Quest™

DR Series System (Version 4.0.4)

Command Line Reference Guide

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DR Series System Command Line Reference Guide
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Contents

Introduction to the DR Series System Command Line Reference Guide

This guide provides detailed information for managing DR Series system data backup and replication operations by using the DR Series system command line interface (CLI).

About the DR Series system CLI documentation

This document provides information about using the DR Series system command line interface (CLI) for managing your data backups, performing a variety of data storage operations, and using containers to meet your backup and replication storage needs.

NOTE: The DR Series system CLI provides one method for managing the DR Series system, with the other being the DR Series system graphical user interface (GUI). In some instances, the DR Series system CLI might provide additional features and options that are not available in the DR Series system GUI and vice versa.

Other information you may need

The following table lists the documentation available for the DR Series systems. The documents listed are available at **support.quest.com/DR-Series** by selecting your specific DR Series system. For more information about DR Series system hardware, see the safety and regulatory information that shipped with your DR Series system. Warranty information might be included as a separate document.

Document	Description
DR Series System Getting Started Guide	Provides an overview of how to set up the physical DR Series system hardware and includes technical specifications.
DR Series System Owner's Manual	Provides information about applicable physical DR Series system features, troubleshooting the DR Series system, and installing or replacing the DR Series system components.
DR2000v Deployment Guide	Provides information about deploying the virtual DR Series system, DR2000v, on supported virtual platforms.

Document	Description
DR Series System Administrator Guide	Provides information about managing backup and replication operations using the DR Series system GUI.
DR Series System Interoperability Guide	Provides information on supported hardware and software for the DR Series systems.
DR Series System Command Line Reference Guide	Provides information about managing DR Series system data backup and replication operations using the DR Series system command line interface (CLI).
DR Series System Release Notes	Provides the latest information about new features and known issues with a specific product release.

NOTE: Always check for the latest documentation updates and release notes at **support.quest.com/dr-series**, and read the release notes first because they contain the most recently documented information about known issues with a specific product release.

Locating your system Service Tag

Your system is identified by a unique Express Service Code and Service Tag number. You can find the Express Service Code and Service Tag on the front of a DR Series hardware system by pulling out the information tag. You can also find service tag information on the Support page in the DR Series system GUI. Service tag information is useful in routing support calls to the appropriate personnel for resolution.

Introducing the DR Series system

The DR Series system is a high-performance, disk-based backup and recovery appliance that is simple to deploy and manage and offers unsurpassed Total Cost of Ownership benefits. Features such as innovative firmware and an all-inclusive licensing model ensure optimal functionality and provide the assurance of no hidden costs for valuable future features.

NOTE: Unless otherwise noted, later references to "the system" or "DR Series system" are used interchangeably to represent the DR Series system.

A purpose-built backup-to-disk appliance, the DR Series system provides advanced deduplication and compression technology to store data most efficiently. The DR Series hardware appliances are 2U, rack-based, system backup storage repositories, that include deduplication and compression technology in their operating systems. A virtual machine (VM) version is also available (that is connected via a license with a DR Series hardware appliance) to provide robust, disk-based data backup capability on Virtual Machine host servers, while taking advantage of replicating to a deduplication-enabled appliance.

Data Protection | DR Series of backup and deduplication appliances support all the major backup software applications in use today and can lower your backup storage costs to as little as $.16/GB while reducing your total cost of ownership. The purpose built appliances achieve these results using patented Rapid technology as well as built-in, variable block-based deduplication and compression. The DR Series helps you to:

- Reduce your backup storage footprint
- Speed up recovery
- Reduce or eliminate the need for physical tapes for backup
- Optimize network bandwidth by lowering the amount of data sent to disaster recovery sites

The DR Series system includes the following features:

- Advanced data protection and disaster recover
- Two management interfaces: a command line interface (CLI) or a system graphical user interface (GUI) for the system software to manage storage containers.
- Support for a wide variety of data backup installations and environments.
- A simple installation process that provides full, intuitive remote setup and management capabilities.

The system is available in many drive capacities to fit SMB, enterprise, and remote office environments. The internal system drive capacity and available physical capacities of the DR Series system vary, depending on your system type and drives installed. For details about specific drive capacities and models available, see the *DR Series System Interoperability Guide* or the latest *DR Series System Release Notes*.

Understanding the DR Series system CLI

The DR Series system command line interface (CLI) provides the means for managing the status, data capacity, storage savings, and throughput of data containers.

NOTE: An online data verification or data-checking feature called Data Check is enabled by default on the DR Series system. For more information about Data Check, see Data Integrity Checking.

Understanding the DR Series system CLI

The DR Series system command line interface (CLI) provides the means for managing the status, data capacity, storage savings, and throughput of data containers.

NOTE: An online data verification or data-checking feature called Data Check is enabled by default on the DR Series system. For more information about Data Check, see Data Integrity Checking.

Accessing the DR Series system CLI commands

This guide assumes that your DR Series system has been deployed in the proper network location and is ready to be accessed by the DR Series system CLI commands.

To access the DR Series system CLI commands from the system CLI prompt, complete the following steps.

1. Launch a terminal emulation application and start the process for logging in to the DR Series system.
2. In Host Name (or IP address), type the host name or IP address for the DR Series system, and click **Open**.
3. At the system prompt, enter the username for the Administrator:
   - Type `administrator`
   - Press **<Enter>**
4. At the administrator password prompt, enter the password for the Administrator (the default is **St0r@ge!**):
   - Type `St0r@ge!`
   - Press **<Enter>**

   The DR Series system administrator prompt is displayed.
5. At the administrator prompt, type `help`.
   The DR Series system CLI commands are displayed.

DR Series system CLI commands overview

The following command groups are available in the DR Series system CLI.

NOTE: The DR Series system Administrator account only provides access to the DR Series system CLI commands listed in this section. There is no access to Linux commands other than *grep* or *more* from the DR Series system command line with the Administrator account.

For more information on each command group, run the following command:
`<command name> --help show`

Table 1: DR Series System CLI Commands Overview

Command Group	Description
`alerts`	View system events and configure email notifications, contact information, and daily reports.
`authenticate`	Configure Active Directory (AD) authentication.
`connection`	Configure NFS | CIFS | OST | RDS | NDMP| ISCSI | FC access to a container.
`container`	Configure a file system to share over NFS | CIFS | OST | RDS | NDMP | ISCSI | FC.
`diagnostics`	Gather log information for support issues.
`help`	Display this help message.
`iscsi`	Manage and view iscsi connection types for VTL containers.
`ndmp`	Manage and view ndmp connection types for VTL containers.
`fc`	Manage and view fibre channel connection types for VTL containers.
`maintenance`	Repair the data and state of the system.
`network`	Configure networking properties.
`ost`	Configure OST for Veritas (formerly Symantec) backup applications.
`rda`	Configure Rapid Data Access (RDA) for the NetVault application.
`replication`	Manage replication between systems.
`seed`	Configure and manage seeding import or export.
`schedule`	Manage replication and cleaner schedules in the system.
`stats`	View statistics for system components.
`storage_group`	Manage and view the storage groups on a DR Series system
`system`	Manage and view the system configuration.
`user`	Enable or disable service and root accounts on the node.
`virtual machine`	Manage and view DR2000v virtual machines.

Command Group	Description
`vtl`	Manage and view VTL container types.
`grep` `more`	System tools

Managing the DR Series system

This topic introduces the DR Series system CLI commands for configuring, managing, and viewing the current status of a DR Series system. For example, the DR Series system CLI **alerts** and **system** commands both contain options that provide administrators with the capability to configure, manage, and display the status of the a DR Series system.

The following list of commands provide the functionality for configuring, managing, and displaying the DR Series system status:

- **Alerts**
- **Authenticate**
- **Network**
- **OST** (OpenStorage Technology)
- **RDA** (Rapid Data Access)
- **Stats** (statistics)
- **Storage Group**
- **System**
- **User**
- **Virtual Machine**

Alerts Commands

This topic introduces the set of DR Series system CLI commands that enable you to perform the following tasks:

- Display system alerts and events.
- Create new email accounts or modify existing email accounts for recipients, which are used for email alert notifications.
- Select to receive notifications about appliance alerts and software updates.
- Test to confirm that email account recipients can receive alerts via Simple Network Management Protocol (SNMP) traps for a designated host.
- Set, enable, disable, or delete SNMP traps for a designated host.

Alerts Command Usage

This topic introduces the **alerts** command usage:

- **alerts --show [options]**
- **alerts --email [options]**
- **alerts --test_email**
- **alerts --snmp_add [options]**
- **alerts --snmp_delete --host <server name>**
- **alerts --snmp_enable --host <server name>**
- **alerts --snmp_disable --host <server name>**
- **alerts --snmp_trap_email [options]**
- **alerts --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

alerts --show [--email]

Description

Displays the list of email recipients, mail relay host, and the administrator contact information for the DR Series system.

Syntax

```
alerts --show --email
```

Result

```
Recipients:     john_smith@acme.com
Relay Host:    10.10.10.10
Admin Name:    John Smith
Company Name:  Acme.com
Admin Email:   john_smith@acme.com
Phone:         408-555-1212
Comments:      Day Shift Administrator
```

alerts --show [--snmp]

Description

Displays the current SNMP information for a DR Series system.

Syntax

```
alerts --show --snmp
```

Result

```
Host                                        Status                  Port                    Comm
10.20.20.10          Enabled    2100                snmpPublic
10.25.19.11          Enabled                1120           snmpPublic12
10.12.14.20          Enabled                1550           snmpPublic11
```

NOTE: For more information about configuring a host to receive SNMP alerts, see alerts --email [--relay_host <server name>].

alerts --show [--events] [--index <[-]number> [--count <number>] [--all]

Description

Displays the current list of system events.

NOTE: The default is to display the 32 most recent events (this example is intentionally brief). The count and index options can also be used to filter the list of events (alerts –show –events –index *<number>* or alerts --show --events --index *<number>*).

Syntax

```
alerts --show --events
```

Result

```
Index          Severity               Time
-------------------------------------------------------------------------------
399                   INFO                          2012-06-10 14:07:18                  Syste
398                   INFO                          2012-06-10 12:21:47                  Succe
397                   INFO                          2012-06-10 12:20:03                  User
```

alerts --show [--alerts] [--index <[-] number>] [--count <number>] [--all]

Description

Displays the current list of DR Series system alerts.

NOTE: By default, all DR Series system alerts are displayed.

Syntax

```
alerts --show --alerts
```

Result

```
Index
1

Time
2012-06-19 18:19:09

Alert Message
Network Interface Controller Embedded (LOM) Port 1 disconnected. Reconnect it to a
network
and/or check your network switches or routers for network connectivity issues.

Index
2

Time
2012-06-19 18:19:09

Alert Message
Network Interface Controller PCI Slot 1 Port 0 disconnected. Reconnect it to a network
and/or check your network switches or routers for network connectivity issues.

Index
3

Time
2012-06-19 18:19:09

Alert Message
Network Interface Controller PCI Slot 1 Port 1 disconnected. Reconnect it to a network
and/or check your network switches or routers for network connectivity issues.
```

alerts --show [--summary]

Description

Displays a summary list of DR Series system alerts.

Syntax

```
alerts --show --summary
```

Result

```
Total alert messages:           5
Total event messages:          42
Last event index:                              42
```

alerts --email [--relay_host <server name>]

Description

Configures the email relay host that can receive alert email notifications for the DR Series system.

Syntax

```
alerts --email --relay_host relayhost13
```

Result

```
Alert email settings updated.
Recipients:    john_smith@acme.com;juan_ruiz@acme.com
Relay Host:    relayhost13
Admin Name:    John_Smith
Company Name:  Acme.com
Admin Email:   john_smith@acme.com
Phone: 408-555-1212
Comments:      Day Shift Administrator
```

alerts --email [--appliance_alerts <yes | no>]

Description

Configures the “yes/no” setting for sending email notifications to the administrator of a DR Series system when there are alerts for the system appliance. Setting this option to **yes** causes the system administrator to receive email notifications when there are system appliance alerts (setting this option to **no** means that the system administrator will not receive email notifications about system appliance alerts).

Syntax

```
alerts --email --appliance_alerts yes
```

Result

```
Alert email settings updated.
Recipients                      : juan_corona@acme.com
Relay Host                      : acme-sys-60.western.local
Admin Name                      : Juan Corona
Company Name                    : Acme Inc.
Admin Email                     : juan_corona@acme.com
Phone                           : 438-999-6699
Comments                        : Days shift1 administrator
Appliance Alerts                : Yes
Software Updates                : Yes
Email SNMP Trap's               : No
Email Daily container stats     : Yes
```

alerts --email [--software_updates <yes | no>]

Description

Configures the “yes/no” setting for sending email notifications to the administrator of a DR Series system when there are updates for the system software installed on the system appliance. Setting this option to **yes** causes the system administrator to receive email notifications when there are system software updates (setting this option to **no** means that the system administrator will not receive email notifications about system software updates).

Syntax

```
alerts --email --software_updates yes
```

Result

```
Alert email settings updated.
Recipients                      : juan_corona@acme.com
Relay Host                      : acme-sys-60.western.local
Admin Name                      : Juan Corona
Company Name                    : Acme Inc.
Admin Email                     : juan_corona@acme.com
Phone                           : 438-999-6699
Comments                        : Days shift1 administrator
Appliance Alerts                : Yes
Software Updates                : Yes
Email SNMP Trap's               : No
Email Daily container stats     : Yes
```

alerts --email [--daily_report <yes | no>]

Description

Configures the “yes/no” setting for sending daily statistics about each container to the administrator of a DR Series system. Setting this option to **yes** causes the system administrator to receive email notifications containing the statistics for the last 24 hours for each container (setting this option to **no** means that the system administrator will not receive daily email notifications about container statistics).

Syntax

```
alerts --email --daily_report <yes|no>

        --yes  Enables daily container stats notification on DR.
        --no   Disables daily container stats notification on DR.
```

Result

```
alerts --email --daily_report yes

Alert email settings updated.
Daily container stats notification has been enabled.
Recipients                      : juan_corona@acme.com
Relay Host                      : acme-sys-60.western.local
Admin Name                      : Juan Corona
Company Name                    : Acme Inc.
Admin Email                     : juan_corona@acme.com
Phone                           : 438-999-6699
Comments                        : Days shift1 administrator
Appliance Alerts                : Yes
Software Updates                : Yes
Email SNMP Trap's               : No
Email Daily container stats     : Yes
```

alerts --email [--daily_report_time <0–24 hr>]

Description

Sets the time for the daily container statistics report to be sent.

Syntax

```
alerts  --email  --daily_report_time  <0-24  hr>
```

Result

```
alerts --email --daily_report_time
```

alerts --email [--sender_email <email address>]

Description

Sends the alert email to the specified sender.

Syntax

```
alerts --email --sender_email name@company.com
```

alerts --test_email

Description

Sends a test email alert notification to all of the configured email recipients in the DR Series system.

> **NOTE:** Verify that the configured email recipients received the test email notifications that were sent. This is an important check that proves that the designated email recipients can receive DR Series system alert notifications.

Syntax

```
alerts --test_email
```

Result

```
Test email sent.
```

alerts --snmp_add --host <server name> --port <number> --community <name>

Description

Sets SNMP traps for a host by defining its host name, port number, and listing the corresponding SNMP community.

Syntax

```
alerts --snmp_add --host 10.12.14.20 --port 1550 --community snmpPublic1
```

Result

```
Host "10.12.14.20" added to SNMP alert recipients.
```

alerts --snmp_delete --host <server name>

Description

Deletes SNMP traps for a host by identifying it by name or IP address at the DR Series system prompt.

Syntax

```
alerts --snmp_delete --host 10.10.10.12
```

Result

```
Host "10.10.10.12" deleted from SNMP alert recipients.
```

alerts --snmp_disable --host <server name>

Description

Disables SNMP traps for a host by identifying it by name or IP address at the DR Series system prompt.

Syntax

```
alerts --snmp_disable --host 10.12.14.20
```

Result

```
Host "10.12.14.20" disabled for SNMP alerts.
```

alerts --snmp_enable --host <server name>

Description

Enables SNMP traps for a host by identifying it by name or IP address at the DR Series system prompt.

Syntax

```
alerts --snmp_enable --host 10.12.14.20
```

Result

```
Host "10.12.14.20" enabled for SNMP alerts.
```

alerts --snmp_trap_email [--enable] [--disable]

Description

Enables or disables SNMP traps to be sent out as an email message.

Syntax

```
alerts --snmp_trap_email --enable
```

Result

```
Successfully enabled SNMP Trap email forwarding.
```

> **NOTE:** To disable SNMP trap mail forwarding, substitute the --disable command, as in the following example:
>
> ```
> alerts --snmp_trap_email --disable
> ```
>
> ```
> Successfully disabled SNMP Trap email forwarding.
> ```

alerts --help

Description

Displays the listing of alerts and related options for using the DR Series system CLI.

Syntax

```
alerts --help
```

Result

```
Usage:
        alerts --show [--email]
                 [--snmp]
```

```
                [--events] [--index <[-]number>] [--count <number>] [--all]
                [--alerts] [--index <[-]number>] [--count <number>] [--all]
                [--summary]

        alerts --email
                [--relay_host <server name>]
                [--appliance_alerts <yes|no>]
                [--software_updates <yes|no>]
                [--daily_report_time <0-24 hr>]



        alerts --test_email
        alerts --snmp_add --host <server name>
                --port <number>
                --community <name>

        alerts --snmp_delete --host <server name>

        alerts --snmp_enable --host <server name>

        alerts --snmp_disable --host <server name>

        alerts --snmp_trap_email [--enable][--disable]

        alerts --help

alerts <command> <command-arguments>
<command> can be one of:
--show              Displays system alerts and events.
--email                                             Sets for alert notifications.
--test_email        Sends a test email using current email settings.
--snmp_add          Sets SNMP traps to be sent to a host.
--snmp_delete       Stops sending SNMP traps to a host.
--snmp_enable       Enables SNMP traps for a host.
--snmp_disable      Disables SNMP traps for a host.
--snmp_trap_email   Enables/Disables SNMP traps to be sent out as an email.


For command-specific help, please type alerts --help <command>
For example:
            alerts --help show
```

Authenticate Commands

This topic introduces the set of DR Series system CLI commands that let you configure the DR Series system so it can authenticate with the Microsoft Windows Active Directory Services (ADS).

For information about specific authenticate commands, see Authenticate Command Usage.

Authenticate Command Usage

This topic introduces the **authenticate** command usage:

- **authenticate --show [options]**
- **authenticate --join [options]**
- **authenticate --leave [options]**
- **authenticate --update --kerberos**
- **authenticate --add [options]**
- **authenticate --delete [options]**
- **authenticate --set --user <user name>**
- **authenticate --guestmode [options]**
- **authenticate --server_signing --mode <auto|mandatory|disabled|show>**
- **authenticate --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

authenticate --show [--users]

Description

Displays the current status of the Microsoft Active Directory Service (ADS) domain, or if it is not joined, it can display the status of any authorized local CIFS user. For more information, see the authenticate --show [--domain <domain name>].

NOTE: If this command is entered, but the DR Series system has not joined the ADS to any domain, the following message is displayed.

```
This system has not joined any domain.
```

Syntax

```
authenticate --show
```

Result

```
Domain: ads.storage.local
```

If you have joined the ADS to a designated domain and you want to see the authorized users, enter the authenticate --show --users command to display the current status:

```
authenticate --show --users
administrator2
administrator
```

authenticate --show [--domain <domain name>]

Description

Displays the current status of the Active Directory Services (ADS) domain to which the DR Series system is joined.

> **NOTE:** If you have not joined the DR Series system to an ADS domain, use the DR Series system CLI authenticate --join --domain command. For more information, see authenticate --join --domain <domain name> [--ou <org-unit name>] --user <user name>.

Syntax

```
authenticate --show --domain acme-ad.acme.local
```

Result

```
Domain Name                    : acme-ad.acme.local
Domain Controller Time         : 2012-10-19 12:13:40 PDT
System Time                    : 2012-10-19 12:13:40 PDT
Time Skew                      : 0 secs
Domain Controller Name         : test-ad-2008r2.acme-ad.acme.local
Domain Controller Address      : 10.20.20.4
```

authenticate --show [--login_group]

Description

Displays the currently enabled and authenticated login group on a Microsoft Active Directory Services domain.

Syntax

```
authenticate --show --login_group
```

Result

```
Login group: acmeADS\Domain Admins
```

authenticate --join --domain <domain name> [--ou <org-unit name>] --user <user name>

Description

Joins the DR Series system to an Active Directory Services (ADS) domain when you specify the ADS domain name and a valid user (administrator) for that domain.

NOTE: When attempting to join the ADS domain, the administrator password is required for that domain to ensure that the join operation is successful. Supported domain names are limited to 64 characters in length and can only consist of a combination of A-Z, a-z, 0-9, and two special characters: a dash (-) and a period (.).

NOTE: If you had previously joined the DR Series system to an ADS domain before running Restore Manager (RM), after it completes you must manually rejoin the desired ADS domain using the `authenticate --join` command.

Syntax

```
authenticate --join --domain ads.storage.local --user administrator
```

Result

```
Enter password for administrator@ads.storage.local:
Successfully joined domain ads.storage.local
Disabling NTP service... done.
Updated Windows Access Server Configuration.
Updated Kerberos configuration.
Updated machine password.
Updated DNS.
Restarting Windows Access Server... done.
```

NOTE: The `--ou` command is optional and allows for defining a specific organizational group in the ADS that requires its own administrative access rights (such as an executive management or finance group). In case of multiple organizational groups, use the following format: "<topLevelOU/middleLevelOU/LowerLevelOU/TargetOU>"

authenticate --leave [--user <user name>] [--force]

Description

Enables a DR Series system to leave a Microsoft Active Directory Services (ADS) domain when you provide a valid administrator password.

Syntax

```
authenticate --leave --user administrator
```

Result

```
Enter password for administrator@ads.storage.local:
Successfully left domain ads.storage.local.
Updated Windows Access Server configuration.
Updated Kerberos configuration
Restarting Windows Access Server... done.
Enabling NTP service... done.
```

NOTE: The `--force` command is optional and allows the DR Series system to leave the ADS domain when communication between the system and the ADS domain is lost and the `--leave` operation is pending or in progress.

authenticate --update --kerberos

Description

Updates a Microsoft Active Directory Service (ADS) Kerberos configuration (Kerberos is a computer network authentication protocol).

Syntax

```
authenticate --update --kerberos
```

Result

```
Updated kerberos configuration.
```

authenticate --add [--user <user name>]

Description

Adds a new local CIFS workgroup user for CIFS authentication (and administrative tasks) after you provide and confirm the CIFS user password.

Syntax

```
authenticate --add --user administrator2
```

Result

```
Enter password for new CIFS user administrator2:
Re-enter password for new CIFS user administrator2:
Added CIFS user administrator2.
```

authenticate --add [--login_group <DOMAIN\LOGIN GROUP>]

Description

Adds an authenticated login group in an Active Directory Services (ADS) domain in accordance with the following ADS login group guidelines:

- Log in as an administrator via the CLI, and use SSH, Telnet, or a local console connection as a domain\user that is part of a login group. When you log in as an administrator via the CLI, you are prompted to use the credentials of the user account by which you log in (for example: if you log in as a Domain\administrator, you need to respond using these credentials).
- Log in as an administrator via the GUI, and use a web interface connection as a domain\user that is part of a login group (when this has been enabled via the CLI).
- If no login group is specified, or the group is disabled, no access using domain accounts is permitted.
- Adding a login group can only be enabled via the CLI.
- Adding a login group is only possible when the DR Series system is already joined to a domain.
- If the login group name has a space in it, it must be contained within double-quotation marks (“ “).
- When adding a login group, it must use the naming convention of Domain\group name.
- The login group must exist in the domain before you can add it (a check is performed to verify that the group exists in ADS).
- Changes made to the login group take effect on the next log in attempt (no active checking is done on group, which matches how Windows ADS works).

NOTE: To delete an existing login group, see authenticate --delete [--login_group <DOMAIN\LOGIN GROUP>].

Syntax

```
authenticate --add --login_group "acmeads\Domain Admins"
```

Result

```
Successfully added login group acmeads\Domain Admins.
```

authenticate --delete--user <user name>

Description

Deletes an existing local CIFS workgroup user from CIFS authentication (and administrative tasks).

Syntax

```
authenticate --delete --user administrator2
```

Result

```
Deleted CIFS user administrator2.
```

authenticate --delete [--login_group <DOMAIN\LOGIN GROUP>]

Description

Deletes an existing authenticated login group in an Active Directory Services (ADS) domain. For more information about DR Series system and ADS login group guidelines, see authenticate --add [--login_group <DOMAIN\LOGIN GROUP>].

NOTE: Ensure that the login group exists in the Active Directory Services (ADS) domain, and that the "\" and any spaces in the login group name are in quotation marks (" ").

Syntax

```
authenticate --delete --login_group "acmeads\Domain Admins"
```

Result

```
Deleted login group acmeads\Domain Admins.
```

authenticate --set --user <user name>

Description

Sets the password for an existing local CIFS workgroup user when you create and confirm the new password.

Syntax

```
authenticate --set --user administrator2
```

Result

```
Enter new password for CIFS user administrator2:
Re-enter new password for CIFS user administrator2:
Changed administrator2's password.
```

NOTE: The DR Series system administrator that manages the DR Series system has a different set of privileges than does the CIFS user administrator. For example, only the DR Series system administrator can change the password for the CIFS user administrator.

authenticate --guestmode [--enable] [--disable]

Description

Configures all CIFS shares for guest-only access by enabling or disabling this capability. For specific examples of enabling or disabling guest-only access, see authenticate --guestmode --enable and authenticate --guestmode --disable.

Syntax

```
authenticate --guestmode
```

Result

```
Must include either enable or disable option.
--guestmode - Configures all CIFS shares for guest only access.

Usage:
        authenticate --guestmode [--enable]
                 [--disable]


        --enable    Enable only guest access CIFS shares.
        --disable   Disable only guest access for CIFS shares.
```

authenticate --guestmode [--enable]

Description

Configures all CIFS shares for guest-only access.

Syntax

```
authenticate --guestmode --enable
```

Result

```
Restarting Windows Access Server... done.
```

NOTE: If you attempt to enable guestmode for all CIFS shares when the DR Series system is already joined to an ADS domain by (using the DR Series system CLI `authenticate --guestmode --enable` command), the following error message displays: *This node is already joined to domain <domainname>. Please leave the domain before enabling the guest-only mode.*

authenticate --guestmode [--disable]

Description

Disables all CIFS shares as guest-only access.

Syntax

```
authenticate --guestmode --disable
```

Result

```
Restarting Windows Access Server... done.
```

NOTE: If you attempt to enable guestmode for all CIFS shares when the DR Series system is already joined to an ADS domain (using the DR Series system CLI `authenticate --guestmode --enable` command), the following error message displays: *This node is already joined to domain <domainname>. Please leave the domain before enabling the guest-only mode*.

authenticate --server_signing --mode <auto | mandatory | disabled>

Description

Configures the server signing for Common Internet File System (CIFS) on a DR Series system. This is a security provision based on Server Message Block (SMB) signing, a form of packet authentication. After CIFS-based users are authenticated, SMB signing adds a digital signature to each packet that is transferred between client and server. These digital signatures verify that the identity of the server matches the credentials expected by the client, and vice versa. By verifying that every packet that is received comes from an authenticated source, these digital signatures ensure the integrity of the communications. The DR Series system CLI `--server_signing --mode` command contains four values:

- auto — Configures authentication via server signing to be automatically performed.
- mandatory — Configures authentication via server signing as mandatory, or the connection will be dropped.
- disabled — Disables authentication via server signing so that no connections are accepted.

Syntax

```
authenticate --server_signing --mode auto
```

Result

```
Successfully added server signing to auto.
```

authenticate --help

Description

Displays the list of all authenticate-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
 authenticate --help
```

Result

```
Usage:
authenticate --show [--users]
             [--domain <domain name>]
             [--login_group]

authenticate --join --domain <domain name>
             [--ou <org-unit name>]
              --user <user name>

authenticate --leave [--user <user name>]
             [--force]

authenticate --update --kerberos

authenticate --add [--user <user name>]
             [--login_group <DOMAIN\LOGIN GROUP>]

authenticate --delete [--user <user name>]
             [--login_group <DOMAIN\LOGIN GROUP>]
```

```
authenticate --set --user <user name>

authenticate --guestmode [--enable]
             [--disable]

authenticate --server_signing --mode <auto|mandatory|disabled|show>

authenticate --help

authenticate <command> <command-arguments>
<command> can be one of:
--show           Displays current ADS domain, authorized local CIFS users, and login
group.
--join           Joins an ADS domain.
--leave          Leaves an ADS domain.
--update         Updates ADS configuration.
--add            Creates local workgroup user for CIFS authentication or adds login
group.
--delete         Deletes local workgroup user from CIFS authentication or deletes
login group.
--set            Sets password for a local workgroup user.
--guestmode      Configures all CIFS shares for guest only access.
--server_signing Configures server signing for CIFS.

For command-specific help, please type authenticate --help <command>
For example:
             authenticate --help show
```

Network

The DR Series system CLI commands let you perform the following network-related tasks:

- Displays information about a DR Series system.
- Deletes network interfaces.
- Restarts networking.
- Configures bond interface to use DHCP.
- Assigns a static IP address to the bond interface.
- Creates bond interfaces for the system.
- Creates eth interfaces for the system.
- Adds an interface to an existing bond.
- Configures servers in the domain name system (DNS).
- Updates the bonding mode or maximum transmission unit (MTU).
- Updates bonding and individual interface information.
- Resets networking to factory configuration.

- Manages local hosts.
- Manages local routes.
- Looks up the IP address or hostname for a specific destination.
- Starts a packet trace route for a specific network host.
- Pings a destination host
- Blinks LED on the specific ethernet device.
- Starts the specific ethernet devices on restart.
- Does not start the specific ethernet devices on restart.
- Performs basic troubleshooting.
- Capture network traffic.
- Runs iperf (Network Performance) in client mode.
- Runs iperf (Network Performance) in server mode.

Network Command Usage

- **network --show [options]**
- **network --delete** (Option only available on a Physical DR)
- **network --restart**
- **network --setdhcp [options]**
- **network --setstatic_ip [options]**
- **network --create_bond** (Option only available on a Physical DR)
- **network --create_eth** (Option only available on a Physical DR)
- **network --add_member** (Option only available on a Physical DR)
- **network --setdns [options]**
- **network --setbonding [options]** (Option only available on a Physical DR)
- **network --update** (Option only available on a Physical DR)
- **network --factory_reset** (Option only available on a Physical DR)
- **network --host** (Option only available on a Physical DR)
- **network --route** (Option only available on a Physical DR)
- **network --nslookup [options]**
- **network --traceroute [options]**
- **network --ping [options]**
- **network --blink** (Option only available on a Physical DR)
- **network --enable** (Option only available on a Physical DR)
- **network --disable** (Option only available on a Physical DR)
- **network --troubleshoot [options]**

- **network --tcpdump [options]**
- **network --iperf_client [options]**
- **network --iperf_server [options]**
- **network --help**

NOTE: If you specify a command without supplying the expected value or option, you are prompted to provide the correct value or option.

NOTE: Most network commands require a `network --restart` command for the changes to occur.

network --show

Description

Displays the current networking configuration for a DR Series system. (Only a Physical DR has sub-options for network –show.)

Syntax

```
network --show [--bondif <bond0,bond1,...,bondN>] [--nwif <eth0,eth1,...,ethN>] [--
hosts] [--routes] [--interface <bondN|ethN>]

                        --bondif                Bond interface(s) to show.
                        --nwif                  Eth interface(s) to show.
                        --hosts                 Show local host.
                        --routes                Show local routes.
                        --interface     Routes for a specific interface.
```

Result

```
Device                                                  : bond0
Enabled                                                        : yes
Link                                                           : yes
Boot protocol               : dhcp
IP Addr                                                        : 10.20.24.55
Netmask                                                        : 255.255.252.0
Gateway                                                        : 10.20.32.13
MAC Addr                                                : 78:2B:CB:47:D0:08
MTU                                                            : 1500
Bonding options                          : "mode=balance-alb miimon=100 xmit_hash_policy=2"
Slave Interfaces                         : eth0,eth1,eth2,eth3
eth0 MAC                                                : 78:2B:CB:47:D0:08
eth0 Max Speed                           : 1000baseT/Full
eth0 Speed                                      : 1000Mb/s
eth0 Duplex                                     : Full
eth1 MAC                                                : 00:50:56:93:5A:02
```

```
eth1 Max Speed                          : 1000baseT/Full
eth1 Speed                                      : 1000Mb/s
eth1 Duplex                                     : Full
eth2 MAC                                                : 00:50:56:93:5A:03
eth2 Max Speed                          : 1000baseT/Full
eth2 Speed                                      : 1000Mb/s
eth2 Duplex                                     : Full
eth3 MAC                                                : 00:50:56:93:5A:04
eth3 Max Speed                          : 1000baseT/Full
eth3 Speed                                      : 1000Mb/s
eth3 Duplex                                     : Full
DNS Suffix                                      : storage.local
Primary Nameserver              : 10.25.19.15
Secondary Nameserver    : 10.25.19.16
```

network --delete

Description

The command deletes a network interface.

Syntax

```
network --delete        [--bondif <bond0,bond1,...,bondN>]
                                                [--member <eth0,eth1,...,ethN>]
                                                [--nwif <eth0,eth1,...,ethN>]

                      --bondif        Bond interface(s) to delete.
                      --member        Bond member interface(s) to delete.
                      --nwif          Eth interface(s) to delete.
```

For example, to delete network interface eth2, run the command: `network --delete --nwif eth2`

Result

```
Interface delete successful. Please restart networking for the changes to take effect.
```

network --restart

Description

Restarts the current networking configuration for a DR Series system.

Syntax

```
network --restart
```

Result

```
Shutting down interface eth0:
Shutting down interface eth1:
Shutting down interface eth2:
Shutting down interface eth3:
Shutting down loopback interface:
Bringing up loopback interface:
Bringing up interface bond0:
Determining IP information for bond0... done.  [  OK  ]
DNS Updated hostname: acme11.storage.local
```

network --setdhcp

Description

Configures the DR Server system to use the dynamic host configuration protocol (DHCP) form of IP addressing. (The options bondif and nwif are only available on a Physical DR.)

Syntax

```
network --setdhcp [--bondif <bondN>] [--nwif <ethN>]

        --bondif   Bond interface to create (dhcp).
        --nwif     Eth interface to create (dhcp).
```

Result

```
Bond device operation successful. Please run 'network --restart' for the changes to
take affect.
```

network --setstatic_ip [--bondif <bondN>] [--nwif <ethN>] --ip <IPv4/IPv6 address not already in use> --netmask <netmask> [--gateway <IPv4/IPv6 address>]

Description

Configures the DR Series system to use a static IP address and configures the corresponding netmask (and/or the routing gateway for a DR Series system). The options bondif and nwif are only available on a Physical DR.

Syntax

```
network --setstatic_ip --ip 10.20.20.20 --netmask 255.255.222.0 --gateway 10.25.20.10

        --bondif    Bond interface to create (static).
        --nwif      Eth interface to create (static).
        --ip        Static IP address to use.
        --netmask   Netmask for the static IP address.
        --gateway   Gateway for routing ('bond0' only).
```

Result

```
Bond device operation successful. Please run 'network --restart' for the changes to
take effect.
```

network --create_bond

Description

The command allows individual network interfaces to be selected to create a bond. Only non-bonded interfaces can be used to create a bond. When a bond is created, all the individual interfaces chosen for the bond lose their existing settings and their settings are managed by the bond. Interface bonding requires all the network devices in the bond to support the same speed. Interfaces of different devices like twisted pair or fibre can be bonded as long as they support the bonding speed. Currently, only devices which support the same speed can be bonded together. You can create multiple bonds, but each bond must be created individually and the maximum number of bonds cannot exceed the number of devices.

Syntax

```
 --create_bond --bondif <bondN>
                [--dhcp]
                [--static]
                --nwif <eth0,eth1,...,ethN>
                [--mode  < ALB | 802.3ad>]
                [--name < DNS name >]
                [--mtu  <Supported MTU range 512 - 9000>]
                [--ip  <IPv4/IPv6 address not already in use>]
                [--netmask <netmask>]
                [--gateway <IPv4/IPv6 address>]
                [--restart]


        --bondif    Bond interface to create.
        --dhcp      Create dhcp interface.
        --static    Create static interface.
        --nwif      Eth interfaces to bond.
        --mode      Bonding mode to use.
```

```
        --name      DNS name for the interface.
        --mtu       Ethernet MTU to use (valid range is 512 - 9000).
        --ip        Static IP address to use.
        --netmask   Netmask for the static IP address.
        --gateway   Gateway for routing.
        --restart   Restarts networking after creation.
```

For example, to create bond1 using eth3 and eth4, run the command: `network --create_bond --bondif bond1 --dhcp --nwif eth3,eth4 --mode ALB --restart`

Result

```
Shutting down interface bond0:  [  OK  ]
Shutting down interface bond1:  [  OK  ]
Shutting down loopback interface:  [  OK  ]
Bringing up loopback interface:  [  OK  ]
Bringing up interface bond0:Determining IP information for bond0... done.  [  OK  ]
Bringing up interface bond1:Determining IP information for bond1... done.  [  OK  ]
Updating DNS entry for SW-01.local to 10.250.xxx.x ..
Skipping DNS Update 10.250.xxx.x: IP already updated.
```

network --create_eth

Description

The command creates eth interface for the system.

Syntax

```
network --create_eth --nwif <ethN>
               [--dhcp]
               [--static]
               [--name < DNS name >]
               [--mtu <Supported MTU range 512 - 9000>]
               [--ip <IPv4/IPv6 address not already in use>]
               [--netmask <netmask>]
               [--restart]


        --nwif      Eth interface to create.
        --dhcp      Create dhcp interface.
        --static    Create static interface.
        --name      DNS name for the interface.
        --mtu       Ethernet MTU to use (valid range is 512 - 9000).
        --ip        Static IP address to use.
        --netmask   Netmask for the static IP address.
        --restart   Restarts networking after creation.
```

For example, to create eth2, run the command: `network --create_eth --nwif eth2 --dhcp`

Result

```
Interface operation successful. Please restart networking for the changes to
take effect.
```

network --add_member

Description

Add an interface to an existing bond.

Syntax

```
network --add_member --bondif <bondN>
               --nwif <eth0, eth1, . . . ,ethN>

       --bondif   Bond interface to add to.
       --nwif     Eth interfaces to add.
```

For example, to add eth2 to bond1, run the command: `network --add_member --bondif bond1 --nwif eth2`

Result

```
Interface add successful. Please restart networking for the changes to take effect.
```

network --setdns [--suffix <dns suffix>] [--primary <IPv4/IPv6 address>] [--secondary <IPv4/IPv6 address>]

Description

Configures the domain name system (DNS) for a DR Series system, which includes the corresponding DNS suffix and a primary name server IP address (and optionally, a secondary name server IP address).

Syntax

```
network --setdns --suffix storage.local --primary 10.25.20.21 --secondary 10.25.20.25
```

network --setbonding --bondif <bondN> [--mode <ALB | 802.3ad>] [--mtu <supported MTU range 512 - 9000>]

Description

Configures or updates the bonding mode or sets the maximum transmission unit (MTU) number to use for a DR Series system.

Syntax

```
network --bondif bond1 --setbonding --mode ALB --mtu 1750
```

Result

```
Bond device operation successful. Please run 'network --restart' for the changes to
take effect.
```

NOTE: ALB load balancing does not balance the load properly when the backup servers are on a remote subnet. This is because ALB uses the address resolution protocol (ARP) and ARP updates are subnet-specific. Because of this, ARP broadcasts and updates are not sent across the router. Instead, all traffic is sent to the first interface in the bond. To resolve this ARP-specific issue, make sure that the data source systems reside on the same subnet as the DR Series system.

NOTE: When setting or changing the MTU value, make sure to verify that the Ethernet network switch is capable of supporting an MTU size that is equal to or larger than the value being set. Any mismatch in MTU values between the clients, the Ethernet network switch, and the DR Series system will make it inoperable. The relationship of jumbo frames to MTU is discussed in this topic.

NOTE: When using the DR Series system CLI --setbonding and --mtu commands, a warning dialog displays with the following message:

```
Incorrectly setting the MTU size will cause the DR4000 to not respond. You will
need to log in to the system console and use the network --setbonding --bondif
bond0 --mtu 1500 command
to resolve the issue. Please verify that the switch is enabled and capable of
supporting an MTU size
that is equal to or larger than the value being set. Do you want to continue
(yes/no) ?
```

CAUTION: If the existing bonding setting is changed, the connection to the DR Series system may be lost unless you are sure that the DR Series system can accept this bonding type.

In computer networking, jumbo frames are Ethernet frames with more than 1500 bytes of payload (but in some cases, jumbo frames can carry up to 9000 bytes of payload).

Many Gigabit Ethernet switches and Gigabit Ethernet network interface cards support jumbo frames. Some Fast Ethernet switches and Fast Ethernet network interface cards (NICs) also support jumbo frames.

Some computer manufacturers use 9000 bytes as the conventional limit for jumbo frame sizes. Internet Protocol (IP) subnetworks require that all hosts in a subnet have an identical MTU.

Consequently, interfaces that use a standard frame size and those that use a jumbo frame size should not be in the same subnet. To reduce the chance of interoperability issues, NICs capable of jumbo frames require special configurations to use jumbo frames. For more information, contact your Technical Support representative for assistance.

To verify that the destination system can support a specific frame size you want to attempt, use the following DR Series system CLI commands and specify the frame size in bytes using the following command as an example:

```
network --ping --destination <ip address> --size <number of bytes>
```

network --update

Description

The command updates bonding and individual interface information.

Syntax

```
network --update [--bondif <bondN>]
                [--nwif <ethN>]
                [--mode < ALB | 802.3ad>]
                [--name < DNS name >]
                [--mtu  <Supported MTU range 512 - 9000>]


        --bondif   Bond interface to update.
        --nwif     Eth interface to update.
        --mode     Bonding mode to use.
        --name     DNS name for the interface.
        --mtu      Ethernet MTU to use (valid range is 512 - 9000).
```

For example, to update bond1 to use a different MTU parameter, run the command: `network --update --bondif bond1 --mtu 5000`

Result

```
WARNING: Incorrectly setting the MTU size will cause the DR appliance to not respond.

Please verify that the switch is enabled and capable of supporting an MTU size that is
equal to or larger than the value being set.

Do you want to continue (yes/no) [n]? y

Interface update successful.
```

network --factory_reset

Description

The command resets bond0 Slave Interfaces according to the option of auto_bonding_speed.

Syntax

```
network --factory_reset [--auto_bonding_speed <1G|10G>]

          --auto_bonding_speed    The speed of the device (1G or 10G)
                                  to bond on restart.
```

Result

```
WARNING: This will reset network configuration to factory settings and
will require a system reboot. Existing configuration will be lost.

Do you want to continue (yes/no) [n]?yes
Reboot the system using the command 'system --reboot' to complete the network
factory reset.
```

network --host

Description

The command manages local hosts.

Syntax

```
network --host [--add] [--ip <IPv4/IPv6 address>] [--name <host name>]
               [--delete] [--ip <IPv4/IPv6 address>] [--name <host name>]

        --add      Add local host.
        --delete   Delete local host.
        --ip       Host IP address to manage.
        --name     Host name (FQDN or alias) to manage.
```

network --route

Description

The command helps to manage local routes.

Syntax

```
network --route [--add] [--network <destination networks>] [--netmask <netmask>] [--
gateway <gateway addresses>] [--interface <bondN|ethN|lo>]
[--delete] [--network <destination networks>] [--netmask <netmask>] [--gateway
<gateway addresses>] [--interface <bondN|ethN|lo>]


        --add         Add local route.
        --delete      Delete local route.
        --network     Destination network.
        --netmask     Destination network mask.
        --gateway     Gateway to destination network.
        --interface   Interface to route through.
```

Result

network --nslookup --destination <ip address | hostname>

Description

Performs a domain name system (DNS) lookup for a DR Series system.

Syntax

```
network --nslookup --destination 10.25.20.15
```

Result

```
10.25.20.15 has name sys-59.storage.local.
```

network --traceroute --destination <ip address | hostname>

Description

Performs a trace route for packets that were sent to a DR Series system.

Syntax

```
network --traceroute --destination 10.25.20.20
```

Result

```
traceroute to 10.15.10.21 (10.15.10.21), 30 hops max, 40 byte packets
 1  10.25.24.1 (10.25.24.1)  0.510 ms  0.654 ms  0.673 ms
 2  10.20.12.16 (10.20.12.16)  7.095 ms  7.564 ms  7.843 ms
 3  10.16.16.2 (10.16.16.2)  1.092 ms  1.097 ms  1.130 ms
 4  10.16.0.9 (10.16.0.9)  1.006 ms  0.980 ms  1.017 ms
 5  10.18.14.97)  6.864 ms  5.703 ms  6.264 ms
 6  10.13.19.5)  7.230 ms  7.230 ms  7.260 ms
 7  10.16.19.6)  8.540 ms  8.624 ms  8.848 ms
 8  10.15.15.11 (10.15.15.11)  8.772 ms  9.032 ms  8.859 ms
 9  10.18.15.18 (10.158.15.18)  10.540 ms  10.674 ms  10.285 ms
10  10.15.0.21 (10.15.0.21)  9.153 ms  9.051 ms  9.216 ms
```

network --ping --destination <ip address | hostname> [--tries <number>] [--size <number>] [--interface <bondN | ethN>]

Description

Pings any target DR Series system by sending five ICMP ECHO_REQUEST packets to the specified destination to verify that it can be reached. The interface option is only available on a Physical DR.

Syntax

```
network --ping --destination 10.25.19.5
```

Result

```
PING 10.25.19.5 (10.25.19.5) from 10.20.14.15 bond0: 56(84) bytes of data.

64 bytes from 10.25.19.5: icmp_seq=1 ttl=64 time=0.039 ms
64 bytes from 10.25.19.5: icmp_seq=2 ttl=64 time=0.049 ms
64 bytes from 10.25.19.5: icmp_seq=3 ttl=64 time=0.041 ms
64 bytes from 10.25.19.5: icmp_seq=4 ttl=64 time=0.041 ms
64 bytes from 10.25.19.5: icmp_seq=5 ttl=64 time=0.049 ms

--- 10.25.19.5 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 3999ms
rtt min/avg/max/mdev = 0.039/0.043/0.049/0.009 ms
```

Other Command Options

--tries

Specify the number of ping attempts by entering a value using the DR Series system CLI --tries command option.

Example

```
network --ping --destination 10.25.19.5 --tries 3

PING 10.25.19.5 (10.25.19.5) from 10.20.14.15 bond0: 56(84) bytes of data.

64 bytes from 10.25.19.5: icmp_seq=1 ttl=64 time=0.032 ms
64 bytes from 10.25.19.5: icmp_seq=2 ttl=64 time=0.049 ms
64 bytes from 10.25.19.5: icmp_seq=3 ttl=64 time=0.047 ms

--- 10.25.19.5 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 5999ms
rtt min/avg/max/mdev = 0.032/0.043/0.049/0.005 ms
```

--size

Specify a desired ping packet size by entering a value using the DR Series system CLI --size command option.

Example

```
network --ping --destination system-69 --size 35

PING 10.20.19.20 (10.20.19.20) from myDR4000 bond0: 35(63) bytes of data.

43 bytes from 10.20.19.20: icmp_seq=1 ttl=64 time=0.129 ms
43 bytes from 10.20.19.20): icmp_seq=2 ttl=64 time=0.163 ms
43 bytes from 10.20.19.20: icmp_seq=3 ttl=64 time=0.166 ms
43 bytes from 10.20.19.20: icmp_seq=4 ttl=64 time=0.237 ms
43 bytes from 10.20.19.20: icmp_seq=5 ttl=64 time=0.179 ms

--- 10.20.19.20.acme.local ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4000ms
rtt min/avg/max/mdev = 0.129/0.174/0.237/0.038 ms
```

--interface

Specify an interface address to use as the source address by entering a value using the DR Series system CLI --interface command option.

Example

```
network --ping --destination system-69 --interface bond0
```

network --blink

Description

The command blinks the LED on the specific ethernet device.

Syntax

```
network --blink --nwif <ethN> --time <N>

               --nwif   Eth interface to blink.
               --time   Blink duration time in seconds (default 10, max 300).
```

For example, to blink the LED for eth3, run the command: `network --blink --nwif eth3 --time 30`

Result

Check the LED on the ethernet card on the back of the system for identification.

network --enable

Description

The command starts the specific ethernet device(s) on restart.

Syntax

```
network --enable [--bondif <bond0,bond1,...,bondN>]
              [--nwif <eth0,eth1,...,ethN>]


                      --bondif   Bond interface(s) to delete.
              --nwif     Eth interface(s) to dele
```

For example, to enable eth2, run the command: `network --enable --nwif eth2`

Result

```
Interface device operation successful. Please restart networking for the changes to
take effect.
```

network --disable

Description

The command does not start the specific ethernet device(s) on restart.

Syntax

```
network --disable [--bondif <bond0,bond1,...,bondN>]
              [--nwif <eth0,eth1,...,ethN>]


                      --bondif   Bond interface(s) to delete.
              --nwif     Eth interface(s) to dele
```

NOTE: You cannot disable eth interfaces which are part of a bond.

For example, to disable eth2, run the command: `network --disable --nwif eth2`

Result

```
Interface device operation successful. Please restart networking for the changes to
take effect.
```

network --troubleshoot [--links] [--gateway] [--ntp] [--dns] [--active_domain] [--nis] [--clients] [--port_mapper] [--network_config] [--show_active <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>] [--interface <bondN | ethN>]

Isolates a variety of networking issues that you might encounter while running a DR Series system. When you can isolate a problem or issue to a specific cause, you can better understand and resolve it. The DR Series system CLI network --troubleshoot command and its options allow you to perform basic troubleshooting checks on the state of a DR Series system.

Description

NOTE: When entering the network --troubleshoot command string, the DR Series system checks and displays the current state for all of the --troubleshoot options. To limit the type of network troubleshooting check you want to display, define the command string to a specified check (or checks). For example, using network --troubleshoot --gateway, displays the status of the gateway for a DR Series system (for details, see network --troubleshoot [--gateway]).

Syntax

```
network --troubleshoot
```

Result

```
*** Checking link status for each interface
     bond0 : Link detected: yes
      eth0 : Link detected: yes
      eth1 : Link detected: yes
      eth2 : Link detected: yes
      eth3 : Link detected: yes
        lo : Link detected: yes

*** Getting local IP addresses
bond0 addr:10.25.20.23 Mask:255.255.245.0

*** Getting bond information
Ethernet Channel Bonding Driver: v3.4.0 (October 7, 2008)

Bonding Mode: transmit load balancing
Primary Slave: None
Currently Active Slave: eth0
MII Status: up
MII Polling Interval (ms): 100
Up Delay (ms): 0
Down Delay (ms): 0

Slave Interface: eth0
MII Status: up
Link Failure Count: 0
Permanent HW addr: 00:50:56:93:59:7a

Slave Interface: eth1
MII Status: up
Link Failure Count: 0
Permanent HW addr: 00:50:56:93:59:7b

Slave Interface: eth2
MII Status: up
Link Failure Count: 0
Permanent HW addr: 00:50:56:93:59:7c

Slave Interface: eth3
MII Status: up
Link Failure Count: 0
Permanent HW addr: 00:50:56:93:59:7d

*** Getting Gateway status
Gateway IP address is 10.25.20.1
Route to the gateway is up and uses bond0 interface.
Pinging gateway 10.25.20.1
  Ping successful. No packet loss.
  RTT timings min/avg/max/mdev = 0.332/1.612/3.742/1.274 ms
```

```
*** Checking NTP configuration
Network time is enabled.
System is configured with following NTP servers:
0.centos.pool.ntp.org
1.centos.pool.ntp.org
2.centos.pool.ntp.org

Checking if NTP servers are reachable...
Pinging 0.centos.pool.ntp.org
  Ping successful. No packet loss.
  RTT timings min/avg/max/mdev = 75.696/76.042/76.541/0.506 ms
Pinging 1.centos.pool.ntp.org
  Ping successful. No packet loss.
  RTT timings min/avg/max/mdev = 49.150/50.098/52.292/1.212 ms
Pinging 2.centos.pool.ntp.org
  Ping successful. No packet loss.
  RTT timings min/avg/max/mdev = 77.854/77.999/78.075/0.085 ms

*** Checking DNS configuration
DNS Suffix: storage.local
Primary Nameserver: 10.25.19.5
Secondary Nameserver: 10.25.19.6
Pinging 10.25.19.5
  Ping successful. No packet loss.
  RTT timings min/avg/max/mdev = 0.253/0.451/1.123/0.336 ms
Pinging 10.25.19.6
  Ping successful. No packet loss.
  RTT timings min/avg/max/mdev = 0.239/0.537/1.149/0.326 ms

*** Checking Active Directory configuration
AD configuration: This node has not joined any domain.

*** Checking NIS configuration
NIS domain configuration not found.

*** Checking NFS and CIFS clients configured for various containers
NFS/CIFS clients configured for containers:
-no specific clients-
*** Checking if there is another host with same name
Local system name: acme-01.storage.local
Local system IP: 10.25.20.23
Pinging acme-01.storage.local 3 times
Got IP address as 10.25.20.23
Got IP address as 10.25.20.23
Got IP address as 10.25.20.23
No duplicate hostname found on the network.

*** Checking portmapper
portmap (pid 3716) is running
Checking ports currently being used by portmapper
```

```
   program vers proto   port
    100000    2   tcp    111  portmapper
    100000    2   udp    111  portmapper
```

network --troubleshoot --gateway --interface <bondN | ethN>

Description

Performs a basic troubleshooting on the current state of the gateway connected to the DR Series system.

Syntax

```
network --troubleshoot --gateway --interface bond0
```

Result

```
*** Getting Gateway status
Gateway IP address is 10.250.240.1
Route to the gateway is up and uses bond0 interface.

Pinging gateway 10.250.240.1
  Ping successful. No packet loss.
  RTT timings min/avg/max/mdev = 0.261/1.907/5.244/1.830 ms
```

network --troubleshoot [--show_active <NFS| CIFS|OST|NDMP|ISCSI|RDS>]

Description

Displays the current network activity for NFS, CIFS, OST, NDMP, iSCSI, or RDS clients on a DR Series system (the example that follows shows CIFS).

Syntax

```
network --troubleshoot --show_active cifs
```

Result

```
tcp             0              0               10.25.19.10:45  10.25.20.82:52596
tcp            0       0       10.25.19.10:45  10.250.201.68:60163     ESTABLISHED
```

```
tcp    0              0       10.25.19.10:45  10.250.208.235:29587    ESTABLISHED
tcp            0      0       10.25.19.10:45  10.250.209.210:13828    ESTABLISHED
```

network --tcpdump [--port <nfs | windows | replication | ost | rds>] [--pkt_size <128 - 32768>] [--file_size <0 - 100>] [--stop] [--host <ip address list>] [--interface <bondN | ethN>]

Intercepts TCP/IP packets being transmitted or received over the network to which the DR Series system is attached. You can filter the packets being collected by using the following options to the DR Series system CLI network --tcpdump command:

- --port by its type: NFS, CIFS, replication, OST, or RDS port
- --pkt_size by the packet size you specify
- --file_size by the file size you specify
- --host by the IP address (or addresses) that you specify
- --interface by the interface that you specify

The tcpdump files are collected on the DR Series system (in /store/tcpdump/), and they can be a valuable resource of information about how your system and network interact. To stop collecting tcpdump files, use the DR Series system CLI network --tcpdump --stop command.

network --tcpdump [--pkt_size <128 - 32768>]

Description

Collects TCP/IP packet information based on a specific packet size (for example, 256 Kilobytes or KB).

NOTE: To stop the tcpdump process, use the DR Series system CLI `network --tcpdump --stop` command.

Syntax

```
network --tcpdump --pkt_size 256
```

Result

```
Successfully started tcpdump, please use "network --tcpdump --stop" to stop.
```

For more information, see network --tcpdump [--port <nfs | windows | replication | ost>] [--pkt_size <128 - 32768>] [--file_size <0 - 100>] [--stop] [--host <ip address list>].

network --tcpdump [--file_size <0 - 100>]

Description

Collects TCP/IP packet information based on a specific file size that you can configure (such as 3 Megabytes or MB).

NOTE: To stop the tcpdump process, use the DR Series system CLI `network --tcpdump --stop` command.

Syntax

```
network --tcpdump --file_size 3
```

Result

```
Successfully started tcpdump, please use "network --tcpdump --stop" to stop.
```

For more information, see network --tcpdump [--port <nfs | windows | replication | ost>] [--pkt_size <128 - 32768>] [--file_size <0 - 100>] [--stop] [--host <ip address list>]

network --tcpdump [--host <ip address list>]

Description

Collects TCP/IP packet information based on a specific host IP address (for example, 10.10.11.12).

NOTE: To stop the tcpdump process, use the DR Series system CLI `network --tcpdump --stop` command.

Syntax

```
network --tcpdump --host 10.10.11.12
```

Result

```
Successfully started tcpdump, please use "network --tcpdump --stop" to stop.
```

NOTE: You can also specify a number of host IP addresses using this command in a comma-delimited format (--host 10.10.11.12,10.12.12.13,10.10.12.14).

network --tcpdump [--port <nfs | windows | replication | ost | rds>]

Description

Filters TCP/IP packet information based on a specific port type. In this example, by specifying an OpenStorage Technology (OST) port type using the DR Series system CLI network --tcpdump --port ost command.

Syntax

```
network --tcpdump --port ost
```

Result

```
Successfully started tcpdump, please use "network --tcpdump --stop" to stop.
```

For more information, see network --tcpdump [--port <nfs | windows | replication | ost | rds>] [--pkt_size <128 - 32768>] [--file_size <0 - 100>] [--stop] [--host <ip address list>].

network --iperf_client --server <ip address | hostname> [--port <number>] [--window_size <num bytes [KB/MB]>] [--interval <num seconds>] [--time <num seconds>]

The DR Series system provides the --iperf set of DR Series system CLI commands (--iperf_client and --iperf_server) that let you test network performance between any client and server on the network that you designate. In addition to testing the network performance between these two designated endpoints, this set of --iperf commands also let you test if the firewall allows a connection between these two points. You can filter the network performance test by using the following options:

- --server, by the IP address or host name that you specify
- --port, by the port number that you specify
- --window_size, by the number of bytes, Kilobytes or Megabytes (KB/MB), that you specify
- --interval, by the number of seconds that you specify
- --time, by the number of seconds that you specify

NOTE: There are two conditions you must meet: 1) you must use ports with the --iperf_client and --iperf_server commands that are not in use by any other system operations (if you do not define specific ports, the --iperf_client and --iperf_server commands default to port 5001), and 2) these commands must be issued simultaneously.

Description

Tests network performance between a client and server using a designated port (use this command at the same time you use the other --iperf command).

```
network --iperf_client --server acme-sw-02 --port 5001 --window_size 7KB --interval
30 --time 60
```

Result

```
------------------------------------------------------------
Client connecting to acme-sw-02, TCP port 5001
TCP window size: 14.0 KByte (WARNING: requested 7.00 KByte)
------------------------------------------------------------
[  6] local 10.20.21.23 port 5812 connected with 10.20.20.3 port 5001
[ ID] Interval       Transfer     Bandwidth
[  6]  0.0-30.0 sec   193 MBytes  54.0 Mbits/sec
[  6] 30.0-60.0 sec   205 MBytes  57.4 Mbits/sec
[  6]  0.0-60.0 sec   398 MBytes  55.7 Mbits/sec
```

network --iperf_server [--port <number>] [--window_size <num bytes [KB/MB>]

The DR Series system provides the --iperf set of DR Series system CLI commands (--iperf_client and --iperf_server) that let you test network performance between any client and server on the network that you designate. In addition to testing the network performance between these two designated endpoints, this set of --iperf commands also let you test if the firewall allows a connection between these two points. You can filter the network performance test by using the following options:

- --port, by the port number that you specify
- --window_size, by the number of bytes, Kilobytes (KB) or Megabytes (MB) that you specify

NOTE: There are two conditions you must meet: 1) you must use ports with the --iperf_client and --iperf_server commands that are not in use by any other system operations (if you do not define specific ports, the --iperf_client and --iperf_server commands default to port 5001), and 2) these commands must be issued simultaneously.

Description

Tests network performance between a client and server using a designated port (use this command at the same time you use the other --iperf command).

Syntax

```
network --iperf_server --port 5001 --window_size 7KB
```

Result

```
------------------------------------------------------------
Server listening on TCP port 5001
TCP window size: 14.0 KByte (WARNING: requested 7.00 KByte)
------------------------------------------------------------
[  7] local 10.20.21.23 port 5812 connected with 10.20.20.3 port 5001
[ ID]  Interval       Transfer     Bandwidth
[  7]  0.0-60.0 sec   398 MBytes   55.7 Mbits/sec
```

network --help

Description

Displays the list of network-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
network --help
```

Result

```
network --show [--bondif <bond0,bond1,...,bondN>]
                 [--nwif <eth0,eth1,...,ethN>]
                 [--hosts]
                 [--routes]
                 [--interface <bondN|ethN>]

        network --delete [--bondif <bond0,bond1,...,bondN>]
                 [--member <eth0,eth1,...,ethN>]
                 [--nwif <eth0,eth1,...,ethN>]

        network --restart

        network --setdhcp [--bondif <bondN>]
                 [--nwif <ethN>]

        network --setstatic_ip [--bondif <bondN>]
                 [--nwif <ethN>]
                 --ip <IPv4/IPv6 address>
                 --netmask <netmask>
                 [--gateway <IPv4/IPv6 address>]

        network --create_bond --bondif <bondN>
                 [--dhcp]
                 [--static]
```

```
                --nwif <eth0,eth1,...,ethN>
                [--mode < ALB | 802.3ad >]
                [--name < DNS name >]
                [--mtu <Supported MTU range 512 - 9000>]
                [--ip <IPv4/IPv6 address>]
                [--netmask <netmask>]
                [--gateway <IPv4/IPv6 address>]
                [--restart]

        network --create_eth --nwif <ethN>
                [--dhcp]
                [--static]
                [--name < DNS name >]
                [--mtu <Supported MTU range 512 - 9000>]
                [--ip <IPv4/IPv6 address>]
                [--netmask <netmask>]
                [--restart]

        network --add_member --bondif <bondN>
                --nwif <eth0,eth1,...,ethN>

        network --setdns [--suffix <dns suffix>]
                [--primary <IPv4/IPv6 address>]
                [--secondary <IPv4/IPv6 address>]

        network --setbonding [--bondif <bondN>]
                [--mode < ALB | 802.3ad >]
                [--mtu <Supported MTU range 512 - 9000>]

        network --update [--bondif <bondN>]
                [--nwif <ethN>]
                [--mode < ALB | 802.3ad >]
                [--name < DNS name >]
                [--mtu <Supported MTU range 512 - 9000>]

        network --factory_reset [--auto_bonding_speed <1G|10G>]

        network --host [--add] [--ip <IPv4/IPv6 address>] [--name <host name>]
                [--delete] [--ip <IPv4/IPv6 address>] [--name <host name>]

        network --route [--add] [--network <destination networks>] [--netmask
<netmask>] [--gateway <gateway addresses>] [--interface <bondN|ethN>]
                [--delete] [--network <destination networks>] [--netmask <netmask>]
[--gateway <gateway addresses>] [--interface <bondN|ethN>]

        network --nslookup --destination <ip address | hostname>

        network --traceroute --destination <ip address | hostname>
                [--interface <bondN|ethN>]

        network --ping --destination <ip address | hostname>
```

```
          [--tries <number>]
          [--size <number>]
          [--interface <bondN|ethN>]

     network --blink --nwif <ethN>

     network --enable [--bondif <bond0,bond1,...,bondN>]
          [--nwif <eth0,eth1,...,ethN>]

     network --disable [--bondif <bond0,bond1,...,bondN>]
          [--nwif <eth0,eth1,...,ethN>]

     network --troubleshoot [--links]
          [--gateway]
          [--ntp]
          [--dns]
          [--active_domain]
          [--nis]
          [--clients]
          [--port_mapper]
          [--network_config]
          [--show_active <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>]
          [--interface <bondN|ethN>]

     network --tcpdump [--port <NFS|Windows|Replication|OST|RDA>]
          [--pkt_size <128 - 32768>]
          [--file_size <0 - 100>]
          [--stop]
          [--host <ip address list>]
          [--interface <bondN|ethN>]

     network --iperf_client --server <ip address | hostname>
          [--port <number>]
          [--window_size <num bytes [KB/MB]>]
          [--interval <num seconds>]
          [--time <num seconds>]

     network --iperf_server [--port <number>]
          [--window_size <num bytes [KB/MB]>]

     network --help

network <command> <command-arguments>
<command> can be one of:
          --show            Display network settings.
          --delete          Delete network interfaces(s).
          --restart         Restarts networking.
          --setdhcp         Configures bond interface to use DHCP.
          --setstatic_ip    Assigns a static IP address to the bond interface.
          --create_bond     Create bond interfaces for the machine.
          --create_eth      Create eth interfaces for the machine.
```

```
                --add_member      Add an interface to an existing bond.
                --setdns          Configures the Domain Name Servers.
                --setbonding      Updates bonding mode or MTU information.
                --update          Updates bonding and individual interface
information.
                --factory_reset   Reset networking to factory configuration.
                --host            Manage local hosts.
                --route           Manage local routes.
                --nslookup        Looks up the IP address/hostname.
                --traceroute      Displays the packets route to network host.
                --ping            Sends ICMP ECHO_REQUEST to destination host.
                --blink           Blink LED on the specific ethernet device.
                --enable          Start the specific ethernet device(s) on restart.
                --disable         Don't start the specific ethernet device(s) on
restart.
                --troubleshoot    Troubleshoots network issues.
                --tcpdump         Capture network traffic.
                --iperf_client    Run iperf (Network Performance) in client mode.
                --iperf_server    Run iperf (Network Performance) in server mode.

For command-specific help, please type network --help <command>
        eg:
            network --help show
```

OST

This topic introduces the set of OpenStorage Technology-related DR Series system CLI commands that enable you to perform the following tasks:

- Display command-specific information
- Delete the OST client
- Update the attributes of the OST client
- Limit the bandwidth consumed by OST
- List or clean up partial images

OST Command Usage

This topic introduces the **ost** command usage:

- **ost --show [options]**
- **ost --update --opdup_encryption [options]**
- **ost --delete_client [options]**
- **ost --update_client [options]**
- **ost --limit --speed --target [options]**

- **ost --partial_images --containerid [options]**
- **ost --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

ost --show [--config] [--file_history] [--name <name>] [--active_files] [--name <name>] [--clients] [--limits]

Description

Displays the current OpenStorage Technology (OST) configuration information for a DR Series system. Parameter are described as follows:

- config — Displays OST configuration.
- file_history — Display(s) history of last 10 OST optimized duplication image file(s).
- name — OST container name.
- active_files — Display(s) current OST image files being replicated.
- name — OST container name.
- clients — Displays OST clients.
- limits — Replication speed limits.

Syntax

```
ost --show
```

Result

```
OST Login Entry User            : backup_user
OST OPDUP Encryption            : Not Enabled
```

NOTE: To display other types of OST configuration information, substitute the --file_history, --name <name>, or --clients options in the DR Series system CLI command.

Other Examples

Display the last 10 replicated files that were processed via the DMA optimized duplication process for an OST container (in this example, the container is “ost.”) by running the following:

```
ost --show --file_history --name ostData replication history:
 File                          Peer    IP             Peer    ID           Savings
Bytes                       Throughput          Replicated  At:           Encryption
 /1481068800/w1         10.250.240.232   10                      100.00%
107374182400Bytes  1075139KiB/s      2016-12-07  07:58:19    None
```

Display the OST clients, by running the command: **ost --show --clients**

```
OST Client(s)  IP Address      Type    Plugin        OS
Backup Software          Last Access     Connection(s)   Mode
sekhar-w12-h58 10.250.213.14   OST     4.0.273.0     Windows Server 2012 64-bit
NetBackup 7.702.16       --              0               Dedupe
```

NOTE: The displayed output when using the DR Series system CLI ost --show --clients command could indicate a fourth type of mode value. Depending upon the client, this value would normally display **Auto**, **Dedupe**, or **Passthrough**. However, you could potentially display a mode value of **Mixed**, which indicates that you had changed the mode using the DR Series system CLI while the client is still connected.

NOTE: Be aware that the mode for clients that were connected to the OST media server before configuration changes might be different that what is shown in the displayed output when using the DR Series system CLI ost --show --clients command. The configuration changes will be updated and reflect any future connections.

To verify the current state of an OST client, you can check these two sources:

- DR Series system CLI, using the ost --show --clients command
- DR Series system GUI, displaying the Clients page

These sources display information about the connected and configured clients. For example, when a system is connected to multiple times, these sources show the number of connections to that client and the mode. You can also change the mode from dedupe to the other supported modes. When this is done the displayed mode will change, but any active connections will remain. There are essentially two possible modes: **Dedupe** and **Passthrough**. To verify the current mode of an OST client, you can check these two sources of client statistics:

- DR Series system CLI, using the stats --container --name command
- DR Series system GUI, displaying the Container Statistics page

In the Container Statistics page, click the Client Statistics tab (under Connection Type: OST) to display the Client Statistics table. If the Network Savings level in this table displays some savings and the displayed Bytes Ingested value is different from the displayed Bytes Transferred, this indicates that the OST clients are working in the **Dedupe** mode. If not, this indicates that the OST containers are working in the **Passthrough** mode.

ost --update --opdup_encryption <none | aes128 | aes256>

Description

Sets the type of encryption that will be used by OST initiated opdup replication.

Syntax

```
ost --update --opdup_encryption aes128
```

Result

```
OST OPDUP encryption updated to  aes128
```

ost --delete_client --name <OST Client Hostname>

Description

The command deletes the OST client and any edits that have been made to its default values. The next time a connection is established between the client and the DR Series system, the default OST connection settings will be used. Deleting an OST client using this CLI command does not affect data already written to the DR Series system.

Syntax

```
ost --delete_client --name acme-99
```

Result

```
Successfully deleted OST client acme-99.
```

ost --update_client --name <OST Client Hostname> --mode <auto | passthrough | dedupe>

Description

Updates the attributes of an OST client (OST client name and mode). The OST client modes are **auto**, **passthrough**, and **dedupe**. If an OST client has four or more CPU cores, it is considered to be dedupe-capable. However, the OST client operating mode depends upon how it is configured in the DR Series system.

- **Auto** — Sets the mode to dedupe or passthrough as determined by the media server. The mode used is based on how many cores the OST client has and whether it is 32–bit or 64–bit. If the OST client has four or more CPU cores, it will run in the **dedupe** mode. If the OST client has less than four CPU cores, it will run in **passthrough** mode. For details, see the table below.

- **Passthrough** — The OST client passes all data to the DR Series system for dedupe processing. This is also known as “appliance-side dedupe”.
- **Dedupe** — The OST client processes hashing on the data. This is also known as “source-side dedupe” and is the default mode. Keep in mind that the OST client must be dedupe-capable (four or more CPU cores) in order for this mode to be in effect. If the OST client is not dedupe-capable, it will run in **passthrough** mode regardless of its **dedupe** mode setting.

The following table shows the relationship between the configured OST client mode types and the supported client mode based on client architecture type and corresponding number of CPU cores.

Table 2: Supported OST Client Modes and Settings

OST Client Mode Settings	32–Bit OST Client (4 or more CPU Cores)	64–Bit Client (4 or more CPU Cores)	32–Bit OST Client (Less than 4 CPU Cores)	64–Bit OST Client (Less than 4 CPU Cores)
Auto	Passthrough	Dedupe	Passthrough	Passthrough
Dedupe	Not Supported	Supported	Not Supported	Not Supported
Passthrough	Supported	Supported	Supported	Supported

Syntax

```
ost --update_client --name acme-81 --mode dedupe
```

NOTE: You may be able to force writes for OST clients running in the **Passthrough** mode using the DR Series system CLI mode --dedupe command. The change in OST client mode is effective on the next backup operation when you are using Veritas NetBackup. (If you are using Veritas Backup Exec, you will need to restart this service for it to recognize that a new mode has been configured.)

Result

```
OST client updated successfully.
```

ost --limit --speed <<num><KBps | MBps | GBps | default> --target <ip address | hostname>

Description

Limits the bandwidth consumed by OST (OpenStorage Technology) for a system you define by IP address or hostname (--target), by which you define the speed in kilobytes/second (KBps), megabytes/second (MBps), gigabytes/second (GBps), or an unlimited bandwidth (default).

Syntax

```
ost --limit --speed 10mbps --target acmesys-49
```

Result

```
Successfully updated bandwidth limit for acmesys-49 to 10 MBps.
Changing traffic control policies ... done.
```

ost --partial_images --containerid <Container id> [--delete <Partial image path>] [--timeout <> 0>]

Description

Lists or cleans up partial images.

- Container id — ID of container.
- Partial image path — OST partial image path to delete.
- Timeout — Maximum timeout (in seconds) to list partial images.

Syntax

```
ost --partial_images --containerid 6
```

Results

```
Image Name: K12
Image Date: 1481535029
Image Policy: DPA
Image Path: /1481500800/K12
Image Size: 251821817856
Image Status: 0
```

ost --help

Description

Displays the list of OpenStorage Technology (OST) ost-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
ost --help
```

Result

```
Usage:
            ost  --show  [--config]
                         [--file_history]  [--name  <name>]
                         [--active_files]  [--name  <name>]
                         [--clients]
                         [--limits]

            ost  --update  --opdup_encryption  <none  |  aes128  |  aes256>

            ost  --delete_client  --name  <OST  Client  Hostname>

            ost  --update_client  --name  <OST  Client  Hostname>
                         --mode  <auto|passthrough|dedupe>

            ost  --limit  --speed  <<num>  <KBps|MBps|GBps>  |  default>
                         --target  <ip  address  |  hostname>

            ost  --partial_images  --containerid  <Container  id>
                         [--delete  <Partial  image  path>]
                         [--timeout  <>  0>]

            ost  --help

     ost  <command>  <command-arguments>
     <command>  can  be  one  of:
                        --show                    Displays  command  specific
information.
                        --update                 Updates  the  OST  settings.
                        --delete_client      Deletes  the  OST  client.
                        --update_client      Updates  attributes  of  the  OST
client.
                        --limit                   Limits  bandwidth  consumed  by  OST
when  replicating  over  a  WAN  link.
                        --partial_images    List  or  cleanup  partial  images.
```

RDA

The set of **RDA** commands have the following functions:

- Displays command specific information.
- Deletes the Rapid Data Access (RDA) client.
- Updates attributes of a Rapid Data Access (RDA) client.
- Limits bandwidth consumed by Rapid Data Access (RDA) when replicating over a WAN link.
- Lists or cleans up partial images.

RDA Command Usage

The following commands are run for RDA:

- **rda --show**
- **rda --update**
- **rda --delete_clientrda --update_client**
- **rda --limit**
- **rda --partial_images --containerid [options]**

rda --show [--config] [--file_history] [--name <name>] [--active_files] [--name <name>] [--clients] [--limits]

Description

The command displays the RDA-specific configurations.

Syntax

```
rda  --show      [--config]
                                    [--file_history]  [--name  <name>]
                                    [--active_files]  [--name  <name>]
                                    [--clients]
                                    [--limits]


            --config              Displays  RDA  configuration.
            --file_history     Display(s)  history  of  last  10  RDA  optimized


        deduplication  image  file(s).
            --name                  RDA  container  name.
            --active_files     Display(s)  current  active  RDA  image  files  being


        replicated.
            --name                  RDA  container  name.
            --clients             Displays  RDA  clients.
            --limits               Replication  speed  limits.
```

For example, to show the RDA clients, run the command: `rda --show --clients`

Results

RDA Client(s)	Type	Plugin	OS	Backup Software	Last Access	Connection(s)	Mode
BabuK-W2K8-02	RDS	2.1.177	Windows Server 2008 R2	NetVault Backup	Jul 18 05:42:53	1	Passthrough

NOTE: The displayed output when using the `rda --show --clients` command indicates a fourth type of mode value. Depending upon the client, this value equals Auto, Dedupe, Passthrough, or Mixed. Mixed indicates that you changed the mode while the client is still connected.

NOTE: The mode for clients that are connected to the RDA media server before configuration changes might be different than what is displayed when using the `rda --show --clients` command. The configuration changes are updated to reflect any future connections.

To verify the current state of an RDA client, you can check the two sources:

- DR Series system CLI, using the `rda --show --clients` command
- DR Series system GUI, displaying the Clients page

These sources display information about the connected and configured clients. When a system is connected multiple times, these sources show the number of connections to that client and the mode. You can also change the mode from **dedupe** to the other supported modes. When this is done the displayed mode changes, but any active connections remains. There are essentially two possible modes: **Dedupe** and **Passthrough**. To verify the current mode of an RDA client, you can check the two sources of client statistics:

- DR Series system CLI, using the `stats --container --name` command
- DR Series system GUI, displaying the Container Statistics page

In the Container Statistics page, click the Client Statistics tab (under Connection Type: RDS) to display the Client Statistics table. If the Network Savings level in this table displays some savings and the displayed Bytes Ingested value is different from the displayed Bytes Transferred, it indicates that the RDA clients are working in the **Dedupe** mode. If not, it indicates that the RDA containers are working in the **Passthrough** mode.

rda --update --opdup_encryption <none | aes128 | aes256>

Description

Sets the type of encryption that will be used by RDA initiated opdup replication.

Syntax

```
rda --update --opdup_encryption aes128
```

Result

```
RDS OPDUP encryption updated to aes128
```

rda --delete_client --name <RDA Client Hostname>

Description

The command deletes the Rapid Data Access (RDA) client and any edits that were made to its default values. The next time a connection is established between the client and the DR Series system, the default RDA connection settings will be used. Deleting an RDA client using this CLI command does not affect data already written to the DR Series system.

Syntax

```
rda --delete_client --name <RDA Client Hostname>

      --name   Host name
```

For example, to delete the client TEST-W2K8–02, run the command: `rda --delete_client --name TEST-W2K8-02`

Result

```
Rapid Data Access (RDA) client TEST-W2K8-02 deleted successfully.
```

rda --update_client --name <RDA Client Hostname> --mode <auto| passthrough| dedupe>

Description

The command updates the attributes of a Rapid Data Access (RDA) client. The RDA client modes are **auto**, **passthrough**, and **dedupe**. If a RDA client has four or more CPU cores, it is considered to be dedupe-capable. However, the RDA client operating mode depends upon how it is configured in the DR Series system. For details, see ost --update_client --name <OST Client Hostname> --mode <auto|passthrough|dedupe>.

Syntax

```
rda --update_client --name <RDA Client Hostname> --mode <auto|passthrough|dedupe>

      --name   Hostname of client
      --mode   RDA modes (auto, dedupe, passthrough)
```

For example, to update the client mode as passthrough for the **BabuK-W2K8-02** client, run the command: `rda --update_client --name BabuK-W2K8-02 --mode passthrough`

Result

```
Rapid Data Access (RDA) client BabuK-W2K8-02 with mode Pass-through added
successfully.
```
/p>

rda --limit --speed <<num><KBps| MBps| GBps> | default> --target <ip address | hostname>

Description

The command limits the bandwidth consumed by RDA when replicating over a WAN link.

Syntax

```
 rda --limit --speed 4 GBps --target testbackup
```

Result

```
Successfully updated  bandwidth limit for testbackup to 4 GBps.
```

rda --partial_images --containerid <Container id> [--delete <Partial image path>] [--timeout <> 0>]

Description

Lists or cleans up partial images.

- Container id — ID of container.
- Partial image path — RDA partial image path to delete.
- Timeout — Maximum timeout (in seconds) to list partial images.

Syntax

```
rda --partial_images --containerid container1
```

Results

```
Image Name: rda_SOAK-MAX_DR4300-20_100M_soakw78_20160916053405-seed273481828
Image Date: 00
```

```
Image Policy: RDA
Image Path: /0000000000/rda_SOAK-MAX_DR4300-20_100M_soakw78_20160916053405-
seed273481828
Image Size: 104857600
Image Status: 0
```

rda --help

Decription

Displays the list of RDA-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
rda --help
```

Result

```
rda --show [--config]
                [--file_history] [--name <name>]
                [--active_files] [--name <name>]
                [--clients]
                [--limits]

        rda --delete_client --name <RDA Client Hostname>

        rda --update_client --name <RDA Client Hostname>
                 --mode <auto|passthrough|dedupe>

        rda --limit --speed <<num><kbps|mbps|gbps> | default>
                 --target <ip address | hostname>

        rda --partial_images --containerid <Container id> [--delete <Partial image
path>]
                 [--timeout <> 0>]

        rda --help

   rda <command> <command-arguments>
   <command> can be one of:
               --show            Displays command specific information.
               --delete_client   Deletes the Rapid Data Access (RDA) client.
               --update_client   Updates attributes of a Rapid Data Access (RDA)
client.
               --limit           Limits bandwidth consumed by Rapid Data Access (RDA)
when replicating over a WAN link.
               --partial_images  Lists or cleans up partial images.

For command-specific help, please type rda --help <command>
```

```
eg:
    rda --help show
```

Stats

This set of DR Series system CLI commands let you display the current statistics for a DR Series system in the following categories:

- All containers (cumulative): --system
- CPU: **--cpu**
- Memory: **--memory**
- Network interfaces: **--network**
- Online data verification: **--datacheck**
- NFS: **--nfs**
- CIFS: **--cifs**
- OST media server: **--ost**
- RDS media server **--rds**
- A specific container: **--container --name**
- Replication: **--replication**
- Seeding: **--seed**
- Cleaner: **--cleaner**
- Clients: **--clients --type**

In addition, this DR Series system CLI command also allows you to reset the following statistic types:

- NFS: **--reset --nfs**
- CIFS: **--reset --cifs**
- OST: **--reset --ost**
- RDS **--reset --rds**
- Data Check: **--reset --datacheck**

NOTE: For information on the stats --datacheck commands that are associated with the Data Check feature, see stats --datacheck.

Stats Command Usage

This topic introduces the **stats** command usage:

- **stats --system**
- **stats --cpu**
- **stats --memory**

- **stats --network**
- **stats --datacheck**
- **stats --nfs**
- **stats --cifs**
- **stats --ost**
- **stats --rds**
- **stats --ndmp**
- **stats --ndmp_completed**
- **stats --iscsi [options]**
- **stats --fc**
- **stats --container --name**
- **stats --storage_group --name**
- **stats --replication [options]**
- **stats --seed**
- **stats --cleaner**
- **stats --clients [options]**
- **stats --reset [options]**
- **stats --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

stats --system

Description

Displays the current cumulative system statistics for all of the configured containers on a DR Series system.

Syntax

```
stats --system
```

Result

```
Capacity Used                  : 4.4 GiB
Capacity Used in GB            : 4.716
Capacity Free                  : 7987.8 GiB
Capacity Free in GB            : 8576.854
Read Throughput                : 0.00 MiB/s
Write Throughput               : 0.00 MiB/s
```

```
Current Files                  : 2
Current Bytes                  : 2097152000
Post Dedupe Bytes              : 2097152000
Post Compression Bytes         : 2097152000
Post Encryption Bytes          : 2097799056
Post Encryption Bytes in GiB   : 2.0 GiB
Compression Status             : Done
Cleaner Status                 : Done
Encryption Status              : Done
Total Inodes                   : 4
Bytes decrypted                : 6761218080
Dedupe Savings                 : 0.00 %
Compression Savings            : 0.00 %
Total Savings                  : 0.00 %
```

stats --cpu

Description

Displays the current cumulative CPU statistics for a DR Series system.

Syntax

```
stats --cpu
```

Result

```
13:00:00 up 9 days, 19:24,  2 users,  load average: 1.12, 1.20, 1.18
Cpu(s):  1.4%us,  2.3%sy,  4.0%ni, 99.3%id,  0.0%wa, 0.0%hi,  0.0%si,  0.0%st
```

stats --memory

Description

Displays the current memory statistics in kilobytes (kB) for a DR Series system.

Syntax

```
stats --memory
```

Result

```
MemTotal                       : 32425580 kB
MemFree                        : 12015828 kB
Buffers                        : 46186022 kB
Cached                         : 1778860 kB
SwapCached                     : 0 kB
Active                         : 18802964 kB
Inactive                       : 1054936 kB
HighTotal                      : 0 kB
HighFree                       : 0 kB
LowTotal                       : 32425580 kB
LowFree                        : 12015828 kB
SwapTotal                      : 25165812 kB
SwapFree                       : 25165812 kB
Dirty                          : 860 kB
Writeback                      : 0 kB
AnonPages                      : 17617000 kB
Mapped                         : 585304 kB
Slab                           : 270200 kB
PageTables                     : 46228 kB
NFS_Unstable                   : 0 kB
Bounce                         : 0 kB
CommitLimit                    : 55970112 kB
Committed_AS                   : 20335148 kB
VmallocTotal                   : 34359738367 kB
VmallocUsed                    : 393184 kB
VmallocChunk                   : 34359343591 kB
HugePages_Total                : 0
HugePages_Free                 : 0
HugePages_Rsvd                 : 0
Hugepagesize                   : 2048 kB
```

stats --network

Description

Displays the current network interfaces (eth0, eth1, eth2, eth3, and bond0) statistics for a DR Series system.

Syntax

```
stats --network
```

Result

```
eth0 Rx Bytes                  : 105604787051
eth0 Rx Packets                : 9999546789
```

```
eth0 Rx Errors                  : 0
eth0 Rx Drops                   : 0
eth0 Rx Fifo Errors             : 0
eth0 Rx Frame Errors            : 0
eth0 Tx Bytes                   : 108732530699
eth0 Tx Packets                 : 1646686197
eth0 Tx Errors                  : 0
eth0 Tx Drops                   : 0
eth0 Tx Fifo Errors             : 0
eth0 Tx Collision               : 0
eth0 Tx Carrier Error           : 0

eth1 Rx Bytes                   : 10360478700
eth1 Rx Packets                 : 123465437
eth1 Rx Errors                  : 0
eth1 Rx Drops                   : 0
eth1 Rx Fifo Errors             : 0
eth1 Rx Frame Errors            : 0
eth1 Tx Bytes                   : 10960478703
eth1 Tx Packets                 : 195604783
eth1 Tx Errors                  : 0
eth1 Tx Drops                   : 0
eth1 Tx Fifo Errors             : 0
eth1 Tx Collision               : 0
eth1 Tx Carrier Error           : 0

eth2 Rx Bytes                   : 10760478702
eth2 Rx Packets                 : 133604783
eth2 Rx Errors                  : 0
eth2 Rx Drops                   : 0
eth2 Rx Fifo Errors             : 0
eth2 Rx Frame Errors            : 0
eth2 Tx Bytes                   : 1235875909
eth2 Tx Packets                 : 13578213
eth2 Tx Errors                  : 0
eth2 Tx Drops                   : 0
eth2 Tx Fifo Errors             : 0
eth2 Tx Collision               : 0
eth2 Tx Carrier Error           : 0
eth3 Rx Bytes                   : 1996047831
eth3 Rx Packets                 : 133404782
eth3 Rx Errors                  : 0
eth3 Rx Drops                   : 0
eth3 Rx Fifo Errors             : 0
eth3 Rx Frame Errors            : 0
eth3 Tx Bytes                   : 1195604722
eth3 Tx Packets                 : 193460478
eth3 Tx Errors                  : 0
eth3 Tx Drops                   : 0
eth3 Tx Fifo Errors             : 0
eth3 Tx Collision               : 0
```

```
eth3 Tx Carrier Error          : 0

bond0 Rx Bytes                 : 105604787051
bond0 Rx Packets               : 135791120
bond0 Rx Errors                : 0
bond0 Rx Drops                 : 0
bond0 Rx Fifo Errors           : 0
bond0 Rx Frame Errors          : 0
bond0 Tx Bytes                 : 108732530699
bond0 Tx Packets               : 1646686197
bond0 Tx Errors                : 0
bond0 Tx Drops                 : 0
bond0 Tx Fifo Errors           : 0
bond0 Tx Collision             : 0
bond0 Tx Carrier Error         : 0
```

stats --datacheck

Description

Displays the current set of datacheck statistics on a DR Series system.

NOTE: The Progress field in the statistics can indicate one of three values: **Waiting**, **Running**, and **Idle**.

- **Waiting**: Data Check is in this state because another operation is now running.
- **Running**: Data Check is in this state when running the scans.
- **Idle**: Data Check is in this state waiting for the next opportunity to run the Data Check scans.

The following example shows the status of active DR Series system operations in response to the stats --datacheck command on a DR Series system when Data Check is enabled.

Syntax

```
stats --datacheck
```

Result

```
Data Check
Progress
Active Writes                                                    : No
Active System Operations                    : No
Total Detected Errors                                 : 0
Last Complete Namespace Scan   : 2012-02-02 17:48:18
Last Complete Blockmap Scan    : 2012-02-02 16:33:08
Namespace Scans Completed                   : 183
Namespace Scan Entries                                     : 6
Namespace Scan Errors                                 : 0
```

```
Namespace Scan Start Time                    : 2012-02-02 17:43:08
Namespace Scan Progress                             : 100.00%
Blockmap Scans Completed                     : 8
Blockmap Scan Entries                               : 3
Blockmap Scan Errors                                        : 0
Blockmap Scan Start Time                     : 2012-02-02 16:33:06
Blockmap Scan Progress                                      : 100.00%
```

Other Examples

This example shows the output from the stats --datacheck command used on a DR Series system when Data Check is disabled.

```
stats --datacheck

Online Data Verification                     : Disabled
Progress
Active Writes                                                                    : No
Active System Operations                     : No
Total Detected Errors                               : 0
Last Complete Namespace Scan   : 2012-01-24 15:50:10
Last Complete Blockmap Scan            : 2012-01-24 15:55:59
```

stats --nfs

Description

Displays the current NFS statistics for a DR Series system.

Syntax

```
stats --nfs
```

Result

```
NFS Per Op Statistics
Procedure            Calls      Avg(us)    Max(us)    Errors
--------------------------------------------------------------------------
NULL                    94        277       4172          0
GETATTR              52552      19946   19905631          0
SETATTR               1031     629602  166232015          0
LOOKUP                2227      18897    1918992       1673
ACCESS               26221        543     416780          0
READLINK                 0          0          0          0
READ               5302595     240217  856398852          1
WRITE                12872     188647    6853027          0
CREATE                1031     917970   23587115          0
```

```
MKDIR                   0          0          0          0
SYMLINK                 0          0          0          0
MKNOD                   0          0          0          0
REMOVE              44996     155136    6458023          0
RMDIR                   0          0          0          0
RENAME                  0          0          0          0
LINK                    0          0          0          0
READDIR                 0          0          0          0
READDIRPLUS         85566      30674   28308673          0
FSSTAT                 30     321247    1133437          0
FSINFO                104      55279    2402344          0
PATHCONF               52      30217    1466732          0
COMMIT               1031     102190    5506293          0
XWRITE             676364          0          0          0
```

stats --cifs

Description

Displays the current CIFS statistics for a DR Series system.

Syntax

```
stats --cifs
```

Result

```
CIFS Per Op Statistics
Procedure                    Calls      Avg(us)    Max(us)    Errors
--------------------------------------------------------------------------
CONNECT                        240     536311    1545946          0
DISCONNECT                     214       1979      13127          0
CREATE                         271     147101    1170580          0
OPEN                             0          0          0          0
CLOSE                            0          0          0          0
PREAD                      1223941       6167  856679104          0
IOV_PREAD                        0          0          0          0
PWRITE                     4629174      26376  529148935          0
IOV_PWRITE                       0          0          0          0
FTRUNCATE                        0          0          0          0
LSTAT                            0          0          0          0
FCNTL                            0          0          0          0
CANCEL                           0          0          0          0
FSTAT                       548246        325    7495992          0
FSTAT_BY_PATH                    0          0          0          0
READDIR                       5064     106833   13550728          0
OPENDIR                       2478        160       3671          0
OPENDIR_BY_PATH                  0          0          0          0
```

```
CLOSEDIR                  2477         22       1434          0
MKDIR                        0          0          0          0
MKDIR_BY_PATH                0          0          0          0
REMOVE                       0          0          0          0
REMOVE_BY_PATH           18026      90875    4900538          0
RENAME                       0          0          0          0
RENAME_BY_PATH               0          0          0          0
RMDIR                        0          0          0          0
RMDIR_BY_PATH                0          0          0          0
FCHMOD                       0          0          0          0
FCHMOD_BY_PATH               0          0          0          0
FCHOWN                       0          0          0          0
FCHOWN_BY_PATH               0          0          0          0
FSYNC                      226      16257     561552          0
STATVFS                      0          0          0          0
STATVFS_BY_PATH              0          0          0          0
UTIME                        0          0          0          0
UTIME_BY_PATH                0          0          0          0
MKFIFO                       0          0          0          0
MKNOD                        0          0          0          0
READLINK                     0          0          0          0
READLINK_BY_PATH             0          0          0          0
LINK                         0          0          0          0
LINK_BY_PATH                 0          0          0          0
SYMLINK                      0          0          0          0
SYMLINK_BY_PATH              0          0          0          0
FLOCK                        0          0          0          0
SETXATTR                   271      87332     565006          0
SETXATTR_BY_PATH           512      95902     896865          0
GETXATTR                   922      21916     687777          0
GETXATTR_BY_PATH        354219      18363    3902905          0
LISTXATTR                  676      25103     551572          0
LISTXATTR_BY_PATH        261591       9222    4276854          0
REMOVEXATTR                  0          0          0          0
REMOVEXATTR_BY_PATH          0          0          0          0
FD_FROM_PATH            610645       1609  856224591          0
GET_REAL_FILENAME         1358      17105     860143          0
XWRITE                       0          0          0          0


CIFS I/O Statistics
Procedure                 Avg(bytes) Max(bytes) Min(bytes)
--------------------------------------------------------------------------
READ                        52429      61440      61440
WRITE                       65536      65536      65536
XWRITE                          0          0          0
```

stats --ost

Description

Displays the current OpenStorage Technology (OST) statistics categories for a DR Series system.

Syntax

```
stats --ost
```

Result

```
OST Server Statistics
Procedure            Calls      Avg(us)     Max(us)     Errors
--------------------------------------------------------------------------
GET_AUTH                 2            0           0           0
OPEN_SERVER              2            0           0           0
CLOSE_SERVER             1            0           0           0
CREATE_FILE              0            0           0           0
OPEN_FILE             9871            0          28           0
CLOSE_FILE            9871            0          27           0
UNLINK_FILE              0            0           0           0
WRITE_FILE               6            0           0           0
READ_FILE            19676            0           0           0
REPLICATE_FILE           0            0           0           0
LIST_LSU                 2            0           0           0
OPENDIR                  0            0           0           0
CLOSEDIR                 0            0           0           0
READDIR                  0            0           0           0
SET_LSU_INFO             0            0           0           0
GET_LSU_INFO          3279            0          22           0
REPL_SVR_SETUP           0            0           0           0
GET_IMAGE_INFO           0            0           0           0
MKDIR                    0            0           0           0
RMDIR                    0            0           0           0
RENAME                   0            0           0           0
ACCESS                9906            0           0           0
TRUNCATE                 0            0           0           0
GETSCID               9871            0           0           0
READDIR_PLUS             0            0           0           0
```

stats --rds

Description

Displays statistics for RDS server.

Syntax

```
stats --rds
```

Result

```
RDS Server Statistics
Procedure            Calls      Avg(us)     Max(us)     Errors
--------------------------------------------------------------------------
GET_AUTH                 2            0           0           0
OPEN_SERVER              2            0           0           0
CLOSE_SERVER             1            0           0           0
CREATE_FILE              0            0           0           0
OPEN_FILE             9901            0          28           0
CLOSE_FILE            9901            0          27           0
UNLINK_FILE              0            0           0           0
WRITE_FILE               6            0           0           0
READ_FILE            19736            0           0           0
REPLICATE_FILE           0            0           0           0
LIST_LSU                 2            0           0           0
OPENDIR                  0            0           0           0
CLOSEDIR                 0            0           0           0
READDIR                  0            0           0           0
SET_LSU_INFO             0            0           0           0
GET_LSU_INFO          3289            0          22           0
REPL_SVR_SETUP           0            0           0           0
GET_IMAGE_INFO           0            0           0           0
MKDIR                    0            0           0           0
RMDIR                    0            0           0           0
RENAME                   0            0           0           0
ACCESS                9936            0           0           0
TRUNCATE                 0            0           0           0
GETSCID               9901            0           0           0
READDIR_PLUS             0            0           0           0
```

stats --ndmp

Description

Displays statistics for current NDMP sessions for a DR Series system.

Syntax

```
stats --ndmp
```

Result

```
Bytes Written                 Bytes Read
3632267264                    0
```

stats --ndmp_completed

Description

Displays statistics for completed NDMP sessions for a DR Series system.

Syntax

```
stats --ndmp_completed
```

Result

```
Bytes Written                 Bytes Read
1247953038336                 2253404205
```

stats --iscsi [--verbose]

Description

This command displays statistics for iSCSI sessions on the current DR system. The --verbose option provides detailed session information for the cartridges in the VTL.

Syntax

```
stats --iscsi --verbose
```

Result

```
# stats - iscsi
 Bytes  Written                          Bytes  Read
 1247953038336                          2253404205


# stats –icsi –verbose
Container: vtl-1
TGT LUN       Model SID Read [ bytes cmds ] Write[ bytes cmds ] Errs
  1   1 L700          3        34367    435            0      0    1
  1   2 ULT3580-TD4   3 125487488328 638396          176     12  177
  1   3 ULT3580-TD4   3        72052    101           44      3  166
  1   4 ULT3580-TD4   3        72032    100           44      3  165
```

```
  1   5 ULT3580-TD4   3        72032    100           44      3  165
  1   6 ULT3580-TD4   3         6176     90            0      0  158
  1   7 ULT3580-TD4   3        72032    100           44      3  165
  1   8 ULT3580-TD4   3        72032    100           44      3  165
  1   9 ULT3580-TD4   3       468220    212 601296470516 3058393 158
  1  10 ULT3580-TD4   3 601299559400 3058553          352     24 171
  1  11 ULT3580-TD4   3        72032    100           44      3  165
```

stats --fc [--iostat] [--linkstat]

Description

This command displays statistics for Fibre Channel (FC) sessions on the current DR system. You can specify the following parameters with this command:

- iostat — returns input/output statistics, such as bytes read
- linkstats — provides statistics like frames received/sent, loss of sync, loss of signal, and link failures.

Syntax

```
stats --fc
```

Result

```
Target port: 50:00:65:b6:33:63:14:88

    Link Failure: 1
    Loss Of Sync: 0
    Loss Of Signal: 0
    Primitive Sequence Protocol Error: 0
    Invalid Transmission Word: 0
    Invalid CRC: 0
    NOS Received: 1
    Rx Frames: 295069
    Tx Frames: 590099


    Bytes Written               Bytes Read
    0                           51678208

    Initiator: 10:00:00:90:fa:a0:ae:0a
        Bytes Written                   Bytes Read
        0                               24576

    Initiator: 50:0a:09:80:00:88:a7:71
        Bytes Written                   Bytes Read
        0                               1900544
```

```
    Initiator: 50:0a:09:80:06:8d:9a:40
        Bytes Written                   Bytes Read
        0                               1900544

    Initiator: c0:03:ff:bd:1d:69:00:48
        Bytes Written                   Bytes Read
        0                               47851520

Target port: 50:00:65:b6:33:63:14:89

    Link Failure: 3
    Loss Of Sync: 0
    Loss Of Signal: 0
    Primitive Sequence Protocol Error: 0
    Invalid Transmission Word: 63
    Invalid CRC: 0
    NOS Received: 2
    Rx Frames: 555628
    Tx Frames: 1111214


    Bytes Written               Bytes Read
    0                           96420864

    Initiator: 10:00:00:90:fa:cf:49:5e
        Bytes Written                   Bytes Read
        0                               0

    Initiator: c0:03:ff:bd:1d:69:00:54
        Bytes Written                   Bytes Read
        0                               734208

    Initiator: c0:03:ff:bd:1d:69:00:58
        Bytes Written                   Bytes Read
        0                               94950400

    Initiator: c0:03:ff:bd:1d:69:00:60
        Bytes Written                   Bytes Read
        0                               734208
```

stats --fc --iostat

```
Target port: 50:00:65:b8:14:26:78:78

    Bytes Written               Bytes Read
    138577053696                3776857088

    Initiator: 20:01:00:0e:1e:d0:79:f8
        Bytes Written                   Bytes Read
```

```
        138577053696                    3776857088

Target port: 50:00:65:b8:14:26:78:79

    Bytes Written               Bytes Read
    0                           0
```

stats --fc --linkstat

```
Target port: 50:00:65:b8:14:26:78:78

    Link Failure: 4
    Loss Of Sync: 3
    Loss Of Signal: 3
    Primitive Sequence Protocol Error: 0
    Invalid Transmission Word: 0
    Invalid CRC: 0
    NOS Received: 4
    Rx Frames: 70594737
    Tx Frames: 7700330
    Abort Task Set: 0
    Clear Task Set: 0
    Clear ACA: 0
    LUN Reset: 0
    Target Reset: 0
                                ABTS : 0

Target port: 50:00:65:b8:14:26:78:79

    Link Failure: 0
    Loss Of Sync: 0
    Loss Of Signal: 0
    Primitive Sequence Protocol Error: 0
    Invalid Transmission Word: 0
    Invalid CRC: 0
    NOS Received: 0
    Rx Frames: 0
    Tx Frames: 0
    Abort Task Set: 0
    Clear Task Set: 0
    Clear ACA: 0
    LUN Reset: 0
    Target Reset: 0
                                ABTS : 0
```

stats --container --name <name>

Description

Displays the current statistics for a specific container in a DR Series system that you define by name using the DR Series system CLI --name <name> command.

Syntax

```
stats --container --name backupsys-60_replicate
```

Result

```
Container Name          : backupsys-60_replicate
Container ID                    : 3
Total Inodes                            : 1
Read Throughput         : 3.91 MiB/s
Write Throughput        : 3.45 MiB/s
Current Files           : 109931
Current Bytes           : 6193231169
Cleaner Status                  : Done
```

stats --storage_group --name <name>

Description

This command displays statistics for a specific storage group as referenced by the --name <name> command option.

Syntax

```
stats --storage_group --name DefaultGroup
```

Result

```
Storage_group ID                : 0
Capacity Used                   : 380.4 GiB
Capacity Used in GB             : 408.425
Capacity Free                   : 3572.8 GiB
Capacity Free in GB             : 3836.313
Total Inodes                    : 810
Read Throughput                 : 0.00 MiB/s
Write Throughput                : 0.00 MiB/s
Current Files                   : 682
Current Bytes                   : 1351703380026
Post Dedupe Bytes               : 408536589100
```

```
Post Compression Bytes          : 408424845453
Post Encryption Bytes           : 0
Post Encryption Bytes in GiB    : 0.0 GiB
Bytes decrypted                 : 0
Cleaner Status                  : Pending
Compression Status              : Done
Encryption Status               : Disabled
Dedupe Savings                  : 69.78 %
Compression Savings             : 0.03 %
Total Savings                   : 69.78 %
```

stats --replication [--name <name>]

Description

Displays the current replication statistics for all containers in a DR Series system or for a specific container in a DR Series system that you define using the DR Series system CLI --name <name> command.

Syntax

```
stats --replication --name backup-acme-60_replicate
```

Result

```
Container Name
Replication Target Container                    : backup
Replication Target System                                   : 10.25.19.16
Peer Status
Replication State                                                                   : INS
Schedule Status
Replication Average Throughput          : 4154 KiB/s
Replication Maximum Throughput          : 15710 KiB/s
Network Average Throughput                                  : 3759 KiB/s
Network Maximum Throughput                                  : 14999 KiB/s
Network Bytes Sent                                                                  : 154
Network Savings
Last INSYNC Time                                                                    : 201
Estimated Time To Sync                                                : 0 days 7 hours 3 minutes 19

Data replication history

File : /vargen/source/Office_Docs/Email/Outlook/3244.flate, 44.70%, 88773 bytes, 1305
KB/s, replicated at : 2012-06-19 11:47:03

File : /vargen/source/status/DEV/August11/dev-status.doc, 100.00%, 86200 bytes, 4310
KB/s, replicated at : 2012-06-19 11:47:03

File : /vargen/source/MKT/whitepaper/eng/324.tar.gz, 0.00%, 5182 bytes, 259 KB/s,
```

```
replicated at : 2012-06-19 11:47:03

File : /vargen/source/acctspay/status/Sept11/3242.tar.gz, 65.23%, 94616 bytes, 1456
KB/s, replicated at : 2012-06-19 11:47:03

File : /vargen/source/revenue/Q311/interna/324.xls, 0.00%, 5152 bytes, 286 KB/s,
replicated at : 2012-06-19 11:47:03

File : /vargen/source/projects/Q411/europe/3244.tar.gz, 62.94%, 8828 bytes, 1193 KB/s,
replicated at : 2012-06-19 11:47:03
```

stats --cleaner

The **stats --cleaner** command displays the current running cleaner progress and the amount of time taken to complete its latest full pass. The Cleaner is an asynchronous process in the DR Series system that reclaims disk storage space by reclaiming space that previously contained unreferenced datastore files.

Syntax

```
stats --cleaner
```

Result

```
Last Run:
Last Files Processed            : 0
Last Bytes Processed            : 0
Last Bytes Reclaimed            : 0
Last Start Time                 : 11/30/16 01:57:32
Last End Time                   : 11/30/16 01:57:37
Time To Completion(s)           : 5.00

Current Run:
Start Time                      : 11/30/16 02:00:37
Files Processed                 : 100
Bytes Processed                 : 37748736000
Bytes Reclaimed                 : 15281899829
Phase 1 Start Time              : 11/30/16 02:00:38
Phase 1 Records Processed       : 0
Phase 1 End Time                : 11/30/16 02:00:38
Phase 2 Start Time              : 11/30/16 02:00:38
Phase 2 Records Processed       : 1172436
Phase 2 End Time                : 11/30/16 02:00:39
Phase 3 Start Time              : 11/30/16 02:00:39
Phase 3 Records Processed       : 1600
Phase 3 End Time                : 11/30/16 02:00:47
Phase 4 Start Time              : 11/30/16 02:00:51
Phase 4 Records Processed       : 1637
Phase 4 End Time                : 11/30/16 02:00:51
Phase 5 Start Time              : 11/30/16 02:00:51
```

```
Phase 5 Records Processed       : 0
Phase 5 End Time                : 11/30/16 02:00:51

Last Completed Run:
Last Completed Start Time       : 11/30/16 01:50:15
Last Completed End Time         : 11/30/16 01:50:30
Last Completion time(s)         : 15.00

Cleaner Pending Work:
Estimated Logical Bytes Left    : 3130982400
```

stats --clients [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>]

Description

Displays the current NFS, CIFS, OST, RDS, NDMP, iSCSI, or FC clients that are configured on the DR Series system.

To filter the list of clients to display a specific client type (for example, NFS clients) on a DR Series system, use the DR Series system CLI **--type** command option.

> **NOTE:** For OST clients, the value under **Connections** is **0** (zero) when the connection is configured (but it is not in use), and **1** when the connection is in use.

Syntax

```
stats --clients
```

Result

[update output result to include FC?]

```
No NFS client(s) are connected.

No CIFS client(s) are connected.

No OST client(s) are connected.

RDS Client(s)
Type  Plugin   OS                    Backup Software        Last Access
Connection(s) Mode
BabuK-W2K8-02
RDS   2.1.201  Windows Server 2008 R2 NetVault 9.20 Build 12 Aug 13 07:53:26 1
Passthrough   R720xd-Netvault
RDS   --       --                    --                     --              0 Default
```

```
No ndmp sessions found.

iSCSI client(s) information:
Container: iscsi-1
 Target IQN: iqn.1984-05.com.dell:dr4000.2149308.iscsi-1.50
  Initiators Connected: iqn.1991-05.com.microsoft:test-w2k8-03.test.local
```

stats --reset [--nfs] [--cifs] [--ost] [--rds] [--datacheck]

Description

Resets the current NFS, CIFS, OST, RDS, or Data Check statistics for a DR Series system. The following example shows --nfs; to reset another statistic type, just replace that option type in the DR Series system CLI command.

Syntax

```
stats --reset -nfs
```

Result

```
Successfully reset NFS stats.
```

stats --reset --datacheck

Description

Resets the current set of Data Check statistics on a DR Series system.

Syntax

```
stats --reset --datacheck
```

Result

```
Datacheck statistics reset successfully.
```

stats --seed

Description

Use to monitor the seeding progress.

Syntax

```
stats --seed
```

Result

```
Seeding Source Stats:

 Seed state:                    SEED_STARTED
 Seed status:                  FINISHED
 Seed device mount:          /mnt/.__seed_device
 Blockmaps read:                          12
 Seeding Dictionary updates:        1065
 Streams read:                             196042
 Comp bytes read:                         5959925818
 Streams committed:                      196042
 Streams deduped:                         141245
 DS's committed:                           475
 Total bytes processed:                 10401873920
 Total bytes deduped:                    4441947702
 Total inline bytes:                      400
 Total orig bytes committed:         5959925818
 Total comp bytes committed:         5959925818
 Device orig bytes committed:       5959925818
 Device comp bytes committed:       5959925818
 Logical Avg Throughput:              0.000 KB/s
 Logical Max Throughput:              2462955.935 KB/s
 Physical Avg Throughput:            0.000 KB/s
 Physical Max Throughput:            151010.166 KB/s
 Estimated time to sync:              0 days 0 hours 0 minutes 0 seconds

…….
…….
…….
```

stats --help

Description

Displays the list of all stats-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
stats --help
```

Result

```
Usage:
     stats --system
     stats --cpu
     stats --memory
     stats --network
     stats --datacheck
     stats --nfs
     stats --cifs
     stats --ost
     stats --rds
     stats --ndmp
     stats --ndmp_completed
     stats --iscsi [--verbose]

               stats --fc [--iostat]
                         [--linkstat]

     stats --container --name <name>

               stats --storage_group --name <name>
               stats --replication [--name <name>]

     stats --cleaner

     stats --clients [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>]

     stats --reset [--nfs]
          [--cifs]
          [--ost]
                                [--rds]
          [--datacheck]

     stats --seed

     stats --help
```

```
stats <command> <command-arguments>
<command> can be one of:

    --system        Displays cumulative statistics for all containers.
    --cpu           Displays CPU statistics.
    --memory        Displays statistics for memory.
    --network       Displays statistics for network interfaces.
    --datacheck     Displays statistics for online data verification.
    --nfs           Displays statistics for NFS.
    --cifs          Displays statistics for CIFS.
    --ost           Displays statistics for OST server.
    --rds                                   Displays statistics for RDS server.
    --ndmp                              Displays statistics for current NDMP sessions.
    --ndmp_completedDisplays statistics for completed NDMP sessions.
    --iscsi                             Displays statistics for iSCSI sessions.
    --fc                                    Displays statistics for FC sessions.
    --container     Displays statistics for a specific container.
    --storage_group    Displays statistics for a specific storage group.
    --replication   Displays statistics for replication.
    --cleaner       Displays statistics for cleaner.
    --clients       Displays client information.
    --reset         Resets statistics.
    --seed                              Seeding statistics.


For command-specific help, please type stats --help <command>

For example:
     stats --help reset
```

stats --datacheck

This set of DR Series system CLI commands allow you to display the current Data Check statistics gathered by the system, reset the Data Check statistics for the system, and display the statistic-based Data Check help-related options. For more information, see Stats --Datacheck Command Usage.

stats --datacheck Command Usage

This topic introduces the stats --datacheck command usage:

- **stats --datacheck**
- **stats --reset --datacheck**
- **stats --help datacheck**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

stats --help datacheck

Description

Displays the list of stats command-based Data Check options that can be used as a reference when using the DR Series system CLI.

Syntax

```
stats --help datacheck
--datacheck - Displays statistics for online data verification.
```

Result

```
Usage:
        stats --datacheck
```

Storage Group commands

This set of DR Series system CLI commands let you manage the storage groups on a DR Series system, enabling you to perform tasks, such as adding or deleting a storage group, updating a storage group, updating encryption settings, updating compression settings, and setting a passphrase.

Storage Group Command Usage

This topic introduces the **storage_group** command usage:

- **storage_group --show**
- **storage_group --add --name**
- **storage_group --update --name**
- **storage_group --encryption --name**
- **storage_group --delete --name**
- **storage_group --setpassphrase --name**
- **storage_group --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

storage_group --show [--name <name>] [--verbose]

Description

Displays the current list of storage groups on the DR Series system. If you specify the –name option, you can view details of a specific storage group. The –verbose option displays more details.

Syntax

```
storage_group --show --name DefaultGroup --verbose
```

Result

```
Storage_group Entry ID          : 0
Storage_group Name              : DefaultGroup
Storage_group Compression Type  : Fast
Storage_group Encryption Set    : Off
Storage_group Encryption Mode   : Off
Storage_group Rotate Period     : 0
Storage_group Passphrase set    : No
Storage_group Created On        : Thu Nov 17 00:40:14 2016 PST
Storage_group Created Bld       : 62141
DefaultGroup's Containers
-------------------------
backup
vtl-iscsi
```

storage_group --add --name <name> [--compression_mode <fast|best>]

Description

Adds a new storage group to the DR Series system with the name specified by the --name command option.

NOTE: When adding a name, valid values for the name are (a-z, A-Z, 0–9, '_', and '_')

You can also set the compression mode for the storage group as fast or best, described as follows:

- Fast — Results in shorter backup time, but with less space savings.
- Best — Provides the highest space savings, but with a longer backup time.

Syntax

```
storage_group --add --name StorageGroup_1 --compression_mode best
```

Result

```
Storage Group "StorageGroup_1" created successfully.
```

storage_group --update --name <name> [--compression_mode <fast|best>]

Description

Allows you to modify the compression mode for the specified storage group. The compression mode for the storage group can be set as fast or best, described as follows:

- Fast — Results in shorter backup time, but with less space savings.
- Best — Provides the highest space savings, but with a longer backup time.

Syntax

```
storage_group --update --name StorageGroup_1 --compression_mode fast
```

Result

```
Storage Group "StorageGroup_1" updated successfully.
```

storage_group --encryption --name <name> [--set <ON | OFF>] [--mode <static|internal> <--interval <7 days to 70 years>]

Description

Allows you to set the encryption level for a specified storage group on the DR Series system. You turn encryption on or off by using the --set ON or --set OFF command options. The --mode option sets the mode of key lifecycle management as one of the following:

- static—A global, fixed key is used to encrypt all data.
- internal—Content encryption keys are generated and rotated on a specified period of days.

If you select Internal as the mode of key management, you need to set the --interval option, which specifies the number of days for key rotation when a new key is to be generated.

NOTE: In Internal mode there is a maximum limit of 1023 keys. The key rotation period is set to 30 days by default when the passphrase is set and/or encryption is turned on. You can later change the key rotation period from 7 days to 70 years for internal mode.

NOTE: After encryption is enabled, all of the data that is backed up is encrypted and is kept encrypted until it is expired and cleaned by the system cleaner. Note that encryption is an irreversible process.

NOTE: Due to export regulations, the encryption at rest feature is not available in certain markets, and, therefore, may not be available in your locale.

Syntax

```
storage_group --encryption --name StorageGroup_1 --set ON --mode internal --
interval 120
```

Result

```
Storage Group "StorageGroup_1" updated successfully.
```

storage_group --setpassphrase --name <name>

Description

Sets the passphrase for the specified storage group to be used to encrypt content encryption keys. (The passphrase string can take up to 255 characters. And, alphanumeric and special characters can be entered as part of the passphrase string.) This command will prompt you to enter and confirm a passphrase. This command also requires a filesystem server restart.

NOTE: It is mandatory to define a passphrase to enable encryption for a storage group. If the passphrase is compromised or lost, the administrator should change it immediately so that the content encryption keys do not become vulnerable.

Syntax

```
storage_group --setpassphrase --name StorageGroup_1
```

Result

```
Storage Group "StorageGroup_1" updated successfully.
Passphrase updated successfully.
```

storage_group --delete --name <name>

Description

Deletes the specified storage group from the DR Series system.

NOTE: Before a storage group can be deleted, all of the containers inside the storage group must first be deleted.

Syntax

```
storage_group --delete --name StorageGroup_1
```

Result

```
Storage Group "StorageGroup_1" has been deleted.
```

storage_group --help

Description

Displays the list of all storage_group-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
storage_group --help
```

Result

```
Usage:
  storage_group --show [--name <name>]
                [--verbose]

 storage_group --add --name <name>
              [--compression_mode <fast|best>]

        storage_group --update --name <name>
             [--compression_mode <fast|best>]

        storage_group --encryption --name <name>
             [--set <ON|OFF>]
             [--mode <static | internal>]
             [--interval <7 days to 70 years>]
```

```
    storage_group --delete --name <name>

    storage_group --setpassphrase --name <name>

    storage_group --help

   storage_group <command> <command-arguments>
   command can be one of:
        --show            Displays the current list of storage_group.
        --add             Adds a new storage_group.
        --update          updates a storage_group.
        --encryption      updates encryption settings of a storage_group.
        --delete          Deletes an existing storage_group.
        --setpassphrase   sets passphrase to a storage_group.

For command-specific help, please type storage_group --help <command>
    eg:
        storage_group --help show
```

System

This DR Series system CLI command and its options allow you to perform the a variety of system-related tasks, including the following:

- Displaying the current system configuration
- Initializing, rebooting, or shutting down the DR Series system
- Upgrading the DR Series system software
- Setting the system date and time
- Setting the network time protocol (NTP)
- Updating the login password
- Enabling or disabling telnet access
- Enabling or disabling marker detection status

NOTE: For information on the system --datacheck commands that are associated with the Data Check feature, see system --datacheck.

System Command Usage

This topic introduces the **system** command usage:

- **system --show [options]**
- **system --init [options]**
- **system --reboot**
- **system --shutdown**

- **system --upgrade**
- **system --license [options]**
- **system --setname --name**
- **system --setdate [options]**
- **system --setntp [options]**
- **system --hybrid_replication [options]**
- **system --rdairgap [options]**
- **system --rdairgap_schedule [options]**
- **system --setlogin**
- **system --telnet [options]**
- **system --datacheck [options]**
- **system --marker [options]**
- **system --verify_on_read [options]**
- **system --add_storage --enclosure** (Option only available on a physical hardware DR Series system)
- **system --storage [options]**
- **system --mgmt_traffic** (Option only available on a physical hardware DR Series system)
- **system --backup_traffic** (Option only available on a physical hardware DR Series system)
- **system --replication_traffic** (Option only available on a physical hardware DR Series system)
- **system --opdup_traffic** (Option only available on a physical hardware DR Series system)
- **system --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

system --show [--config]

Description

Displays the current system configuration summary for a DR Series system.

For specific sources of additional system configuration information, see the following system **--show** command options:

- **--hardware**
- **--storage [--type <boot |internal |external>] [--service_tag <service tag>]**
- **[--license] [--verbose]**
- **[--ntp]**
- **--version**
- **--timezones [Region]**

- **--upgradefile**
- **--upgradehistory**
- **[--marker]**
- **[--replication_traffic]**
- **[--opdup_traffic]**
- **[--backup_traffic]**
- **[--mgmt_traffic]**
- **--encryption [options]**

Syntax

```
system --show --config
```

Result

```
System Name                       : swsys-53
Current Time                      : Tue Apr  7 04:37:37 2015 PDT
Service Tag                       : 8MWT8Q1
Product Name                      : Dell DR4000
BIOS Version                      : 1.11.0
Version                           : 3.2.0192.0
Build                             : 56073
Build Date                        : Mon Apr  6 20:33:45 PDT 2015
IP Addr                           : 10.250.240.91
Mac Addr                          : 00:1B:21:9E:73:B8
Telnet State                      : Disabled
Compression Level                 : Balanced
Time Zone                         : US/Pacific
Data Check                        : Enabled - namespace,blockmap,throttle:50%
Marker Detection                  : Enabled
Storage Usage Alert               : 90%
Encryption                        : Enabled - Mode: internal, Interval: 10
NTPD Service is                   : UP
System State                      : Operational Mode
Reason                            : Filesystem is fully operational for I/O.
Diagnostics Collector             : RUNNING Apr  6 23:42:26
Configuration Server              : RUNNING Apr  7 00:27:16
System State                      : Operational Mode
Reason                            : Filesystem is fully operational for I/O.
Diagnostics Collector             : RUNNING Nov 13 23:02:11
Configuration Server              : RUNNING Nov 15 02:24:51
Filesystem Server                 : RUNNING Nov 15 02:24:53
NDMP Daemon                       : RUNNING Nov 15 02:28:04
Windows Access Server             : RUNNING Nov 17 03:46:30
HTTP Server                       : RUNNING Nov 13 22:59:44
Hardware Health Monitor           : RUNNING Nov 13 23:02:58
Windows Active Directory Client : RUNNING Nov 13 23:07:07
```

```
Filesystem Checker              : STOPPED
VTL Daemon                      : RUNNING Nov 15 02:28:06
ISCSI Server                    : RUNNING Nov 15 02:29:35
FC Server                       : RUNNING Nov 15 02:29:38
Global View Process             : RUNNING Nov 13 22:59:44
Support Portal Agent Process    : STOPPED
```

system --show [--hardware]

Description

Displays the current DR Series system hardware status for the system hardware components. This option is only available on a Physical DR.

NOTE: Due to length, the following example only shows a partial listing of the DR Series system hardware status that is displayed when using this DR Series system CLI command.

Syntax

```
system --show --hardware
```

Result

```
Component             Type          Signature   Health   PD_Count
Storage Controller   PERC H700    HDB ST00    optimal 14
Storage Controller   PERC H800    HDB ST01    optimal 48

Component     Signature   State    Health   Raid_Level   Agg_Status   PD_Count   Name
Virtual Disk HDB VD00    ready    optimal    1           1             2
Virtual Disk 0
Virtual Disk HDB VD01    ready    optimal    6           1             11
DATAVol

Component   Signature State   Spare_Config Spare_State Health   Slot Serial   Alert Size
 Type
Phys Disk   HDB PD00   online global        no           optimal 0    9WK4ZJ82 no     1
TB   Internal
```

system --show [--storage] [--type <boot | internal | external>] [--service_tag <service tag>]

Description

Displays current configuration information about the storage types installed in a DR Series system.

Syntax

```
system --show --storage --type external --service_tag HCM0PT3
```

Result

```
Component     Signature  State           Health  Raid_Level  Agg_Status  PD_Count
Name
Virtual Disk  HDB VD02   background_init optimal   6         1           16
ENCLVol_1

Component Signature  State  Spare_Config Spare_State Health  Slot Serial   Alert  Size
Type
Phys Disk HDB PD14   ready  dedicated    no          optimal 0    Z1P1Z5AG no     2 TB
Encl - 1
Phys Disk HDB PD15   ready  no           no          optimal 1    Z1P1YVFW no     2 TB
Encl - 1
Phys Disk HDB PD16   ready  no           no          optimal 2    Z1P27A94 no     2 TB
Encl - 1
Phys Disk HDB PD17   ready  no           no          optimal 3    Z1P229LJ no     2 TB
Encl - 1
Phys Disk HDB PD18   ready  no           no          optimal 4    Z1P26VKC no     2 TB
Encl - 1
Phys Disk HDB PD19   ready  no           no          optimal 5    Z1P26SLK no     2 TB
Encl - 1
Phys Disk HDB PD20   ready  no           no          optimal 6    Z1P26QBM no     2 TB
Encl - 1
Phys Disk HDB PD21   ready  no           no          optimal 7    Z1P1R6T3 no     2 TB
Encl - 1
Phys Disk HDB PD22   ready  no           no          optimal 8    Z1P26TK6 no     2 TB
Encl - 1
Phys Disk HDB PD23   ready  no           no          optimal 9    Z1P26MZ8 no     2 TB
Encl - 1
Phys Disk HDB PD24   ready  no           no          optimal 10   Z1P27C4S no     2 TB
Encl - 1
Phys Disk HDB PD25   ready  no           no          optimal 11   Z1P1WR0F no     2 TB
Encl - 1

Component       Signature       Health  Name    NexusId
```

```
EMM             HDB EM00        optimal "EMM 0" "\\1\\0\\0\\0"
EMM             HDB EM01        optimal "EMM 1" "\\1\\0\\0\\1"

Component       Signature       Health  Name                    Vendor  PartNumber
Power Supply    HDB EP00        optimal "Power Supply 1"        "DELL"  "0NFCG1A02"
Power Supply    HDB EP01        optimal "Power Supply 2"        "DELL"  "0NFCG1A02"

Component               Signature       Health  Temp_Reading    Name
 Vendor
Temperature Probe       HDB ET00        optimal 27.0            "Temperature Probe 0"
 "DELL"
Temperature Probe       HDB ET01        optimal 29.0            "Temperature Probe 1"
 "DELL"
Temperature Probe       HDB ET02        optimal 21.0            "Temperature Probe 2"
 "DELL"
Temperature Probe       HDB ET03        optimal 21.0            "Temperature Probe 3"
 "DELL"

Component       Signature       Health  Speed   Name            Vendor
Fan             HDB EF00        optimal 0       "0NFCG1A02"     "DELL"
Fan             HDB EF01        optimal 0       "0NFCG1A02"     "DELL"
Fan             HDB EF02        optimal 0       "0NFCG1A02"     "DELL"
Fan             HDB EF03        optimal 0       "0NFCG1A02"     "DELL"
```

system --show [--storage]

Description

Displays the service tag, size, configuration state, RAID level, the percentage used, and the state of the storage type (or types) installed on a DR Series system.

Syntax

```
system --show --storage
```

Result

```
Type        Service Tag  RawSize    Configured  RAIDLevel  Used   State
Boot        16TGJTR      278.88 GB  Yes         1          --     ready
Internal    16TGJTR      8.18 TB    Yes         6          2.69%  ready
Enclosure-1 DCGTXR1      8.18 TB    No          --         --     ready
```

For more information about a system storage, see system --add_storage --enclosure <service tag> and system --show [--storage] [--type <boot | internal | external>] [--service_tag <service tag>].

system --show [--license] [--verbose]

Description

Displays the summary license status (using the system --show --license command) or the detailed license status (using the system --show --license --verbose command) for the current data storage expansion shelves (enclosures) installed in a DR Series system. For more information on validating or adding licenses for data storage expansion shelves, see system --license [--validate] [--add].

Syntax

```
system --show --license
```

Result

```
ID       Description              Status
1        1 Storage Enclosure      Enabled
```

Note: To display a more detailed license status, use the following DR Series system CLI command:

```
system --show --license --verbose
Feature ID                    : 1
Description                   : 1 Storage Enclosure
Status                        : Enabled
Entitlement ID                : XKE00000003387477
Start Date                    :
End Date                      :
Is Eval                       : No
In Use                        : No
```

system --show [--ntp]

Description

Displays the current NTP service configuration for the DR Series system.

Syntax

```
system --show --ntp
```

Result

```
NTPD Service is               : UP
Server 1                      : 0.centos.pool.ntp.org
```

```
Server 2                        : 1.centos.pool.ntp.org
Server 3                        : 2.centos.pool.ntp.org
```

system --show [--version]

Description

Displays the currently installed version of the DR Series system software, and the date and time in which it was installed.

Syntax

```
system --show --version
```

Result

```
Version: 4.0.0272.0 Mon Dec 5 20:02:24 PST 2016
```

system --show [--timezones [Region]]

Description

Displays the entire set of time zones that can be selected for a DR Series system, and also displays the time zones that can be selected in a specific region.

Syntax

```
system --show --timezones
```

Result

```
Following are the time zone regions.
Africa                  America                 Antarctica      Arctic                          Asia
Brazil                  CET                     CST6CDT                         Canada
EST                                     EST5EDT                 Egypt
GB                                              GB-Eire                 GMT
Hongkong                Iceland                 Indian                                  Iran
Kwajalein               Libya                           MET
NZ                                              NZ-CHAT                 Navajo
Portugal                ROC                                             ROK
UTC                                             Universal               W-SU
```

Note: To display the time zones that can be selected in a specific region, use the following command:

```
system --show --timezones Chile
 Following are the time zones in Chile region:
 Continental
 Easter Island
```

system --show [--upgradefile]

Description

Displays the current version of the DR Series system software upgrade file that resides on the system appliance.

Syntax

```
system --show --upgradefile
```

Result

```
Version                        : 4.0.0273.0
MD5 Checksum                : 6cc18503cc555cb3cdf9bb8dbe487b4a
```

system --show [--upgradehistory]

Description

Displays the upgrade history for a DR Series system.

Syntax

```
system --show --upgradehistory
```

Result

```
Update Manager started at          : 2016/12/05 23:20:56
 Version                                  : 3.1.2219.1
 Update status                          : SUCCESS, REBOOT REQUIRED
 Update Manager finished at         : 2016/12/05 23:42:09
 Update Manager started at          : 2016/12/07 09:53:13
 Version                                  : 4.0.0273.0
 Update status                          : SUCCESS, REBOOT REQUIRED
 Update Manager finished at         : 2016/12/07 10:10:40
```

system --show [--marker]

Description

Displays the current state of marker detection in a DR Series system.

Syntax

```
system --show --marker
```

Result

```
Marker Detection     : Enabled
```

system --show [--replication_traffic]

Description

Displays configured dedicated replication network interface(s). This option is only available on a Physical DR.

Syntax

```
system --show --replication_traffic
```

Result

```
Application:                    replication
Application Interface(bond0):   10.250.xxx.x
```

system --show [--opdup_traffic]

Description

Displays the configured dedicated optimized copy network interface(s). This option is only available on a Physical DR.

Syntax

```
system --show --opdup_traffic
```

Result

```
Application:                    opdup_incoming
Application Interface(bond1):   10.250.xxx.x
```

system --show [--backup_traffic]

Description

Displays the configured dedicated backup network interface(s). This option is only available on a Physical DR.

Syntax

```
system --show --backup_traffic
```

Result

```
Application:                    OST
Application Interface(bond1):   10.250.xxx.x
```

system --show [--mgmt_traffic]

Description

Displays the configured dedicated appliance management network interface(s). This option is only available on a Physical DR.

Syntax

```
system --show --mgmt_traffic
```

Result

```
Application:                    webserver
Application Interface(bond3):   10.250.xxx.x
```

system --init

Description

This command initializes the system.

Syntax

```
system --init
```

Result

```
Please enter the administrator password:

Node name         = dr6300-22
IP address (bond0) = 10.250.209.65
IP address (bond2) = 10.250.240.221

Please verify the above information is correct.

WARNING: This operation will destroy all data in the system!
Do you want to continue (y/n)?y

Deleted CIFS user administrator.
Stopping Filesystem services... Done.
Updating configuration files... Done.
Cleaning diagnostics... Done.
Removing all Replication Snapshot(s)... Done.
Removing Seeding device mount... Done.
Shutting down all storage volumes... Done.
Clearing data... Done.
Creating NVRAM Partitions... Done.
Initializing NVRAM... Done.
Create NVMFS... Done.
Initializing Dictionary... Done.
Resetting alert(s)... Done.
Verifying user accounts... Done.
Stopping xinetd:                                           [  OK  ]
Starting xinetd:                                           [  OK  ]
Restarting Filesystem services... Done.

Node successfully initialized.

Enable Default settings
-----------------------
NTP enable... ok
NDMP set default login... ok - User exists
NDMP set default port... ok
NDMP enable... ok

Telnet State                    : Disabled
Compression Level               : Balanced
Time Zone                       : US/Pacific-New
Data Check                      : Enabled - namespace,blockmap,throttle:50%
Marker Detection                : Enabled
Storage Used Alert              : 90%
```

```
Read Verification               : Disabled%
Encryption                      : Disabled (Mode: none, Period: 0 Days)
```

system --init --secure_erase <1–pass/3-passes/7-passes>

Description

Secure Erase is a process for securely deleting data that follows standards developed by the Defense Security Service (DSS). These standards were developed to solve the problem of secure and permanent removal of data, and this capability is now used by many commercial enterprises. These standards require multiple passes to erase data. In the process of erasing, the system overwrites data with zeros, a random pattern of data, or ones (1s) to make the original contents unreadable.

In the DR Series system, two modes of secure erase have been adopted: 3-pass and 7-pass standards. This command securely erases all data with a 3-pass or 7-pass mode and runs during system initialization. This command erases all of the stored data while keeping the system in tact.

Syntax

```
system --init --secure_erase 3-passes
system --init --secure_erase 1-pass
system --init --secure_erase 7-passes
```

Result

```
Please enter the root password:
Node name         = DR4300e-05
IP address (bond0) = 10.250.208.107

Please verify the above information is correct.

WARNING: This operation will destroy all data in the system!
Do you want to continue (y/n)?y

Deleted CIFS user administrator.
Stopping Filesystem services... Done.
Updating configuration files... Done.
Cleaning diagnostics... Done.
Removing all Replication Snapshot(s)... Done.
Removing Seeding device mount... Done.
Shutting down all storage volumes... Done.

Securely Erasing Storage Volume: /dev/sdb5
------------------------------------------
        Pass: 1 ... 100%
        Pass: 2 ... 100%
        Pass: 3 ... 100%
```

```
Securely Erased all Storage Volume(s)... Done.
Clearing data... Done.
Creating NVRAM Partitions... Done.
Initializing NVRAM... Done.
Create NVMFS... Done.
Initializing Dictionary... Done.
Resetting alert(s)... Done.
Verifying user accounts... Done.
Stopping xinetd:                                           [  OK  ]
Starting xinetd:                                           [  OK  ]
Restarting Filesystem services... Done.

Node successfully initialized.

Enable Default settings
-----------------------
NTP enable... ok
NDMP set default login... ok - User exists
NDMP set default port... ok
NDMP enable... ok
```

The following example is the sample output of Secure Erase with 3-passes with an Enclosure attached.

```
Please enter the root password:

Node name         = DR4300E-02
IP address (bond0) = 10.250.212.50

Please verify the above information is correct.

WARNING: This operation will destroy all data in the system!
Do you want to continue (y/n)?
Deleted CIFS user administrator.
Stopping Filesystem services... Done.
Updating configuration files... Done.
Cleaning diagnostics... Done.
Removing all Replication Snapshot(s)... Done.
Removing Seeding device mount... Done.
Shutting down all storage volumes... Done.

Securely Erasing Storage Volume: /dev/sdb5
------------------------------------------
        Pass: 1 ... 100%
        Pass: 2 ... 100%
        Pass: 3 ... 100%

Securely Erasing Storage Volume: /dev/sdc5
------------------------------------------
        Pass: 1 ... 100%
        Pass: 2 ... 100%
        Pass: 3 ... 100%
```

```
Securely Erased all Storage Volume(s)... Done.
Clearing data... Done.
Creating NVRAM Partitions... Done.
Initializing NVRAM... Done.
Create NVMFS... Done.
Initializing Dictionary... Done.
Resetting alert(s)... Done.
Verifying user accounts... Done.
Stopping xinetd:                                           [  OK  ]
Starting xinetd:                                           [  OK  ]
Restarting Filesystem services... Done.

Node successfully initialized.

Enable Default settings
-----------------------
NTP enable... ok
NDMP set default login... ok - User exists
NDMP set default port... ok
NDMP enable... ok
```

Following is the sample output of Secure Erase with 1-pass:

```
Please enter the root password:

Node name         = dr6300-11
IP address (bond0) = 10.250.247.254

Please verify the above information is correct.

WARNING: This operation will destroy all data in the system!
Do you want to continue (y/n)?y

Deleted CIFS user administrator.
Stopping Filesystem services... Done.
Updating configuration files... Done.
Cleaning diagnostics... Done.
Removing all Replication Snapshot(s)... Done.
Removing Seeding device mount... Done.
Shutting down all storage volumes... Done.

Securely Erasing Storage Volume: /dev/sdb5
------------------------------------------
Writing Pass: 1 ... 100%
Securely Erased all Storage Volume(s)... Done.
Clearing data... Done.
Creating NVRAM Partitions... Done.
Initializing NVRAM... Done.
Create NVMFS... Done.
Initializing Dictionary... Done.
Resetting alert(s)... Done.
Verifying user accounts... Done.
```

```
Stopping xinetd:                                           [  OK  ]
Starting xinetd:                                           [  OK  ]
Restarting Filesystem services... Done.

Node successfully initialized.

Enable Default settings
-----------------------
NTP enable... ok
NDMP set default login... ok - User exists
NDMP set default port... ok
NDMP enable... ok
```

Following is the sample output of Secure Erase with 7-passes:

```
Please enter the root password:
Node name = DR4300e-05
IP address (bond0) = 10.250.208.107
Please verify the above information is correct.
WARNING: This operation will destroy all data in the system!
Do you want to continue (y/n)?y
Deleted CIFS user administrator.
Stopping Filesystem services... Done.
Updating configuration files... Done.
Cleaning diagnostics... Done.
Removing all Replication Snapshot(s)... Done.
Removing Seeding device mount... Done.
Shutting down all storage volumes... Done.
Securely Erasing Storage Volume: /dev/sdb5
----------------------------------------

Writing Pass: 1 ... 100%
Writing Pass: 2 ... 100%
Writing Pass: 3 ... 100%
Writing Pass: 4 ... 100%
Writing Pass: 5 ... 100%
Writing Pass: 6 ... 100%
Writing Pass: 7 ... 100%
Securely Erased all Storage Volume(s)... Done.
Clearing data... Done.
Creating NVRAM Partitions... Done.
Initializing NVRAM... Done.
Create NVMFS... Done.
Initializing Dictionary... Done.
Resetting alert(s)... Done.
Verifying user accounts... Done.
Stopping xinetd: [ OK ]
Starting xinetd: [ OK ]
Restarting Filesystem services... Done.
Node successfully initialized.
```

```
Enable Default settings
NTP enable... ok
NDMP set default login... ok - User exists
NDMP set default port... ok
NDMP enable... ok
```

system --reboot

Description

Reboots a DR Series system when you provide the required “administrator” password for the system.

Syntax

```
system --reboot
```

Result

```
Please enter administrator password:
Broadcast message from root (pts/0) (Wed Jun 20 11:00:58 2012):
The system is going down for reboot NOW!
```

system --shutdown

Description

Shuts down a DR Series system when you use this command and provide the required password.

> **CAUTION: The system --shutdown command powers off the appliance on which the DR Series system software is installed. Once the appliance is in a powered off state, you may only be able to power on the appliance in two ways: at its physical location, or by using an iDRAC connection on the network.**

Syntax

```
system --shutdown
```

Result

```
Please enter administrator password:
Broadcast message from root (pts/0) (Wed Oct 20 11:00:58 2012):
The system is being shutdown NOW!
```

system --upgrade

Description

Upgrades the version of the DR Series system software installed on a supported DR Series hardware appliance.

Syntax

```
system --upgrade
```

NOTE: To obtain the latest DR Series system upgrade image, go to the Support website (**support.quest.com/DR-Series**), enter your service tag or select your product, and download the latest DR Series system software upgrade image file to the local system using WinSCP.

NOTE: Prior to performing a DR Series system CLI-based upgrade, make sure to download the DR Series system upgrade image. To initiate a DR Series system software upgrade for Windows users using the DR Series system CLI, the system software upgrade image file (in tar.gz format) is validated by the DR Series system, renamed to DRSeries_payload.tar.gz, and transferred to a directory/store location known to the DR Series system.

When you use the DR Series system CLI system --upgrade command, the DR Series system looks in this known directory/store location for the DRSeries_payload.tar.gz file, and starts the system software upgrade process.

NOTE: If the SSH session is lost for any reason during the upgrade process, this loss terminates the SSH session and also terminates the upgrade process that was running. If this SSH session loss occurs during an upgrade process and results in a terminated session, you should reboot the DR Series system and retry the system software upgrade process.

system --license [--validate] [--add]

Description

Validates and installs the license for the external data storage you can add using the expansion shelf enclosures to the base DR Series system. The expansion shelf licenses are based on the size of the expansion shelves; for details on expansion shelves, see DR Series System Drive and System Capacities. There are two ways that expansion shelf licenses can be purchased: point of sale (POS) and after point of sale (APOS).

- POS licenses are those ordered from the factory with the DR Series system hardware appliance and the expansion shelf enclosures.
- APOS licenses are those ordered later separately for new expansion shelves or for existing Dell MD1200 storage arrays intended for use as expansion shelf enclosures.

NOTE: The 300 Gigabyte (GB) drive capacity (2.7 TB) version of the DR Series system does not support the addition of expansion shelf enclosures.

There are two ways to obtain the expansion shelf enclosure license (license.xml):

- By downloading the license file from the Support website (**support.quest.com/DR-Series**), in which you enter your service tag or navigate to your DR Series system type, then click **Get Drivers**.
- By using an email link from Dell where the license file resides.

Once you have located the license file for expansion shelf enclosure use WinSCP to copy it to the /store/license, which is a location known by the DR Series system software.

NOTE: Each added expansion shelf enclosure must be equal to or greater than each DR Series system internal drive slot capacity (0–11). Because 1 TB drives are the smallest ones supported by the expansion shelf enclosure you add, the 600 Gigabyte (GB) DR Series systems need to use 1 TB or larger sized drives in any expansion shelf enclosure added to the base system.

Syntax

```
system --license --validate
```

Result

```
License file is valid and can be installed.
```

To add a validated license for a data storage expansion shelf (enclosure), use the following DR Series system CLI command:

```
system --license --add
License file has successfully installed.
```

NOTE: The recommended process for adding an expansion shelf enclosure involves the following tasks:

- Use the system --license [--validate] [--add] command to validate and install the license for the expansion shelf enclosure.
- Power off (if needed) the Dell MD1200 storage array, physically connect the expansion shelf enclosure to the base DR Series system, and power on the expansion shelf enclosure.
- Use the system --add_storage --enclosure command (for specific information, see system --add_storage --enclosure <service tag>).

system --setname --name <node_name>

Description

Sets the hostname for a DR Series system.

Syntax

```
system --setname --name acme-60
```

Result

```
Successfully updated hostname.
Restarting syslog service ... done.
```

system --setdate [--date <date>] [--timezone <Region/Zone>]

Description

Sets the date and time zone on a DR Series system.

NOTE: To set a date (month/day/hour/minute) for the DR Series system, enter values using the following format where the specifying of a four-digit year [[CC]YY] and seconds [.ss] are optional: MMDDhhmm [[CC]YY][.ss]].

For example, September 29, 2011 13:20:00 can be entered in any of the following ways:

- 0929132012 and 092913202012: where 0929 represents September 29, 1320 represents 13:20 in a 24-hour time format, and 12 and 2012 both represent 2012.
- 0929132012.00 and 092913202021.00: where 0929 represents September 29, 1320 represents 13:20 in a 24-hour time format, 12 and 2012 both represent 2012, and .00 represents 13:20:00.

Syntax

NOTE: Respond to the prompt to stop the NTP service by issuing a **system --setntp --disable** command.

```
system --setdate --date 092913202012 --timezone US/Pacific

Please stop NTP service before changing time.

system --setntp --disable
```

Result

```
Shutting down ntpd: [  OK  ]
Fri Jun 29 13:20:00 PDT 2012

NTP service is already disabled.
Changed the time zone to US/Pacific
Thu Jun 29 13:20:00 PDT 2012
```

system --setntp [--add <server name>]

Description

Adds a new NTP server for use with the DR Series system.

Syntax

```
system --setntp --add 2.centos.pool.ntp.org
```

Result

```
Stopping NTP service ... Done
Adding NTP server ... Done
Starting NTP service ... Done
NTP server 2.centos.pool.ntp.org added.
```

Enter the following DR Series system CLI command to verify that the NTP server was successfully added:

```
system --show --ntp

NTP Service is : UP
Server 1                                        : 0.centos.pool.ntp.org
Server 2                                        : 1.centos.pool.ntp.org
Server 3                                        : 2.centos.pool.ntp.org
```

system --setntp [--delete <server name>]

Description

Deletes an existing NTP server.

Syntax

```
system --setntp --delete 2.centos.pool.ntp.org
```

Result

```
Stopping NTP service ... Done
Removing NTP server ... Done
Starting NTP service ... Done
NTP server 2.centos.pool.ntp.org deleted.
```

system --setntp [--enable]

Description

Enables the NTP service for your DR Series system.

Syntax

```
system --setntp --enable
```

Result

```
ntpd: Synchronizing with time server:                      [  OK  ]
Starting ntpd:                                             [  OK  ]
```

To verify whether the NTP service was enabled, use the following command:

```
system --setntp --enable
NTP service is already enabled.
```

system --setntp [--disable]

Description

Disables the NTP service for your DR Series system.

Syntax

```
system --setntp --disable
```

Result

```
Shutting down ntpd:      [  OK  ]
```

system --setntp [--adjust_time]

Description

Synchronizes a DR4000 system with the NTP server.

Syntax

```
system --setntp --adjust_time
```

Result

```
Time difference less than 2 seconds. Not adjusting with server 0.centos.pool.ntp.org
Time difference less than 2 seconds. Not adjusting with server 1.centos.pool.ntp.org
Time difference less than 2 seconds. Not adjusting with server 2.centos.pool.ntp.org
```

system --hybrid_replication [--enable][--disable][--status]

Description

Allows you to enable or disable hybrid replication on the DR Series system as well as view the hybrid replication mode status.

Syntax

```
system --hybrid_replication --enable
```

Results

```
Password required to proceed.
Please enter the administrator password:

Hybrid replication enabled successfully.
Stopping filesystem...Done.
Starting filesystem...Done.
```

system --rdairgap [--enable][--disable][--set_retention_period <0 days to 365 days>][--get_retention_period][--open][--close][--status]

Description

For the DR Series system to work in air gap mode (close/open), it must be enabled by using this command. You can use this command to also disable Air Gap support on the DR Series system.

NOTE: When enabled, by default, Air Gap is set to the open state, and the retention period is set to 180 days.

Available options for the system `--rdairgap` command are:

- enable - enables the air gap feature.
- disable - disables the air gap feature.
- open - changes the mode to open.
- close - changes the mode to close
- set_retention_period - sets the retention period by specifying 0 to 365 days
- get_retention_period - allows you to view the retention period value.
- status - allows you to view the current air gap mode status.

Syntax

```
system --rdairgap --enable
```

Result

```
Password required to proceed.
Please enter the administrator password:

Airgap mode enabled successfully.
Stopping filesystem...Done.
Starting filesystem...Done.
```

system --rdairgap_schedule [--start_time <HH:MM>][--end_time <HH:MM>][--remove]

Description

This command is used for schedule management for starting and closing an air gap. You can define a start time, end time, as well as remove the air gap schedule.

Syntax

```
system --rdairgap_schedule --start_time 01:15 --end_time 05:15
```

system --setlogin

Description

Updates or resets the login password for the administrator of a DR Series system.

Syntax

```
system --setlogin
```

Result

```
Please enter administrator password:
Please enter administrator's new password:
Please re-enter administrator's new password:
Changed administrator’s password.
```

system --telnet [--enable | --disable]

Description

Displays the current telnet access status, or you can use the command options to enable or disable telnet access for a DR Series system.

Syntax

```
system --telnet
```

Result

```
Telnet State   : Disabled
```

NOTE: In this example, the system --telnet command output showed the telnet access status as disabled. The following example shows the command for enabling telnet access on your DR Series system. To disable telnet access, use the **system --telnet --disable** command.

```
system --telnet --enable
Successfully enabled telnet.
```

system --datacheck --enable

Enables one or both Data Check scan options that can be used on a DR Series system. The enable option can be set to all, namespace, or blockmap. You can individually enable namespace or blockmap scan options, or both options using the all scan option (which means that both the namespace and blockmap scan types will be enabled).

Description

Enables an individual Data Check scan option type (or both scan types) when used in a DR Series system CLI command.

Syntax

```
system --datacheck [--enable <all | namespace | blockmap>]
```

Result

```
Data Check configuration successful: namespace and blockmap scans currently enabled.
```

NOTE: This example shows all Data Check scan options enabled. To enable only the namespace or only the blockmap scan, use those options respectively in the DR Series system CLI command, for example, **--enable --namespace**, or **--enable --blockmap**.

system --datacheck --disable

Disables one or both Data Check scan option types that can be used on a DR Series system. You can individually disable namespace or blockmap scan options, or both options using the all scan option (which means that both the namespace and blockmap scan types will be disabled).

Description

Disables an individual Data Check scan option type (or both scan types) when used in a DR Series system CLI command.

Syntax

```
system --datacheck [--disable <all | namespace | blockmap>]
```

Result

```
Data Check configuration successful: all scans currently disabled.
```

NOTE: This example shows all Data Check scan options being disabled. To disable only the namespace or the blockmap scan, use those options respectively in the DR Series system CLI command, for example, **--disable --namespace**, or **--disable --blockma**p.

system --datacheck --throttle

Use the Data Check --throttle option to specify the percentage of available DR Series system resources you want to use when running Data Check scans when the other system operations (data ingest, Replication, and Cleaner processes) are idle. The range is between 1 to 100 percent (%), and the default is 50%.

Description

Enables Data Check scans to use any percentage (1–100) of available DR Series system resource that you define. In this example, 75% of the available DR Series system resources are selected.

Syntax

```
system --datacheck [--throttle <1-100>]
```

Result

```
Data Check configuration successful: throttle set to 75%.
```

system --marker [--enable] [--disable]

Description

Enables or disables the marker detection status for all of the supported backup software used with a DR Series system based on the option you use with the command.

Syntax

```
system --marker
```

Result

```
Please enter either --enable or --disable to change system-level marker settings.
```

For more information about enabling or disable marker detection settings on a DR Series system, see system --marker [--enable] or system --marker [--disable].

> **NOTE:** To display the current status of the marker detection settings, use the DR Series system CLI command: system **--show --marker**.
>
> system --show --marker Marker Detection : Enabled
>
> Marker Detection : Enabled

system --verify_on_read [--enable] [--disable]

Description

Enables or disables data verification on read.

Syntax

```
system --verify_on_read --enable
```

Result

```
Verification of read data Enabled.
```

system --add_storage --enclosure <service tag>

Description

Adds a data storage expansion shelf (enclosure) to a DR Series system. Each expansion shelf that is added to a DR Series system requires an individual service tag and a license. For information about the maximum allowable expansion shelves and their capacities, see the *DR Series System Interoperability Guide* and the *DR Series System Administrator Guide* at **support.quest.com/DR-Series**.

NOTE: The 300 Gigabyte (GB) drive capacity (2.7 TB) version of the DR Series system does not support the addition of expansion shelf enclosures.

For more information about the required licenses, see system --show [--license] [--verbose] and system --license [--validate] [--add].

NOTE: The recommended process for adding an expansion shelf enclosure involves the following tasks:

- Use the system --license [--validate] [--add] command to validate and install the license for the expansion shelf enclosure. For specific information, see system --license [--validate] [--add].
- Power off (if needed) the Dell MD1200 storage array, physically connect the expansion shelf enclosure to the base DR Series system, and power on the expansion shelf enclosure.
- Use the system --add_storage --enclosure <service tag> command .

NOTE: Each added expansion shelf enclosure must be equal to or greater than each DR Series system internal drive slot capacity (0–11). Because 1 TB drives are the smallest one supported by the expansion shelf enclosure you add, the 600 Gigabyte (GB) DR Series system needs to use 1 TB or larger sized drives in any expansion shelf enclosure added to the base system.

NOTE: To verify the current types of storage on a DR Series system, use the DR Series system CLI command: system --show --storage. For more information, see system --show [--storage].

Syntax

```
system --add_storage --enclosure CTKHVW1
```

Result

```
WARNING: IO to the box will be stopped during enclosure addition.
```

```
Do you want to continue (yes/no) [n]? y
Enclosure: "CTKHVW1" added successfully.
```

system --storage [--set_usage_alert <70% - 90%>]

Description

Used to specify at what storage utilization percentage an alert should be sent.

Syntax

```
system --storage --set_usage_alert 90
```

Result

```
System storage usage alert has been set at 90%.
```

system --storage [--blink] [--type <internal | external>] [--service_tag <service tag>] [--disk <slot num>]

Description

Turns on an LED that is used in locating a specific physical disk or data storage expansion shelf (using the system --storage command) in the DR Series system. Select from the following DR Series system CLI command options:

- **--blink**: turns on LED on the physical disk or expansion shelf to identify it.
- **--type <internal | external>:** identifies storage as an internal physical disk or external expansion shelf.
- **--service_tag <service tag>:** identifies physical disk or expansion shelf by its unique service tag.
- **--disk <slot num>:** identifies the disk slot number (if no disk slot is defined, it globally affects all disks).

NOTE: There is a counterpart to this command, in which you can turn off the LED that aids in locating the physical disk or expansion shelf. For more information, see system --storage [--unblink] [--type <internal | external>] [--service_tag>] [--disk <slot num>].

NOTE: The above options are only available on a Physical DR.

Syntax

```
system --storage --blink --type external --service_tag HCM0PT3
```

Result

```
Turned on blinking for all disks in enclosure "HCM0PT3".
```

system --storage [--unblink] [--type <internal | external>] [--service_tag <service tag>] [--disk <slot num>

Description

Turns off an LED that is used in locating a specific physical disk or data storage expansion shelf (using the system --storage command) in the DR Series system. Select from the following DR Series system CLI command options:

- **--unblink:** turns off LED on the physical disk or expansion shelf.
- **--type <internal | external>:** identifies storage as an internal physical disk or external expansion shelf.
- **--service_tag <service tag>:** identifies physical disk or expansion shelf by its unique service tag.
- **--disk <slot num>:** identifies the disk slot number (if no disk slot is defined, it globally affects all disks).

NOTE: The above options are only available on a physical DR Series hardware system.

Syntax

```
system --storage --unblink --type external --service_tag CTKHVW3
```

Result

```
Turned off blinking for all disks in enclosure "CTKHVW3".
```

system --mgmt_traffic

Description

The command configures Webserver or Telnet to use a specific network interface.

Syntax

```
system --mgmt_traffic [--add] [--type <Webserver|Telnet>] [--interface
<bondN|ethN|lo>]
                [--update] [--type <Webserver|Telnet>] [--interface <bondN|ethN|lo>]
                [--delete] [--type <Webserver|Telnet>]
```

```
        --add         Add access network configuration.
        --update      Update access network configuration.
        --delete      Delete access network configuration.
        --type        Access type <Webserver|Telnet> to configure.
        --interface   Interface to use for access [bond(0-N)|eth(0-N)].
```

Result

```
Successfully added application webserver.
Restarting webserver service ... done.
```

system --backup_traffic

Description

The command specifies the network interfaces to use for backup network traffic.

Syntax

```
system --backup_traffic [--add] [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI>] [--interface
<bond(0-N)|eth(0-N)>]
                [--update] [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI>] [--interface <bond
(0-N)|eth(0-N)>]
                [--delete] [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI>]


        --add         Add backup network configuration.
        --update      Update backup traffic network configuration.
        --delete      Delete backup traffic network configuration.
        --type        Backup traffic type [NFS|CIFS|OST|RDS|NDMP|ISCSI] to configure.
        --interface   Interface to use for backup traffic.
```

Result

```
WARNING: This operation requires filesystem server restart. IO to the box will be
stopped.
Do you want to continue (yes/no) [n]? y
Successfully added application.
Restarting file system ... done.
```

system --replication_traffic

Description

The command sets the default network interface for replicating 'source' data.

Syntax

```
system --replication_traffic [--add] [--interface <bondN|ethN|lo>]
                 [--update] [--interface <bondN|ethN|lo>]
                 [--delete]


        --add         Add default replication network configuration.
        --update      Update default replication network configuration.
        --delete      Delete default replication network configuration.
        --interface   Interface to use for replicating 'source' data.
```

For example, to add the replication, run the command, `system --replication_traffic --add --interface bond0`

Result

```
Successfully added application replication.
```

system --opdup_traffic

Description

The command sets the default network interfaces for optimized copy data transfer.

Syntax

```
system --opdup_traffic [--add] [--incoming_interface <bondN|ethN|lo>] [--outgoing_
interface <bondN|ethN|lo>]
                 [--update] [--incoming_interface <bondN|ethN|lo>] [--outgoing_
interface <bondN|ethN|lo>]
                 [--delete]


        --add                  Add default optimized copy configuration.
        --update               Update default optimized copy configuration.
        --delete               Delete default optimized copy configuration.
        --incoming_interface   Interface to use for receiving optimized copy data.
        --outgoing_interface   Interface to use for sending optimized copy data.
```

For example, to add the default network interface for incoming traffic, run the command: `system --opdup_traffic --add --incoming_interface bond0`

Result

```
Successfully added application opdup_incoming.
```

system --help

Description

Displays the list of all system-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
system --help
```

Result

```
Usage:
        system --show [--config]
                 [--hardware]
                 [--storage] [--type <boot|internal|external>] [--service_tag <service
tag>]
                 [--license] [--verbose]
                 [--ntp]
                 [--version]
                 [--timezones [Region]]
                 [--upgradefile]
                 [--upgradehistory]
                 [--marker]
                                                [--verify_on_read]
                 [--replication_traffic]
                 [--opdup_traffic]
                 [--backup_traffic]
                 [--mgmt_traffic]

        system --reboot
        system --shutdown
        system --upgrade
        system --license [--add]

        system --setname --name <node_name>

        system --setdate [--date <date>]
                 [--timezone <Region/Zone>]

        system --setntp [--add <server name>]
                 [--delete <server name>]
```

```
                [--enable]
                [--disable]
                [--adjust_time]

                                                        system --hybrid_replication [--enable

                                                        system --rdairgap [--enable]

                                                        system --rdairgap_schedule [--start_t

        system --setlogin
        system --telnet [--enable | --disable]

        system --datacheck [--enable <all|namespace|blockmap>]
                [--disable <all|namespace|blockmap>]
                [--throttle <1-100>]

        system --marker [--enable]
                [--disable]

                                                        system --verify_on_read [--enable]
                [--disable]

        system --add_storage --enclosure <service tag>

        system --storage [--blink] [--type <internal|external>] [--service_tag
<service tag>] [--disk <slot num>]
                [--unblink] [--type <internal|external>] [--service_tag <service
tag>] [--disk <slot num>]

        system --mgmt_traffic [--add] [--type <Webserver|Telnet>] [--interface
<bondN|ethN|lo>]
                [--update] [--type <Webserver|Telnet>] [--interface <bondN|ethN|lo>]
                [--delete] [--type <Webserver|Telnet>]

        system --backup_traffic [--add] [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>] [--
interface <bond(0-N)|eth(0-N)|lo>]
                [--update] [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>] [--interface
<bond(0-N)|eth(0-N)|lo>]
                [--delete] [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>]
```

```
        system --replication_traffic [--add] [--interface <bondN|ethN|lo>]
                 [--update] [--interface <bondN|ethN|lo>]
                 [--delete]

        system --opdup_traffic [--add] [--incoming_interface <bondN|ethN|lo>] [--
outgoing_interface <bondN|ethN|lo>]
                 [--update] [--incoming_interface <bondN|ethN|lo>] [--outgoing_
interface <bondN|ethN|lo>]
                 [--delete]

        system --help

   system <command> <command-arguments>
   <command> can be one of:
                --show                  Displays command specific information.
                --reboot                Reboots the machine.
                --shutdown              Shuts down the machine.
                --upgrade               Upgrades the software on the machine.
                --license               Installs the license on the machine.
                --setname               Sets the name of the machine.
                --setdate               Sets the date and time zone for the machine.
                --setntp                Uses network time protocol (NTP) source to
update time.

support.


                --setlogin              Updates the login password.
                --telnet                Enables or disables telnet access.
                --datacheck             Enables or disables online data verification
features.
                --marker                Enables or disables markers.

                --add_storage           Adds an expansion shelf.
                --storage               Locates a disk or expansion shelf.
                --mgmt_traffic          Configure Webserver or Telnet to use a
specific network interface.
                --backup_traffic        Specify network interfaces to use for backup
network traffic.
                --replication_traffic   Set default network interface for replicating
'source' data.
                --opdup_traffic         Set default network interfaces for optimized
copy data transfer.

For command-specific help, please type system --help <command>
        eg:
            system --help show
```

User

This topic introduces the DR Series system CLI commands that allow you to manage user accounts by enabling or disabling user accounts, adding and updating users, setting passwords, deleting users, and displaying the list of current active user accounts logged in to a DR Series system.

User Command Usage

This topic introduces the **user** command usage:

- **user --show [options]**
- **user --enable --user [options]**
- **user --disable --user [options]**
- **user --add --name [options]**
- **user --update --name [options]**
- **user --delete --name**
- **user --setpassword --name**
- **user --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

user --show [--users] [--logins] [--verbose][--name <username>] [--roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|email_recipient>

Description

Displays the current status of the service and root user accounts (using the user --show --users command), and also displays the login types and login times on a DR Series system (using the user --show --logins command).

Syntax

```
user --show --users
```

Result

```
Service Account                 : Disabled
Root Account                    : Enabled
```

```
User Name                       : backup_user
User Roles                      : OST,RDA

User Name                       : administrator
User Roles                      : administrator,CIFS

User Name                       : iscsi_user
User Roles                      : ISCSI

User Name                       : ndmp_user
User Roles                      : NDMP
```

Other Examples

Displays the current status of login attempts on a DR Series system.

```
user --show --logins
User Name       Terminal    Login Time
root            pts/1       Oct 24 10:51 (10.15.13.4)
root            pts/2       Oct 23 20:41 (10.18.0.1)
root            pts/3       Oct 23 20:41 (10.15.0.13)
root            pts/5       Oct 24 09:35 (10.20.21.6)
administrator   pts/6       Oct 24 12:32 (acme13.storage.local)
root            pts/7       Oct 24 12:24 (10.18.11.12)
```

user --enable --user <service | root>

Description

Enables the service or root user account on a DR Series system.

Syntax

```
user --enable --user root
```

Result

```
"root" user enabled.
```

NOTE: To enable the service user account instead of the root user account, simply substitute the **service** option with the --user option, as shown in the following example:

```
user --enable --user service
```

NOTE: If root user or service user is enabled, it gets disabled after a reboot. You must enable it again, if required.

user --disable --user <service | root>

Description

Disables the service or root user account on a DR Series system.

Syntax

```
user --disable --user root
```

Result

```
"root" user disabled.
```

> **NOTE:** To disable the service user account instead of the root user account, simply substitute the **service** option with the --user option, as shown in the following example:
>
> ```
> user --disable --user service
> ```

user --add --name <user name>

Description

Adds a user account with the specified username.

Syntax

```
user --add --name Test_User
```

Result

```
Enter new password:
Re-type password:
User "Test_User" created successfully.
```

user --update --name <user name> [--new_ name <user name>] [--add_roles <cifs|ost|rda|ndmp|iscsi|monitor|email_ recipient>] [--remove_roles <cifs|ost|rda|ndmp|iscsi|monitor|email_ recipient>] [--full_name <full name>] [--phone <phone number>] [--email_addr <email address>] [--description <description>]

Description

Updates a specified user account. You can update the username, add roles to or remove roles from the account, add information such as full name, phone number, email address, or description.

Syntax

```
user --update --name Test_User --new_name Test_User2 --add_roles ndmp
```

Result

```
Successfully updated User Test_User.
```

user --delete --name <user name>

Description

Deletes the specified user account.

Syntax

```
user --delete --name Test_User2
```

Result

```
User "Test_User2" has been deleted.
```

user --setpassword --name <user name>

Description

Sets a password for the specified user account.

Syntax

```
user --setpassword --name Test_User2
```

Result

```
Enter new password:
Re-type password:
Successfully updated User Test_User2.
```

user --help

Description

Displays the list of all user-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
user --help
```

Result

```
Usage:
    user --show [--users]
                        [--logins]
                        [--verbose]
                        [--name <user name>]
                        [--roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|email_recipient>

    user --enable --user <service | root>

    user --disable --user <service | root>

    user --add --name <user name>
                        [--roles <cifs|ost|rda|ndmp|iscsi|monitor|email_recipient>
                        [--full_name <full name>]
                        [--phone <phone number>]
                        [--email_addr <email address (e.g., name@company.com)>]
```

```
                    [--description <anything>]

    user --update --name <user name>
                    [--new_name <user name>]
                    [--add_roles <cifs|ost|rda|ndmp|iscsi|monitor|email_recipient>
                    [--remove_roles <cifs|ost|rda|ndmp|iscsi|monitor|email_recipient>
                    [--full_name <full name>]
                    [--phone <phone number>]
                    [--email_addr <email address (e.g., name@company.com)>]
                    [--description <anything>]

    user --delete --name <user name>

    user --setpassword --name <user name>

    user --help

user <command> <command-arguments>
<command> can be one of:

    --show                  Displays command specific information.
    --enable                Enables a user account.
    --disable               Disables a user account.
    --add                               adds a user account.
    --update                        updates a user account.
    --delete                        delete a user account.
    --setpassword           sets password to a user account.

For command-specific help, please type user --help <command>

For example:

    user --help show
```

Virtual Machine

This topic introduces the DR Series system CLI commands that allow you to manage the virtual machines (VMs) that are registered to your physical DR Series system hardware appliance. At least one physical DR is required to act as the license server for your VM(s). A VM only needs to be licensed to one physical DR (even if you have more than one physical DR in your environment).

Virtual Machine Command Usage

This topic introduces the virtual machine command usage for managing the Virtual Machines that are registered to your physical DR.

- **virtual_machine --show [options]**
- **virtual_machine --update [options]**

- **virtual_machine --register [options]**
- **virtual_machine --unregister [options]**
- **virtual_machine --delete [options]**
- **virtual_machine --help**

virtual_machine -- show [--service_tag <service tag>]

Description

Displays the list of all DR2000v systems registered to the physical machine against which the command is run.

Syntax

```
virtual_machine --show
```

Result

```
SERVICE TAG     IP ADDRESS      HOSTNAME               CAPACITY(TB)
DR4xVM1-07              10.250.209.254  DR2000v-01.acme.local    2
DR4xVM1-08      10.250.209.255  DR2000v-02.acme.local    2
DR4xVM1-09      10.250.208.232  DR2000v-03.acme.local    1
```

virtual_machine --show --summary

Description

This command is used to display the number of DR2000v licenses consumed and available for a given capacity.

NOTE: This command is applicable only to the DR Series system hardware appliances: DR4000/DR4100/DR6000/DR4300e/DR4300/DR6300.

Syntax

```
virtual_machine --show --summary
```

Result

```
----------------------------------------
Capacity  VMsRegistered LicensesAvailable
----------------------------------------
```

```
1TB                 2998                    2
2TB                 17                      57
4TB                 3                       319
```

virtual_machine --update [--host <ip address | hostname>] [--name <administrator name>] [--email <email address>] [--company <company name>] [--comments <comments>]

Updates the host IP address and hostname for the virtual machine.

Syntax

```
virtual_machine --update --host DRhostname1 --name admin --email name@company.com
```

Results

```
Successfully updated DR2000v details in server.
```

virtual_machine --register [--host <ip address| hostname>] [--name <administrator name>] [--email <email address>] [--company <company name>] [--comments <comments>]

Registers the virtual DR Series system to the host IP address and hostname.

Syntax

```
virtual_machine --register --host DR_hostname1 --name admin
```

Results

```
DR2000v registered successfully.
```

virtual_machine --unregister [--force]

Unregisters the virtual DR Series system from a physical DR Series system.

Syntax

```
virtual_machine --unregister [--force]
```

virtual_machine –delete --service_tag <service tag>

Description

Un-registers a DR2000v based on the specified service tag.

Syntax

```
virtual_machine --delete --service_tag DR4xVM1-09
```

Result

```
Please enter the administrator password:
WARNING: This command will delete the DR2000v registration!
Do you want to continue? (yes/no) [n]? yes
DR2000v(DR4xVM1-09) deleted successfully.
```

Maintaining the DR Series System

This topic introduces the CLI commands that are useful for collecting diagnostics information, and managing the filesystem and performing system maintenance-related tasks. These CLI commands are grouped into two categories:

- The Diagnostics command and its options are used to collect DR Series system log file information. For more information, see Diagnostics.
- The Maintenance command and its options are used to perform filesystem and system maintenance. For more information, see Maintenance.

Diagnostics

The DR Series system CLI **diagnostics** command lets you display, collect, and manage the diagnostic log file information for your system, which provides these benefits:

- Captures a snapshot of the current state of DR Series system operations.
- Assists Technical Support personnel to understand the sequence of DR Series system operations.
- Records DR Series system operations in the event that Technical Support needs to provide technical assistance.

The **diagnostics** command works by collecting all system-related information that assists in understanding system operations when diagnosing a problem or error condition in the DR Series system.

The diagnostics service runs during system startup, and listens for incoming requests sent to the DR Series system. There are two modes in which the diagnostics collection process is started:

- **Admin-Generated Mode:** when a DR Series system CLI or GUI request is made by the administrator (and the default reason is listed as admin-generated).
- **Auto-Generated Mode:** when a process or service failure is reported, the DR Series system starts collecting a wide variety of system-related information. After a successful completion of the auto-generated collection, the DR Series system also generates a system event.

NOTE: Use the **alerts --show --events** or the **alerts --show --alerts** command to display or check the current events or alerts.

The Diagnostics service stores all log information in a primary log directory, and the DR Series system also maintains a backup copy of each log in a separate, secondary log directory. After each new diagnostics log is collected, the Diagnostics process computes the sizes of each of these two log location directories.

Whenever a log directory exceeds its maximum storage capacity, the oldest logs are deleted to free up space for the current logs that the DR Series system generates.

NOTE: Diagnostics that you run from the GUI will run the largest bundle collection routine (the equivalent of running **diagnostics --collect --all** from the CLI). If you want to reduce the bundle collection time and file size for individual files and small bundle collection, see the options in the topics that follow.

Diagnostics Command Usage

This topic introduces the **diagnostics** command usage:

- **diagnostics --show**
- **diagnostics --collect [options]**
- **diagnostics --delete [options]**
- **diagnostics --copy [options]**
- **diagnostics --start-service**
- **diagnostics --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

diagnostics --start-service

Description

This command can be used to start diagnostics services if they are not running. Typically, diagnostics services will be running; if, however, the system services did not start and diagnostics need to be collected, this command can be used.

Syntax

```
diagnostics --start-service
```

Result

```
Diagnostics service started successfully.
```

diagnostics --show

Description

Displays a list of the diagnostics log files, by filename, size, status, and reason for generation. The diagnostics log files are a collection of all DR Series system-related information that describe the current state of your system.

Syntax

```
diagnostics --show
```

Result

```
Filename
--------------------------------------------------------------------------------
diags_2012-06-17_09-30-51.lzip  23.3MB  Sun Jun 17 16:33:12 2012  Completed


acme_2012-06-20_11-39-43.lzip           36.9MB  Wed Jun 20 11:34:04 2012        Completed
```

diagnostics --collect

Description

Generates a new diagnostics log file that represents the current state of a DR Series system. This command option is only available in the CLI.

The resulting bundle has subsets of log files and cores (if they exist) but does not include a DSET report. A DSET can be obtained with the entire bundle by using the --all option, or separately by using the --dset option.

If a DSET report is not required, running the --collect command can save 5 to 10 minutes from the log collection process. If core dumps exist on the system, file size can be affected by system memory capacity.

Syntax

```
diagnostics --collect
```

Result

```
Collecting diagnostics...done.
Diagnostics file acme9_2011-11-17_17-15-52.lzip created.
```

NOTE: To check how many diagnostic log files have been recently generated, enter the following commands at the system prompt:

```
pwd
/home/administrator

ls
acme9_2012-07-18_09-48-26.lzip
acme9_2012-07-18_10-34-48.lzip
acme9_2012-07-25_14-09-15.lzip
acme9_2012-07-30_14-35-30.lzip
acme9_2012-07-30_15-25-59.lzip
```

diagnostics --collect [--name <name>]

Description

Defines a specific name for the diagnostics file you want to generate using the --name option with the DR Series system CLI diagnostics --collect command.

Syntax

```
diagnostics -collect --name diag_acme99_10-02-12
```

Result

```
Collecting diagnostics...done.
Diagnostics file diag_acme99_10_02_12.lzip created.
```

diagnostics --collect [--reason <reason>]

Description

Defines a specific reason for generating a diagnostics file for the DR Series system using the --reason option with the DR Series system CLI diagnostic --collect --name command.

Syntax

```
diagnostics --collect --name acme9_09_17_12 --reason check-operations
```

Result

```
Collecting diagnostics...done.
Diagnostics file acme9_09_17_12.lzip created.
```

diagnostics --collect [--force]

Description

Forces an immediate generation of a diagnostics file that collects your current system information using the --force option with the DR Series system CLI diagnostic --collect --name command.

NOTE: Use the DR Series system CLI diagnostics --force command when you want to override any existing system operations to generate a diagnostics log file immediately because it is a priority.

Syntax

```
diagnostics --collect --force
```

Results

```
Collecting diagnostics...done.
Diagnostics file acme9_2012-09-15_13-53-57.lzip created.
```

diagnostics --collect [--dset]

Description

Collects the current system hardware diagnostics information that may be needed by Technical Support personnel using the --dset (E-Support Tool) option with the DR Series system CLI diagnostics --collect command.

The DSET log lets you collect hardware, storage, and operating system information from the DR Series system hardware appliance. This information is consolidated into a single System Configuration Report that can be used for troubleshooting or inventory collection of a system. As part of the troubleshooting process, you may be asked to provide a DSET log when you contact Technical Support.

The DSET log file is valuable to have when a smaller file is required and system hardware or firmware needs to be evaluated. This will generally take between 5 and 10 minutes.

Syntax

```
diagnostics --collect --dset
```

Result

```
Collecting diagnostics...
DSET collection might take about 10 minutes. Please wait...done.
Diagnostics file dset_2012-09-18_09-28-03.zip created.
```

diagnostics --collect [--logs]

Description

The command collects only logs and system configuration. Use the --logs option if a current system state is needed, but file size needs to be smaller for FTP transfer to Technical Support. The --logs option puts the current system configuration in the smallest file containing most of what Technical Support needs to start an investigation. File size can be reduced by eliminating core dumps, DSET reports, and archive files.

Syntax

diagnostics --collect --logs

Result

```
Collecting diagnostics...done.
Diagnostics file created.
```

diagnostics --collect [--cores]

Description

The command collects only cores. Use this option if a basic bundle already exists and Technical Support only requires new core files. After the core files are collected, they are deleted from the DR Series system.

Syntax

diagnostics --collect --cores

Result

```
Collecting diagnostics...done.
Diagnostics file created.
```

diagnostics --collect [--tcpdump]

Description

The command collects only TCP dump reports. TCP dumps may be generated by Technical Support if network troubleshooting is being performed. If a TCP dump is present on the system, run the diagnostics --collect --tcpdump command to collect the TCP dump reports without collecting an entire bundle. This reduces file size.

Syntax

diagnostics --collect --tcpdump

Result

```
Collecting diagnostics...done.
Diagnostics file created.
```

diagnostics --collect [--process_dump]

Description

The command collects the file system server dump. This file is only needed if Technical Support requests process dumps.

Syntax

diagnostics --collect --process_dump

Result

```
Collecting diagnostics...done.
Diagnostics file created.
```

diagnostics --collect [--all]

Description

Collects all of the current system information (including -- dset) that may be needed during any inventory collection or troubleshooting with the DR Series system. The resulting file can vary between 500MB and 15GB and includes the following:

- Old diagnostics bundles
- Core dumps
- Large archive files
- DSET reports
- Other smaller valuable log files

It will take more than 10 minutes to collect the bundle. If diagnostics are run from the GUI, **the diagnostics --collect --all** is the equivalent command in the CLI.

Syntax

```
diagnostics --collect --all
```

Result

```
Collecting diagnostics...done.
Diagnostics file dr8-interop-a7_2016-12-11_23-54-17.lzip created
```

diagnostics --delete [--name <name>]

Description

Deletes a specific existing diagnostics log file by name when using the --name option with the DR Series system CLI diagnostics --delete command.

Syntax

```
diagnostics --delete --name dr8-interop-a7_2016-12-11_23-54-17.lzip
```

Result

```
Diagnostics delete: Successful
```

diagnostics --delete [--all]

Description

Deletes all of the diagnostics files on a DR Series system when using the **--all** option with the DR Series system CLI diagnostics --delete command.

> **CAUTION: Carefully consider before using the DR Series system CLI --delete --all command to delete all current diagnostics log files on a DR Series system. If you delete all diagnostics log files without first saving them to another location, all previous system status information that they contained is lost and unrecoverable.**

Syntax

```
diagnostics --delete --all
```

Result

```
Diagnostics delete: Successful
```

diagnostics --copy --name <name> --host <user@host | ip:>:<path>>

Description

Copies a specific existing diagnostics log file by name, by appending the **--name** option, and sends this diagnostics log file to a remote system that you can define using the DR Series system CLI diagnostics **--name**

and **--host** command (by defining a destination hostname or IP address and path).

Syntax

```
diagnostics --copy --name dr8-interop-a7_2016-12-05_23-01-56_basic.lzip --host
administrator@10.250.207.20:
/var/diagnostics_logs
```

Result

```
administrator@10.250.207.20's password:
dr8-interop-a7_2016-12-05_23-01-56_basic.lzip 100%  297MB 49.5MB/s
00:06 Diagnostics copy: Successful
```

diagnostics --help

Description

Displays the list of all diagnostics-related options that can be used when using the DR Series system CLI.

Syntax

```
diagnostics --help
```

Result

```
Usage:
        diagnostics --show
        diagnostics --collect [--name <name>]
                  [--reason <reason>]
                  [--force]
                  [--dset]
                  [--logs]
                  [--cores]
                  [--tcpdump]
                  [--process_dump]
                  [--all]

        diagnostics --delete [--name <name>]
                  [--all]

        diagnostics --copy --name <name>
                  --host <user<<host|ip>:<path>>

        diagnostics --help
```

```
   diagnostics <command> <command-arguments>
   <command> can be one of:
                --show      Displays all current diagnostic log files.
                --collect   Collects diagnostic information/creates log file for
support.
                --delete    Deletes one or all existing diagnostic log files.
                --copy      Copies an existing diagnostic log file to a remote
machine.
                --start-service   Starts diagnostics service.


For command-specific help, please type diagnostics --help <command>
        eg:
            diagnostics --help show
```

Maintenance

The DR Series system CLI **maintenance** commands lets you display the system maintenance repair progress, and manage the data repair and state of a DR Series system. Maintenance tasks let you perform basic repairs and maintain the data and the DR Series system.

NOTE: Whenever the DR Series system enters or exits from the **Maintenance** mode state, all communication via CIFS, NFS, OST, or RDS is lost.

The set of maintenance commands and options should only be used when the DR Series system is in the **Maintenance** mode state. You should contact Technical Support before performing any of these DR Series system CLI commands.

The **--filesystem** commands perform maintenance operations on the DR Series system file system, the **--configuration** commands perform a backup and restore of the system configuration, the **--hardware** commands manage the appliance hardware, the **--disk** commands manage the system disk drives, and the **--vdisk** commands manage the virtual disk drives.

NOTE: This set of maintenance commands provide some functionality that is not available in the DR Series system GUI. To check the status of the DR Series system, use the DR Series system CLI **system --show** command to display the current status.

Maintenance Command Usage

This topic introduces the maintenance command usage:

NOTE: Using some of the maintenance command options could result in the deletion of data. Carefully observe the warnings (for example, running the scan without running the repair). If you have questions, do not perform these DR Series system CLI command options without first contacting Technical Support.

- **maintenance --filesystem [options]**
- **maintenance --configuration [options]**
- **maintenance --hardware [options]**
- **maintenance --disk [options]** (Option only available on a Physical DR)
- **maintenance --remote_access [options]** (Option only available on a Physical DR)

- **maintenance --vdisk --check_consistency --type [options]** (Option only available on a Physical DR)
- **maintenance --help**

NOTE: If you specify a command without supplying the expected value or option, you are prompted to provide the correct value or option.

maintenance --filesystem [--start_scan [verify_data | verify_rda_metadata | verify_metadata] [--storage_group <name>]

Description

Starts filesystem checker to check for consistency issues in storage groups.

NOTE: Argument verify_data validates data with pre-built checksum. Argument verify_rda_metadata scans only OST and RDA containers. Argument verify_metadata scans the namespace for all containers.

NOTE: Using this command places the files system into a read-only mode and pauses all active replications. When the DR Series system enters **Maintenance** mode, an alert is sent that indicates this operational change.

Syntax

```
maintenance --filesystem --start_scan verify_data --storage_group SGTest1
```

Result

```
This operation will make the filesystem read-only and pause all active replications.
"verify_data" option will check for data consistency issues in the filesystem.  This
might take long time to complete.
Do you want to continue (yes/no) [n]? y
Please enter the administrator password:

Filesystem check started successfully.

To see the status, please execute "maintenance --filesystem --scan_status".
```

If you enter the maintenance --filesystem --scan_restart command when the DR Series system is not in **Maintenance** mode, the following output is displayed at the system prompt:

```
maintenance --filesystem --scan_restart

"Operation not supported as system is not in maintenance mode.
To be able to restart scan, filesystem check must be running or waiting".
```

maintenance --filesystem [--stop_scan]

Description

Stops the filesystem scan process that verifies the data contained in a DR Series system.

Syntax

```
maintenance --filesystem --stop_scan
```

Result

```
This operation will stop the filesystem checker and put the system back into
operational mode.
Do you want to continue (yes/no) [n]? y
Please enter the administrator password:
Filesystem check stopped successfully.
```

maintenance --filesystem [--scan_status]

Description

Displays the current filesystem checker status and scan progress for a DR Series system.

Syntax

```
maintenance --filesystem --scan_status
```

Result

```
Filesystem checker              : Scan in progress
Filesystem check status:
DataBlock Consistency Checker Stats
===================================
Phase                           : INODE CRAWL
Inode check                     : IN PROGRESS
Inodes processed                : 3200 / 3498
Time left (approx)              : 4 secs
Cont Name         TotalInodes   Checked        Corrupted               Missing Data Orphan
-------------------------------------------------------------------------------
backup                                                0
container29                   0                       0                              0
backupswsys-60_replicate
                                                                                  71826
Data block check                : COMPLETED
```

```
Data blocks processed           : 422 / 422
Corrupted data chunks           : 0
Data chunk refcount mismatch    : 0
Recomputed bytes out            : 1383308872
Recomputed bytes in             : 6107833613
Recomputed % Savings            : 77.351890%
Time left (approx)              : 0
Data block check                : NOT STARTED
NameSpace Consistency Checker Stats
==================================
Namespace check                 : NOT STARTED
```

maintenance --filesystem [--scan_report [verbose]]

Description

Displays the current filesystem checker report, which is generated by the DR Series system CLI **--start _ scan** command.

Syntax

```
maintenance --filesystem --scan_report
```

Result

```
Filesystem check report
=======================
Report generated at             : Fri Dec  9 08:23:05 2016

There are no problems detected.
```

maintenance --filesystem [--repair_status [verbose]]

Description

Displays the current filesystem repair progress for a DR Series system.

NOTE: If there is no repair status to report, the DR Series system returns the status message shown under **Result**.

Syntax

```
maintenance --filesystem --repair_status
```

Result

```
Filesystem checker is not running.
```

maintenance --filesystem [--repair_history [verbose]]

Description

Displays the filesystem checker history for a DR Series system.

Syntax

```
maintenance --filesystem --repair_history
```

Result

```
Filesystem check time          : Wed Nov 23 21:59:10 2016
Dry run finished at            : Wed Nov 23 21:59:14 2016
Release version                : 4.0.0254.0
Build                          : 62141
Data verification              : Not Enabled
Scan mode                      : Normal scan
Result                         : No inconsistencies discovered.
Storage Group(s)               : sg2

Filesystem check time          : Tue Nov 29 22:13:54 2016
Dry run finished at            : Tue Nov 29 22:15:57 2016
Release version                : 4.0.0254.0
Build                          : 62141
Data verification              : Not Enabled
Scan mode                      : Normal scan
Result                         : No inconsistencies discovered.
Storage Group(s)               : All

Filesystem check time          : Tue Nov 29 22:20:12 2016
Dry run finished at            : Tue Nov 29 22:20:28 2016
Release version                : 4.0.0254.0
Build                          : 62141
Data verification              : Enabled
Scan mode                      : Normal scan
```

```
Result                          : No inconsistencies discovered.
Storage Group(s)                : sg2
```

maintenance --filesystem [--scan_restart [verify_data | verify_rda_metadata | verify_metadata]]

Description

Restarts file system checker to generate updated report.

> **NOTE:** Argument **verify_data** validates data with pre-built checksum. Argument **verify_rda_metadata** scans only OST and RDA containers. Argument **verify_metadata** scans only the namespace for all containers.

Syntax

```
maintenance --filesystem --scan_restart [verify_data| verify_rda_metadata | verify_metadata]
```

Result

```
Successfully restarted filesystem scan.
```

maintenance --filesystem [--repair_now]

Description

Repairs any filesystem issues in a DR Series system based on the repair report findings.

Syntax

```
maintenance --filesystem --repair_now
```

Result

```
Successfully started repair.
To view repair progress run "maintenance --filesystem --repair_status".
```

maintenance --filesystem [--reclaim_space]

Description

Reclaims disk space that was formerly occupied by data in the recycle bin in a DR Series system using the Cleaner process. This command is what is commonly referred to as “manually” running the Cleaner process to reclaim disk space.

Syntax

```
maintenance --filesystem --reclaim_space
```

Result

```
Successfully started cleaner.
```

maintenance --filesystem [--clear_quarantine]

Description

Clears a specialized quarantine folder that collects data files considered corrupted after attempts have been made to perform repairs by the filesystem. The maintenance --filesystem CLI commands should only be performed when the DR Series system is in its **Maintenance** mode. This command should not need to be run on a regular basis (it should only be run when a lengthy period of time has elapsed or you feel that the space in the quarantine folder needs to be reclaimed).

Syntax

```
maintenance --filesystem --clear_quarantine
```

Result

```
Successfully performed quarantine cleanup.
```

maintenance --filesystem [--clear_quarantine]

Description

Clears a specialized quarantine folder that collects data files considered corrupted after attempts have been made to perform repairs by the filesystem. The maintenance --filesystem CLI commands should only be performed when the DR Series system is in its **Maintenance** mode. This command should not need to be run on a regular basis (it should only be run when a lengthy period of time has elapsed or you feel that the space in the quarantine folder needs to be reclaimed).

Syntax

```
maintenance --filesystem --clear_quarantine
```

Result

```
Successfully performed quarantine cleanup.
```

maintenance --filesystem --show_throughput

Description

Computes read/write throughput for the internal device.

Syntax

```
maintenance --filesystem --show_throughput
```

Result

```
Throughput from file system devices:
Internal Write Throughput: [292 MiBps]  Read Throughput: [157 MiBps]
```

maintenance --configuration [--backup]

Description

Backs up the current DR Series system configuration.

Syntax

```
maintenance --configuration --backup
```

Result

```
Configuration saved successfully.
```

maintenance --configuration [--restore]

Description

Restores a previously backed up DR Series system configuration and overwrites the current configuration on the system.

Syntax

```
maintenance --configuration --restore
```

Result

```
Couldn't find administrator backup file. Restoring from default backup location.
WARNING: Restore will overwrite existing configuration from previous backup.
Previous backup was taken at time "Thu Dec  8 18:18:57 2016".
All configuration changes after previous backup will be lost.

WARNING: IO to DR will be stopped during the restore process.

Do you want to continue (yes/no) [n]?
```

maintenance --configuration [--reinit_dictionary]

Description

Reinitializes the dictionary on a DR Series system. Using the --reinit_dictionary command is not considered a commonly performed function. Because the dictionary acts as an index that maps each chunk of data to a specific location, it is referenced during data ingests to determine if the DR Series system has seen this data before. When you reinitialize the dictionary, all entries that indicate whether there were previously archived data locations are removed. As a result, during new data ingests the DR Series system will be unable to detect any duplicates based on the existing archived data.

NOTE: Use caution when considering whether you should reinitialize the dictionary. This type operation is only performed rarely, and when performed, only under special circumstances. Contact and consult with Technical Support before you use this command.

Syntax

You will need to type `yes` to continue or `no` to return to the system prompt when you are prompted whether you want to continue with this process.

```
maintenance --configuration --reinit_dictionary

Please enter administrator password:
```

```
WARNING: ALL DICTIONARY DATA WILL BE ERASED!
Do you want to continue (yes/no)?

stop Filesystem... Done.
Initializing Dictionary... Done.
Restart Filesystem... Done.
```

maintenance --configuration [--reset_web_certificate]

Description

The current release supports installation of an SSL certificate. This command can be used to restore the default SSL certificate that ships with the DR.

Syntax

```
maintenance --configuration --reset_web_certificate
```

Result

```
Successfully restored the default certificate.
```

maintenance --configuration --enable_sha256_web_certificate

Description

Reconfigures the default web security certificate with SHA-256.

Syntax

```
maintenance --configuration --enable_sha256_web_certificate
```

Result

```
Configuration saved successfully.
```

maintenance --hardware [--reinit_nvram]

Non-volatile RAM (NVRAM) is the type of memory that retains its contents even when power to it is turned off. This is an important component of the DR Series system that is crucial to normal data operations

Description

Initializes the NVRAM that resides on the DR Series system hardware appliance on which the DR Series system software is installed.

> **CAUTION: Carefully consider before attempting to use the DR Series system CLI --reinit_nvram command. This command should only be used under the direction of Technical Support because it permanently erases all data stored on the NVRAM in the DR Series system hardware appliance. This command is only to be used when replacing the NVRAM in your hardware appliance. Contact Technical Support and seek assistance before you use this command.**

Syntax

```
maintenance --hardware --reinit_nvram
```

Result

```
Please enter administrator password:
WARNING: ALL NVRAM DATA WILL BE ERASED!
Do you want to continue (yes/no)?
```

Type `yes` to continue or `no` to return to the system prompt.

maintenance --hardware [--restore_hw_db]

Description

Restores and repairs the Hardware Health Monitor database for a DR Series system.

Syntax

```
maintenance --hardware --restore_hw_db
```

Result

```
WARNING: All previous Event & Alert information will be deleted.
Do you want to continue? (yes/no) [n]? y
Please enter the administrator password:
The Hardware Health Monitor has been successfully restored.
```

maintenance --hardware [--motherboard_ replaced]

Description

Updates the motherboard service tag on all signature partitions. The system must be in manual intervention mode for this command to execute. This command applies to systems that have an external enclosure attached.

If a motherboard is replaced in the DR Series system, the service tag should be blank from service inventory. That service tag should be reprogrammed to match the existing system service tag before the on-site technician leaves; therefore, this command should not be required. However, if the service tag is changed for some reason, this command will need to be executed to update the external drives to match the new service tag. A second scenario is when migrating an enclosure from one DR Series system to another. This command would need to be executed to match the migrated enclosures drives to the new service tag.

This option is only available on a Physical DR.

Syntax

```
maintenance --hardware --motherboard_replaced
```

maintenance --disk [--make_standby [slot num]] [--type <internal | external-<num> | service tag>] --clear_foreign]

Description

Creates a standby disk for a DR Series system.

Syntax

The **--make_standby [slot num]** command option changes the state of a physical disk (making disk 3 in this example the standby). The slot number (0-11) that is defined in the command identifies the physical disk to set as the hot-swap spare.

```
maintenance --disk --make_standby 3
```

The --type <internal | external-<num> | service tag>] command option manages the standby disk type (by specifying it as internal or external, and if external which enclosure number, or by its service tag).

```
maintenance --disk --type external-1
```

The **--clear_foreign** command changes the state of a physical disk. Use this command when inserting a disk from another appliance, or the disk had been used in a different RAID configuration. After installing, you must enter the following command at the system prompt:

```
maintenance --disk --clear_foreign
```

NOTE: The output of the DR Series system CLI system --show --hardware command lists the current states of the system disks. One possible state is *foreign*, which indicates that the --clear_foreign command needs to be run. In addition, an alert is generated if the DR Series system detects that any of the disks were in a foreign state.

maintenance --remote_access [--show]

Description

The command shows remote access information.

Syntax

```
maintenance --remote_access --show
```

Result

```
Remote Access Device
Device Type                          : iDRAC7 Enterprise
iDRAC Ports                          : Present
IPMI Version                         : 2.0
System GUID                          : 3157304f-c0b6-4a80-3910-00564cxxxxxx
Number of Possible Active Sessions : 5
Number of Current Active Sessions  : 0
Enable IPMI Over LAN                 : Yes
SOL Enabled                          : Yes
MAC Address                          : 78-45-C4-EC-xx-xx

IPv4 Address
IP Address Source : Static
IP Address        : 10.250.241.xxx
IP Subnet         : 255.255.xxx.x
IP Gateway        : 10.250.xxx.x
```

maintenance --remote_access [--enable]

Description

The command enables the iDRAC access (default: DHCP).

Syntax

```
maintenance --remote_access --enable
```

Result

```
Successfully enabled remote access.
```

maintenance --remote_access [--racreset]

Description

This command resets the Integrated Dell Remote Access Controller (iDRAC) .

Syntax

```
maintenance --remote_access --racreset
```

maintenance --remote_access [--static_ip] [--ip <IPv4/IPv6 address>] [--netmask <netmask>] [--gateway <IPv4/IPv6 address>] [--device <lom1|lom2|lom3|lom4>]

Description

The command assigns a static IP address for Integrated Dell Remote Access Controller (iDRAC).

Syntax

```
 maintenance --remote_access [--static_ip] [--ip <IPv4/IPv6 address>] [--netmask
<netmask>] [--gateway <IPv4/IPv6 address>] [--device <lom1|lom2|lom3|lom4>]

        --static_ip   Assign a static IP address for Integrated Dell Remote Access
Controller (iDRAC).
        --ip          Static IP address to use.
        --netmask     Netmask for the assigned static IP address.
        --gateway     Gateway for routing.
        --device      Network device for iDRAC. By default, if you do not specify a
device, the iDRAC port will be used.
```

For example, to enable the remote access, you can run a similar command like the one below:

```
maintenance --remote_access --enable --static_ip --ip 10.250.241.167 --netmask
255.255.252.0 --gateway 10.250.240.1
```

Result

```
Successfully enabled remote access
```

maintenance --remote access [--disable]

Description

The command disables the iDRAC access (default: DHCP).

Syntax

```
maintenance --remote access --disable
```

Result

```
Successfully disabled remote access
```

maintenance --vdisk --check_consistency --type <boot|internal|external> [--service_tag <service tag>]

Description

Manages virtual disk drives.

- check_consistency — Starts vdisk consistency check.
- type — Type of the vdisk (boot/internal/external).
- service_tag — Service tag of the external storage.

Syntax

```
maintenance --vdisk --check_consistency --type internal
```

Result

```
Vdisk check: Successful.
```

maintenance --help

Description

Displays the list of maintenance-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
maintenance --help
```

Result

```
Usage:
        maintenance --filesystem [--scan_status]
                 [--scan_report [verbose]]
                 [--repair_status [verbose]]
                 [--repair_history [verbose]]
                 [--scan_restart [verify_data | verify_rda_metadata | verify_
metadata]]
                 [--repair_now]
                 [--reclaim_space]
                 [--stop_reclaim_space]
                 [--clear_quarantine]
                 [--start_scan [verify_data | verify_rda_metadata | verify_metadata]]
[--storage_group <name>]
                 [--stop_scan]

        maintenance --configuration [--backup]
                 [--restore]
                 [--reinit_dictionary]
                 [--reset_web_certificate]
                 [--enable_sha256_web_certificate]

        maintenance --hardware [--reinit_nvram]
                 [--restore_hw_db]
                 [--network_reconfigure]
                 [--motherboard_replaced]

        maintenance --disk [--make_standby [slot num]] [--type <internal | external-
<num> | service tag>]
                 [--clear_foreign]

        maintenance --remote_access [--show]
                 [--enable] [--static_ip] [--ip <IPv4/IPv6 address>] [--netmask
<netmask>] [--gateway <IPv4/IPv6 address>]
                                                  [--device <lom1|lom2|lom3|lom4>]
                 [--disable]
```

```
        maintenance --vdisk --check_consistency --type <boot | internal | external> [-
-service_tag <service tag>]

        maintenance --help

   maintenance <command> <command-arguments>
   <command> can be one of:
               --filesystem      Maintenance operations on filesystem.
               --configuration   Backup/Restore system configuration.
               --hardware        Manage appliance hardware.
               --disk            Manage disk drives.
               --remote_access   Manage Integrated Remote Access Controller (iDRAC).
               --vdisk           Manage virtual disk drives.

For command-specific help, please type maintenance --help <command>
        eg:
            maintenance --help filesystem
```

Managing DR Series System Storage Operations

This topic introduces the DR Series system CLI commands that you can use for configuring and managing DR Series system backup operations, replication operations, and scheduling when to run Replication and disk Cleaner operations.

The DR Series system CLI commands that provide these capabilities are grouped into the following categories:

- **Connections:** configuring/managing connections to storage containers
- **Containers:** configuring/managing storage and replication relationships
- **Replication:** configuring/managing replication operations
- **Seeding:** managing seeding import and export
- **Schedule:** configuring/managing Replication and Cleaner schedules for the DR Series system

System Storage Operation Commands

This topic introduces the DR Series system CLI system storage operation commands that allow you to manage the connections to both storage and replication containers, manage these containers, and manage both storage and replication operations.

Connection

This topic introduces the set of DR Series system CLI commands that allow you to manage, configure, and display connection-related settings for containers on a DR Series system. For more information, see Connection Command Usage.

Connection Command Usage

This topic introduces the connection command usage:

- **connection --show [options]**
- **connection --add --name --type [options]**
- **connection --update --name --type [options]**

- **connection --delete --name --type [options]**
- **connection --enable --name --type [options]**
- **connection --disable --name --type [options]**
- **connection --help**

NOTE: If you specify a command without supplying the expected value or option, you are prompted to provide the correct value or option.

connection --show [--name <name>]

Description

Displays the status of a specific existing container connection that you define by name (**backup**) on a DR Series system.

Syntax

```
connection --show --name backup
```

Result

```
Container Name                  : backup
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available
CIFS connection IP addresses    : *
CIFS connection Enabled         : Yes
CIFS connection status          : Available
```

connection --show [--name <name>] [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>] [--verbose]

Description

Displays the status of all existing container connections on a DR Series system (for example, for NFS, CIFS, None, OST, or RDS connections, and NDMP, iSCSI, and FC for VTL containers).

NOTE: In addition to displaying the current status of an existing container connection, this command also verifies if an existing container connection is disabled (by listing its status as offline).

Syntax

```
connection --show
```

Result

```
Container Name                Connection Type
backup                           NFS, CIFS
Target                           RDS
avc                              RDS
```

Other Examples

Display the status of a specific existing CIFS/NFS container connection (**backup**) by defining it by name using the --name backup command on a DR Series system:

```
connection --show --name backup
Container Name                  : backup
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available
CIFS connection IP addresses    : *
CIFS connection Enabled         : Yes
CIFS connection status          : Available
```

Display the detailed status of a specific container connection (**backup**) by defining it by name using the --name backup command and defining the specific filesystem protocol type (--type nfs) on a DR Series system:

```
connection --show --name backup --type nfs
Container Name                  : backup
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available
```

Display the complete status of all existing container connections by using the --verbose command on a DR Series system (this example only shows a partial display of the total output):

```
connection --show --verbose
Container Entry ID              : 1
Container Name                  : backup
NFS connection Entry ID         : 25
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available
CIFS connection Entry ID        : 26
```

```
CIFS connection IP addresses    : *
CIFS connection Enabled         : Yes
CIFS connection status          : Available

Container Entry ID              : 2
Container Name                  : _1234
NFS connection Entry ID         : 3
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available

Container Entry ID              : 3
Container Name                  : 12345678
NFS connection Entry ID         : 4
NFS connection IP addresses     : 10.3.3.3
NFS connection Root map         : nobody
NFS connection options          : ro
NFS connection Enabled          : Yes
NFS connection status           : Available
CIFS connection Entry ID        : 5
CIFS connection IP addresses    : 10.2.2.2,10.3.3.3,10.3.4.4
CIFS connection Enabled         : Yes
CIFS connection status          : Available
```

connection --show [--verbose]

Description

Displays the complete status of all container connections on a DR Series system.

Syntax

```
connection --show --verbose
```

Result

```
Container Entry ID              : 1
Container Name                  : backup
NFS connection Entry ID         : 25
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available
CIFS connection Entry ID        : 26
CIFS connection IP addresses    : *
```

```
CIFS connection Enabled         : Yes
CIFS connection status          : Available

Container Entry ID              : 2
Container Name                  : 1234
NFS connection Entry ID         : 3
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available
```

connection --add --name <name> --type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC> [--clients <ip address>][--dma <ip address>][--initiator <IQN, ip address(es), hostname, or WWPN>][--target <WWPN>][--rootmap <nobody|root|administrator>] [--options <NFS|CIFS mount export options>] [--capacity <positive decimal number>]

Description

Specifies connection type, client IP addresses, sets the DMA or initiator address for restricting NDMP or iSCSI/FC access to the specified host or iSCSI/FC initiator, restricts FC access to a specified FC target, defines rootmap privileges for NFS, sets mounting options for an NFS or CIFS connection, and sets a capacity in GB for an OST or RDS connection. NFS and CIFS connection types do not recognize a set capacity that is defined using a positive decimal number in the --capacity option.

NOTE: NFS mounting options include read-write (rw), read-only (ro), and insecure.

- rw—allows read-write access.
- ro—allows read-only access.
- insecure—allows replies to be made to requests before changes in request are made.

NOTE: CIFS mounting options include hide, unhide. .

Syntax

```
connection --add --name ost2 --type ost --capacity 10
```

Result

```
Successfully added connection entry.
OST connection Quota            : 10
OST connection Enabled          : Yes
```

connection --update --name <name> --type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC> [--clients <ip address>][--dma <ip address>][--initiator <IQN, ip address(es), hostname, or WWPN>][--target <WWPN>][--rootmap <nobody|root|administrator>] [--options <NFS|CIFS mount export options>] [--capacity <positive decimal number>]

Description

Updates or modifies the connection values on an existing container connection on a DR Series system.

NOTE: The following DR Series system CLI connection command options (**--clients**, **--dma**, **--initiator**, **--target**, **--rootmap**, **--options**, and **--capacity**) apply selectively to specific container type connections.

For example:

- **--clients** command option only applies to NFS and CIFS type container connections and specifies to restrict NFS/CIFS access to this list of comma separated hosts.
- **--dma** option only applies to NDMP type container connections and specifies to restrict NDMP access to this DMA host.
- **--initiator** option applies to iSCSI or FC type container connections and specifies to restrict iSCSI/FC access to the specified iSCSI/FC initiator.
- **--target** options applies to FC and restricts FC access to this FC target.
- **--rootmap** and **--options** command options apply only to NFS type container connections.
- **--capacity** command option only applies to OST or RDS container connections, and lets you specify a positive decimal number to represent the capacity size in Gigabytes (GB). By default, OST and RDS type container connections are unlimited.

Syntax

```
connection --update --name dataStorage3 --type nfs --clients 10.27.22.11
--options ro,rw
```

Result

```
Successfully updated connection entry.
NFS connection IP addresses            : 10.27.22.11
NFS connection Root map                                : administrator
NFS connection options                                        : ro,rw
NFS connection Enabled                                        : Yes
```

connection --delete --name <name> --type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC> [--clients <ip address>]

Description

Deletes an existing container connection type on a DR Series system.

NOTE: For NDMP, iSCSI, and FC type connections, the **--clients** option does not need to be specified.

Syntax

```
connection --delete --name dataStorage3 --type nfs --clients 10.27.22.11

connection --delete --name iscsi-vtl1 --type iscsi
```

Result

```
Successfully deleted connection entry.
```

connection --enable --name <name> --type <NFS|CIFS|OST|RDS>

Description

Enables an existing container connection type (NFS, CIFS, OST, or RDS) that was disabled on a DR Series system.

Syntax

```
connection --enable --name dataStorage3 --type nfs
```

Result

```
Successfully updated connection entry.
NFS connection IP addresses    : 10.27.22.11
NFS connection Root map                        : administrator
NFS connection options                         : rw,ro
NFS connection Enabled                         : Yes
```

connection --disable --name <name> --type <NFS|CIFS|OST|RDS>

Description

Disables an existing container connection type (NFS, CIFS, OST, or RDS) on a DR Series system.

Syntax

```
connection --disable --name acme3 --type ost
```

Result

```
Successfully updated connection entry.
OST connection Quota                                          : Unlimited
OST connection Used Capacity   : 5.0 GB
OST connection Enabled                                        : No
```

connection --help

Description

Displays the listing of user and related options that you can use as a reference when using the DR Series system CLI.

Syntax

```
connection --help
```

Results

```
Usage:

    connection --show [--name <name>]
         [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI>]
```

```
        [--verbose]

    connection --add --name <name>
        [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI>]
        [--clients <ip_address>]
        [--dma <ip_address>]
        [--initiator <IQN, ip_address(es), hostname, or WWPN>]
        [--rootmap <nobody|root|administrator>]
        [--options <NFS|CIFS mount export options>]
        [--capacity <Positive decimal number>]

    connection --update --name <name>
        --type <NFS|CIFS|OST|RDS|NDMP|ISCSI>
        [--clients <ip_address>]
        [--dma <ip_address>]
        [--initiator <IQN, ip_address(es), hostname, or WWPN>]
        [--rootmap <nobody|root|administrator>]
        [--options <NFS|CIFS mount export options>]
        [--capacity <Positive decimal number>]

    connection --delete --name <name>
        --type <NFS|CIFS|OST|RDS|NDMP|ISCSI>
        [--clients <ip_address>]

    connection --enable --name <name>
        --type <NFS|CIFS|OST|RDS>

    connection --disable --name <name>
        --type <NFS|CIFS|OST|RDS>

 connection --help
 connection <command> <command-arguments>
 <command> can be one of:
               --show      Displays the current connections on a container.
               --add       Adds a new connection to a container.
               --update    Updates an existing connection.
               --delete    Deletes an existing connection.
               --enable    Enables access to a container through a connection.
               --disable   Disables access to a container through a connection.

For command-specific help, please type connection --help <command>
eg:
connection --help show
```

Container

This topic introduces the set of DR Series system CLI commands that allow you to perform the following tasks:

- Display the status of all current containers (summary or detail)
- Create (and name) new containers (the DR Series system limits support to 32 containers)
- Delete existing containers

Container Command Usage

This topic introduces the **container** command usage:

- **container --show [options]**
- **container --add --name**
- **container --delete --name [options]**
- **container --marker --name <name> [--enable options] [--disable options]**
- **container --delete_files --name <name>**
- **container --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

container --show

Description

Displays a list of all current containers in a DR Series system.

Syntax

```
container --show
```

Result

```
Container Entries are:
backup
acme-59_replicate
acmeStorage1
acmeStorage2
acmeStorage3dataStorage3
```

container --show [--name <name>] [--verbose]

Displays the summary status of an existing container in a DR Series system that you specify using the container --show --name command.

Syntax

```
container --show --name acme-41-cifs-1
```

Result

```
Container Name                  : acme-41-cifs-1
Container Path                  : /containers/acme-41-cifs-1
Container Marker                : commvault
```

Other Examples

Displays the detailed status of an existing container that you specify by name using the container --show --name --verbose command:

```
Container Name                  : acme55-S2
Container Path                  : /containers/acme55-S2
Container Marker                : None
NFS connection IP addresses     : *
NFS connection Root map         : root
NFS connection options          : rw
NFS connection Enabled          : Yes
NFS connection status           : Available
CIFS connection IP addresses    : *
CIFS connection Enabled         : Yes
CIFS connection status          : Available
Replication Role                : Source
Replication Target System       : acme-85
Replication Target System IP    : 10.20.22.20
Replication Target Container    : acme85-S2
Replication Enabled             : Yes
Replication Compression Enabled : Yes
Replication Encryption          : AES 128-bit
```

container --add --name <name> [--type <VTL>] [--tape_size <tape_size>][--no_of_drives <1–60>][--is_oem <yes|no>][--oem_vendor <QUEST|DELL>][--group_name <name>]

Description

Creates and names a new container in the DR Series system.

NOTE: Container names and storage group names cannot exceed 32 characters in length. The "_" character is allowed for no-VTL containers. Container names cannot start with a number, and the /, #, and @ special characters are not allowed. Valid values for the container and storage group name are [a-z, A-Z, 0–9, and '_'.

When creating a VTL container type, you must specify the option, **--type VTL**. Possible values for tape size include:

800GB|400GB|200GB|100GB|50GB|10GB

NOTE: The number of drives parameter is applicable to FC containers only.

Syntax

```
container --add --name acme99
```

Result

```
Container "acme99" created successfully.
```

Syntax

```
container --add --name vtlcont --type vtl --is_oem yes --tape_size 100gb
```

Result

```
Container "vtlcont" created successfully.
```

container --update --name <name> [--no_of_ drives <1–60>]

Description

Updates the specified container with the specified number of drives. This is applicable to FC type containers only.

Syntax

```
container --update --name fc1 --no_of_drives 32
```

Result

```
The FC service will be restarted for this change to take effect, Do you want to
continue? (yes/no) [n]? y
Successfully updated Container FC1's number of drives as 32.
```

container --delete --name <name>

Description

Deletes an existing container by name from a DR Series system.

Syntax

```
container --delete --name acme49
```

Result

```
Error: Container has to be empty before deleting the container. Please delete all File
(s) and Directories in the container.
```

Other Examples

Deletes an existing container type and the data files within the specified container by combining the --delete and the --delete_files DR Series system CLI commands:

```
container --delete --name acme_17 --delete_files

WARNING: All the data in the container acme_17 will be deleted!

Do you want to continue? (yes/no) [n]? y
Please enter the administrator password:
Container "acme_17" marked for deletion. Please run "maintenance --filesystem --
reclaim_space" torecover the storage space.
```

NOTE: Be aware that it may take a fair amount of time for the DR Series system file and container deletion processes to complete and update the system status. For details on deleting the files within an OST container, see container --delete_files --name <name>.

container --delete --name <name> [--delete_files]

Description

Deletes the files and the existing container on which the files reside in a DR Series system when using the --name option with --delete_files command.

Syntax

```
container --delete --name acme4 --delete_files
```

Result

```
WARNING: All the data in the container acme4 will be deleted!

Do you want to continue? (yes/no) [n]? y
Please enter the administrator password:
Container "weasel_ost" marked for deletion. Please run "maintenance --filesystem --
reclaim_space" to recover the storage space.
```

container --marker [--enable <Auto | CommVault | Networker | TSM | ARCserve | HP_ DataProtector | Unix_Dump | BridgeHead>] [--disable <Auto | CommVault | Networker | TSM | ARCserve | HP_DataProtector | Unix_Dump | BridgeHead>] --name <name>

Description

Enables or disables a marker type or an automatic marker setting type (Auto) on an existing container in the DR Series system. To enable or disable the automatic marker setting type on an existing container, substitute Auto in place of a specific marker type (for example, Networker in the CLI command.

Syntax

```
container --marker --enable networker --name acme99
```

Result

```
Marker updated successfully.
```

Other Examples

Disables a Networker marker on an existing container in the DR Series system:

```
container --marker --disable networker --name acme99
Marker updated successfully.
```

container --delete_files --name <name>

Description

Deletes only the data files on an existing Rapid Data Access containers (OST/RDS type containers) in a DR Series system (and leaves the container intact).

Syntax

```
container --delete_files --name acme99
```

Result

```
Error: Connection needs to be disabled first.
```

NOTE: This command is only supported on OST/RDA connection type containers and the connection to the container must be disabled before you can delete its files. For details, see connection --disable --name <name> --type <NFS|CIFS|OST|RDS>. To delete the files and the existing OST container on which the files resides, see container --delete --name <name> --delete_files.

container --help

Description

Displays the list of container-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
container --help
```

Result

```
Usage:
container --show [--name <name>]
         [--verbose]

container --add --name <name>

container --delete --name <name>
         [--delete_files]

container --marker [--enable <Auto | CommVault | Networker | TSM | ARCserve | HP_
DataProtector | Unix_Dump | BridgeHead>]
         [--disable <Auto | CommVault | Networker | TSM | ARCserve | HP_DataProtector
```

```
| Unix_Dump | BridgeHead>]
         --name <name>

container --delete_files --name <name>

container --help

container <command> <command-arguments>
<command> can be one of:
--show           Displays the current list of containers.
--add            Adds a new container.
--delete         Deletes an existing container.
--marker         Enables/Disables marker for an existing container.
--delete_files   Deletes the files in the container.

For command-specific help, please type container --help <command>
For example:
            container --help show
```

VTL

The VTL commands allow you to manage the virtual tape library (VTL) containers you have created for your system, including the ability to create additional tapes for your libraries, set drives to read/write, or activate and deactivate replica VTLs.

VTL Command Usage

This topic introduces the DR Series system CLI commands that allow you to manage the virtual tape library (VTL) containers you have created for your system, which include:

- **vtl --show [options]**
- **vtl --update_carts [options]**
- **vtl --activate --name [options]**
- **vtl --deactivate --name**
- **vtl --rescan --name [options]**
- **vtl --set_rw [options]**
- **vtl --show_replstate --name**
- **vtl --help**

vtl --show [--name <name>]

Description

This command allows you to see the status of a specified virtual tape library (VTL). It displays detailed information about VTL, such as media type, vendor, model, generic device information, serial number, library size, and tape status information. The first example below shows the result information for Container vtl1 of type VTL with an NDMP connection. The second example shows Container iscsi-vtl1 of type VTL with an iSCSI connection.

Syntax

```
vtl --show [--name <name>]
```

Result

```
  ------------------------------------------------------------------
  Type     Vendor    Model                  Serial                Info
ID

  _____________________________________________________________________
  medi     DELL       DR_L700                81BL3T_00              10  10GB          10
  tape     IBM         ULT3580-TD4          81BL3T_01          Not  loaded          11
  tape     IBM         ULT3580-TD4          81BL3T_02          Not  loaded          12
  tape     IBM         ULT3580-TD4          81BL3T_03          Not  loaded          13
  tape     IBM         ULT3580-TD4          81BL3T_04          Not  loaded          14
  tape     IBM         ULT3580-TD4          81BL3T_05          Not  loaded          15
  tape     IBM         ULT3580-TD4          81BL3T_06          Not  loaded          16
  tape     IBM         ULT3580-TD4          81BL3T_07          Not  loaded          17
  tape     IBM         ULT3580-TD4          81BL3T_08          Not  loaded          18
  tape     IBM         ULT3580-TD4          81BL3T_09          Not  loaded          19
  tape     IBM         ULT3580-TD4          81BL3T_10          Not  loaded          20


  ------------------------------------------------------------------
  Type     Vendor    Model                  Serial                Info
ID

  _____________________________________________________________________
  medi     DELL       DR_L700                NQ9VL5_00             110  100GB         30
  tape     IBM         ULT3580-TD4          NQ9VL5_01          Not  loaded          31
  tape     IBM         ULT3580-TD4          NQ9VL5_02          Not  loaded          32
  tape     IBM         ULT3580-TD4          NQ9VL5_03          Not  loaded          33
  tape     IBM         ULT3580-TD4          NQ9VL5_04          Not  loaded          34
  tape     IBM         ULT3580-TD4          NQ9VL5_05          Not  loaded          35
  tape     IBM         ULT3580-TD4          NQ9VL5_06          Not  loaded          36
  tape     IBM         ULT3580-TD4          NQ9VL5_07          Not  loaded          37
  tape     IBM         ULT3580-TD4          NQ9VL5_08          Not  loaded          38
  tape     IBM         ULT3580-TD4          NQ9VL5_09          Not  loaded          39
  tape     IBM         ULT3580-TD4          NQ9VL5_10          Not  loaded          40
```

vtl --show --verbose [--name <name>]

Description

Displays detailed information about the specified virtual tape library (VTL).

Syntax

```
vtl --show --verbose
```

Result

```
 ------------------------------------------------------------------
 Type   Vendor  Model           Serial          Info            ID
 ------------------------------------------------------------------
 medi   DELL    DR_L700         NQ9VL5_00         110 100GB     30
 tape   IBM     ULT3580-TD4     NQ9VL5_01       Not loaded      31
 tape   IBM     ULT3580-TD4     NQ9VL5_02       Not loaded      32
 tape   IBM     ULT3580-TD4     NQ9VL5_03       Not loaded      33
 tape   IBM     ULT3580-TD4     NQ9VL5_04       Not loaded      34
 tape   IBM     ULT3580-TD4     NQ9VL5_05       Not loaded      35
 tape   IBM     ULT3580-TD4     NQ9VL5_06       Not loaded      36
 tape   IBM     ULT3580-TD4     NQ9VL5_07       Not loaded      37
 tape   IBM     ULT3580-TD4     NQ9VL5_08       Not loaded      38
 tape   IBM     ULT3580-TD4     NQ9VL5_09       Not loaded      39
 tape   IBM     ULT3580-TD4     NQ9VL5_10       Not loaded      40

Cartridges available in library:
 NQ9VL5001 NQ9VL5002 NQ9VL5003 NQ9VL5004 NQ9VL5005 NQ9VL5006 NQ9VL5007 NQ9VL5008
 NQ9VL5009 NQ9VL500A NQ9VL500B NQ9VL500C NQ9VL500D NQ9VL500E NQ9VL500F NQ9VL500G
 NQ9VL500H NQ9VL500I NQ9VL500J NQ9VL500K NQ9VL500L NQ9VL500M NQ9VL500N NQ9VL500O
 NQ9VL500P NQ9VL500Q NQ9VL500R NQ9VL500S NQ9VL500T NQ9VL500U NQ9VL500V NQ9VL500W
 NQ9VL500X NQ9VL500Y NQ9VL500Z NQ9VL5010 NQ9VL5011 NQ9VL5012 NQ9VL5013 NQ9VL5014
 NQ9VL5015 NQ9VL5016 NQ9VL5017 NQ9VL5018 NQ9VL5019 NQ9VL501A NQ9VL501B NQ9VL501C
 NQ9VL501D NQ9VL501E NQ9VL501F NQ9VL501G NQ9VL501H NQ9VL501I NQ9VL501J NQ9VL501K
 NQ9VL501L NQ9VL501M NQ9VL501N NQ9VL501O NQ9VL501P NQ9VL501Q NQ9VL501R NQ9VL501S
 NQ9VL501T NQ9VL501U NQ9VL501V NQ9VL501W NQ9VL501X NQ9VL501Y NQ9VL501Z NQ9VL5020
 NQ9VL5021 NQ9VL5022 NQ9VL5023 NQ9VL5024 NQ9VL5025 NQ9VL5026 NQ9VL5027 NQ9VL5028
 NQ9VL5029  ... and more!
Total: 110 cartridges available.
```

vtl --update_carts --name <name> --add --no_of_tapes <number>

Description

This command allows you to create additional tapes for a library specified in the --name option. Each library is initially created with 10 slots housing 60 tape media. Additional tapes can be added to the library as needed using this command. A library can only contain tapes of the same size. For example, if the library was originally created with 60 tapes of size 10G, additional tapes of size 10G can only be added.

Syntax

```
vtl --update_carts --name test-vtl --add --no_of_tapes 10
```

Result

```
Created 10 cartridges.
```

vtl --activate --name <name> [--force <yes|no>]

Description

This command activates a replica VTL.

Syntax

```
vtl --activate --name VTL1_Test --force yes
```

Result

```
Enter reserialization code for replica [ 00 (no op), 01 - 99 ]: 00
VTL processes will be started for container, VTL1_Test ...
```

vtl --deactivate --name <name>

Description

This command deactivates a replica VTL.

Syntax

```
vtl --deactivate --name VTL1_Test
```

Result

```
Are you sure you want to de-activate this VTL? [ Yes, No ] y
VTL VTL1_Test is deactivated !!
```

vtl --rescan --name <name> [--force <yes|no>]

Description

This command rescans a replica VTL.

Syntax

```
vtl --rescan --name VTL1_Test
```

Result

```
Rescan replica VTL after new cartridges have been added at source VTL? [Yes|No] y

Connections to the library VTL1_Test could be disrupted for a brief period.
Make sure no cartridges are loaded in tape drives and/or backups are in progress.
Proceed? [Yes|No] y
vtllibrary will be re-instantiated for container, VTL1_Test!
```

vtl --set_rw --name <name> [--id <number>]

Description

This command allows you to set the drives in a VTL container to read/write. The arguments to this command are as follows:

- **--name** — Specifies the name of a valid VTL container.
- **--id** — Sets the IO mode of a specific drive to RW.

Syntax

```
vtl --set_rw --name ndmp --id 81
```

Result

```
I/O mode set to readwrite for the drive with id 81 in container ndmp
```

vtl --show_replstate --name <name>

Description

This command shows the replication state of a specified VTL replication source container.

Syntax

```
vtl --show_replstate --name VTL1_Test
```

Result

```
Cartridges with data, INSYNC with peer:
---------------------------------------
 AFNGC6003 AFNGC6004 AFNGC6005 AFNGC6006 AFNGC6007 AFNGC6008 AFNGC6009 AFNGC600A
 AFNGC600B AFNGC600C AFNGC600D AFNGC600E AFNGC600F AFNGC600G AFNGC600H AFNGC600I
 AFNGC600J AFNGC600K AFNGC600L AFNGC600M AFNGC600N AFNGC600O AFNGC600Q AFNGC600R
 AFNGC600S AFNGC600T AFNGC600V AFNGC600W AFNGC600X AFNGC600Y AFNGC600Z AFNGC6010
 AFNGC6011 AFNGC6012 AFNGC6013 AFNGC6014 AFNGC6002 AFNGC6001
Total 38 cartridges synchronized with peer VTL.

Cartrdges with data, not INSYNC with peer:
------------------------------------------
 None.
Total 0 cartridges NOT synchronized with peer VTL.

Cartridges that do not have data are not displayed.
```

vtl --help

Description

Displays the list of vtl-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
vtl --help
```

Result

```
Usage:
       vtl --show [--verbose]
                        [--name <name>]
```

```
       vtl --update_carts --name <name>
                       --add
                       --no_of_tapes <number>

       vtl --activate --name <name>
                       [--force <yes|no>]

       vtl --deactivate --name <name>


       vtl --rescan --name <name>
                       [--id <number>]

       vtl --show_replstate --name <name>

       vtl --help

 vtl <command> <command-arguments>
 <command> can be one of:
                       --show          Displays command specific information.
                       --update_carts  Add cartridges
                       --activate      Activate a replica VTL
                       --deactivate    De-activate a replica VTL
                       --rescan        Rescan a replica VTL
                       --set_rw        Set drives in a vtl container to read write
                       --show_replstate        Show replication state of a container

For comman-specific help, please type vtl --help <command>
               eg:
                               vtl --help show
```

NDMP

The NDMP commands allow you to manage NDMP connections when you are using virtual tape library (VTL) containers.

NDMP Command Usage

This topic introduces the DR Series system CLI commands that allow you to manage NDMP connections when you are using virtual tape library (VTL) containers. These commands include:

- **ndmp --show**
- **ndmp --update [options]**
- **ndmp --help**

ndmp --show

Description

This command displays the NDMP username and port number being used in the current DR system.

Syntax

```
ndmp --show
```

Result

```
# ndmp --show
NDMP User: ndmp_user
NDMP Port: 10000
```

ndmp --update [--port <port number>]

Description

This command allows you to update and set the port number of the NDMP server. (The default port is 10000.)

Syntax

```
ndmp --update [--port <port number>]
```

Result

```
WARNING: Updating NDMP port involves restarting NDMP services.
Do you want to continue (yes/no) [n]? y
Successfully updated NDMP to use port 10001.
Restarting NDMP service ... done.
```

ndmp --help

Description

Displays the list of NDMP-related command options that can be used as a reference when using the DR Series system CLI.

Syntax

```
ndmp --help
```

Result

```
Usage:
        ndmp --show
        ndmp --update [--port <number>]
        ndmp --help

   ndmp <command> <command-arguments>
   <command> can be one of:
               --show          Displays command specific information.
               --update        Updates NDMP port (default port is 10000).

For command-specific help, please type ndmp --help <command>
        eg:
            ndmp --help show
```

iSCSI

The iSCSI commands allow you to manage iSCSI connections when you are using virtual tape library (VTL) containers.

ISCSI Command Usage

This topic introduces the DR Series system CLI commands that allow you to manage iSCSI connections when you are using virtual tape library (VTL) containers. These commands include:

- **iscsi --show**
- **iscsi --setpassword**
- **iscsi --sessions**

iscsi --show [--user]

Description

This command displays iSCSI information including the iSCSI CHAP user name in the current DR system.

Syntax

```
iscsi --show --user
```

Result

```
user : iscsi_user
```

Syntax

```
iscsi --show
```

Result

```
Target 1 : iqn.1984-05.com.dell:dr2000v.3184868.vtl100.10
    System information:
        Driver: iscsi
        State: ready
    I_T nexus information:
    LUN information:
        LUN: 0
            Type: controller (Controller)
            Backing store path: None
        LUN: 1
            Type: passthrough (L700)
            Backing store path: /dev/sg12
        LUN: 2
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg2
        LUN: 3
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg8
        LUN: 4
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg11
        LUN: 5
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg4
        LUN: 6
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg5
        LUN: 7
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg6
        LUN: 8
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg10
        LUN: 9
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg3
        LUN: 10
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg9
```

```
        LUN: 11
            Type: passthrough ( ULT3580-TD4)
            Backing store path: /dev/sg7
    Account information:
        iscsi_user
    Target 1 ACL information:         10.250.249.221
administrator@satyan-vm1 >
```

iscsi --setpassword

Description

This command sets the password for the iSCSI CHAP user.

Syntax

```
iscsi --setpassword
```

Result

```
WARNING: All existing iSCSI sessions will be terminated!
Do you want to continue? (yes/no) [n]? yes
Enter new CHAP password:
Re-type CHAP password:
administrator@test-vm1 >
```

iscsi --sessions

Description

This command displays the current iSCSI sessions in the current DR system.

Syntax

```
iscsi --sessions
```

Result

```
iSCSI client(s) information:
Container: test_vtl
  Target IQN: iqn.1984-05.com.dell:dr4000.7355836.test_vtl.10
    Initiators Connected: iqn.1991-05.com.microsoft:win-t16n70kqii4.testad.test.local
```

iscsi --help

Description

Displays the list of iSCSI-related command options that can be used as a reference when using the DR Series system CLI.

Syntax

```
iscsi --help
```

Result

```
Usage:
             iscsi  --show  [--user]

             iscsi  --setpassword
             iscsi  --sessions
             iscsi  --help

     iscsi  <command>  <command-arguments>
     <command>  can  be  one  of:
                          --show                Displays  command  specific
information.
                          --setpassword     Set  CHAP  password
                          --sessions          Show  iSCSI  sessions

 For  command-specific  help,  please  type  iscsi  --help  <command>
             eg:
                   iscsi  --help  show
```

FC

The FC commands allow you to manage Fibre Channel (FC) connections when you are using virtual tape library (VTL) containers.

FC Command Usage

This topic introduces the DR Series system CLI commands that allow you to manage Fibre Channel connections when you are using virtual tape library (VTL) containers. These commands include:

- **fc --show**
- **fc --sessions**
- **fc --help**

fc --show [--verbose] [--target]

Description

This command displays Fibre Channel information in the current DR Series system.

Syntax

```
fc --show --verbose
fc --show --target
```

Result

For fc --show --verbose:

```
Target port: Slot 6 Port 0

    Port WWN: 50:00:65:b8:36:69:96:00
    Node WWN: 50:00:65:b8:36:69:90:00
    Symbolic node name: "Dell Inc.: Dell DR4300"
    Card description: QLogic QLE2662 Dual Port FC16 HBA
    Firmware version: 8.01.02
    Port state: Online
    Port type: NPort (fabric via point-to-point)
    Port speed: 16 Gbit
                              Port Enabled: Yes

    Container: test2
            LUN: 1
                Type: Media changer (L700)
                Backing store path: /dev/sg76
            LUN: 2
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg36
            LUN: 3
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg37
            LUN: 4
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg38
            LUN: 5
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg39
            LUN: 6
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg40
            LUN: 7
```

```
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg41
            LUN: 8
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg42
            LUN: 9
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg43
            LUN: 10
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg44
            LUN: 11
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg45

            Initiators:
                21:00:00:24:ff:76:58:66


Target port: Slot 6 Port 1

    Port WWN: 50:00:65:b8:36:69:96:01
    Node WWN: 50:00:65:b8:36:69:90:00
    Symbolic node name: "Dell Inc.: Dell DR4300"
    Card description: QLogic QLE2662 Dual Port FC16 HBA
    Firmware version: 8.01.02
    Port state: Online
    Port type: NPort (fabric via point-to-point)
    Port speed: 16 Gbit
                              Port Enabled: Yes

    Container: test2
            LUN: 1
                Type: Media changer (L700)
                Backing store path: /dev/sg76
            LUN: 2
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg36
            LUN: 3
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg37
            LUN: 4
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg38
            LUN: 5
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg39
            LUN: 6
                Type: Magnetic tape (ULT3580-TD4)
                Backing store path: /dev/sg40
            LUN: 7
```

```
            Type: Magnetic tape (ULT3580-TD4)
            Backing store path: /dev/sg41
        LUN: 8
            Type: Magnetic tape (ULT3580-TD4)
            Backing store path: /dev/sg42
        LUN: 9
            Type: Magnetic tape (ULT3580-TD4)
            Backing store path: /dev/sg43
        LUN: 10
            Type: Magnetic tape (ULT3580-TD4)
            Backing store path: /dev/sg44
        LUN: 11
            Type: Magnetic tape (ULT3580-TD4)
            Backing store path: /dev/sg45

        Initiators:
            21:00:00:24:ff:76:58:66
```

For fc --show --target:

```
Target port: Slot 6 Port 0

    Port WWN: 50:00:65:b6:33:63:14:88
    Node WWN: 50:00:65:b6:33:63:14:80
    Symbolic node name: "Dell Inc.: Dell DR4300"
    Card description: QLogic QLE2662 Dual Port FC16 HBA
    Firmware version: 8.01.02
    Port state: Online
    Port type: NPort (fabric via point-to-point)
    Port speed: 16 Gbit
                              Port Enabled: Yes

Target port: Slot 6 Port 1

    Port WWN: 50:00:65:b6:33:63:14:89
    Node WWN: 50:00:65:b6:33:63:14:80
    Symbolic node name: "Dell Inc.: Dell DR4300"
    Card description: QLogic QLE2662 Dual Port FC16 HBA
    Firmware version: 8.01.02
    Port state: Online
    Port type: NPort (fabric via point-to-point)
    Port speed: 16 Gbit
                              Port Enabled: Yes
```

fc --sessions [--topology] [--condensed]

Description

This command displays the current Fibre Channel sessions in the current DR system.

Syntax

```
fc --sessions --topology
```

```
fc --sessions --condensed
```

Result

For fc --sessions --topology:

```
Target port: 50:00:65:b6:33:63:14:88
    Initiators connected:
        10:00:00:90:fa:a0:ae:0a
        50:0a:09:80:00:88:a7:71
        50:0a:09:80:06:8d:9a:40
        c0:03:ff:bd:1d:69:00:48

Target port: 50:00:65:b6:33:63:14:89
    Initiators connected:
        10:00:00:90:fa:cf:49:5e
        c0:03:ff:bd:1d:69:00:54
        c0:03:ff:bd:1d:69:00:58
        c0:03:ff:bd:1d:69:00:60
```

For fc --sessions --condensed:

```
Initiators connected.
      10:00:00:90:fa:a0:ae:0a
      50:0a:09:80:00:88:a7:71
      50:0a:09:80:06:8d:9a:40
      c0:03:ff:bd:1d:69:00:48
      10:00:00:90:fa:cf:49:5e
      c0:03:ff:bd:1d:69:00:54
      c0:03:ff:bd:1d:69:00:58
      c0:03:ff:bd:1d:69:00:60
```

fc --help <command>

Description

This command displays the command-specific help for the FC commands.

Syntax

```
fc --help
```

Result

```
Usage:
        fc --show [--verbose]
             [--target]

        fc --sessions [--topology]
             [--condensed]

        fc --help

       fc <command> <command-arguments>
       command can be one of:
            --show       Displays command specific information.
            --sessions   Show FC sessions

    For command-specific help, please type fc --help <command>
                        eg:
            fc --help show
```

Replication

To allow DR Series system replication operations, ensure that TCP ports 9904, 9911, 9915, and 9916 are enabled. For more information about supported ports for the DR Series system, see the *DR Series System Administrator Guide*.

The Replication DR Series system CLI command and its options allow you to manage the status of all current replication relationships and tasks on a system by:

- Displaying the current replication process status information
- Creating and defining new replication links or relationships to containers
- Deleting specific replication links
- Starting and stopping the replication process between source and target containers
- Limiting the bandwidth consumed during replication
- Resynchronizing replication between source and target containers
- Troubleshooting replication connection issues

Software versions 3.1 and later support cascaded replication, which involves a Source, Primary Target, and Secondary Target. Each relationship must be set up individually using two sets of replication add commands.

> **NOTE:** You can set a replication schedule for daily replication operations. For details, see schedule --add --day <day of the week> [--start_time <hh:mm>] [-- stop_time <hh:mm>] [--cleaner] [--replication].

Replication Command Usage

This topic introduces the **replication** command usage:

- **replication --show [options]**
- **replication --add --name --role --peer [options]**
- **replication --update --name --role --peer [options]**
- **replication --delete --name --role [options]**
- **replication --start --name --role [options]**
- **replication --stop --name --role [options]**
- **replication --limit --speed --target [options]**
- **replication --resync --name --role [options]**
- **replication --troubleshoot --peer**
- **replication --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

replication --show [--name <name>] [--role <source | target>] [--verbose] [--limits]

Description

Displays a detailed summary of replication-related information for a specific replication container in the DR Series system.

Syntax

```
replication --show --name backup --role source --verbose
```

Result

```
Replication Container ID        : 1
Replication Container           : backup
Replication Entry ID            : 1
Replication Role                : Target
Replication MDS Port                          : 9915
Replication Data Port           : 9916
Replication Source              : DR2K-01
Replication Source IP           : 10.250.208.232
Replication Source Mgmt Name    : DR2K-01
Replication Source Mgmt IP      : 10.250.208.232
Replication Local Data Name     : DR4100-Test
Replication Local Data IP       : 10.250.240.192
Replication Source Container ID : 1
Replication Source Container    : backup
Replication Enabled             : Yes
```

```
Replication Compression Enabled : Yes
Replication Encryption          : AES 128-bit
```

NOTE: To see how to display the limits set for the replication containers, see replication --limit --speed <<num><kbps | mbps | gbps> | default> --target <ip address | hostname>.

replication --show

Description

Displays the current status of all existing replication containers (and respective roles) in the DR Series system.

Syntax

```
replication --show
```

Result

```
Container Name          Replication Role              Status
backup                  Source, Target                Enabled
acme-59                 Source                        Enabled
acmeStorage1            Source                        Enabled
acmeStorage2            Source                        Enabled
acmeStorage3            Target                        Enabled
```

replication --show [--limits]

Description

Displays the limits set for your replication containers on the DR Series system.

Syntax

```
replication --show --limits
```

Result

```
Replication limits are enabled.
Host Name                     Target IP             Speed Limit
acme-85                       10.21.22.20           192 KBps
```

NOTE: You can limit the bandwidth consumed by the replication process by setting a value in kilobytes/second (kbps), megabytes/second (mbps), gigabytes/second (gbps), or use an unlimited bandwidth (default). The minimum allowed bandwidth setting for a DR Series system is 192 kbps.

For more information, see replication --limit --speed <<num><kbps | mbps | gbps> | default> --target <ip address | hostname>.

replication --add --name <name> --role <source | target> --peer <ip address | hostname> [--peer_name <name>] [--peer_group_name <name>] [--replication_traffic <ip address | hostname>] [--encryption <none | aes128 | aes256>][--username <user name>]

Description

Adds a new replication link to a container on the DR Series system, for which you need to define its name, role, peer appliance IP address/hostname , peer name, peer group name, user name on the peer system, and encryption level to apply. The peer group name is the name of the remote container's group to replicate to/from, and this parameter is applicable only if a remote container is not present.

There are three options for encryption: none, aes128 (Advanced Encryption Standard), using128-bit cryptographic keys, and aes256 (using 256-bit AES cryptographic keys).

If the username is a domain login (for example, domain\username), ensure that '\' characters and spaces are either escaped or in quotes.

NOTE: Make sure that the data container you intend to replicate already exists. If it does not, the following error message displays: *Error: Container <container_name> does not exist*.

Syntax

```
replication --add --name backup --role source --peer 10.250.240.192 --encryption aes128
```

Result

```
Enter password foradministrator@10.250.240.192:
Replication entry created successfully.
Replication Container          : backup
Replication Role               : Source
Replication Target             : 10.250.240.192
Replication Target IP          : 10.250.240.192
Replication Target Mgmt Name   : 10.250.240.192
Replication Target Mgmt IP     : 10.250.240.192
Replication Local Data Name    : DR2K-01
Replication Local Data IP      : 10.250.208.232
Replication Target Container   : backup
Replication Enabled            : Yes
```

```
Replication Compression Enabled: Yes
Replication Encryption         : AES 128-bit
```

NOTE: To verify that you have successful added a replication link to the DR Series system (or to view the current status of existing containers), see replication --show.

replication --update --name <name> --role <source | target> [--peer <ip address | hostname>] [--encryption <none | aes128 | aes256>] [--username <user name>]

Description

Updates an existing replication link to a container in a DR Series system and allows you to change the corresponding role, peer IP address or host name, the encryption being used, and user name based on the DR Series system CLI command options you specify.

Syntax

```
replication --update --name backup --role source --peer 10.25.19.5
```

Result

NOTE: If you attempt to update a container that already has replication enabled, this displays the following message:

```
Replication on backup is enabled and cannot be updated, please stop it first.
```

When replication is enabled on the container, you must first disable it before you can update it. To disable replication on a container, enter the DR Series system CLI replication --stop command and define the container name and role:

```
replication --stop --name <name> --role <source | target>
```

NOTE: For more information about disabling replication, see replication --stop --name <name> --role <source | target>.

Disables replication on a container:

```
replication --stop --name backup --role source
Replication configuration updated successfully.
Replication Container           : backup
Replication Role                : Source
Replication Target System       : acme-85
Replication Target System IP    : 10.25.192.5
Replication Target Container    : acme85-S2
Replication Enabled             : No
```

```
Replication Compression Enabled : Yes
Replication Encryption          : AES 128-bit
```

replication --delete --name <name> --role <source | target> [--force]

Description

Deletes an existing replication link to a container in a DR Series system.

NOTE: It is recommended that the replication be in an INSYNC state for this operation. If replication is not in an INSYNC state, this operation can potentially take a much longer time to execute.

Syntax

```
replication --delete --name acme-59-replica --role target
```

If you attempt to delete a container that already has replication enabled, this displays the following message:

```
Replication on acme-59-replica is enabled and cannot be deleted, please stop it first.
```

NOTE: If the replication state of the link is enabled, you must use the replication --stop command to disable replication before you can delete the replication link. For more information, see replication --stop --name <name> --role <source | target>.

Deletes the existing replication link to a container.

```
replication --delete --name acme-59-replica --role source
```

Result

```
Successfully deleted replication entry.
```

NOTE: The DR Series system CLI --force command is optional, and this command allows you to force the deletion of an existing replication link (such as when communications between the source and target are not working).

replication --start --name <name> --role <source | target>

Description

Starts the replication process on an existing replication link to a container in a DR Series system.

Syntax

```
replication --start --name container2_replica --role target
```

Result

```
Replication configuration updated successfully.
Replication Container           : container2_replica
Replication Role                : Source
Replication Target System       : acme-85
Replication Target System IP    : 10.20.22.20
Replication Target Container    : acme85-S2
Replication Enabled             : Yes
Replication Compression Enabled : Yes
Replication Encryption          : AES 128-bit
```

replication --stop --name <name> --role <source | target>

Description

Stops the replication process on an existing replication link to a container in a DR Series system.

Syntax

```
replication --stop --name acme-59_replicate --role source
```

Result

```
Replication configuration updated successfully.
Replication Container           : acme59
Replication Role                : Source
Replication Target System       : acme-85
Replication Target System IP    : 10.20.22.20
Replication Target Container    : acme85-S2
Replication Enabled             : No
Replication Compression Enabled : Yes
Replication Encryption          : AES 128-bit
```

replication --limit --speed <<num><KBps | MBps | GBps> | default> --target <ip address | hostname>

Description

Limits the bandwidth used during replication by defining a bandwidth limit using any of the following settings:

- Kilobytes/second (KBps)
- Megabytes/second (MBps)
- Gigabytes/second (GBps)
- Unlimited bandwidth (this is the default setting); minimum allowed bandwidth setting is 192 KBps

Configures replication limits for a DR Series system.

Syntax

```
replication --limit --speed 10gbps --target acme-60
```

Result

```
Successfully updated replication limit for acme-60 to 10 GBps.
Changing traffic control policies ... done.
```

replication --resync --name <name> --role <source | target>

Description

Resynchronizes the replication process between a source and target container in a replication relationship on a DR Series system. This command should only be used in an emergency situation with the help of Technical Support. Do not mistake this command as an ability to start a replication sync outside of the schedule window. If your intention is to start a replication outside of the window, you can either delete the schedule, or add a temporary replication window to the current schedule and delete it when the systems are in sync.

Syntax

```
replication --resync --name dataStorage3 --role source
```

Result

```
Successfully initiated replication resync on container dataStorage3.
```

replication --troubleshoot --peer <ip address | hostname>

Description

Troubleshoots the replication connections between a source and target container on a DR Series system.

> **NOTE:** This command only reports 9915 and 9916 as succeeding against a replication peer that has native DR Series replication configured to another system. If the peer is not currently using any replication ports, 9915 and 9916 will report as connection refused (by the DR Series system).

Syntax

```
replication --troubleshoot --peer 10.25.19.5
```

Result

The following examples shows both successful and unsuccessful replication connection attempts:

```
Testing connection to port 9904... Connected!
Testing connection to port 9911... Connected!
Testing connection to port 9915... Connected!
Testing connection to port 9916... Connected!
Replication troubleshooting completed successfully - Connection to all ports is OK!
```

```
replication --troubleshoot --peer acme-205
Testing connection to port 9904... Connected!
Testing connection to port 9911... Connected!
Testing connection to port 9915...
Unable to connect to socket - Connection refused
Could not connect to acme-205 on port 9915 - (Connection refused)
Testing connection to port 9916...
Unable to connect to socket - Connection refused
Could not connect to acme-205 on port 9916 - (Connection refused)
```

replication --help

Description

Displays the list of all replication-related options that can be used as a reference when using the DR4000 system CLI.

Syntax

```
replication --help
```

Result

```
Usage:
     replication --show [--name <name>]
                 [--role <source | target>]
                 [--verbose]
                 [--limits]

     replication --add --name <name>]
                  --role <source | target>
                  --peer <ip address | hostname>
                 [--peer_name <name>]
                 [--username <user name>]
                 [--encryption <none | aes128 | aes256>]

     replication --update --name <name>
                  --role <source | target>
                 [--peer <ip address | hostname>]
                 [--encryption <none | aes128 | aes256>]
                 [--username <name>]

     replication --delete --name <name>
                  --role <source | target>
                 [--force]

     replication --start --name <name>
                  --role <source | target

     replication --stop --name <name>
                  --role <source | target

     replication --limit --speed <<num><kbps | mbps | gbps | default>
                  --target <ip address | hostname>

     replication --resync --name <name>
                  --role <source | target>

     replication --troubleshoot --peer <ip address | hostname>

     replication --help

replication <command> <command-arguments>
<command> can be one of:
     --show           Displays command specific information.
     --add            Adds a replication link to a container.
     --update         Updates a replication link to a container.
     --delete         Deletes a replication link from a container.
     --start          Starts replication.
     --stop           Stops replication.
     --limit          Limits bandwidth consumed by replication.
```

```
     --resync          Initiates a replication re-sync.
     --troubleshoot    Troubleshoots replication connection.

For command-specific help, please type replication --help <command>

For example:

     replication --help show
```

Seed

The DR Series system seed operations allow for exporting data on the source to a portable seed device to then import the seed data to a primary target, and, if required, a secondary target as well. Replication seeding is an alternative to using network bandwidth for the initial re-synchronization of the source and target(s). After the target(s) are seeded, continuous replication can be started, which will keep the target(s) up to date by sending only unique data.

The DR Series CLI seed commands support the following operations:

- Create a job to perform seeding export or import.
- Delete an existing seeding export or import job.
- Specify containers for seeding export.
- Add a device to be used for seeding.
- Remove a device which is already added for seeding.
- Start seeding process (export/import).
- Stop running seeding process (export/import).
- Start cleaner to process seed ZL logs on target.

NOTE: The seeding device must be a CIFS share: a USB device connected to a Windows or Linux system and shared for import as a CIFS-mounted folder.

NOTE: The following scenarios are not supported for seeding:

- Import AND export from one share/device cannot occur at the same time.
- Import from one share/device cannot be completed from multiple locations at the same time.
- Export to a mount point can be completed only from one seed job. Multiple seed export jobs cannot send data to a single mount point.

See the white paper, *Seeding from a DR Series System to an External Device using CLI*, at **support.quest.com/DR-Series** for more information.

Seed Command Usage

This topic introduces the **seed** command usage:

- **seed --create --op <options> [--enc_type <options>]**
- **seed --delete**

- **seed --add_container --name <container name>**
- **seed --remove_container --name <container name>**
- **seed --add_device --server <server name> --volume <volume> --username <user name> --domain <domain name>**
- **seed --remove_device**
- **seed --start**
- **seed --stop**
- **seed --show**
- **seed --cleanup**
- **seed --help**

seed --create --op <import | export> [--enc_type <aes128 | aes256>] [--storage_group_name <name>]

Description

Creates a seed export job of type import or export on the source DR. The command will prompt for a password, and this password will be requested on the target to import the data. The command allows you to specify the type of encryption that will be used to encrypt the data on the seed device. The default value is aes256. The default value for storage group name is DefaultGroup.

Syntax

```
seed --create --op export --enc_type aes256 --storage_group_name cust1
```

Result

```
Enter password for seed export:
Re-enter password for seed export:
Successfully created seed job details.
```

seed --add_container --name <container name>

Description

Adds the container(s) that you want to seed. A new invocation of seed --add_container command needs to be executed for every container that you want to seed.

Syntax

```
seed --add_container --name acme-container1
```

Result

```
Successfully added seed container.
```

seed --add_device --server <server name> --volume <volume> --username <username> --domain <domain name>

Description

Adds a target device to the job. This is a USB device, which is CIFS shared from a Windows or Linux system.

NOTE: During seeding import, when a device is added to be used as target device, it can be used only for one job. To use it for another job, you need to delete all the seeding contents from the device. You can create separate folders on this device and can use each folder for a job.

Syntax

```
seed --add_device --server 10.250.224.81 --volume seed-device --username administrator
--domain testad.acme.local
```

Result

```
Enter password for administrator@10.250.224.81:
Successfully added seed device.
```

seed --cleanup

Description

Starts the cleaner to remove data not referenced on the target.

NOTE: You should run the seeding cleaner only when the system is idle and no ingests or replications tasks are in progress. When the seeding cleaner is run during replication, for example, there is a chance of missing data during the seeding process. However, this data will eventually be sent during resync.

Syntax

```
seed --cleanup
```

Result

```
Successfully added seed ZL logs to cleaner queue
```

seed --remove_device

Description

Remove the target device. This is an important step without which stats and other information will not be saved on the target device.

Syntax

```
seed --remove_device
```

Result

```
Successfully deleted device details
```

seed --show

Description

Used to show the configured seed job.

Syntax

```
seed --show
```

Result

```
Device info
===========
Server                          :10.250.224.81
Volume                          :seed-device
Username                        :administrator
Domain                          :testad.acme.local

Job info
========
Operation                       :Export
Status                          :Started
Container                       :acme-container1
```

```
Encryption type                 :aes256
```

seed --start

Description

Starts the seeding job. You will be prompted to add additional devices if a single device does not have enough space.

Syntax

```
seed --start
```

Result

```
Successfully started seed job.
```

seed --help

Description

Displays the list of all seed command related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
seed --help
```

Result

```
Usage:
     seed --create --op <import|export>
          [--enc_type <aes128 | aes256>]
          [--storage_group_name <name>]

     seed --delete
     seed --add_container --name <container name>

     seed --remove_container --name <container name>

           seed --add_device --server <server name>
                --volume <volume>
                --username <user name>
```

```
                [--domain <domain name>]

           seed --remove_device
           seed --start
           seed --stop
           seed --show
           seed --cleanup
           seed --help

 seed <command> <command-arguments>
     command can be one of:
          --create             Create a job to perform seeding export or import.
          --delete             Delete an existing seeding export or import job.
          --add_container      Add a container to be used for seeding export.
          --remove_container   Remove a container which is already added for seeding
export.
          --add_device         Add a device to be used for seeding.
          --remove_device      Remove a device which is already added for seeding.
          --start              Start seeding process(export/import).
          --stop               Stop running seeding process(export/import).
          --show               Show registered device, job for seeding.
          --cleanup            Start cleaner to process seed ZL logs on target.

  For command-specific help, please type seed --help <command>
      eg:
          seed --help create
```

Schedule

A schedule is the means by which you set aside specific daily time periods for performing disk space reclamation or replication operations. Disk reclamation operations recover unused disk space from DR Series system containers in which files were deleted; replication operations are the process by which the key data is saved only once from multiple devices to minimize excessive or redundant storage of the same data.

This set of DR Series system CLI commands allow you to perform the following tasks on a system:

- Display existing scheduled Replication and Cleaner (disk space recovery) operations
- Create new schedules for Replication and Cleaner operations
- Delete existing scheduled Replication and Cleaner operations

Schedule Command Usage

This topic introduces the **schedule** command usage:

- **schedule --show [options]**
- **schedule --add --day <Day of the week (Sunday|Monday...)> [options]**

- **schedule --delete --day <Day of the week (Sunday|Monday...)> [options]**
- **schedule --help**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

schedule --show [--cleaner]

Description

Displays any existing Cleaner schedule for a DR Series system.

Syntax

```
schedule --show --cleaner
```

Result

```
Cleaner Schedule:
                                                                  Start   Stop
Sunday                                    05:00   06:00
Monday                                    05:00   06:00
Tuesday                         05:00     06:00
Wednesday               05:00   06:00
Thursday                        05:00     06:00
Friday                                    05:00   06:00
Saturday                        05:00     06:00
```

schedule --show [--replication] [--name <name>]

Description

Displays any existing replication schedule for a DR Series system. If you do not specify a name parameter, the replication schedules for all containers are returned.

Syntax

```
schedule --show --replication --name acme55-cont1
```

Result

```
Replication Schedule:
                                                          Start    Stop
Sunday                          22:00    05:00
Monday                          22:00    05:00
Tuesday                 22:00    05:00
Wednesday       22:00    05:00
Thursday                22:00    05:00
Friday                          22:00    05:00
Saturday                22:00    05:00
```

schedule --add --day <day of the week> [--cleaner] [--replication] [--start_time <hh:mm>] [--stop_time <hh:mm>] [--name <name>]

Description

Creates a new Cleaner or Replication schedule for a DR Series system (on a source DR). For a specific container, you would use the --name <name> command option with the start time and stop time set points.

NOTE: Without any Cleaner schedule set, the DR Series system Cleaner process automatically starts within two minutes after it detects that no data ingest operation or other system operation activity is present. So, if your DR Series system runs intermittent or inconsistent ingest, readback, or replication operations, there is no need to set a Cleaner schedule (it will automatically run during periods of low or non-activity). However, if your system runs regular and consistent ingest, readback, or replication operations, you should create a Cleaner schedule that runs only during a known period of low or non-activity (for example, on a day or time period sufficient to complete this process). If your system does not meet either of these cases, you can still manually run the Cleaner. For more information, see maintenance --filesystem [--reclaim_space].

Syntax

```
schedule --add --day Sunday --start_time 06:00 --stop_time 22:00 --cleaner
```

NOTE: Set a corresponding stop time for every start time in each Cleaner (or Replication) schedule you create. The following example shows setting up a Cleaner schedule for the remainder of the week (Monday through Saturday).

NOTE: Do not select 00:00 for a start time or stop time endpoint for midnight when setting Cleaner or Replication schedules (instead, use either the 23:55 or 00:05 value).

Result

```
Successfully updated Cleaner schedule.
```

NOTE: To create a Replication schedule (use the DR Series system CLI --replication command), and the same process shown here to schedule the start and stop times for a Replication schedule. This lets you schedule start and stop times for each day in the week in which you want the Replication process to run.

schedule --delete --day <day of the week> [--cleaner] [--name <name>] [--replication]

Description

Deletes a day in an existing Cleaner or Replication schedule for a DR Series system (on a source DR). The --name option is only applicable for replication and not for the cleaner. You can use it to specify a container.

NOTE: To delete days from either an existing Cleaner or Replication schedule, specify the day in the week and the schedule type.

Syntax

```
schedule --delete --day Sunday --replication --name Container1
```

Result

```
Successfully updated Replication schedule.
```

schedule --help

Description

Displays the list of schedule-related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
schedule --help
```

Result

```
Usage:
     schedule --show [--cleaner]
             [--replication]
             [--name <name>]

     schedule --add --day <Day of the week (Sunday|Monday...)>
             [--start_time <hh:mm>]
```

```
              [--stop_time <hh:mm>]
              [--cleaner]
              [--replication]
              [--name <name>]

     schedule --delete --day <Day of the week (Sunday|Monday...)>
              [--cleaner]
              [--name <name>]
              [--replication]

     schedule --help

schedule <command> <command-arguments>
<command> can be one of:

     --show     Displays command specific information.
     --add      Adds a schedule for replication/cleaner (use on source DR).
     --delete   Deletes a replication/cleaner schedule (use on source DR).

For command-specific help, please type schedule --help <command>

For example:
     schedule --help show
```

Data Integrity Checking

The DR Series system design includes an online data integrity verification feature known as Data Check, which checks for potential or unexpected data inconsistencies in the data store associated with the internal system deduplication engine. Data Check performs a series of checks for unexpected data inconsistencies as early as possible in the data ingest and backup process.

Data Check checks and verifies data both during the write process and also the data already stored on the system disks. The design purpose is to detect potential issues early enough in the data management process so that original data can be used to backup and correct any potential data inconsistencies. Data Check reports data verification issues, but it is not intended nor designed to repair these issues itself.

Any data inconsistencies that are encountered are reported as DR Series system alerts, and these filesystem errors can be repaired using the **Maintenance** mode (for more information, see Maintenance.

The Data Check feature runs continuously except for when the DR Series system enters its **Maintenance** mode (it does not run while the system is in this mode). Data Check leaves the system in an **Operational** mode when it detects an error, at which point, it sends an alert and an event.

If an alert has already been sent, but has not been cleared (for example, when repairs occur during the **Maintenance** mode), no new event is sent. Similarly, for events, one is sent for the first detected data inconsistency, and then the total number of issues detected during the scan are listed in a new event.

If Data Check is enabled, it runs in the background as a low-priority process, and changes to an idle state when the other major DR Series system operations (data ingest, replication, and cleaner) are active.

NOTE: Unless otherwise noted, all later references to datacheck or Data Check in this guide are used interchangeably to represent the Data Check feature in the DR Series system.

About Data Check

The purpose of the Data Check feature is to perform data integrity checks to detect potential silent data inconsistencies that can affect the DR Series system disks or disk subsystems, and protect user data before there is any potential data loss.

Silent data inconsistencies can be any of the following types of disk-based data storage issues: hardware imperfections, bit rot, current spikes, disk firmware problems, and ghost writes. Data Check performs its own integral data integrity checks that detect and identify potential issues after performing the following scans:

- Priority write verify scans
- Continuous data verification scans

For more information, see Continuous Data Verification Scans and Priority Write Verify Scans.

Priority Write Verify Scans

Data Check performs an early write verify scan, also known as a namespace scan, when files are first created or when they are modified by users. All of the modified files are flagged for priority scanning and this process is based on its timestamp—with a higher priority given to the most recently modified files. Early write verify scans are performed every five minutes when the other DR Series system operations are idle. For more information, see About Data Check and Continuous Data Verification Scans.

Continuous Data Verification Scans

Data Check performs a data verification scan, also known as a blockmap scan, which cycles every two hours through all of the objects in the data store. Data integrity verification is done by recalculating the hash values for the underlying data, and comparing these to the stored hash values using an additional checksum process. Any unexpected data inconsistencies are reported using the DR Series system alerts process.

For more information, see About Data Check and Priority Write Verify Scans.

Data Check CLI Commands

These DR Series system CLI commands allow you to perform the following Data Check-related scans and display current Data Check status. There are two sets of Data Check related DR Series system CLI commands: **system --datacheck** and stats **--datacheck**.

system --datacheck Commands

- Display the current Data Check state (enabled/disabled status for **namespace, blockmap,** or **all**). For more information, see system --datacheck.
- Enable Data Check scans (**namespace, blockmap,** or **all**). For more information, see system --datacheck [--enable <all | namespace | blockmap>].
- Disable Data Check scans (for **namespace, blockmap,** or **all**). For more information, see system --datacheck [--disable <all | namespace | blockmap>].
- Set the percentage of available system resources to use for Data Check scans. For more information, see system --datacheck [--throttle <1-100>].
- Display the list of Data Check help-related options that can be used as a reference when using the CLI. For more information, see system --help datacheck.

stats --datacheck Commands

- Display the variety of Data Check statistics collected by the DR4000 system. For more information, see stats --datacheck.
- Reset the Data Check statistics in the DR4000 system. For more information, see stats --reset --datacheck.
- Display the list of Data Check-related options that can be used as a reference when using the DR Series system CLI. For more information, see stats --help datacheck.

Data Check Options

Data Check performs data integrity checks that detect potential silent data inconsistencies that can affect the system disks or disk subsystems, and protect user data. Data Check provides the following options that can be set for DR Series system data scan operations:

- Namespace (**system --datacheck --enable namespace**).
- Blockmap (**system --datacheck --enable blockmap**).
- All (**system --datacheck --enable all**); this is the default setting where both namespace and blockmap are enabled.

Data Check: Namespace Scan Option

The namespace scan option focuses on file attributes such as file size, file name, permissions, and last time modified. Data integrity verification is done using a checksum process. You can choose to enable or disable the Data Check namespace scan in the DR Series system based on the command setting you select.

Data Check: Blockmap Scan Option

The blockmap scan option identifies a specific mapping of data contained within a block, with a block being a structured form of data that the DR Series system can identify. You can choose to enable or disable the Data Check blockmap scan based on the command option you select.

Data Check: All Data Scan Option

The All scan option is one of three options that can be selected for DR Series system data scan operations. The All scan option identifies that both the namespace and blockmap options are to be included in the Data Check commands. You can choose to enable or disable Data Check scans for both namespace and blockmap in the DR Series system based on the specific command option you select.

System --Datacheck

This set of DR Series system CLI commands allow you to display the current Data Check status, enable and disable Data Check scans on the DR Series system, set the throttle percentage of system resources to use for Data Check scans, and display the system Data Check help-related options. For more information, see System --Datacheck Command Usage.

System --Datacheck Command Usage

This topic introduces the system --datacheck command usage:

- **system --datacheck**
- **system --datacheck--enable [options]**
- **system --datacheck --disable [options]**

- **system --datacheck --throttle [options]**
- **system --help datacheck**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

system --datacheck

Description

Displays the current status of Data Check on a DR Series system.

Syntax

```
system --datacheck
```

Result

```
Data Check : Enabled - namespace,blockmap,throttle:50%

Data Check : Disabled
```

NOTE: The first example shows that both **--namespace** and **--blockmap** scans are enabled, and the default **--throttle** setting (50%) is on for the DR Series system. As shown in the second example, a Data Check status of disabled indicates that both the **--namespace** and **--blockmap** scans are disabled on the DR Series system.

system --datacheck --disable

Disables one or both Data Check scan option types that can be used on a DR Series system. You can individually disable namespace or blockmap scan options, or both options using the all scan option (which means that both the namespace and blockmap scan types will be disabled).

Description

Disables an individual Data Check scan option type (or both scan types) when used in a DR Series system CLI command.

Syntax

```
system --datacheck [--disable <all | namespace | blockmap>]
```

Result

```
Data Check configuration successful: all scans currently disabled.
```

> **NOTE:** This example shows all Data Check scan options being disabled. To disable only the namespace or the blockmap scan, use those options respectively in the DR Series system CLI command, for example, **--disable --namespace**, or **--disable --blockma**p.

system --datacheck --enable

Enables one or both Data Check scan options that can be used on a DR Series system. The enable option can be set to all, namespace, or blockmap. You can individually enable namespace or blockmap scan options, or both options using the all scan option (which means that both the namespace and blockmap scan types will be enabled).

Description

Enables an individual Data Check scan option type (or both scan types) when used in a DR Series system CLI command.

Syntax

```
system --datacheck [--enable <all | namespace | blockmap>]
```

Result

```
Data Check configuration successful: namespace and blockmap scans currently enabled.
```

> **NOTE:** This example shows all Data Check scan options enabled. To enable only the namespace or only the blockmap scan, use those options respectively in the DR Series system CLI command, for example, **--enable --namespace**, or **--enable --blockmap**.

system --datacheck --throttle

Use the Data Check --throttle option to specify the percentage of available DR Series system resources you want to use when running Data Check scans when the other system operations (data ingest, Replication, and Cleaner processes) are idle. The range is between 1 to 100 percent (%), and the default is 50%.

Description

Enables Data Check scans to use any percentage (1–100) of available DR Series system resource that you define. In this example, 75% of the available DR Series system resources are selected.

Syntax

```
system --datacheck [--throttle <1-100>]
```

Result

```
Data Check configuration successful: throttle set to 75%.
```

system --help datacheck

Description

Displays the list of system --datacheck related options that can be used as a reference when using the DR Series system CLI.

Syntax

```
system --help datacheck
--datacheck - Displays statistics for online data verification.
```

Result

```
Usage:
        system  --datacheck
                  [--enable  <all|namespace|blockmap>]
                  [--disable  <all|namespace|blockmap>]
                  [--throttle  <1-100>]

     --enable                  Enables  online  data  verification  scans.
     --disable                Disables  online  data  verification  scans.
     --throttle        Sets  the  online  data  verification  throttle  percentage.
```

stats --datacheck

This set of DR Series system CLI commands allow you to display the current Data Check statistics gathered by the system, reset the Data Check statistics for the system, and display the statistic-based Data Check help-related options. For more information, see Stats --Datacheck Command Usage.

stats --datacheck Command Usage

This topic introduces the stats --datacheck command usage:

- **stats --datacheck**
- **stats --reset --datacheck**
- **stats --help datacheck**

NOTE: If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

stats --datacheck

Description

Displays the current set of datacheck statistics on a DR Series system.

NOTE: The Progress field in the statistics can indicate one of three values: **Waiting**, **Running**, and **Idle**.

- **Waiting**: Data Check is in this state because another operation is now running.
- **Running**: Data Check is in this state when running the scans.
- **Idle**: Data Check is in this state waiting for the next opportunity to run the Data Check scans.

The following example shows the status of active DR Series system operations in response to the stats --datacheck command on a DR Series system when Data Check is enabled.

Syntax

```
stats --datacheck
```

Result

```
Data Check
Progress
Active Writes                                                    : No
Active System Operations                    : No
Total Detected Errors                                : 0
Last Complete Namespace Scan   : 2012-02-02 17:48:18
Last Complete Blockmap Scan    : 2012-02-02 16:33:08
Namespace Scans Completed                   : 183
Namespace Scan Entries                                       : 6
Namespace Scan Errors                                : 0
Namespace Scan Start Time                   : 2012-02-02 17:43:08
Namespace Scan Progress                              : 100.00%
Blockmap Scans Completed                    : 8
Blockmap Scan Entries                                : 3
Blockmap Scan Errors                                         : 0
Blockmap Scan Start Time                    : 2012-02-02 16:33:06
Blockmap Scan Progress                                       : 100.00%
```

Other Examples

This example shows the output from the stats --datacheck command used on a DR Series system when Data Check is disabled.

```
stats --datacheck

Online Data Verification                    : Disabled
```

```
Progress
Active Writes                                                                    : No
Active System Operations                        : No
Total Detected Errors                                   : 0
Last Complete Namespace Scan   : 2012-01-24 15:50:10
Last Complete Blockmap Scan            : 2012-01-24 15:55:59
```

Additional Linux Commands

This topic introduces additional Linux commands that have limited usage when used with the DR Series system CLI:

- **grep**
- **more**

While these Linux commands are available to the user, this topic and other topics related to these commands are not intended to be a reference source for these commands. You can consult a Linux command reference guide for more information about these commands and how they can be used.

grep

Description

Displays the supported usage of the Linux grep command with the DR Series system.

Syntax

```
grep --help
```

Result

```
Usage: grep [OPTION]... PATTERN [FILE] ...
Search for PATTERN in each FILE or standard input.
Example: grep -i 'hello world' menu.h main.c

Regexp selection and interpretation:
  -E, --extended-regexp     PATTERN is an extended regular expression
  -F, --fixed-strings       PATTERN is a set of newline-separated strings
  -G, --basic-regexp        PATTERN is a basic regular expression
  -P, --perl-regexp         PATTERN is a Perl regular expression
  -e, --regexp=PATTERN      use PATTERN as a regular expression
  -f, --file=FILE           obtain PATTERN from FILE
  -i, --ignore-case         ignore case distinctions
```

```
  -w, --word-regexp         force PATTERN to match only whole words
  -x, --line-regexp         force PATTERN to match only whole lines
  -z, --null-data           a data line ends in 0 byte, not newline

Miscellaneous:
  -s, --no-messages         suppress error messages
  -v, --invert-match        select non-matching lines
  -V, --version             print version information and exit
      --help                display this help and exit
      --mmap                use memory-mapped input if possible

Output control:
  -m, --max-count=NUM       stop after NUM matches
  -b, --byte-offset         print the byte offset with output lines
  -n, --line-number         print line number with output lines
      --line-buffered       flush output on every line
  -H, --with-filename       print the filename for each match
  -h, --no-filename         suppress the prefixing filename on output
      --label=LABEL         print LABEL as filename for standard input
  -o, --only-matching       show only the part of a line matching PATTERN
  -q, --quiet, --silent     suppress all normal output
      --binary-files=TYPE   assume that binary files are TYPE
                            TYPE is 'binary', 'text', or 'without-match'
  -a, --text                equivalent to --binary-files=text
  -I                        equivalent to --binary-files=without-match
  -d, --directories=ACTION  how to handle directories
                            ACTION is 'read', 'recurse', or 'skip'
  -D, --devices=ACTION      how to handle devices, FIFOs and sockets
                            ACTION is 'read' or 'skip'
  -R, -r, --recursive       equivalent to --directories=recurse
      --include=PATTERN     files that match PATTERN will be examined
      --exclude=PATTERN     files that match PATTERN will be skipped.
      --exclude-from=FILE   files that match PATTERN in FILE will be skipped.
  -L, --files-without-match only print FILE names containing no match
  -l, --files-with-matches  only print FILE names containing matches
  -c, --count               only print a count of matching lines per FILE
  -Z, --null                print 0 byte after FILE name

Context control:
  -B, --before-context=NUM  print NUM lines of leading context
  -A, --after-context=NUM   print NUM lines of trailing context
  -C, --context=NUM         print NUM lines of output context
  -NUM                      same as --context=NUM
      --color[=WHEN],
      --colour[=WHEN]       use markers to distinguish the matching string
                            WHEN may be `always', `never' or `auto'.
  -U, --binary              do not strip CR characters at EOL (MSDOS)
  -u, --unix-byte-offsets   report offsets as if CRs were not there (MSDOS)

`egrep' means `grep -E'.  `fgrep' means `grep -F'.
With no FILE, or when FILE is -, read standard input.  If less than
```

```
two FILEs given, assume -h.  Exit status is 0 if match, 1 if no match,
and 2 if trouble.

Report bugs to <bug-grep@gnu.org>.
```

more

Description

Displays the supported usage of the Linux more command with the DR Series system.

Syntax

```
more --help
```

Results

```
usage: more [-dflpcsu] [+linenum | +/pattern] name1 name2 ..
```

We are more than just a name

We are on a quest to make your information technology work harder for you. That is why we build community-driven software solutions that help you spend less time on IT administration and more time on business innovation. We help you modernize your data center, get you to the cloud quicker and provide the expertise, security and accessibility you need to grow your data-driven business. Combined with Quest's invitation to the global community to be a part of its innovation, and our firm commitment to ensuring customer satisfaction, we continue to deliver solutions that have a real impact on our customers today and leave a legacy we are proud of. We are challenging the status quo by transforming into a new software company. And as your partner, we work tirelessly to make sure your information technology is designed for you and by you. This is our mission, and we are in this together. Welcome to a new Quest. You are invited to Join the Innovation™.

Our brand, our vision. Together.

Our logo reflects our story: innovation, community and support. An important part of this story begins with the letter Q. It is a perfect circle, representing our commitment to technological precision and strength. The space in the Q itself symbolizes our need to add the missing piece — you — to the community, to the new Quest.

Contacting Quest

For sales or other inquiries, visit www.quest.com/contact.

Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at https://support.quest.com.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product