter to close the service ticket.

Email a Service Ticket's Analysis

Email the analysis of a service ticket to a specified recipient.

Command

```
syscli --send ticketanalysis --ticketnum <ticketnum> --recipient <email_
recipient> [--comment <comment>]
```

Command Attributes

Review the following attribute descriptions.

--send ticketanalysis	Send a service ticket's analysis to the specified email recipient.
--ticketnum <ticketnum>	Enter the number of the service ticket for which to send the analysis.
--recipient <email_recipient>	Enter the recipient's email address.
--comment <comment>	Enter a comment to include with the email, as needed.

Close All Service Tickets

Close all existing service tickets on the system. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --closeall ticket [--sure]
```

Statistics Report CLI Commands

This topic presents supported CLI commands for statistics reporting.

Display Disk Usage Statistics

Display the system's disk usage statistics.

Command

```
syscli --get diskusage
```

Example Output for DXi Appliances

```
Disk Capacity = 85.89 GB

Available Space = 78.42 GB
   Free Space = 78.42 GB (91.31% of capacity)
   Reclaimable Space = 0.00 MB (0.00% of capacity)

Used Space = 7.47 GB
   Deduplicated Data = 0.00 MB (0.00% of capacity)

Metadata Disk Capacity = 85.89 GB
   Available Disk Space = 78.42 GB
   Used Disk Space = 7.47 GB
```

Example Output for Q-Cloud Protect Appliances

```
Disk Capacity = 85.89 GB

Available Disk Space = 78.42 GB
   Free Space = 78.42 GB (91.31% of capacity)
   Reclaimable Space = 0.00 MB (0.00% of capacity)

Used Disk Space = 7.47 GB
   Deduplicated Data = 0.00 MB (0.00% of capacity)
   System Metadata = 7.47 GB (8.69% of capacity)
   Data Not Intended for Deduplication = 0.00 MB (0.00% of capacity)
```

Display Data Reduction Statistics

Display the system's deduplication data reduction statistics.

Command

```
syscli --get datareductionstat
```

Display Ingest Throughput Rate

Display the system's ingest throughput rate.

Command

```
syscli --get ingestrate
```

Status CLI Commands

This section presents supported status CLI commands. Use these commands to do the following:

- Access System Status below
- Access VTL Status on page 174

Access System Status

Use the following CLI commands to access the statuses of the DXi system.

Access Memory Usage

Access memory usage statistics for the system.

Command

```
syscli --getstatus systemmemory
```

Example Output

```
Output data:
   Total Memory = 3.87 GB
   Free Memory = 1.11 GB
```

Access Common Component Status

Access the status of the system's common hardware components.

Command

```
syscli --getstatus commoncomponent
```

Example Output

```
Output data:
List of Common Components
Total count = 1
[Common Component = 1]
   Component Name = Storage Arrays
   Status = Normal
```

Access Storage Array Status

Access the status of all the storage arrays within the system.

Command

```
syscli --getstatus storagearray
```

Example Output

```
Output data:
List of Storage Arrays:
Total Count = 2
[Array = 1]
   Name = Qarray1
   Status = Normal
[Array = 2]
   Name = Qarray2
   Status = Normal
```

Access Detailed Status for a Storage Array

Access detailed status information for the specified storage array.

Command

```
syscli --getstatus storagearraydetails --name <storagearrayname>
```

Access Hardware Status

Access the status of hardware system components.

Command

```
syscli --getstatus syscomponent [--systemboard | --networkport]
```

Command Attributes

Review the following attribute descriptions.

--getstatus syscomponent	Returns the status of hardware system components.
--systemboard	Enter to display system board status.
--networkport	Enter to display network port status.

Access System Board Status

Access the detailed status of system board components.

Command

```
syscli --getstatus systemboard
```

Example Output

```
Output data:
System Board Components
Total count = 40
[Component = 1]
   Name = IPMI
   Type = IPMI
   Value = NA
   Status = Normal
[Component = 2]
   Name = Inlet Temperature
   Type = Temperature
   Value = 21 degrees C
   Status = Normal
...
```

Access Network Port Status

Access the detailed status of the network ports.

Command

```
syscli --getstatus networkport
```

Example Output

```
Output data:
Network Ports
Total count = 1
[Port = 1]
   Name = eth1
   Value = 1000 Mb/s
   Status = Up
```

Access VTL Status

Use the following CLI commands to access statuses for your virtual tape libraries (VTLs).

Access VTL Performance Status

Access the specified VTL's average write speed.

Command

```
syscli --getstatus vtlperf --vtl <VTL_name>
```

Access Tape Drive Status

Access the status of tape drives within a specified VTL.

Command

```
syscli --getstatus tapedrive --vtl <VTL_name> [--drive <drive>]
```

Command Attributes

Review the following attribute descriptions.

--getstatus tapedrive	Returns the status of tape drives within the specified VTL.
--vtl <VTL_name>	Enter the name of the VTL for which to access tape drive status.
--drive <drive>	Enter a tape drive's serial number to display only that tape drive's status.

Access Storage Slot Status

Access the status of storage slots within a specified VTL.

Command

```
syscli --getstatus storageslot --vtl <VTL_name> [--barcode <barcode>] | [--filter <barcode_filter>]
```

Command Attributes

Review the following attribute descriptions.

--getstatus storageslot	Returns the status of storage slots within the specified VTL.
--vtl <VTL_name>	Enter the name of the VTL for which to access storage slot status.
--barcode <barcode>	This is now deprecated. Use the `--filter` option instead.

--filter <barcode filter>	Access eligible media matching barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped.
	
	Examples
	`--filter "B*"`
	`--filter "B*10",B00001`
	`--filter "B*10,B00001"`

Access VTL Logical View Status

Access the logical view VTLs.

Command

```
syscli --getstatus vtllogical [--vtl <VTL_name>]
```

Command Attributes

Review the following attribute descriptions.

`--getstatus vtllogical`	Returns the logical view for status for VTLs.
`--vtl <VTL_name>`	Enter the name of the VTL for which to access logical view status.

Utility CLI Commands

This section presents utility CLI commands. Use these commands to do the following:

- Manage Upgrades on page 194
- Manage Compaction Services on page 179
- Manage Space Reclamation on page 193
- Manage Nodes on page 187
- Manage LDAP/AD on page 182
- Manage Licenses on page 185
- Manage Diagnostic Logs on page 180
- Manage Passwords and Monitor Logins on page 188
- Manage the Security Banner on page 191
- Manage the Administrative Activity Log below
- Manage Hostbus Adapters on page 181
- Manage Secure File Shred Operations on page 190

Manage the Administrative Activity Log

Use the following utility CLI commands to manage the Administrative Activity Log.

Enable or Disable the Administrative Activity Log

Enable **OR** disable the Administrative Activity Log. When enabled, the log tracks all administrative user activities that change the system's state.

Command

```
syscli --set adminlog --enabled | --disabled
```

Display the Administrative Activity Log's Status

Display the status of the Administrative Activity Log, either **enabled** or **disabled**.

Command

```
syscli --getstatus adminlog
```

List the Administrative User's Activity

Selectively display all administrative user activity within the last 90 days.

Command

```
syscli --list adminlog [--start <start_entry>] [--count <num_entries>] [--sort
id|username|date|action|category|role|origin|description [--direction
asc|desc]]]) [--xml <file_name>]
```

Command Attributes

Review the following attribute descriptions.

--list adminlog	Displays all administrative user activity within the last 90 days for the specified attributes.
--start <start_entry>	Enter the Administrative Activity Log entry to use as the starting entry for which to return data. The CLI returns only entries from the specified entry forward. You must enter a value greater than **0**.
--count <num_entries>	Enter the number of entries to display. You must enter a value greater than **0**.
--sort id|username|date|action |category|role|origin|description	Enter the column on which to sort data. By default, the returned data is sorted by the ID column.

--direction asc|desc	Enter the direction to sort data, either ascending or descending. By default, data is sorted by ascending order.
--xml <file_name>	If you use this option, the output is exported in xml format using the specified file name to the current directory.

Display the Number of Administrative Activity Log Entries

Display the total count of Administrative Activity Log entries.

Command

```
syscli --getcount adminlog
```

Example Output

```
Output data:
   Total entries = 263
```

Delete Administrative Activity Log Entries

Delete one or more administrative activity log entries.

Command

```
syscli --del adminlogentry [--id <entry_id>]
```

Command Attributes

Review the following attribute descriptions.

--del adminlogentry	Deletes one or more Administrative Activity Log entries.
--id <entry_id>	Enter the ID of the entry to delete from the Administrative Activity Log. To delete more than one entry, repeat the **--id** option for each entry ID. **Example** `syscli --del adminlogentry --id 1 --id 2`

Delete All Administrative Activity Log Entries

Delete all Administrative Activity Log entries. If you specify **--sure**, the CLI executes the command without prompting for confirmation.

Command

```
syscli --deleteall adminlogentries [--sure]
```

Manage Compaction Services

Use the following utility CLI commands to manage compaction services.

Start Compaction Services

Start the general space compaction service on demand.

Note: Use of this command may not be necessary because an automated service will perform a compaction when needed.

Command

```
syscli --start compaction
```

Stop Compaction Services

Stop the general space compaction service on demand.

Caution: Use this command with caution. An automated service will perform a compaction when needed, and use of this command may stop the automated compaction service.

Command

```
syscli --stop compaction
```

Display Compaction Service Status

Display the status of space compaction services.

Command

```
syscli --getstatus compaction
```

Example Output

```
Output data:
   Compaction Status =
   Status Progress = 0 %
   Start Time =
   End Time =
   Compacted = 0.00 MB
   Still to compact = 0.00 MB
```

Manage Diagnostic Logs

Use the following utility CLI commands to manage diagnostic logs for the DXi system.

Generate Diagnostic Logs

Generate the specified diagnostic logs for the DXi system. After generating a diagnostic log, you can download it to the current working directory.

Command

```
syscli --gen diaglog [--system] | [--array] [--quiet] [--lastgen]
```

Command Attributes

Review the following attribute descriptions.

--gen diaglog	Generates the specified diagnostic logs for the DXi system.
[--system] | [--array]	Enter one of the following, as needed: • **--system** – Generate a system diagnostic log for download. This option is the default if you do not specify the diagnostic type. • **--array** – Generates the raid array diagnostic log for download.
--quiet	If specified, the CLI does not display a status while generating the log.
--lastgen	If specified, displays the last date the diagnostic log was generated.

Download Diagnostics Logs

Download the specified diagnostics log to the current working directory.

Command

```
syscli --download diaglog [--system] | [--array]
```

Command Attributes

Review the following attribute descriptions.

--download diaglog	Downloads the specified diagnostics log.
[--system] | [--array]	Enter one of the following, as needed: • **--system** – Downloads the system diagnostic log. This option is the default if you do not specify the diagnostic type. • **--array** –Downloads the raid array diagnostic log.

Manage Hostbus Adapters

Use the following utility CLI commands to manage Hostbus Adapters (HBAs) for the DXi system.

Display Detailed Status for a HBA

Displays the detailed status of the specified HBA.

Command

```
syscli --getstatus hbadetails --name <hbaname>
```

Display Status for All HBAs

Display the status of all FC Adapters and SAS HBAs.

Command

```
syscli help --getstatus hostbusadapter
```

Manage LDAP/AD

Use the following CLI commands to manage Lightweight Directory Access Protocol (LDAP) user settings.

Get LDAP Settings

Get the current connection settings for the LDAP/AD server(s).

Command

```
syscli --get ldapsettings
```

Example Output

```
LDAP/AD = enabled
Primary Server = ldap7.test-sqa.com
Alternate Server =
Protocol = starttls
Port = 389
Schema = rfc2307bis
Principal(DN) = uid=admin,ou=People,dc=quantum-sqa,dc=com
User DN = ou=People,dc=quantum-sqa,dc=com
Viewer Group = cn=dxiuser,ou=Group,dc=quantum-sqa,dc=com
Admin Group = cn=sysadmin,ou=Group,dc=quantum-sqa,dc=com
```

Set LDAP Settings

Configure the LDAP/AD connection settings to the primary and alternate LDAP/AD servers.

Command

```
syscli --set ldapsettings [--ldap on|off] [--primaryserver <pserver>] [--
altserver <aserver>] [--protocol ldaps|starttls] [--port <port num>] [--principal
<principal>] [--password <password>] [--userdn <user DN>] [--viewergrp <viewer
group>] [--admingrp <admin group>] [--cacert <url>]
```

Command Attributes

Review the following attribute descriptions.

--set ldap settings	Sets the Connections Settings for the LDAP/AD server (s).
--ldap on|off	If specified, users will be validated: • LDAP/AD server (ldap=on) • Local user (ldap=off).
--primaryserver <pserver>	Enter the primary server as a valid IP or hostname. Do not include the protocol.
--altserver <aserver>	If specified, an alternate server valid IP or hostname may be entered. Do not include the protocol.
--protocol ldaps|starttls	Choose to either use StartTLS connection protocol or LDAPS. Defaults to StartTLS.
--port <port num>	Enter the port for the connection.
--principal <principal>	Enter the distinguished name to bind to the LDAP/AD directory.
--password <password>	Password for simple authentication.
--userdn <user DN>	Enter the distinguished name for retrieving the user information.
--viewergrp <viewer group>	Enter the fully qualified distinguished name for the view only users that will have monitor or view access to this system.
--admingrp <admin group>	Enter the fully qualified distinguished name for the admin users that will have administrative access to this system.
--cacert <url>	Enter the url for the CA certificate file.

Test LDAP Settings

Test the LDAP/AD connection settings.

Command

```
syscli --test ldapsettings --primaryserver <pserver> [--altserver <aserver>] [--
protocol ldaps|starttls] [--port <port num>] [--principal <principal>] [--
password <password>] --userdn <user DN> [--viewergrp <viewe r group>] [--admingrp
<admin group>] [--cacert <url>]
```

Command Attributes

Review the following attribute descriptions.

--test ldapsettings	Tests the Connections Settings for the LDAP/AD server (s).
--primaryserver <pserver>	Enter the primary server as a valid IP or hostname. Do not include the protocol.
--altserver <aserver>	If specified, an alternate server valid IP or hostname may be entered.
--protocol ldaps|starttls	Choose to either use StartTLS connection protocol (default) or LDAPS.
--port <port num>	Enter the port for the connection.
--principal <principal>	Enter the distinguished name to bind to the LDAP/AD directory.
--password <password>	Password for simple authentication if required by LDAP/AD server.
--userdn <user DN>	Enter the distinguished name for retrieving the user information .
--viewergrp <viewe r group>	Enter the fully qualified distinguished name for the view only users that will have monitor or view access to this system.
--admingrp <admin group>	Enter the fully qualified distinguished name for the admin users that will have administrative access to this system.
--cacert <url>	Enter the url for the CA certificate file.

Test LDAP User

Configure the LDAP/AD connection settings to the primary and alternate LDAP/AD servers.

Command

```
syscli --test ldapuser --username <username> --password <password>
```

Command Attributes

Review the following attribute descriptions.

--test ldapuser	Starts the test for the username.
--username <username>	Enter the username to validate in the LDAP/AD directory.
--password <password>	Password for the username.

Manage Licenses

Use the following utility CLI commands to manage licenses for the DXi system.

Display Licenses

List the available licenses on the DXi system.

Command

```
syscli --list license
```

Example Output

```
List of Licenses:
Total count = 2
[License = 1]
   License Name = NAS
   Installed = No
   Date Installed = -- Not Installed --
   License Description = Expose NAS interface to host
[License = 2]
   License Name = Backup Application Specific
   Installed = No
   Date Installed = -- Not Installed --
   License Description = Enables Backup Application Specific
```

Add a License

Add a license to the DXi system.

Command

```
syscli --add license --key <license_key>
```

Command Attributes

Review the following attribute descriptions.

--add license	Adds the specified license to the DXi system.
--key <license_key>	Enter the key for the license being added to the system.

Manage Logging

Use the following utility CLI commands to manage logging for the DXi system.

Enable Remote Logging

This command allows host configuration for remote system logging (rsylog).

Note: If editing an existing configuration, any values not set will remain unchanged.

Command

```
syscli --set redirectlogging --enable on|off [--host <host_name_or_ip> [--port
<port num>] [--protocol udp|tcp]]
```

Command Attributes

Review the following attribute descriptions.

--set redirectlogging	Sets the values for redirecting logs to another device.
--enable on|off	Enable or disables the redirection of the logs to the specified host.
--host <host_name_or_ip>	Enter the host name or IP address.
--port <port num>	Enter the port for the connection.
--protocol udp|tcp>	Select either the UDP or TCP protocol. UDP is the default.

Query Remote Logging Settings

This command returns the settings for remote system logging (rsylog).

Command

```
syscli ----get redirectlogging
```

Example output

```
Output data:

Enabled = disabled

Host Server =

Port = 514

Protocol = udp
```

Manage Nodes

Use the following utility CLI commands to manage nodes.

Display the Cluster Status of a Local Node

Display the cluster status of the local node on which the DXi system is running.

Command

```
syscli --getstatus node
```

Manage the Diagnostic State on a Node

Reboot, shutdown, **OR** reset the diagnostic state on a specified node.

Command

```
syscli --nodemanage --reboot | --shutdown | --resetdiag [--node {1 | 2| all}]
[--sure]
```

Command Attributes

Review the following attribute descriptions.

--nodemanage	Reboots, shuts down, **OR** resets the diagnostic state on the specified node.
--reboot	Reboots the diagnostic state on the specified node.

--shutdown	Shuts down the diagnostic state on the specified node.
--resetdiag	Resets the diagnostic state on the specified node.
--node {1 | 2| all}	Enter the node for which to manage the diagnostic state. **Note: --node 2** is an invalid option in DXi versions greater than 1.x.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Manage Passwords and Monitor Logins

Use the following utility CLI commands to manage users' passwords and to monitor login attempts on the DXi system.

Change Passwords

Change the password of the following special system users:

- GUI Administrator (**admin** user)
- GUI Monitor (**monitor** user)
- CLI Administrator (**cliadmin** user)
- CLI Viewer (**cliviewer** user)
- GUI Service (**service** user)
- SSH/CLI Service (**ServiceLogin** user)

Command

```
syscli --change password --name
admin|cliadmin|monitor|cliviewer|service|servicelogin --newpassword <new_
password>
```

Command Attributes

Review the following attribute descriptions.

--change password	Changes the password for the specified special user.
--name admin|cliadmin|monitor|cliviewer|service|servicelogin	Enter the special user for whom the password is being changed.

--newpassword <new_password>	Enter the new password of the special user. You can choose not to supply the new password on the command line. In this case the CLI prompts you for the new password and does not display user input for security purposes. Passwords can be up to 32 characters. Alphanumeric characters and special characters are allowed. **Note:** The **ServiceLogin** password is limited to 20 characters.

Retrieve the Number of Failed Login Attempts

Retrieve the number of failed login attempts for a specified user.

Command

```
syscli --getcount failedlogin --user <user_name> [--terse]
```

Command Attribtutes

Review the following attribute descriptions.

--getcount failedlogin	Retrieves the number of failed login attempts for the specified user name.
--user <user_name>	Enter the user name for which to retrieve failed login attempts.
--terse	If specified, the output only displays the number of failed login attempts for the user.

Delete All Failed Login Attempts

Deletes all the failed login counts.

Command

```
syscli --deleteall failedlogin [--sure]
```

Command Attribtutes

Review the following attribute descriptions.

--deleteall failedLogin	Deletes all oft the failed login counts.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Delete User Failed Login Attempts

Deletes the failure count of a specified user.

Command

```
syscli --del failedlogin [--user <user_name>] [--sure]
```

Command Attribtutes

Review the following attribute descriptions.

--deleteall failedlogin	Deletes all of the failed login counts.
--user <user_name>	Enter the user name for which to delete the failed login attempts.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Manage Secure File Shred Operations

Use the following utility CLI commands to manage Secure File Shred Operations for the DXi system.

Start the Secure File Shredder

Start the secure file shred operation. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --start securefileshred [--sure]
```

Cancel the Secure File Shredder

Cancel the secure file shred operation. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --cancel securefileshred [--sure]
```

Display Secure File Shred Operation Progress Details

Display progress details for the Secure File Shred operation.

Command

```
syscli --getdetail securefileshred
```

Display the Secure File Shred Operation's Progress Summary

Display the progress summary for the Secure File Shred operation.

Command

```
syscli --getsummary securefileshred
```

Display the Status of the Last Secure File Shred Operation

Display the status details of the last Secure File Shred operation.

Command

```
syscli --getlastrunstatus securefileshred
```

Example Output

```
Output data:
   Last Success Time = None
   Last Invoke Time = None
   Last Results = NA
   Error Message = None
```

Manage the Security Banner

Use the following utility CLI commands to manage the DXi system's security banner.

Retrieve the Security Banner

Retrieve the DXi system's security banner.

Command

```
syscli --get securitybanner [--terse]
```

Command Attributes

Review the following attribute descriptions.

--get securitybanner	Retrieves the system's security banner.
--terse	If specified, the output only displays the security banner.

Set the Security Banner

Set the DXi system's security banner.

Command

```
syscli --set securitybanner --txtfile <file_name> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--set securitybanner	Sets the system's security banner.
--txtfile <file_name>	Enter the name of the file containing the security banner's text. **Note:** For security reasons, all HTML and script tags will be removed from the text before storing it on the system. Only **<b>**, **<i>**, and **<p>** tag are allowed.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Delete the Security Banner

Delete the DXi system's security banner.

Command

```
syscli --del securitybanner [--sure]
```

Command Attributes

Review the following attribute descriptions.

`--del securitybanner`	Deletes the system's security banner.
`--sure`	If specified, the CLI executes the command without prompting for confirmation.

Manage Space Reclamation

Use the following utility CLI commands to manage space reclamation.

Start Space Reclamation

Manually start space reclamation on the DXi system.

Command

```
syscli --start reclamation
```

Stop Space Reclamation

Stop any space reclamation currently running on the DXi system.

Command

```
syscli --stop reclamation
```

Display Replication Status

Display the status for general space reclamation currently running on the DXi system.

Command

```
syscli --getstatus reclamation
```

Example Output

```
Output data:
   Reclamation Status =
   Stage Status Progress = 100 %
   Total Progress = 100 %
   Start Time = Tue Nov 6 10:55:33 2012
   End Time = Tue Nov 6 10:55:39 2012
   Data Scanned = 0.00 MB
   Number of Stages = 2
   Reclaimable Space = 0.00 MB
```

Manage Upgrades

Use the following utility CLI commands to manage system upgrades.

Upgrade System Firmware

Upgrade the firmware software on the DXi system. Before issuing this command, copy the software image file using secure copy (SCP) to the home directory on the system.

Command

```
syscli --upgrade firmware --localfile <filename> [--sure]
```

Command Attributes

Review the following attribute descriptions.

--upgrade firmware	Upgrades the firmware software on the DXi system using the specified software image file.
--localfile <filename>	Enter the local name of the software image file copied to the system's home directory.
--sure	If specified, the CLI executes the command without prompting for confirmation.

List Upgrades

Display available software upgrade(s) from the Quantum software upgrade repository.

Command

```
syscli --list upgrades


Example Output
# syscli --list upgrades
Output data:
   List of available upgrades:
   Total count = 1
   [Upgrade = 1]
      ID = 2.3.0-Release
      Release date = Sat Oct 5 22:44:23 2013
      Version = 2.3.0 (10493-52231 Build65)
      Summary = This software upgrade provides enhancements and
bug fixes.
      Download completed = false
```

Download Upgrades

Download software upgrades from the Quantum software upgrade repository.

Command

```
syscli --download upgrades --name <ID>
```

Command Attributes

Review the following attribute descriptions.

--download upgrades	Downloads the latest upgrade from the repository. To list the latest upgrade version, use the **--list upgrades** command.
--name <ID>	Enter the ID of the software upgrade to download.

Install Upgrades

Install the downloaded software upgrade file on the DXi system.

Command

```
syscli --install upgrades --name <ID>
```

Command Attributes

Review the following attribute descriptions.

`--install upgrades`	Installs the downloaded upgrade. Before installing an upgrade, you must download the software upgrade using the **`--download upgrades`** command.
`--name <ID>`	Enter the ID of the software upgrade to install.

VTL Configuration CLI Commands

This section presents Virtual Tape Library (VTL) CLI commands. Use these commands to do the following:

- Manage VTLs for a DXi System
- Manage Media for VTLs
- Manage Hosts for VTLs
- Manage SAN Client Groups for VTLs

Note: VTL is only available on certain DXi models. To see if VTL is enabled for your system, check the **Utilities > License Keys** page in the remote management console. To use VTL commands, at least one Fibre Channel card must be installed in the DXi. (*Exception:* You can always use VTL failback commands, even when no Fibre Channel card is installed.)

Manage VTLs for a DXi System

Use the following CLI commands to manage Virtual Tape Libraries (VTLs) for your DXi system.

Note: VTL is only available on certain DXi models. To see if VTL is enabled for your system, check the **Utilities > License Keys** page in the remote management console. To use VTL commands, at least one Fibre Channel card must be installed in the DXi. (*Exception:* You can always use VTL failback commands, even when no Fibre Channel card is installed.)

List VTLs

Display a list of all existing VTLs and their attributes on the DXi system. If you specify a VTL name in the option value, only that VTL and its attributes are listed.

Command

```
syscli --list vtl [--name <VTL_name>]
```

Example output

```
List of all existing VTL's:
Total count = 1
[vtl = 1]
   name = myvtl
   mode = offline
   model = DXi6900
   drivemodel = QUANTUMDLTS4
   drives = 2
   media = 2
   slots = 12
   ieslots = 12
   serial = 123456XYZ
   dedup = enabled
   autoexport = no
   replication = disabled
```

List Available Library Models

Display a list of the available library models.

Command

```
syscli --list library
```

Example output

```
List of all available library models:
Total count = 3
[library = 1]
   productid = DL1500
   description = EMC Disk Library
[library = 2]
   productid = Scalar 100
   description = ADIC Scalar 100
[library = 3]
   productid = Scalar i2000
   description = ADIC Scalar i2000
```

List Supported Tape Drives

Display a list of the available virtual tape drive models

Command

```
syscli --list drive
```

Example output

```
List of all available drive models:
Total count = 2
[drive = 1]
   modelnumber = QUANTUMDLTS4
   description = Quantum DLT-S4
[drive = 2]
   modelnumber = QUANTUMSDLT320
   description = Quantum SDLT320
```

Add a VTL

Add a VTL partition.

Command

```
syscli --add vtl --name <vtlname> --model <modelname> --slots <number_of_slots>
--drivemodel <tape_drive_model> --drives <number_of_drives> [--dedup]
[--backupwindow] --autoexport yes | no
```

Command Attributes

Review the following attribute descriptions.

--add vtl	Adds a new VTL parition.
--name <vtlname>	Enter the name of the VTL partition. The name must be alphanumeric, and it must begin with a letter. Do not use an underscore (_) in the name of the VTL partition.

--model <modelname>	Enter the VTL model to create. A list of supported library models can be retrieved using the **--list library** command. The library model can be derived from the **productid** field returned from the list of available library models.
--slots <number_of_slots>	Enter the number of storage slots for the VTL. Up to 240 Import/Export (I/E) slots are created based on the number of storage slots.
--drivemodel <tape_drive_model>	Enter the drive model to create for this VTL. A list of supported drives can be retrieved using the **--list drive** command.
--drives <number_of_drives>	Enter the number of virtual tape drives attached to the VTL.
--dedup	Enter this option to enable deduplication. By default, the VTL will be created with deduplication disabled. When the partition is created, the data deduplication state cannot be changed.
--autoexport yes | no	Specify whether auto-export is enabled for the VTL. When a tape is exported by the backup application, it is placed in a virtual I/E slot. After this, one of the following actions occurs: • If Auto Export is enabled, the media is removed from the virtual I/E slot. • If Auto Export is disabled, the media remains in the virtual I/E slot.

Edit a VTL

Edit an existing VTL partition.

Command

```
syscli --edit vtl --name <vtlname> [--model <modelname>] [--slots <number_of_
slots>] [--drivemodel <tape_drive_model>] [--drives <number_of_drives>]
[--autoexport yes | no]
```

Command Attributes

Review the following attribute descriptions.

--edit vtl	Edits an existing VTL partition.
--name <vtlname>	Enter the name of the VTL partition to edit. The name must be alphanumeric, and it must begin with a letter. You cannot change the VTL name.
--model <modelname>	Edit the model name of the partition.
--slots <number_of_slots>	Edit the number of storage slots for the VTL. Up to 240 I/E slots are created based on the number of storage slots.
--drivemodel <tape_drive_model>	Enter the drive model of the partition to edit. You can change the tape drive model only if the VTL has just been recovered and no drive model is configured. A list of supported drives can be retrieved using the **--list drive** command.
--drives <number_of_drives>	Edit the number of virtual tape drives attached to the VTL.
--autoexport yes | no	Specify whether auto-export is enabled for the VTL. When a tape is exported by the backup application, it is placed in a virtual I/E slot. After this, one of the following actions occurs: • If Auto Export is enabled, the media is removed from the virtual I/E slot. • If Auto Export is disabled, the media remains in the virtual I/E slot.

Delete a VTL

Delete an existing VTL by specifying its name in the command. When you delete a VTL, the system removes all scheduled replications. Before using this command, the VTL needs to be offline and all media should be removed from the VTL.

Command

```
syscli --del vtl --name <VTL_name>
```

Place VTLs Online

Place one or more VTLs online **OR** place all VTLs online.

Command

```
syscli --online vtl (--name <VTL_name>) | --all
```

Command Attributes

Review the following attribute descriptions

--online VTL	Place VTL online.
--name <VTL_name>	Enter the name of the VTL to place online. You can enter multiple VTLs to place online, as needed.
--all	Enter to place all VTLs online.

Take VTLs Offline

Take one or more VTLs offline **OR** take all VTLs offline.

Note: A VTL needs to be offline before you can edit or delete it.

Command

```
syscli --offline vtl (--name <VTL_name>) | --all
```

Command Attributes

Review the following attribute descriptions

--offline VTL	Take VTL online.
--name <VTL_name>	Enter the name of the VTL to take offline. You can enter multiple VTLs to take offline, as needed.
--all	Enter to take all VTLs offline.

List Targets

Display a list of targets on the system. The output lists the node, alias (FC port), and world wide port name (WWPN).

Command

```
syscli --list target
```

Example output

```
List of targets:
Total count = 1
```

```
[target = 1]
   node = 1
   alias = FC3
   wwpn = 214108001bc08278
```

List VTL Devices

Display a list of devices on a VTL. The output includes the device type (VMC or VTD), serial number, and name of the VTL housing the device.

Command

```
syscli --list device --name <VTL_name>
```

Example output

```
List of devices:
Total count = 3
[device = 1]
   type = VMC
   serial = VL01SV0825BVA04501
[device = 2]
   type = VTD
   serial = VL01SV0825BVA04501
[device = 3]
   type = VTD
   serial = VL01SV0825BVA04501
```

Reset VTL Target Ports

Reset VTL target ports.

Command

```
syscli --reset targetport [(--name <portname>)] [--sure]
```

Command Attributes

Review the following attribute descriptions.

--reset targetport	Resets VTL target ports.

--name <portname>	Enter the name of the port(s) to reset. You can enter one or multiple ports to reset. If you do not specify a port, all ports are reset.
--sure	If specified, the CLI executes the command without prompting for confirmation.

Manage Media for VTLs

Use the following CLI commands to manage media for your Virtual Tape Libraries (VTLs).

Note: VTL is only available on certain DXi models. To see if VTL is enabled for your system, check the **Utilities > License Keys** page in the remote management console. To use VTL commands, at least one Fibre Channel card must be installed in the DXi. (*Exception:* You can always use VTL failback commands, even when no Fibre Channel card is installed.)

List Media Types

Display a list of media types — along with their native and maximum capacities — supported by the specified tape drive model.

Note: You can retrieve a list of supported drives using the **--list drive** command. The drive type can be derived from the **modelnumber** field returned from the list of available tape drive models.

Command

```
syscli --list mediatype --drive <drive_type>
```

Example Command

```
syscli --list mediatype --drive QUANTUMDLTS4
```

Example Output

```
List of media types:

Total count = 3

[mediatype = 1]
   type = DLTS4
   capability = RW
   nativecapacity = 800 GB
   maxcapacity = 6000 GB

[mediatype = 2]
   type = SDLT2
   capability = RW
```

```
   nativecapacity = 300 GB
   maxcapacity = 6000 GB
[mediatype = 3]
   type = SDLT1
   capability = RW
   nativecapacity = 160 GB
   maxcapacity = 6000 GB
```

Create Media

Create media for each defined VTL.

Command

```
syscli --add media --name <VTLname> --type <mediatype> --media <number_of_media>
--barcodestart <starting_barcode> --location slot|ieslot [--capacity <media_
capacity_in_GB>]
```

Command Attributes

Review the following attribute descriptions.

--add media	Create media for a VTL.
--name <vtlname>	Enter the name of the VTL partition. The name must be alphanumeric, and it must begin with a letter. Do not use an underscore (_) in the name of the VTL partition.
--type <mediatype>	Enter the type of media to create for this VTL. The media type can be derived from the **type** field returned from the **--list mediatype** command.
--media <number_of_media>	Enter the number of media to create for this VTL.
--barcodestart <starting_barcode>	Enter the starting barcode to assign to the media.
--location slot|ieslot	Enter the type of storage location to place the media in.
--capacity <media_capacity_in_GB>	You can optionally enter the media capacity in gigabytes. If you do not specify the media capacity, it defaults to the media type native capacity.

List Media Attributes

This command returns a list of media on the system matching the specified criteria: partition name, barcode filter, selection window (starting index and number of entries).

Note:
This command will not list more than 61,000 media and will return an error in this situation. Options to limit the number of media returned by the command include:

- Use the `--name` and/or `--filter` options
- Use the `--start` and/or `--count` options

Command

```
syscli --list media [--name <vtlname>] [--all] { [--barcode <barcode>] | [--
filter <barcode_filter> ] } [--start <start_index>] [--count <num_entries>]
```

Command Attributes

Review the following attribute descriptions

`--list media`	Lists the media.
`--name <vtlname>`	VTL to list media in. This must be a valid VTL name for the system.
`--all`	This is now deprecated.
`--barcode <barcode>`	This is now deprecated. Use the `--filter` option instead.
`--filter <barcode filter>`	Specifies barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped. **Examples** `--filter "AC0145,A*45,AC*,*145,AB5150-AC0145"`
`--start <start_index>`	Starting index for the listing (0-based). If not specified, defaults to 0.
`--count <num_entries>`	Number of media to list after the starting index, but no more than 61,000. If not specified, all media to the end of selection is listed unless that is more than 61,000 media.

Delete Media

Delete the specified media.

Command

```
syscli --del media [--name <vtlname>] --barcode <barcode> | --filter <barcode_
filter>
```

Command Attributes

Review the following attribute descriptions

--del media	Delete media.
--name <vtlname>	This is now deprecated.
--barcode <barcode>	This is now deprecated. Use the `--filter` option instead.
--filter <barcode filter>	Delete eligible media matching barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped. **Examples** `--filter "AC0145,A*45,AC*,*145,AB5150-AC0145"`

Export Media

Export a specific media or all media within a single VTL.

Command

```
syscli --export media --name <vtlname> (--barcode <barcode>) | --all | --filter
<barcode_filter>
```

Command Attributes

Review the following attribute descriptions

--export media	Export media.
--name <vtlname>	Enter the name of the VTL in which the media to export resides.
--barcode <barcode>	This is now deprecated. Use the `--filter` option instead.
--all	Enter to export all media from the specified VTL.

--filter <barcode filter>	Export eligible media matching barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped. **Examples** `--filter "AC0145,A*45,AC*,*145,AB5150-AC0145"`

Recycle Media

Recycle a specific media or all media within a single VTL.

Command

```
syscli --recycle media --name <vtlname> (--barcode <barcode>) | --all | --filter
<barcode_filter>
```

Command Attributes

Review the following attribute descriptions

--recycle media	Recycle media.
--name <vtlname>	Enter the name of the VTL in which the media to recycle resides.
--barcode <barcode>	This is now deprecated. Use the `--filter` option instead.
--all	Enter to recycle all media within the specified VTL.
--filter <barcode filter>	Recycle eligible media matching barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped. **Examples** `--filter "AC0145,A*45,AC*,*145,AB5150-AC0145"`

Write-Protect Media

Write-protect media in a single VTL.

Command

```
syscli --writeprot media --name <vtlname> (--barcode <barcode>) | --all | --
filter <barcode_filter> [--disable]
```

Command Attributes

Review the following attribute descriptions

--writeprot media	Write-protect media.
--name <vtlname>	Enter the name of the VTL to write protect in.
--barcode <barcode>	This is now deprecated. Use the `--filter` option instead.
--all	Enter to write-protect all media within the specified VTL.
--filter <barcode filter>	Write-protect eligible media matching barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped. **Examples** `--filter "AC0145,A*45,AC*,*145,AB5150-AC0145"`
--disable	Enter to disable write-protect on media

Import Media

Import all unassigned media into a single VTL.

Command

```
syscli --import media --name <vtlname> (--barcode <barcode> ) | --all | --filter
<barcode_filter>
```

Command Attributes

Review the following attribute descriptions

--import media	Import media.
--name <vtlname>	Enter the name of the VTL in which to import media.
--barcode <barcode>	This is now deprecated. Use the `--filter` option instead.

--all	Enter to import all media into a specified VTL.
--filter <barcode filter>	Import eligible media matching barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped. **Examples** `--filter "AC0145,A*45,AC*,*145,AB5150-AC0145"`

Delete All Media

Delete all media in the specified VTL.

Command

```
syscli --deleteall media [--name <vtlname>] [--sure]
```

Command Attributes

Review the following attribute descriptions

--deleteall media	Delete all media within a VTL.
--name <vtlname>	(Deprecated). You must enter ***UNASSIGNED** for the **<vtlname>** value.
--sure	If specified, the CLI executes the command without prompting for confirmation.

List VTL Storage Locations

List the source **OR** destination storage locations for a VTL. Use this command to determine the locations to/from which to move or unload media.

Command

```
syscli --list vtlstorage --name <vtlname> --loc source | dest [--type drive |
slot | ieslot]
```

Example output

```
List of VTL storage locations:
Total count = 1
[storage location = 1]
```

```
location type = I/E Slot
index = 0
address = 16
drive serial number = N/A
barcode = N/A
writeprotect = disabled
access = N/A
used = N/A
```

Command Attributes

Review the following attribute descriptions.

--list vtlstorage	Lists VTL storage locations.
--name <vtlname>	The name of the VTL for which to list storage locations.
--loc source | dest	The name of the source location OR destination location.
--type drive | slot | ieslot	If you include this option, only locations of the specified type are listed, either drive, slot, or I/E slot.

Move Media

Move media between virtual storage locations.The following diagram depicts the media's movement.

Media Movement Pattern

source location and index ⟶ destination location and index

--srctype slot | drive | ieslot ⟶ --desttype slot | drive | ieslot

--srcindex <source_index> ⟶ --destindex <destination_index>

Note: You can determine the location type and index from the output of the **--list vtlstorage** command.

Command

```
syscli --move media --name <VTLname> --srctype slot | drive | ieslot --desttype
slot | drive | ieslot --srcindex <source_index> --destindex <destination_index>
[--forceunload]
```

Command Attributes

Review the following attribute descriptions.

--move media	Moves media between virtual storage locations.
--name <VTLname>	Enter the name of VTL for which to move media.
--srctype	Enter the medias' source location type, either slot, drive, or I/E slot.
--desttype	Enter the medias' of destination location type, either slot, drive, or I/E slot.
--srcindex	Enter the index of the source element.
--destindex	Enter the index of the destination element.
--forceunload	Force unload from the drive. This parameter refers to virtual drive source locations.

Unload Media

Unload media from a virtual drive or from an import/export virtual storage location.

Command

```
syscli --unload media --name <vtlname> (--barcode <barcode> ) | --filter
<barcode_filter> | {--loctype drive | ieslot --index <location index>} [--
forceunload]
```

Command Attributes

Review the following attribute descriptions.

--unload media	Unloads media.
--name <vtlname	Enter the name of VTL from which to unload media.
--barcode <barcode>	This is now deprecated. Use the `--filter` option instead.
--filter <barcode filter>	Unload eligible media matching barcode filter, which is a comma separated list of literal values, substitutions (*) and barcode ranges. Substitutions (*) must be escaped. **Examples** `--filter "AC0145,A*45,AC*,*145,AB5150-AC0145"`

--loctype drive|ieslot	Enter the type of location from which to unload media, either drive or I/E slot.
--index <location index>	Enter the index of the element.
--forceunload	Force the unload from the drive. This parameter refers to virtual drive source locations.

Manage Hosts for VTLs

Use the following CLI commands to manage hosts for your Virtual Tape Libraries (VTLs).

Note: VTL is only available on certain DXi models. To see if VTL is enabled for your system, check the **Utilities > License Keys** page in the remote management console. To use VTL commands, at least one Fibre Channel card must be installed in the DXi. (*Exception:* You can always use VTL failback commands, even when no Fibre Channel card is installed.)

List Available Hosts

Display a list of available hosts. The output returns the following:

- The host's alias, identified by it's world wide port name (WWPN) if it was initially specified. If the host alias was not initially specified, the output will indicate that no alias was given.
- The host's connection status.

Command

```
syscli --list host
```

Example output

```
List of available hosts:
Total count = 1
[host = 1]
   wwpn = 220100e08ba8338d
   alias =
   connection status = active
```

Add Host

Add a host to the available host list.

Note: If the host already exists in the list of available hosts, adding the same host returns an error.

Command

```
syscli --add host --wwpn <host_world_wide_port_name> --alias <host_alias>
```

Command Attributes

Review the following attribute descriptions.

--add host	Add a host to the list of available hosts.
--wwpn <host_world_wide_port_name>	Enter the host's WWPN.
--alias <host_alias>	Enter the host's alias.

Edit Host

Add or change the alias of a host.

Command

```
syscli --edit host --wwpn <host_world_wide_port_name> --alias <host_alias>
```

Command Attributes

Review the following attribute descriptions.

--edit host	Edit a host's alias.
--wwpn <host_world_wide_port_name>	Enter the WWPN for the host to edit.
--alias <host_alias>	Enter the new host's alias.

Delete Host

Delete an existing host from the available host list.

Note: The host must be inactive before you can delete it.

Command

```
syscli --del host --wwpn <host_world_wide_port_name>
```

Command Attributes

Review the following attribute descriptions.

--del host	Delete a host from the available host list.
--wwpn <host_world_wide_port_name>	Enter the WWPN for the host to delete.

Manage SAN Client Groups for VTLs

Use the following CLI commands to manage SAN Client Groups for Virtual Tape Libraries.

Note: VTL is only available on certain DXi models. To see if VTL is enabled for your system, check the **Utilities > License Keys** page in the remote management console. To use VTL commands, at least one Fibre Channel card must be installed in the DXi. (*Exception:* You can always use VTL failback commands, even when no Fibre Channel card is installed.)

List SAN Client Groups

Display a list of existing SAN client group(s) on the system.

If you specify a VTL, the output returns only the group associated with that VTL.

Command

```
syscli --list sanclientgroup [--vtlname <VTL_name>]
```

Example output

```
List of SAN client groups:
Total count = 1
[group = 1]
   vtl name = MyVTL
   group name = Group1
   host =
   target =
   total device count = 2
   [device = 1]
      type = VMC
      serial = VL01SV0825BVA04501
      lun = 1
   [device = 2]
      type = VTD
      serial = VL01SV0825BVA04501
```

```
      lun = 2
```

Add a SAN Client Group

Add a host access group.

Command

```
syscli --add sanclientgroup --name <VTL_name> --groupname <group_name> --wwpn
<world_wide_port_name> --target <target> (--device <device_serial_number> --lun
<desired_LUN>) [--useccl]
```

Command Attributes

Review the following attribute descriptions.

--add sanclientgroup	Add a SAN Client Group to a VTL.
--name <VTL_name>	Enter the name of the VTL for the group.
--group_name <group_name>	Enter the name for the host access group.
--wwpn <world_wide_port_name>	Enter the host's alias or WWPN. You can derive the WWPN from the values returned in the **<field name>** field of the **--list host** command.
--target <target>	Enter the target for the group. You can derive the Target from the value returned in the **wwpn** field of the **--list target** command.
--device <device_serial_number> --lun <desired_LUN>	You need to specify at least one device serial number (either VMC or VTD) and one desired host LUN. You can derive serial numbers from the **serial** field of the --list device command.
--useccl	If you use the **--useccl** option , the Command and Control LUN (CCL) feature is enabled. The CCL is not used in most environments. We recommend this option for host access groups that contain an HP-UX host. You can also use it if hosts that are not assigned to any host access group exist in the SAN. The CCL is accessible to hosts only through **LUN 0**. If you are not sure if you should use CCL, contact Quantum Customer Support (http://www.quantum.com/serviceandsupport/get-help/index.aspx#contact-support) before you enable this option.

Delete a SAN Client Group

Delete a SAN client group from a VTL.

Command

```
syscli --del sanclientgroup --name <VTL_name> --groupname <group_name>
```

Command Attributes

Review the following attribute conditions.

--del sanclientgroup	Delete a SAN Client Group from a VTL.
--name <VTL_name>	Enter the name of the VTL to delete for the SAN client group.
--groupname <group_name>	Enter the group name to delete for the SAN client group.

User CLI Commands

This section presents supported DXi user CLI commands.

- Backup Application User CLI Commands below
- Manage LDAP/AD on page 182

Backup Application User CLI Commands

Use the following CLI commands to manage OpentStorage (OST), Application Specific (RMAN), and path to tape (PTT) backup application users.

Add a Backup Application User

Add a backup application user.

Command

```
syscli --add backupuser --name <backup_user_name> [--password <backup_user_
password>] [--desc <description>]
```

Command Attributes

Review the following attribute descriptions.

--add backupuser	Adds a backup application user.
--name <backup_user_name>	Enter a user name for the backup application user. **Note:** A backup user name can contain the following characters: 'a-z', 'A-Z', '0-9', '_', and '.'
--password <backup_user_password>	Enter a password for the backup application user.
--desc <description>	Enter a description of the user. Enclose the description in double-quotation marks if you use spaces or special characters.

Edit a Backup Application User

Edit a backup application user.

Command

```
syscli --edit backupuser --name <backup_user_name> --password <backup_user_
password> [--desc <description>]
```

Command Attributes

Review the following attribute descriptions.

--edit backupuser	Edits the specified backup application user's settings.
--name <backup_user_name>	Enter the user name of the backup application user.
--password <backup_user_password>	Enter a password for the backup application user.
--desc <description>	Enter a description of the user. Enclose the description in double-quotation marks if you use spaces or special characters.

Delete a Backup Application User

Deletes the specified backup application user.

Command

```
syscli --del backupuser --name <backup_user_name>
```

Delete All Backup Application Users

Deletes all backup application users. If you specify the **--sure** option, the CLI executes the command without prompting for confirmation.

Command

```
syscli --deleteall backupuser [--sure]
```

List All Backup Application Users

List all backup application users defined in the system.

Command

```
syscli --list backupuser
```

Example output

```
Output data:
List of all backup application users:
Total count = 3
[username = 1]
Index = 1
Username = admin
Description =
[username = 2]
Index = 2
Username = test
Description =
[username = 3]
Index = 3
Username = test2
Description =
```