



File Director™

CLI Reference Guide

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NeoPath™ Networks File Director™

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Version: 1.0.7

Updated: April 2005

CONTENTS

About This Guide

| | |
|---------------------------------------------------------|----|
| Audience..... | v |
| Contacting NeoPath Networks Technical Support | v |
| Conventions..... | v |
| Getting Online Help | vi |
| Displaying Help Text at the CLI Command Line..... | vi |
| Displaying the CLI Reference Guide in Online Help | vi |

Using the Command Line Interface to Configure the File Director

| | |
|---------------------------------------------------------|----|
| About the CLI Command Syntax..... | 1 |
| About the Syntax Notations | 1 |
| About Blank Spaces in CLI Command Parameter Values..... | 1 |
| CLI Command Forms | 2 |
| Summary of the CLI Commands | 3 |
| System Commands | 3 |
| Network Commands..... | 5 |
| Servers Commands | 7 |
| Namespace Commands | 8 |
| Policy Commands | 9 |
| Syntax of the CLI Commands | 10 |
| accumulator monitor | 10 |
| accumulator policy | 12 |
| accumulator rule | 15 |
| admin | 17 |
| backup..... | 19 |
| clock..... | 20 |
| cluster multicast..... | 23 |
| cluster node..... | 25 |
| dns | 28 |
| dstorage..... | 30 |
| halt | 32 |
| help..... | 33 |
| hostname..... | 35 |
| interface | 36 |
| ip address..... | 38 |
| ip route..... | 40 |
| log | 41 |

| | |
|------------------------------|-----|
| logrotate | 43 |
| migration | 45 |
| migration retry | 47 |
| migration status | 48 |
| ntp | 49 |
| ping..... | 50 |
| proxyip | 51 |
| pubkey..... | 53 |
| reboot | 55 |
| restore | 56 |
| same | 57 |
| schedule | 59 |
| sdirectory | 62 |
| server | 63 |
| service | 68 |
| share..... | 70 |
| slink..... | 72 |
| snmp..... | 74 |
| software factory_reset | 77 |
| software install..... | 78 |
| software rollback | 80 |
| stat cifs..... | 81 |
| stat interface..... | 83 |
| stat migration | 84 |
| stat nfs | 86 |
| udirectory..... | 89 |
| vserver..... | 91 |
| vshare..... | 94 |
| whereis | 99 |
| wins server..... | 101 |

Index

About This Guide

This *File Director CLI Reference Guide* provides reference information about using the Command Line Interface (CLI) commands for configuring and maintaining the File Director™ from NeoPath™ Networks.

For information on installing and initializing the File Director, see the *File Director Quick Start Guide*.

For overview and complete step-by-step instructions for configuring and maintaining the File Director, see the *File Director Administrator Guide*

All of these guides are included with the File Director as Adobe Acrobat files (.pdf). (To install a free version of Adobe Acrobat Reader, see <http://www.adobe.com>.)

Audience

This guide is for Information Technology (IT) administrators who have experience installing and configuring network servers and equipment.

Contacting NeoPath Networks Technical Support

If you have any questions or you need technical assistance with the File Director hardware or software, call the NeoPath Networks Technical Support Department at 408-970-0300. You can also visit the Service & Support area of the NeoPath Networks Web site at www.neopathnetworks.com.

Before you call NeoPath Networks, make sure you know the Service Tag and the Express Service Code that uniquely identify your File Director hardware. Both of these identifiers are located on top in the front right corner of the File Director chassis. The Service Tag is also visible on a vertical bar code label above the purple mouse port on the rear panel of the File Director.

Conventions

The following conventions are used in this guide:

- A **Tip** suggests ways to make a task easier or faster. For example:
Tip: To display the last command you entered, press the Up Arrow key.
- A **Note** or **Important** contains important information. For example:
Note: The File Director supports CIFS and NFS (v2 and v3) NAS protocols.
Important: You must also configure the NFS file server to allow access from this File Director IP address.
- A **Warning** describes actions that can cause data loss or problems. For example:
Warning: Be careful when changing the IP configuration settings. If you enter incorrect settings, the File Director may become inaccessible from the network.

Getting Online Help

Displaying Help Text at the CLI Command Line

To display Help text for a CLI command, type the following command on the command line:

- `help [command name]`

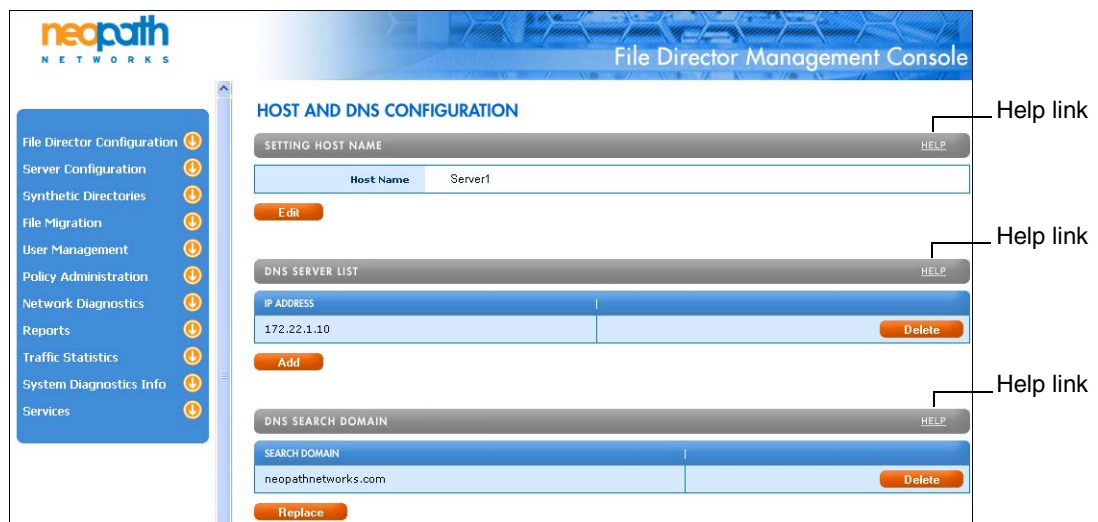
For more information, see “help” on page 33.

Displaying the CLI Reference Guide in Online Help

You can display this CLI Reference Guide and context-sensitive online Help for each set of configuration settings in a section of the Management Console.

To display this CLI Reference Guide in online Help:

1. Click the Help link in the upper right corner of each configuration section.



2. Click the **CLI-Reference-Guide** link in the **Contents** panel on the left side of the browser page.
3. Click the links for the CLI Command topics in the **Contents** panel to display help for the commands.

Using the Command Line Interface to Configure the File Director

You can use the Command Line Interface (CLI) commands to configure and maintain the File Director. All of the functionality in the File Director Management Console is available through CLI commands.

You can transmit the CLI commands to the File Director by using:

- Any SSH client over a network. Configure the SSH client to connect using the File Director host name.
- A terminal or terminal application and a direct serial connection to the File Director.
- A monitor, keyboard, and mouse directly connected to the File Director.

For more information on connecting a terminal or monitor, keyboard, and mouse to the File Director, see the *File Director Quick Start Guide*.

Note: This guide assumes that you are familiar with the File Director functionality described in the *File Director Administrator Guide*.

About the CLI Command Syntax

About the Syntax Notations

The syntax notations for the CLI commands in the following sections use these symbols:

| Symbol | Description |
|--------|----------------------------------------------------------------------------------------------------------------|
| < > | Indicates a variable you need to specify. Other identifiers are literals. |
| [] | Indicates an optional parameter or prefix. |
| () | Used for grouping parameters. |
| | Indicates an “OR” choice between two parameters. The identifier on either side of the character can be used. |

About Blank Spaces in CLI Command Parameter Values

Some CLI command parameter values can include blank spaces, such as the names of policy rules. To include a blank space in a parameter value, you must enclose the value in quotes (" ").

For example, in the following command, enclose the policy rule name “*my rule*” in quotes:

```
add accumulator rule "my rule" (size > 10 KB || (most accessed percent 50 in 10 days && filetype == MP3)) order by -size
```

Some parameter values do not allow blank spaces, such as a virtual server name. If you include a blank space in a parameter value that doesn't allow spaces, the CLI command will display an error message.

CLI Command Forms

The CLI commands can take some or all of the following forms:

- To add new configuration information or system state, use the **add** prefix before the command name:

```
add <command> <arguments>
```

For example, to add a DNS nameserver:

```
add dns nameserver 172.22.1.10
```

- To edit configuration information or change the system state, use the command name:

```
<command> <arguments>
```

For this edit form, you can include the optional **edit** prefix before the command:

```
edit <command> <arguments>
```

For example, to edit the information for a DNS domain:

```
dns domain company.com
```

```
edit dns domain company.com
```

- To clear configuration information or the system state, use the **clear** or **no** prefix before the command name:

```
clear <command> [<arguments>]
```

```
no <command> [<arguments>]
```

For example, to clear the information for a DNS nameserver:

```
clear dns nameserver 172.22.1.10
```

The **clear** and **no** prefixes are equivalent.

- To report configuration information or system state, use the **show** prefix before the command name:

```
show <command> [<arguments>]
```

For example, to show all migration jobs:

```
show migration
```

Tip: To display the last command you entered on the command line, press the Up Arrow key.

Summary of the CLI Commands

The following tables contain a summary of each CLI command in alphabetical order within the following command categories:

- System
- Network
- Servers
- Namespace (synthetic directory, synthetic link, and union directory)
- Policy

Note: The `clear` commands in the following table can also be executed by substituting `no` for `clear`, as shown in the previous section, “About the CLI Command Syntax.”

System Commands

| CLI Command | Syntax | Operation |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| admin | <ul style="list-style-type: none"> • <code>add admin <name> [<description>]</code> • <code>[edit] admin enable <name></code> • <code>[edit] admin disable <name></code> • <code>[edit] admin password <name></code> • <code>[edit] admin description <name> <description></code> • <code>clear admin <name></code> • <code>show admin [<name>]</code> | Adds a new administrator account for configuring the File Director |
| backup | <code>backup <scheme>:// [<user>[:<password>]@] <host>/<url-path></code> | Saves all configuration information of the File Director to a single file on another host computer |
| clock | <ul style="list-style-type: none"> • <code>[edit] clock <time-spec></code> • <code>[edit] clock timezone <timezone-location></code> • <code>show clock</code> • <code>show clock timezones [all]</code> | Sets the File Director system date, time, and time zone |
| halt | <code>halt [now]</code> | Shuts down the File Director |
| help | <ul style="list-style-type: none"> • <code>help</code> • <code>help commands</code> • <code>help <command-category></code> • <code>help <modifier></code> • <code>help [<modifier>] <command-name></code> | Displays help information about the CLI commands. This command displays syntax descriptions of CLI commands or lists available commands. |

| CLI Command | Syntax | Operation |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| log | <code>show log <logname>[.<number>] [lines <N>[-<N>]]</code> | Shows the contents of the specified log |
| logrotate | <ul style="list-style-type: none"> • <code>[edit] logrotate <logname> (<criteria> keep (<number> Infinite) <criteria> keep (<number> Infinite))</code> • <code>show logrotate [<logname>]</code> | Sets log file rotation on the File Director |
| pubkey | <ul style="list-style-type: none"> • <code>add pubkey <URL></code> • <code>clear pubkey <key-number> [now]</code> • <code>show pubkey [<key-number>]</code> | Manages SSH public keys that allow administrators to log into the File Director without using a password |
| reboot | <code>reboot [now]</code> | Reboots the File Director |
| restore | <code>restore <scheme>://[<user>[:<password>]]@<host>/<url-path> [now]</code> | Restores configuration information of the File Director from the backup configuration file generated via the backup command. |
| schedule | <ul style="list-style-type: none"> • <code>add schedule <name> <schedule></code> • <code>[edit] schedule <name> <schedule></code> • <code>clear schedule <name></code> • <code>show schedule [<name>]</code> | Creates schedules for executing actions such as accumulator policies and resync functions. |
| service | <ul style="list-style-type: none"> • <code>[edit] service start stop restart <service-name></code> • <code>show service [nfs cifs <service-name>]</code> | Starts, stops, or restarts the File Director services |
| snmp | <ul style="list-style-type: none"> • <code>add snmp community <snmp_community_name> <view_group_name></code> • <code>clear snmp community <snmp_community_name></code> • <code>show snmp community</code> <hr/> <ul style="list-style-type: none"> • <code>add snmp trap_community <trap_community_name> <version></code> • <code>clear snmp trap_community <trap_community_name></code> • <code>show snmp trap_community [<trap_community_name>]</code> <hr/> <ul style="list-style-type: none"> • <code>add snmp trapdest <trap_community_name> <destination_ip></code> • <code>clear snmp trapdest <trap_community_name> <destination_ip></code> | Configures the SNMP agent |

| CLI Command | Syntax | Operation |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| software factory_reset | <code>software factory_reset [now]</code> | Reverts the software on the File Director to the factory-installed version |
| software install | <ul style="list-style-type: none"> • <code>software install <URL> [now]</code> • <code>show software</code> | Installs new software on the File Director |
| software rollback | <code>software rollback [now]</code> | Rolls back the software on the File Director to the previously installed version |
| stat cifs | <ul style="list-style-type: none"> • <code>show stat cifs share <server> [<share>]</code> • <code>show stat cifs server [<server>]</code> • <code>show stat cifs client</code> • <code>show stat cifs</code> | Shows CIFS statistics information |
| stat interface | <code>show stat interface [<interface>]</code> | Shows interface statistics information |
| stat migration | <ul style="list-style-type: none"> • <code>show stat migration share <server> <export/share></code> • <code>clear stat migration <server> <export/share></code> | Shows migration statistics information for either an export or a migration job |
| stat nfs | <ul style="list-style-type: none"> • <code>show stat nfs client</code> • <code>show stat nfs <server-name></code> • <code>show stat nfs</code> | Shows NFS statistics information |

Network Commands

| CLI Command | Syntax | Operation |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| cluster multicast | <ul style="list-style-type: none"> • <code>add cluster multicast <multicast-ip-address></code> • <code>[edit] cluster multicast <multicast-ip-address></code> • <code>clear cluster multicast</code> • <code>show cluster multicast</code> | Sets the multicast base address for the interfaces used for heartbeats in a cluster |
| cluster node | <ul style="list-style-type: none"> • <code>add cluster node <node-name> primary backup</code> • <code>[edit] cluster node <node-name> primary backup</code> • <code>clear cluster node <node-name></code> • <code>show cluster node</code> | Adds the specified File Director as a node of a cluster and sets its role to primary or backup |

| CLI Command | Syntax | Operation |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dns | <ul style="list-style-type: none"> • <code>add dns (nameserver server) <ip-address></code> • <code>clear dns (nameserver server) <ip-address></code> • <code>show dns (nameserver server)</code> <hr/> <ul style="list-style-type: none"> • <code>add dns domain <domain></code> • <code>[edit] dns domain <domain></code> • <code>clear dns domain</code> • <code>show dns domain</code> | This command has two syntax forms. The first form specifies up to three DNS name servers for the File Director to use. The second form specifies a search domain for resolving abbreviated domain names. |
| hostname | <ul style="list-style-type: none"> • <code>[edit] hostname <new-hostname></code> • <code>show hostname</code> | Sets the File Director host name |
| interface | <ul style="list-style-type: none"> • <code>[edit] interface <interface-name> speed <speed> mode <mode> autoneg yes no</code> • <code>show interface [<interface-name>]</code> | Configures speed, mode, and auto-negotiation parameters of the File Director physical interfaces |
| ip address | <ul style="list-style-type: none"> • <code>add ip address <ip-address>/<prefix> interface <interface> [scope local cluster]</code> • <code>add ip address <ip-address> netmask <netmask> interface <interface> [scope local cluster]</code> • <code>[edit] ip address <ip-address> scope local cluster</code> • <code>clear ip address <ip-address></code> • <code>show ip address</code> | Assigns the specified IP address to the specified physical interface, and creates a route for the IP address based on the specified netmask |
| ip route | <ul style="list-style-type: none"> • <code>add ip route default gateway <ip-address> [interface <interface>]</code> • <code>[edit] ip route default gateway <ip-address> [interface <interface>]</code> • <code>clear ip route default interface <interface></code> • <code>show ip route</code> | Sets a default gateway for a specified interface |
| ntp | <ul style="list-style-type: none"> • <code>add ntp server <server></code> • <code>clear ntp server <server></code> • <code>show ntp server</code> | Specifies the IP address or hostname of a Network Time Protocol (NTP) server |
| ping | <ul style="list-style-type: none"> • <code>ping <server> [count <count>]</code> | Pings a server to determine if the server is active on the network. |

| CLI Command | Syntax | Operation |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| wins server | <ul style="list-style-type: none"> • <code>add wins server <ip-address></code> • <code>clear wins server <ip-address></code> • <code>show wins server</code> | Specifies a WINS server for the File Director to use |

Servers Commands

| CLI Command | Syntax | Operation |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| migration | <ul style="list-style-type: none"> • <code>add migration [force] <protocol> <src-server> <src-share> <src-path> <dst-server> <dst-share></code> • <code>clear migration <entry-id-range></code> • <code>show migration [running pending completed <entry-id>]</code> | Creates a data migration job on the File Director |
| migration retry | <code>migration retry <entry-id></code> | Retries the specified migration job |
| migration status | <code>migration status</code> | Shows the status of the currently running migration job |
| proxyip | <ul style="list-style-type: none"> • <code>add proxyip <proxy-ip></code> • <code>[edit] proxyip <proxy-ip></code> • <code>clear proxyip</code> • <code>show proxyip</code> | Specifies the proxy IP address for the File Director |
| same | <ul style="list-style-type: none"> • <code>add same <server> <protocol> <resource> <protocol> <resource></code> • <code>clear same <server> <protocol> <resource> <protocol> <resource></code> • <code>show same [<server>]</code> | Specifies that two resources exported or shared by a file server are identical. |
| server | <ul style="list-style-type: none"> • <code>add server <name> properties [<general-attrs>] [NFS <nfs-attrs>] [CIFS <cifs-attrs>]</code> • <code>[edit] server <name> properties [<general-attrs>] [NFS <nfs-attrs>] [CIFS <cifs-attrs>]</code> • <code>clear server <name> [NFS] [CIFS]</code> • <code>show server [<name>]</code> | Specifies the properties of a file server for the File Director to access |
| share | <ul style="list-style-type: none"> • <code>clear share <server-name> <share-name></code> • <code>show share <server-name> [nfs] [cifs [username <user> [password <password>]]]</code> | Shows share and export directories from a specified file server, or removes a physical share and export from the File Director configuration |

| CLI Command | Syntax | Operation |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| vserver | <ul style="list-style-type: none"> • <code>add vserver <vserver-name> properties <general-attrs> [NFS <nfs-attrs>] [CIFS <cifs-attrs>]</code> • <code>[edit] vserver <vserver-name> properties <general-attrs> [NFS <nfs-attrs>] [CIFS <cifs-attrs>]</code> • <code>clear vserver <vserver-name> [NFS] [CIFS]</code> • <code>show vserver [<vserver-name>]</code> | Creates a virtual server on the File Director |
| vshare | <ul style="list-style-type: none"> • <code>add vshare <vserver-name> <vshare-name> properties <protocol-attrs> from <source></code> • <code>[edit] vshare <vserver-name> <vshare-name> properties <protocol-attrs> from <source></code> • <code>clear vshare <vserver-name> <vshare-name></code> • <code>show vshare [<vserver-name> [<vshare-name>]]</code> | Creates a virtual share or export on the File Director for sharing or exporting file systems from virtual servers or synthetic directories |
| whereis | <code>show whereis (physical virtual) <full-path></code> | Shows the current location of a share, export, directory, or file when the path under a physical or virtual share or export is specified |

Namespace Commands

| CLI Command | Syntax | Operation |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| dstorage | <ul style="list-style-type: none"> • <code>add dstorage <sdirectory-name> <server> <share> primary secondary</code> • <code>[edit] dstorage <sdirectory-name> <server> <share> primary secondary</code> • <code>clear dstorage <sdirectory-name> <server> <share></code> • <code>show dstorage [<sdirectory-name> [<server> [<share>]]]</code> | Specifies the file server share or export to use for storing a synthetic directory |
| sdirectory | <ul style="list-style-type: none"> • <code>add sdirectory <sdirectory-name> <protocol></code> • <code>clear sdirectory <sdirectory-name></code> • <code>show sdirectory</code> | Creates a synthetic directory on the File Director |
| slink | <ul style="list-style-type: none"> • <code>add slink <sdirectory-name> <path> <server> <share></code> • <code>clear slink <sdirectory-name> <path></code> • <code>show slink [<sdirectory-name> [<path>]]</code> | Creates a synthetic link in a synthetic directory on the File Director |

| CLI Command | Syntax | Operation |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| udirectory | <ul style="list-style-type: none"> • <code>add udirectory <sdirectory-name> <path> <server> <share></code> • <code>clear udirectory <sdirectory-name> <path> <server> <share></code> • <code>show udirectory [<sdirectory-name> [<path> [<server> [<share>]]]]</code> | Creates a union directory in a synthetic directory on the File Director |

Policy Commands

| CLI Command | Syntax | Operation |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| accumulator monitor | <ul style="list-style-type: none"> • <code>add accumulator monitor NFS CIFS <server> <export> [resync <resync-schedule-name>]</code> • <code>[edit] accumulator monitor NFS CIFS <server> <export> [resync <resync-schedule-name>]</code> • <code>clear accumulator monitor <server> <export></code> • <code>show accumulator monitor [<server> [<export>]]</code> | Monitors client traffic through the File Director to the specified export or share. This is necessary to define and run policies on the specified export or share. |
| accumulator policy | <ul style="list-style-type: none"> • <code>add accumulator policy <policy-name> <execution-schedule> <server> <export> <rule-name> action <action></code> • <code>[edit] accumulator policy <policy-name> <execution-schedule> <server> <export> <rule-name> action <action></code> • <code>clear accumulator policy <policy-name></code> • <code>show accumulator policy [<policy-name>]</code> • <code>show accumulator policy <policy-name> rehearsal</code> | Creates an automatic policy that applies a rule to an export that is being monitored, and executes the specified action according to the specified schedule |
| accumulator rule | <ul style="list-style-type: none"> • <code>add accumulator rule <name> <rule> <order></code> • <code>[edit] accumulator rule <name> <rule> <order></code> • <code>clear accumulator rule <name></code> • <code>show accumulator rule [<name>]</code> | Creates an accumulator rule that selects the files for an accumulator policy |

Syntax of the CLI Commands

The following CLI commands are in alphabetical order.

accumulator monitor

Description: Monitors client traffic through the File Director to the specified export or share. This is necessary to define and run policies on the specified export or share.

Syntax:

To monitor file server traffic:

```
add accumulator monitor NFS|CIFS <server> <export>
    [resync <resync-schedule-name>]
```

Note: The File Director begins monitoring the file server immediately after you run this command, and then re-synchronizes its file attribute and access information according to the specified resync schedule.

To change the resync schedule:

```
[edit] accumulator monitor NFS|CIFS <server> <export>
    [resync <resync-schedule-name>]
```

To clear the monitoring of file server traffic from the File Director configuration:

```
clear accumulator monitor <server> <export>
no accumulator monitor <server> <export>
```

To show the shares and exports that are being monitored and their resync schedules:

```
show accumulator monitor [<server> [<export>]]
```

Parameters:

NFS|CIFS specifies a NFS or CIFS export or share.

<server> is the name of the file server configured by the **server** command. (See “server” on page 63.)

<export> is the CIFS share or NFS export on the specified server.

<resync-schedule-name> is an optional parameter that specifies the name of a system-defined schedule (**hourly**, **daily**, **weekly**, or **monthly**) or the name of a custom schedule created by the **schedule** command. (See “schedule” on page 59.) If you don’t specify a schedule, the system-defined **weekly** schedule is used.

Add Example 1:

To add monitoring using the system-defined **weekly** schedule:

```
add accumulator monitor NFS server-abc /export/home
```


Add Example 2:

To add monitoring using the system-defined monthly schedule:

```
add accumulator monitor CIFS server-xyz marketing resync monthly
```

Show Example:

To show the shares and exports being monitored and their resync schedules:

```
show accumulator monitor
```

The output of this example is:

| Server | Share | Resync Schedule |
|------------|-------------------|-----------------|
| server-abc | /export/home | weekly |
| server-xyz | /export/kickstart | monthly |

For more information:

See Chapter 5, “Using Policies for Automatic File Migration” in the *File Director Administrator Guide*.

See also:

- [“accumulator policy” on page 12](#)
- [“accumulator rule” on page 15](#)

accumulator policy

Description: Creates an automatic policy that applies a rule to an export that is being monitored, and executes the specified action according to the specified schedule

Important: Before executing this command, you must execute the **accumulator monitor** command on the export. For more information, see “accumulator monitor” on page 10. You must also define the accumulator rule that will be used by this policy before executing this command. For more information, see “accumulator rule” on page 15.

Syntax:

To create a policy:

```
add accumulator policy <policy-name> <execution-schedule>
    <server> <export> <rule-name> action <action>
```

To change a policy:

```
[edit] accumulator policy <policy-name> <execution-schedule>
    <server> <export> <rule-name> action <action>
```

To clear a policy:

```
clear accumulator policy <policy-name>
no accumulator policy <policy-name>
```

To show a policy:

```
show accumulator policy [<policy-name>]
```

To preview the results that would occur if the policy were executed:

```
show accumulator policy <policy-name> rehearsal
```

Parameters:

<policy-name> is the name of the policy. The policy name can contain letters, numbers, dashes (-), or underscores (_). Spaces are not allowed, and the name cannot begin with a dash. For the **show** prefix, if no name is provided, all policies or results for all policies are shown.

<execution-schedule> is the name of a schedule that specifies when to run the policy. The name can be a system-defined schedule (**hourly**, **daily**, **weekly**, or **monthly**) or the name of a custom schedule created by the **schedule** command. (See “schedule” on page 59.)

<server> is the name of the file server, and **<export>** is the export or shared directory which you want to apply the policy to. The server and export must be monitored by the **accumulator monitor** command. (See “accumulator monitor” on page 10.)

<rule-name> is the name of the rule that selects the files for the policy. (See “accumulator rule” on page 15.)

<action> specifies the parameters of the `migrate` action to perform on the selected files, and consists of the following syntax:

```
migrate <dest-server> <dest-share> [maxsize <size>(B|KB|MB|GB)]
      [maxfiles <num>]
```

Parameters for the migrate action include:

<dest-server> and <dest-share> specify where to migrate the selected files.

[maxsize <size>] is an optional parameter that specifies the upper limit of the total size of the migration.

[maxfiles <num>] is an optional parameter that specifies the upper limit of the total number of files in the migration.

Note: The space between a value for `size` and the unit of measurement is optional. That is, both of the following commands are valid:

```
add accumulator policy my-policy weekly server-abc /export/home
  rule1 action migrate server-xyz /export/remote
  maxsize 100 MB

add accumulator policy my-policy weekly server-abc /export/home
  rule1 action migrate server-xyz /export/remote maxsize 100MB
```

Add Example:

```
add accumulator policy my-policy weekly server-abc /export/home
  rule1 action migrate server-xyz /export/remote maxsize 100MB
```

Show Example:

To show a policy rehearsal:

```
show accumulator policy move_100KB_files rehearsal
```

The output of this example is:

```
Action: Migration
Total number of files: 4
Total size: 495.19 KB
```

| Size | Accessed | Modified | Path |
|----------|----------|----------|---------------------------------------|
| 106.0 KB | 01/27/05 | 01/13/05 | /src/clearsilver-0.9.10/configure |
| 113.1 KB | 01/27/05 | 01/13/05 | /src/clearsilver-0.9.10/cd/lemon.c |
| 119.0 KB | 12/19/04 | 08/19/04 | /tarballs/pychecker-0.8.14.tar.gz |
| 157.1 KB | 01/27/05 | 01/13/05 | /src/clearsilver-0.9.10/regex/regex.c |

For more information:

See Chapter 5, “Using Policies for Automatic File Migration” in the *File Director Administrator Guide*.

See also:

- [“accumulator monitor” on page 10](#)
- [“accumulator rule” on page 15](#)

accumulator rule

Description: Creates an accumulator rule that selects the files for an accumulator policy

Syntax:

To create an accumulator rule:

```
add accumulator rule <name> <rule> <order>
```

To change an accumulator rule:

```
[edit] accumulator rule <name> <rule> <order>
```

To clear an accumulator rule:

```
clear accumulator rule <name>
```

```
no accumulator rule <name>
```

To show an accumulator rule:

```
show accumulator rule [<name>]
```

Parameters:

<name> is the name of the rule. If the name includes blank spaces, enclose the name in quotes (" ").

<rule> consists of the following parameters:

```
EQL_OP: "==" | "!="
```

```
CMP_OP: EQL_OP | "<" | ">"
```

```
MIMELIST: <mime-type>(,<mime-type>)*
```

```
LIMIT: ("count" [0-9]+) | ("percent" [0-9]+)
```

```
SIZE: [0-9]+ ("B"|"KB"|"MB"|"GB")
```

```
PERIOD: [0-9]+ ("hours" | "days" | "months")
```

```
RULE: "(" RULE ")"
```

```
RULE: RULE "||" RULE
```

```
RULE: RULE "&&" RULE
```

```
RULE: "filetype" EQL_OP MIMELIST
```

```
RULE: "size" CMP_OP SIZE
```

```
RULE: "atime" CMP_OP PERIOD
```

```
RULE: "mtime" CMP_OP PERIOD
```

```
RULE: "most accessed" LIMIT ["in" PERIOD]
```

```
RULE: "least accessed" LIMIT ["before" PERIOD]
```

For information on the accepted values for `<mime-type>`, see “Summary of Steps for Setting Up and Using a Policy” on page 5-1 in the *File Director Administrator Guide*. Specify a file type shown in the table for `<mime-type>` (for example, `bmp`).

`<order>` consists of the following parameters:

ELIST: `ELIST,ELIST` (for multiple row sort)

ELIST: `-ELIST` (for reverse sort)

ELIST: `"size" | "atime" | "mtime"`

ORDER: `"order by" ELIST`

Note: The space between a value for `size` and the unit of measurement is optional. That is, both of the following commands are valid:

```
add accumulator rule newrule size < 10 MB order by size
```

```
add accumulator rule newrule size < 10MB order by size
```

Add Example 1:

```
add accumulator rule samplerule1
    (size > 10 KB || (most accessed percent 50 in 10 days
    && filetype == MP3)) order by -size
```

Add Example 2:

```
add accumulator rule small_audio filetype == mp3,aifc,aiff,au
    && size < 100KB order by size
```

Show Example:

```
show accumulator rule samplerule1
```

The output of this example is:

```
rulelist:
```

```
rule:
```

```
name: samplerule1
```

```
value: ((filetype == MP3 AND most accessed percent
        50 in 10 days) OR size > 10 KB)
```

```
order: -size
```

For more information:

See Chapter 5, “Using Policies for Automatic File Migration” in the *File Director Administrator Guide*.

See also:

- [“accumulator monitor” on page 10](#)
- [“accumulator policy” on page 12](#)

admin

Description: Adds a new administrator account for configuring the File Director

Syntax:

To add a new administrator account:

```
add admin <name> [<description>]
```

Note: The File Director prompts for a password for the new administrator account.

To enable an existing administrator account:

```
[edit] admin enable <name>
```

To disable an existing administrator account:

```
[edit] admin disable <name>
```

To remove access to the File Director for a specific individual, make sure the individual's SSH public key is not installed. For more information, see "pubkey" on page 53.

To change the password for an existing administrator account:

```
[edit] admin password <name>
```

Note: The File Director prompts for a new password after you run this command.

To change the description for an existing administrator account:

```
[edit] admin description <name> <description>
```

To clear a File Director administrator account:

```
clear admin <name>
```

```
no admin <name>
```

To remove access to the File Director for a specific individual, make sure the individual's SSH public key is not installed. For more information, see "pubkey" on page 53.

To show the status of the current File Director administrator accounts:

```
show admin [<name>]
```

Parameters:

<name> is the login user name for the File Director administrator account. If you don't specify this parameter for the **show** prefix, all administrator accounts are shown.

<description> is a text description for the administrator. If it is not specified, the description will simply be the same as the login user name.

Add Example:

To add a new File Director administrator account:

```
add admin tomjones
```

Edit Example:

To change the description for an existing administrator account:

```
admin description mkt "Marketing Admin"
```

Show Example:

To show the status of all File Director administrator accounts:

```
show admin
```

The output of this example is:

| Username | Status | Description |
|----------|---------|------------------------------------------------|
| admin | enabled | File Director setup and administration account |
| janedoe | enabled | Senior administrator |
| tomjones | enabled | Temporary administrator |

For more information:

See “Adding Administrator Accounts” on page 2-4 in the *File Director Administrator Guide*.

See also:

- [“pubkey” on page 53](#)

backup

Description: Saves all configuration information of the File Director to a single file on another host computer

It is a good practice to back up the configuration before every software upgrade in case there is a problem, and after every software upgrade to make sure that you have a recent configuration file that is compatible with the new software version. Also, store the configuration file in a secure location.

Important: Passwords for CIFS file servers are encrypted in the backup configuration file. When you run the **backup** command, you will see a prompt to enter an encryption password. Do not lose this password. To restore the passwords for CIFS file servers, you must specify this same password when you use the **restore** command to restore the backup configuration file. See “restore” on page 56. If you don’t know the encryption password when you use **restore** command, you can restore the backup configuration file without the CIFS file server passwords. After completing the restore, you must then manually specify the passwords for each CIFS file server by using the **server** command. See “server” on page 63.

Syntax:

To save configuration information:

```
backup <scheme>:// [<user>[:<password>]@] <host>/<url-path>
```

Parameters:

<scheme> is one of the following parameters: **ftp**, **scp**, **nfs**, or **cifs**

<user> and <password> are optional parameters for logging in during the FTP or SCP transfer process, or for the file server.

<host> is the name of the computer where you want to save the configuration file.

<url-path> specifies the path and name of the configuration file.

Example:

```
backup scp://admin@master/backup/directory/file_director_20050401.backup
```

See also:

[“restore” on page 56](#)

clock

Description: Sets the File Director system date, time, and time zone

Note: If you are using a Network Time Protocol (NTP) server, do not use this command to set the time. See “ntp” on page 49.

Syntax for Setting the File Director System Date and Time:

To set the File Director system date and time:

```
[edit] clock <time-spec>
```

To show the current File Director system date and time:

```
show clock
```

<time-spec> is of the following format:

```
[<YYYY>-<MM>-<DD>] <HH>:<MM>[:<SS>] [<time-zone-designator>]
```

Parameters:

- [<YYYY>-<MM>-<DD>] are optional date parameters that specify the year (YYYY), month (MM), and day (DD). If you don't specify the date parameters, the previously configured date is used.
- <HH>:<MM>[:<SS>] are time parameters for the hour in 24 hour format (HH), the minute (MM) and the seconds (SS) parameter. Hour and minute are required parameters, and seconds is optional. If you don't specify seconds, 00 seconds is used.
- [<time-zone-designator>] is an optional parameter for the [edit] clock <time-spec> command that specifies the time zone as an offset from “Coordinated Universal Time” (UTC). Note that this parameter does *not* change the currently configured time zone. Instead, it specifies the time zone for the specified time and date in the command. The File Director converts the specified time and date in the specified time zone into the local time and date in the currently configured time zone, and then sets that local time and date.

For example, suppose the current time setting is 13:00:00 with time zone Asia/Hong_Kong, and suppose the current Greenwich Time is 05:00:00. The command `clock 06:00:00 +00:00` sets the Hong Kong time to what it would be if it were 6:00, Greenwich Time. That is, the local time is set to 14:00:00 Hong Kong time.

Use either of the following methods to specify this parameter:

- Use the letter Z (for zero) to specify 0 hours from UTC.
- Use the format <sign><hh>:<mm> to indicate the offset from UTC (sign is either '+' or '-'). For example, '-8' specifies 8 hours behind UTC, and '+5:30' specifies 5 hours and 30 minutes ahead of UTC.

If you don't specify a time zone, the currently configured time zone is used to interpret the specified time and date in the command.

Syntax for Setting the File Director System Time Zone:

To set the File Director system time zone:

```
[edit] clock timezone <timezone-location>
```

To show the current File Director system time zone:

```
show clock timezones [all]
```

Parameters:

<timezone-location> is a path that specifies the time zone based on location, such as “US/Pacific” or “US/Eastern”. To show a list of all possible timezone-location paths, use the **show** prefix with the **all** parameter.

[all] is an optional parameter for the **show** prefix that shows all possible timezone-location paths. If you don’t specify this parameter, then only the timezone-location paths for the United States are shown.

Edit Example 1:

To set the File Director date and time in the currently configured time zone:

```
clock 2005-04-15 12:30
```

Edit Example 2:

To set the File Director time zone:

```
clock timezone US/Pacific
```

Show Example 1:

To show the current system date, time, and time zone:

```
show clock
```

The output of this example is:

| Time | Date | Time zone |
|--------------|----------------------|------------|
| 17:25:11 PST | Wednesday Feb 2 2005 | US/Pacific |

Show Example 2:

To show the timezone-location paths in the United States:

```
show clock timezones
```

The output of this example is:

```
----- Available Timezones -----
US/Alaska      US/Aleutian    US/Arizona
US/Central     US/East-Indiana US/Eastern
US/Hawaii      US/Indiana-Starke US/Michigan
US/Mountain    US/Pacific     US/Samoa
```

Show Example 3:

To show all possible timezone-location paths:

```
show clock timezones all
```

The output of this example is:

```
----- Available Timezones -----  
Africa/Abidjan      Africa/Accra      Africa/Addis_Ababa  
Africa/Algiers     Africa/Asmera     Africa/Bamako  
Africa/Bangui      Africa/Banjul     Africa/Bissau  
... ..  
US/Eastern         US/Hawaii         US/Indiana-Starke  
US/Michigan       US/Mountain       US/Pacific  
US/Samoa          UTC               Universal  
W-SU              WET               Zulu
```

cluster multicast

Description: Sets the multicast base address for the interfaces used for heartbeats in a cluster

The File Director uses the base address to automatically derive and assign a unique multicast address to each interface in the cluster. The two File Director nodes use the multicast addresses to communicate with each other without communicating with other devices on the network. This prevents unnecessary traffic on the network, and it prevents cross communication between clusters that are on the same network.

Important: If there are multiple clusters on the same network, be sure to assign a different multicast base address to each cluster to prevent cross communication between the clusters.

Although specifying a multicast base address is optional if you don't have multiple clusters on the same network, it is recommended. If you don't specify a multicast base address, the two nodes broadcast heartbeats to all devices on the network.

Important: Be sure to use this command before using the `cluster node` command to specify a File Director as a node of a cluster. See "cluster node" on page 25.

Syntax:

To set the multicast base address for the interfaces used for heartbeats:

```
add cluster multicast <multicast-ip-address>
```

To change the multicast base address :

```
[edit] cluster multicast <multicast-ip-address>
```

To clear the multicast base address and disable multicast:

```
clear cluster multicast
```

```
no cluster multicast
```

To show the multicast base address:

```
show cluster multicast
```

Parameters:

`<multicast-ip-address>` is the multicast base address (in dotted quad notation) that you want to use in the cluster. The first three digits *www* in the address *www.xxx.yyy.zzz* must be in the range of 224-239. The range of the digits *xxx* and *yyy* is 0-255. The range of the last three digits *zzz* is 1-240. For example: 239.252.200.100

It is strongly recommended that you use an address from one of the following site-specific ranges:

- 239.252.000.001 to 239.252.255.240
- 239.253.000.001 to 239.253.255.240
- 239.254.000.001 to 239.254.255.240
- 239.255.000.001 to 239.255.255.240

Add Example:

To set the multicast base address in a cluster:

```
add cluster multicast 239.252.200.100
```

Show Example:

To show the current multicast base address of a cluster:

```
show cluster multicast
```

The output of this example is:

```
Multicast base address: 239.252.200.100
```

For more information:

See Chapter 7, “Setting Up a High Availability Cluster of File Directors” in the *File Director Administrator Guide*.

See also:

[“cluster node” on page 25](#)

cluster node

Description: Adds the specified File Director as a node of a cluster and sets its role to primary or backup

Important: If you want to set the multicast base address, be sure to use the `cluster multicast` command before using this command. See “cluster multicast” on page 23.

Syntax:

To add a cluster node:

```
add cluster node <node-name> primary|backup
```

By default, the current File Director where you run this command is a member of the cluster, so you can only add another File Director to the cluster by using this command. A cluster can consist of a maximum of two File Director nodes, so you can only add one File Director node with this command.

To change the role of a cluster node:

```
[edit] cluster node <node-name> primary|backup
```

Note: You can run this command on the active node only (the node that is actively providing services to clients). You can not run this command on a standby node.

To clear a node from the cluster:

```
clear cluster node <node-name>
```

```
no cluster node <node-name>
```

Note: You cannot remove the current File Director node where you run this command. You can only remove the other File Director node in the cluster.

To show the status of each cluster node:

```
show cluster node
```

Parameters:

`<node-name>` is the host name of the File Director.

`primary|backup` specifies the role of the specified File Director node as the primary or backup server in the cluster. The other node automatically takes on the opposite role. That is, if you specify `primary` for the other File Director node in the cluster, the current File Director node takes on the `backup` role.

The following table summarizes the values for node status:

| Node status | Description |
|-------------|--------------------------------------------------------------------------------------------------------------|
| up | This node is initializing the high-availability subsystem. |
| init | The other node is reported in this state while the high-availability subsystem on this node is initializing. |
| active | This node is the Active node. |
| standby | This node is the Standby node. |

| Node status | Description |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| syncing | This node is synchronizing its configuration and cluster resources from the Active node. After the synchronization is complete, this node is the Standby node. |
| dead | This node is not operating (missing heartbeats). |
| incompatible | This node reports the software on the other node is incompatible with the software on this node, which prevents synchronization and fail over in the cluster. The other node can consider itself to have an active, standby, or initialization status, but it will not be able to fail over to the current node. |
| transition | This node is acquiring or releasing cluster resources and changing its role. |

Note: The following commands can be run on the active node only:

- `accumulator monitor`
- `accumulator policy`
- `accumulator rule`
- `dstorage`
- `migration`
- `ip address` (when applied to cluster-scope IP addresses)
- `proxyip`
- `restore`
- `same`
- `schedule`
- `sdirectory`
- `server`
- `snmp`
- `slink`
- `udirectory`
- `vserver`
- `vshare`

Add Example:

To add a backup File Director to a cluster:

```
add cluster node server2 backup
```

Show Example:

To show the status of the File Director nodes a cluster:


```
show cluster node
```

The output of this example is:

| Node name | Configured as | Status | Version |
|-----------|---------------|---------|---------|
| server1 | primary | active | 1.0.7-6 |
| server2 | backup | standby | 1.0.7-6 |

For more information:

See Chapter 7, “Setting Up a High Availability Cluster of File Directors” in the *File Director Administrator Guide*.

See also:

[“cluster multicast” on page 23](#)

dns

Description: This command has two syntax forms. The first form specifies up to three DNS name servers for the File Director to use. The second form specifies a search domain for resolving abbreviated domain names.

The File Director uses the DNS name servers for DNS name lookups.

Syntax for Name Servers:

To add a name server:

```
add dns (nameserver|server) <ip-address>
```

To clear a name server:

```
clear dns (nameserver|server) <ip-address>
```

```
no dns (nameserver|server) <ip-address>
```

To show the settings for a name server:

```
show dns (nameserver|server)
```

Parameters:

<ip-address> is the IP address of the DNS name server you want the File Director to use. You can use this command to specify up to three DNS name servers.

If you don't specify a name server for the **show** prefix, the settings for both DNS name servers and domains are shown.

Add Example:

To add a DNS name server and its IP address:

```
add dns nameserver 172.22.1.10
```

Syntax for Search Domains:

To add a search domain:

```
add dns domain <domain>
```

To change a search domain:

```
[edit] dns domain <domain>
```

To clear a search domain:

```
clear dns domain
```

```
no dns domain
```

To show the settings for a search domain:

```
show dns domain
```

Parameters:

`<domain>` is the name of a search domain for resolving abbreviated domain names. The File Director uses the name you specify in its DNS search list. Only one domain is allowed in the search list. For example, if the domain name contains *company.com*, and a client attempts to access the name *server1*, then the File Director resolves the full name as *server1.company.com*. If you don't specify this parameter for the `show` prefix, the settings for both name servers and domains are shown.

Add Example:

To define the search domain *company.com*:

```
add dns domain company.com
```

Show Example:

To display the current settings for both DNS name servers and the search domain:

```
show dns
```

The output of this example is:

```
Domain: company.com
```

```
Nameservers:
```

```
192.168.1.10
```

```
192.168.2.20
```

For more information:

See “Specifying a DNS Server and DNS Search Domain” on page 2-10 in the *File Director Administrator Guide*.

dstorage

Description: Specifies the file server share or export to use for storing a synthetic directory

Syntax:

To specify directory storage for a synthetic directory:

```
add dstorage <sdirectory-name> <server> <share> primary|secondary
```

Note: For a CIFS synthetic directory, you can add only one share for directory storage. For an NFS synthetic directory, you can add only one share per server for directory storage.

To edit the properties of directory storage for a synthetic directory:

```
[edit] dstorage <sdirectory-name> <server> <share>  
primary|secondary
```

Note: For the **edit** form of this command, you can only change the priority of the directory storage (**primary** to **secondary** or vice versa).

To clear a directory storage directory from the File Director configuration:

```
clear dstorage <sdirectory-name> <server> <share>  
no dstorage <sdirectory-name> <server> <share>
```

Warning: Removing directory storage may cause problems later if you unconfigure the server that contained the directory storage. Do not remove directory storage unless directed by your customer support representative.

To show the directory storage shares that are configured in the File Director:

```
show dstorage [<sdirectory-name> [<server> [<share>]]]
```

Parameters:

<sdirectory-name> is the name of the synthetic directory.

<server> is the name of the file server associated with the directory storage directory.

<share> is the name of the share or export associated with the directory storage directory.

primary|secondary indicates whether the file server is the primary or secondary backup server for the directory storage directory.

Note: For the **show** prefix, if you don't specify a **<sdirectory-name>**, **<server>**, and **<share>**, all directory storage directories are shown.

Add Example:

To specify the properties of a directory storage directory :

```
add dstorage homedirs server1 /export/dstorage primary
```

Show Example:

To show all directory storage directories:

```
show dstorage
```

The output of this example is:

| Synthetic Dir. | Server | Share | Priority |
|----------------|---------|------------------|-----------|
| homedirs | server1 | /export/dstorage | primary |
| homedirs | server2 | /export/dstorage | secondary |

For more information:

See Chapter 3, “Working with Synthetic Directories” in the *File Director Administrator Guide*.

See also:

- [“sdirectory” on page 62](#)
- [“slink” on page 72](#)
- [“udirectory” on page 89](#)

halt

Description: Shuts down the File Director

Syntax:

To halt the File Director:

```
halt [now]
```

Parameters:

[now] is an optional parameter that halts the File Director immediately without confirmation. If you omit this parameter, you will have to confirm the halt.

Example:

To halt the File Director:

```
halt now
```

The output of this example is:

```
Halting File Director...
```

See also:

[“reboot” on page 55](#)

help

Description: Displays help information about the CLI commands. This command displays syntax descriptions of CLI commands or lists available commands.

Syntax:

To display general help information for the CLI commands:

```
help
```

To display a list of all CLI commands:

```
help commands
```

To display a list of CLI commands for a category:

```
help <command-category>
```

To display a list of all CLI commands that take a specific command modifier:

```
help <modifier>
```

To display help syntax for a specific CLI command:

```
help [<modifier>] <command-name>
```

If you don't specify `<modifier>`, syntax for the `edit` version of the command is displayed.

Parameters:

`<command-name>` specifies the name of the command you want to display help for. If you don't specify `command-name`, a list of all commands is displayed.

`<command-category>` is one of the following categories of commands: `system`, `network`, `servers`, `namespace`, `CLI`, or `policy`

Note: `<command-category>` is case-sensitive.

`<modifier>` specifies any one of the following command modifiers: `no`, `clear`, `add`, `edit`, or `show`

Tip: After displaying help text, you can press the Up Arrow key to display the last command you typed.

Example 1:

To get help on the `namespace` category:

```
help namespace
```

The output of this example is:

```
Help: Namespace
-----
dstorage          Add/edit a synthetic directory storage
sdirectory        Add a synthetic directory
slink             Add a synthetic link
udirictory        Add a union directory
```

Example 2:

To get help on the `add` modifier:

```
help add
```

The output of this example is:

```
Help:
Commands
-----
add accumulator monitor  Add an attribute accumulator monitoring
add accumulator policy   Add an attribute accumulator policy
add accumulator rule     Add an attribute accumulator rule
...
add wins                 Add WINS configuration information
```


hostname

Description: Sets the File Director host name

Syntax:

To edit the File Director host name:

```
[edit] hostname <new-hostname>
```

To show the File Director host name:

```
show hostname
```

Parameters:

<new-hostname> is a text string that starts with a letter, and can contain letters, digits, underscores, dash characters, or percent characters (%). Empty text strings are not allowed.

Edit Example:

To edit the File Director host name:

```
hostname positano
```

Show Example:

To show the File Director hostname:

```
show hostname
```

The output of this example is:

```
Hostname: positano
```

See also:

[“ip address” on page 38](#)

interface

Description: Configures speed, mode, and auto-negotiation parameters of the File Director physical interfaces

Syntax:

To configure an interface:

```
[edit] interface <interface-name> speed <speed> mode <mode>
      autoneg yes|no
```

To show settings for an interface:

```
show interface [<interface-name>]
```

Parameters:

<interface-name> can be `eth0`, `eth1`, `eth2`, `eth3`, `eth4`, or `eth5`. If you don't specify this parameter for the `show` prefix, the settings for all interfaces are shown.

<speed> can be `10Mbps`, `100Mbps`, or `1000Mbps`

<mode> can be `half-duplex` or `full-duplex`

`autoneg` can be set to `yes` or `no`

Note: The `autoneg` parameter is incompatible with the speed and mode parameters. If you set `autoneg` to `yes`, you cannot set the speed or mode parameters. Conversely, if you set `autoneg` to `no`, you *must* specify the speed and mode parameters.

Edit Example:

To configure the File Director interface `eth2`:

```
interface eth2 speed 1000Mbps mode half-duplex
```

Show Example 1:

To show the current configuration settings of all File Director interfaces:

```
show interface
```

The output of this example is:

| Name | Speed | Mode | Auto-Neg | Link Status |
|------|----------|-------------|----------|--------------|
| eth0 | 1000Mbps | full-duplex | yes | connected |
| eth1 | 1000Mbps | full-duplex | no | disconnected |
| eth2 | 1000Mbps | full-duplex | yes | connected |
| eth3 | 1000Mbps | full-duplex | yes | connected |
| eth4 | 1000Mbps | full-duplex | no | disconnected |
| eth5 | 1000Mbps | full-duplex | no | disconnected |

Show Example 2:

To show the current configuration settings of the File Director interface eth2:

```
show interface eth2
```

The output of this example is:

| Name | Speed | Mode | Auto-Neg | Link Status |
|------|----------|-------------|----------|-------------|
| eth2 | 1000Mbps | full-duplex | yes | connected |

For more information:

See “Configuring the File Director IP Addresses” on page 2-6 in the *File Director Administrator Guide*.

See also:

[“ip address” on page 38](#)

ip address

Description: Assigns the specified IP address to the specified physical interface, and creates a route for the IP address based on the specified netmask

Syntax:

To use a prefix to assign an IP address and create a route:

```
add ip address <ip-address>/<prefix> interface <interface>
    [scope local|cluster]
```

To use a netmask instead of a prefix to assign an IP address and create a route:

```
add ip address <ip-address> netmask <netmask> interface
    <interface> [scope local|cluster]
```

To only change the scope of an existing IP address:

```
[edit] ip address <ip-address> scope local|cluster
```

To clear an IP address and any routes for the IP address:

```
clear ip address <ip-address>
no ip address <ip-address>
```

To show the netmask, status, and scope settings for an interface:

```
show ip address
```

Parameters:

<ip-address> is the IP address (in dotted quad notation) that you want to assign or clear.

/<prefix> is an optional way of specifying the IP address and netmask in CIDR notation by appending the network prefix length to the IP address. If you specify the prefix, do not specify the netmask parameter.

Or:

netmask <netmask> is the netmask (in dotted quad notation) for the specified interface. A route for the IP address is created based on the netmask. If you specify the netmask, do not specify the prefix parameter.

<interface> is the physical interface on the File Director you want to assign the IP address to.

[scope local|cluster] specifies the scope of the IP address. Specify **local** if you want the scope of the IP address to be limited to the File Director you are configuring. Specify **cluster** if you want the scope of the IP address to apply to a standby File Director in a cluster. When you specify a new IP address, the **scope** parameter is optional and defaults to **local**. You can also change the scope of an existing IP address by using the **scope** parameter. For more information on clusters, see Chapter 7, “Setting Up a High Availability Cluster of File Directors” in the *File Director Administrator Guide*.

Add Example 1:

To assign the IP address 10.1.2.10 to interface *eth2*, set Local scope (the default), and create a route to network 10.0.0.0 (if necessary):

```
add ip address 10.1.2.10 netmask 255.0.0.0 interface eth2
```

Add Example 2:

To assign the IP address 10.1.2.10 (using CIDR) to interface *eth2*, set Cluster scope, and create a route to network 10.0.0.0 (if necessary):

```
add ip address 10.1.2.10/8 interface eth2 scope cluster
```

Edit Example:

To change the scope of an IP address to local:

```
ip address 10.1.2.10 scope local
```

Show Example:

To show the settings and status for all IP addresses:

```
show ip address
```

The output of this example is:

| IP Address | Netmask | Interface | Active | Scope |
|----------------|---------------|-----------|--------|---------|
| 172.22.1.65 | 255.255.255.0 | eth0 | Yes | local |
| 192.168.200.65 | 255.255.255.0 | eth1 | Yes | cluster |

Note: An *Active* status means the IP address is currently assigned to an interface on the File Director.

For more information:

See “Configuring the File Director IP Addresses” on page 2-6 in the *File Director Administrator Guide*.

See also:

- [“hostname” on page 35](#)

ip route

Description: Sets a default gateway for a specified interface

Syntax:

To add a default gateway:

```
add ip route default gateway <ip-address> [interface <interface>]
```

To edit a default gateway:

```
[edit] ip route default gateway <ip-address>  
      [interface <interface>]
```

To clear a default gateway for the specified interface:

```
clear ip route default interface <interface>  
no ip route default interface <interface>
```

To show the contents of the routing table:

```
show ip route
```

Parameters:

<ip-address> is the IP address (in dotted quad notation) that you want to set as the default gateway for the specified interface.

<interface> is the physical interface. If you don't specify one, the File Director automatically selects an interface based on the specified default gateway IP address.

Add Example:

To set the default gateway to 192.168.1.1 for interface eth2:

```
add ip route default gateway 192.168.1.1 interface eth2
```

Show Example:

To show the contents of the routing table:

```
show ip route
```

The output of this example is:

| IP Address | Netmask | Interface | Gateway |
|----------------|---------------|-----------|-------------|
| 192.168.200.65 | 255.255.255.0 | eth2 | 0.0.0.0 |
| 0.0.0.0 | 0.0.0.0 | eth2 | 192.168.1.1 |

For more information:

See "Setting the Default Gateway for the File Director" on page 2-8 in the *File Director Administrator Guide*.

log

Description: Shows the contents of the specified log

Syntax:

To show the contents of a log:

```
show log <logname>[.<number>] [lines <N>[-<N>]]
```

Parameters:

<logname> is one of the following names of a log file: **accumulator**, **error**, **migration**, **policy_execution**, **switching**, or **system**

[<number>] is an optional parameter that specifies the number of the log file in the rotation. File Director rotates a log file by saving the current log file as follows:

migration.log is saved to *migration.log.1*

migration.log.1 is saved to *migration.log.2* and so on.

If this parameter is not specified, the latest log file is shown.

[lines <N>[-<N>]] is an optional parameter that specifies the lines in the log file to show. Use a single integer to specify the number of lines to show from the end of the log file. Use a range of integers to show a range of lines. If this parameter is not specified, the entire log file is shown.

Example 1:

To show all lines in a log file called *switching*:

```
show log switching
```

The output of this example is:

```
2005-10-23 23:30:07: --- STOPPING switching service
2005-10-23 23:30:07: --- STARTING switching service
.ipc.IPCconnection: md/cmd/click/md/IPCconnection.cc:297:
/var/run/md/statd_monitor.ipc failed write: errno 32
.ipc.IPCengine: md/cmd/click/elements/md/IPCengine.cc:174: send
success to client /var/run/md/statd_monitor.ipc failed
.ipc.IPCconnection: md/cmd/click/md/IPCconnection.cc:297:
/var/run/md/maptable.ipc failed write: errno 32
.ipc.IPCengine: md/cmd/click/elements/md/IPCengine.cc:174: send
success to client /var/run/md/maptable.ipc failed
2005-10-23 23:31:14: --- STOPPING switching service
2005-10-23 23:32:14: --- STARTING switching service
.ipc.IPCconnection: md/cmd/click/md/IPCconnection.cc:297:
/var/run/md/portmap.ipc failed write: errno 32
.ipc.IPCengine: md/cmd/click/elements/md/IPCengine.cc:174: send
success to client /var/run/md/portmap.ipc failed
```

```
.ipc.IPCconnection: md/cmd/click/md/IPCconnection.cc:297:
/var/run/md/cross_device.ipc failed write: errno 32
.ipc.IPCengine: md/cmd/click/elements/md/IPCengine.cc:174: send
success to client /var/run/md/cross_device.ipc failed
.ipc.IPCconnection: md/cmd/click/md/IPCconnection.cc:297:
/var/run/md/maptable.ipc failed write: errno 32
.ipc.IPCengine: md/cmd/click/elements/md/IPCengine.cc:174: send
success to client /var/run/md/maptable.ipc failed
2005-10-24 01:14:07: --- STOPPING switching service
```

Example 2:

To show the last 3 lines in a log file called *switching* :

```
show log switching lines 3
```

The output of this example is:

```
.ipc.IPCconnection: md/cmd/click/md/IPCconnection.cc:297:
/var/run/md/maptable.ipc failed write: errno 32
.ipc.IPCengine: md/cmd/click/elements/md/IPCengine.cc:174: send
success to client /var/run/md/maptable.ipc failed
2005-10-24 01:14:07: --- STOPPING switching service
```

See also:

[“logrotate” on page 43](#)

logrotate

Description: Sets log file rotation on the File Director

Syntax:

To edit the log file rotation on the File Director:

```
[edit] logrotate <logname> (<criteria> keep (<number> | Infinite)
      | <criteria> | keep (<number> | Infinite))
```

To show the log file rotation on the File Director:

```
show logrotate [<logname>]
```

Parameters:

<logname> is one of the following names of a log file: **accumulator**, **error**, **migration**, **policy_execution**, **switching**, or **system**

<criteria> can be either of the following parameters but not both:

- **size** <size> specifies a maximum size of the log file in one of the following units: **B**, **KB**, **MB**, or **GB**
- **schedule** (**daily** | **weekly** | **monthly**) specifies a schedule for rotation.

By default, the criterion for log rotation is 10 MB.

<number> specifies the maximum number of rotated log files to keep. When rotation occurs, the File Director saves the current log as a rotated log file and then creates a new blank log. For example, enter 2 to have the File Director keep a maximum of two rotated log files. You can also enter 0 (zero) to have the File Director keep no rotated log files. To keep all rotated log files, enter the string **Infinite**.

By default, the maximum number of rotated logs is 10.

Note: The space between a value for <size> and the unit of measurement is optional. That is, both of the following commands are valid:

```
logrotate system size 20 MB
logrotate system size 20MB
```

Edit Example 1:

To edit the size and number of **system** logs to keep:

```
logrotate system size 1GB keep 15
```

Edit Example 2:

To edit the **switching** logs for daily rotation and to keep all rotated files:

```
logrotate switching schedule daily keep Infinite
```

Show Example 1:

To show log rotation for all log files:

```
show logrotate
```

The output of this example is:

| Name | Size | Schedule | Number of Logs to Keep |
|------------------|-------|----------|------------------------|
| accumulator | -- | weekly | 15 |
| error | 10 MB | -- | Infinite |
| migration | -- | monthly | 0 |
| policy_execution | 10 MB | -- | 10 |
| switching | -- | daily | Infinite |
| system | 1 GB | -- | 15 |

Note: A value of *Infinite* in the output for this command indicates all logs will be kept.

Show Example 2:

To show log rotation for the `system` log file:

```
show logrotate system
```

The output of this example is:

| Name | Size | Schedule | Number of Logs to Keep |
|--------|------|----------|------------------------|
| system | 1 GB | -- | 15 |

See also:

[“log” on page 41](#)

migration

Description: Creates a data migration job on the File Director

Syntax:

To create a data migration job:

```
add migration [force] <protocol> <src-server> <src-share>
    <src-path> <dst-server> <dst-share>
```

To mark the specified migration job as hidden to prevent it from being displayed via the **show** prefix of the migration command:

```
clear migration <entry-id-range>
no migration <entry-id-range>
```

To show the migration jobs that are configured in the File Director:

```
show migration [running|pending|completed|<entry-id>]
```

Parameters:

[**force**] is an optional parameter that forces a single protocol migration even if the file server is configured as multi-protocol server.

<**protocol**> can be one of the following values that specifies the protocol for the data migration job: **CIFS**, **NFS**, or **Both**

<**src-server**> is the name of the source file server that contains the files you want to migrate.

<**src-share**> is the name of the source share or export directory that contains the files you want to migrate.

<**src-path**> is the pathname to the directory you want to migrate. This directory, and all of its contents, will be migrated to the destination share.

<**dst-server**> is the name of the destination file server where you want to migrate the files to.

<**dst-share**> is the name of the source share or export directory where you want to migrate the files to.

<**entry-id**> is the identification number of the migration job you want to clear or show. You can determine an entry ID by using the **show** prefix for the migration command.

<**entry-id-range**> is a range of identification numbers you can specify with the **clear** and **no** prefixes of this command. <**entry-id-range**> can be a hyphenated range of numbers (for example, 2-5), a comma-separated list of numbers (for example 3,7,16) or a combination of both (for example, 1-5,16).

[**running|pending|completed|<entry-id>**] is the optional parameter for the **show** prefix that specifies the types of migration jobs you want to show. If you don't specify a value for this parameter, all types of migration jobs are shown.

Add Example 1:

To create a data migration job using NFS:

```
add migration NFS server1 /export/music /jazz/songs server2
    /export/music2
```

Add Example 2:

To create a data migration job using CIFS:

```
add migration CIFS earth marketing \whitepapers server3 common
```

Clear Examples:

To hide a migration job:

```
clear migration 11
```

To hide a range of migration jobs:

```
clear migration 1-4,7,9-12
```

Show Example:

To show all migration jobs:

```
show migration
```

For more information:

See “Creating a Migration Job” on page 4-6 in the *File Director Administrator Guide*.

See also:

- [“migration retry” on page 47](#)
- [“migration status” on page 48](#)
- [“same” on page 57](#)
- [“whereis” on page 99](#)

migration retry

Description: Retries the specified migration job

This command retries a failed migration as a new migration. The new migration uses the same configurations as the failed migration specified.

Syntax:

To retry a migration job:

```
migration retry <entry-id>
```

Parameters:

<entry-id> is the ID of the failed migration you want to retry. The new migration is automatically assigned a new entry ID.

See also:

- [“migration” on page 45](#)
- [“migration status” on page 48](#)
- [“same” on page 57](#)

migration status

Description: Shows the status of the currently running migration job

Syntax:

To show the status of the currently running migration job:

```
migration status
```

See also:

- [“migration” on page 45](#)
- [“migration retry” on page 47](#)
- [“same” on page 57](#)

ntp

Description: Specifies the IP address or hostname of a Network Time Protocol (NTP) server

Syntax:

To add a NTP server:

```
add ntp server <server>
```

To remove an NTP server:

```
clear ntp server <server>
```

```
no ntp server <server>
```

To show the current list of NTP servers:

```
show ntp server
```

Parameters:

<server> is the IP address or hostname of a NTP server.

Add Example:

To add 172.22.1.10 as an NTP server:

```
add ntp server 172.22.1.10
```

Show Example:

To show the current list of NTP servers:

```
show ntp server
```

The output of this example is:

```
NTP servers:
```

```
172.22.1.10
```

```
172.22.1.40
```

ping

Description: Pings a specified server to determine if the server is active on the network

Syntax:

To ping a server:

```
ping <server> [count <count>]
```

Parameters:

<server> is the host name or IP address of the server.

<count> is an optional parameter that sets the number of pings sent to the server. The default is 3 pings and the maximum is 1024 pings.

Example 1:

```
ping 172.22.4.67
```

The output of this example is:

```
172.22.4.67 is alive  
rtt min/avg/max/mdev = 0.261/0.351/0.408/0.066 ms
```

Example 2:

```
ping london
```

The output of this example is:

```
london is alive  
rtt min/avg/max/mdev = 0.273/0.293/0.306/0.024 ms
```

Example 3:

```
ping swregion count 10
```

When a server is not responding, the output is:

```
Error: swregion is not responding
```


proxyip

Description: Specifies the proxy IP address for the File Director

The proxy IP address is used to allow CIFS clients to authenticate to the file server. The proxy address must be an IP address already assigned to one of the File Director's interfaces.

The File Director proxy IP address is used as the single proxy IP address for all CIFS file servers. If you don't want to use the File Director proxy IP address, you can also use the **server** command to specify a proxy IP address for each CIFS file server. For more information, see the **proxyip** parameter for the **server** command. (See "server" on page 63.)

If both a server-specific proxy IP address and a File Director proxy IP address are defined, the server-specific proxy IP address is used.

Note: The proxy IP address cannot be used as a virtual server IP address.

Important: You must either run this command before running the **server** command to specify a CIFS server, or you must specify a proxy IP address for the CIFS server when running the **server** command.

Note: A single proxy IP address cannot be used for a CIFS file server that does not support the NetBIOS protocol (TCP port 139). Instead, use the **server** CLI command to configure a separate proxy IP address that is used exclusively for this server. For more information, see "server" on page 63.

Syntax:

To specify the proxy IP address for the File Director:

```
add proxyip <proxy-ip>
```

To change the proxy IP address for the File Director:

```
[edit] proxyip <proxy-ip>
```

To clear the proxy IP address for the File Director:

```
clear proxyip
```

```
no proxyip
```

To show the proxy IP address for the File Director:

```
show proxyip
```

Parameters:

<proxy-ip> is the proxy IP address you want to assign to the File Director.

Show Example:

```
show proxyip
```

The output of this example is:

Proxy Server:

```
172.22.4.94
```

For more information:

See “Setting a Proxy IP Address for the File Director” on page 2-9 in the *File Director Administrator Guide*.

See also:

[“ip address” on page 38](#)

pubkey

Description: Manages SSH public keys that allow administrators to log into the File Director without using a password

Use this command to install SSH public keys on the File Director. This enables shell scripts on remote hosts to invoke CLI commands on the File Director without a password. Using SSH with password-less public key authentication can enhance security by eliminating the need to store clear-text passwords within scripts or within files read by scripts.

First, run this command to add a public key to the File Director. Then, you can use an SSH program to authenticate directly to the File Director and run shell scripts that contain CLI commands. For example:

```
ssh admin@filedirector show ip address
```

This shell script logs into the File Director, runs the command `show ip address`, and returns the results.

Syntax:

To add a public-key file to the currently logged-in user's "authorized_keys" file on the File Director:

```
add pubkey <URL>
```

To remove a public key on the File Director:

```
clear pubkey <key-number> [now]
```

```
no pubkey <key-number> [now]
```

To show a public key installed on the File Director:

```
show pubkey [<key-number>]
```

This command lists each public key in the "authorized_keys" file, its type, and the user/host information. The first few and last few characters of the key are displayed. Each key is indexed by a number, starting with 1.

Parameters:

<URL> specifies the location of the public key you want to install and is in the following format:

```
<scheme>:// [<user>[:<password>]@] <host>/<url-path>
```

where:

<scheme> can be one of the following : `scp`, `nfs`, `cifs`, or `ftp`

- For the `scp` and `ftp` schemes, the `user` parameter defaults to "root". If you don't specify a `password`, a password prompt will be displayed.
- For the `nfs` scheme, the `user` and `password` parameters are ignored, and the access is performed as "root".

- For the `cifs` scheme, the `user` parameter defaults to “Administrator”. If you don’t specify a `password`, a password prompt will be displayed.

`<key-number>` is an optional parameter that specifies which key to remove or show. Specify a number equal to or larger than 1. If you don’t specify this parameter for the `show` prefix, all keys are shown.

`[now]` is an optional parameter for the `clear` or `no` prefix that skips the confirmation message for deleting the key. If you don’t specify this parameter, you must confirm the deletion when you see a message that lists the user and host for the key.

Important: All admin accounts share the same list of public keys. Therefore, to disable a user’s access, use the `no pubkey` command to remove the user’s public key. When a user has added a public key, the `no admin` or `admin disable` commands are not sufficient to disable a user’s access.

Show Example:

To show the public keys on the File Director:

```
show pubkey
```

The output of this example is:

| Number | Type | Username@Host | Key |
|--------|---------|---------------------|-------------------------------|
| 1 | ssh-rsa | janedoe@company.com | AAAAB3NzaC...TSwhrgnd/RhEtu0= |

reboot

Description: Reboots the File Director

Syntax:

To reboot the File Director:

```
reboot [now]
```

Parameters:

[now] is an optional parameter that reboots the File Director immediately without confirmation. If you omit this parameter, you will have to confirm the reboot.

Example:

To reboot the File Director:

```
reboot now
```

The output of this example is:

```
Rebooting File Director...
```

See also:

[“halt” on page 32](#)

restore

Description: Restores configuration information of the File Director from the backup configuration file generated via the **backup** command.

The version of the backup configuration file must be compatible with the software version running on the File Director.

Important: Passwords for CIFS file servers are encrypted in the backup configuration file. When you ran the **backup** command, you specified an encryption password. See “backup” on page 19. When you run the **restore** command, you will see a prompt to enter this same password in order to restore the CIFS file server passwords. If you don’t know the encryption password, you can restore the backup configuration file without the CIFS file server passwords. After completing the restore, you must then manually specify the passwords for each CIFS file server by using the **server** command. See “server” on page 63.

Note: If the configuration does not include any CIFS servers, you will be prompted to enter an encryption password, but it will not matter if the password does not match.

Syntax:

To restore configuration information:

```
restore <scheme>:// [<user>[:<password>]@] <host>/<url-path> [now]
```

Parameters:

<scheme> is one of the following parameters: **ftp**, **scp**, **nfs**, or **cifs**

<user> and <password> are optional parameters for logging in during the FTP or SCP transfer process, or for the file server.

<host> is the name of computer where the configuration file is saved.

<url-path> specifies the path and name of the configuration file to restore.

[now] is an optional parameter that restarts the File Director immediately without confirmation after the configuration information has been restored. If you omit this parameter, you will have to confirm the restart.

Example:

```
restore scp://admin@master/backup/directory/file_director_20050401.backup
```

See also:

[“backup” on page 19](#)

same

Description: Specifies that two resources exported or shared by a file server are identical.

Use this command when a file server exports and shares the same file system via both CIFS and NFS.

Important: On file servers that support both CIFS and NFS, you can export the same sub-tree of the file-system using both CIFS and NFS. You should use the **same** command to match the CIFS share name with the NFS export name on the File Director to create an association between the two names. This is important if you want to migrate files in this sub-tree. If you don't match the CIFS share name with the NFS export name, the File Director will migrate only the CIFS share (or the NFS export) and you will not be able to access the migrated files via the matching NFS export (respectively, CIFS share) name.

Syntax:

To specify that two resources exported or shared by a file server are identical:

```
add same <server> <protocol> <resource> <protocol> <resource>
```

Note: You cannot run this command more than once on the same pair of resources, or if one member of the pair of resources is already paired to another resource.

To remove the pairing of resources that are exported and shared by a file server:

```
clear same <server> <protocol> <resource> <protocol> <resource>
```

```
no same <server> <protocol> <resource> <protocol> <resource>
```

To show the identical resources that are exported and shared by a file server:

```
show same [<server>]
```

Parameters:

<server> is the name of the file server. If you don't specify this parameter for the **show** prefix, the identical resources for all file servers are shown.

<protocol> is the name of the protocol for the resource.

<resource> is the export or share.

Add Example:

To specify that two resources on a file server are identical:

```
add same server123 NFS /export/home CIFS homedirs
```

Clear Example:

To clear two identical resources:

```
clear same server123 NFS /export/home CIFS homedirs
```

Show Example:

To show identical resources on file servers:

```
show same
```

The output of this example is:

| Server Name | CIFS Share | NFS Export |
|-------------|------------|------------------|
| server123 | common | /export/common |
| server123 | software | /export/software |
| serverABC | backup | /export/backup |

For more information:

See “Matching or Unmatching Physical Shares and Exports” on page 2-19 in the *File Director Administrator Guide*.

See also:

- [“migration” on page 45](#)
- [“migration retry” on page 47](#)
- [“migration status” on page 48](#)

schedule

Description: Creates schedules for executing actions such as accumulator policies and resync functions.

The following are the names of the system-defined schedules which cannot be changed or cleared:

- **hourly**—specifies a schedule for executing an action every hour, on the hour
- **daily**—specifies a schedule for executing an action every day at midnight
- **weekly**—specifies a schedule for executing an action every Sunday at midnight
- **monthly**—specifies a schedule for executing an action on the first day of every month at midnight

You can use these system-defined schedules or create new schedules to use for actions such as the **accumulator policy** command and the resync function in the **accumulator monitor** command.

Syntax:

To create a schedule:

```
add schedule <name> <schedule>
```

To change a schedule:

```
[edit] schedule <name> <schedule>
```

To clear a schedule:

```
clear schedule <name>
```

```
no schedule <name>
```

To show a schedule:

```
show schedule [<name>]
```

Parameters:

<name> is the name of the schedule. For the **show** prefix, if you don't specify a schedule, all schedules are shown.

<schedule> consists of all of the following parameters specified in the order shown:

```
<minute> <hour> <day-of-month> <month> <day-of-week>
```

For each of these parameters, specify:

- A single number (such as 5)
- A range (such as 0-30)
- A range with intervals, such as every second day or every third day. Use the format: **range/interval**. For example, enter 1-9/2 to specify the following values: 1, 3, 5, 7, 9
- A comma-separated list of ranges and values (such as 0, 5, 10-20)
- A * character (asterisk) to specify all possible values. For example, a * character for **Day of the Month** specifies 1-31.

Here is a summary of the values allowed for each schedule parameter:

| For this parameter | The allowed values are |
|--------------------|----------------------------------------------------------------------------------------------------------------|
| Minute | 0-59, * |
| Hour | 0-23, * |
| Day of the Month | 1-31, * |
| Month | 1-12, Jan, Feb, Mar, Apr May, Jun, Jul, Aug, Sep, Oct, Nov Dec, * |
| Day of the Week | 0-7, Sun, Mon, Tue, Wed, Thu, Fri, Sat, * Note: Both 0 and 7 specify Sunday for the Day of the Week. |

Note: You must specify a value for all of the parameters. The day in a schedule can be specified by either `<day-of-month>` or `<day-of-week>`. If both parameters are specified by a value other than *, the schedule will run when either parameter matches the current time.

Add Example:

To create a schedule named *newyear* that runs an action starting at zero minutes, zero hours, on the first day of January:

```
add schedule newyear 0 0 1 JAN *
```

Show Example:

To show all schedules:

```
show schedule
```

The output of this example is:

| Name | Minute | Hour | Day Of Month | Month | Day Of Week |
|---------|--------|------|--------------|-------|-------------|
| hourly | 0 | * | * | * | * |
| daily | 0 | 0 | * | * | * |
| weekly | 0 | 0 | * | * | SUN |
| monthly | 0 | 0 | 1 | * | * |
| newyear | 0 | 0 | 1 | JAN | * |

For more information:

See “Using and Creating Schedules” on page 5-4 in the *File Director Administrator Guide*.

See also:

- [“accumulator monitor” on page 10](#)
- [“accumulator policy” on page 12](#)

sdirectory

Description: Creates a synthetic directory on the File Director

Syntax:

To create a synthetic directory:

```
add sdirectory <sdirectory-name> <protocol>
```

To clear a synthetic directory from the File Director configuration:

```
clear sdirectory <sdirectory-name>
```

```
no sdirectory <sdirectory-name>
```

To show a synthetic directory from the File Director configuration:

```
show sdirectory [<sdirectory-name>]
```

Parameters:

<sdirectory-name> is the name of the synthetic directory. For the **show** prefix, if you don't specify a synthetic directory, all synthetic directories are shown.

<protocol> is **NFS** or **CIFS**.

Add Example:

To create a synthetic directory:

```
add sdirectory homedirs NFS
```

Show Example:

To show all synthetic directories:

```
show sdirectory
```

The output of this example is:

| Name | Protocol |
|----------|----------|
| homedirs | NFS |
| software | CIFS |

For more information:

See Chapter 3, "Working with Synthetic Directories" in the *File Director Administrator Guide*.

See also:

- ["dstorage" on page 30](#)
- ["slink" on page 72](#)
- ["udirectory" on page 89](#)

server

Description: Specifies the properties of a file server for the File Director to access

Syntax:

To specify the properties of a file server:

```
add server <name> properties [<general-attrs>] [NFS <nfs-attrs>]
    [CIFS <cifs-attrs>]
```

Note: For the `add server` command, at least one protocol, NFS or CIFS, or both must be specified.

To edit the properties of a file server:

```
[edit] server <name> properties [<general-attrs>]
    [NFS <nfs-attrs>] [CIFS <cifs-attrs>]
```

Note: For the `[edit] server` command, if you specify a protocol that the server is not currently configured to support, that protocol will be added to the server's configuration. The server will then support both NFS and CIFS. You cannot remove a protocol by using the `[edit] server` command.

To clear the protocol only, or all properties, of a file server:

```
clear server <name> [NFS] [CIFS]
no server <name> [NFS] [CIFS]
```

NFS and **CIFS** are optional parameters for the `clear` and `no` prefixes that specify the type of properties you want to remove from the specified file server. If the file server is multi-protocol, only the specified type of properties (NFS or CIFS) are removed. If you don't specify these parameters, the server is removed completely from the File Director configuration.

Important: Use caution when removing a server:

- Removing a server will cause the File Director to forget about all of the files that have been migrated away from that server. Even if the server is later reconfigured using the `add server` CLI command, files and directories that had previously been migrated away will show up as empty files and directories when accessed through File Director. Make sure you no longer need to use a server before removing it with the `no server` CLI command.
- Once a server is removed from the configuration, File Director can no longer access any files on that server, including files that have been migrated to the server from another location. Before removing a server, make sure that no files currently in use have been migrated to that server.
- Do not remove a server that contains directory storage unless directed by your customer support representative.

To show the properties of a file server:

```
show server [<name>]
```

Parameters:

<name> is the name of the file server. If you don't specify this parameter for the **show** prefix, the properties of all file servers that the File Director is configured to access are shown.

The following <general-attrs>, <nfs-attrs>, and <cifs-attrs> parameters have the form:

```
<attribute-name> [WHITE-SPACE<value>]
```

For example: `ipaddress 1.2.3.4`

<general-attrs> can be the following optional parameters:

```
[ipaddress <ip-address>]
```

<ip-address> is the IP address (specified in dotted-quad notation) of the file server. If you don't specify the IP address, the File Director will determine the IP address of the file server via DNS.

```
[servertype <server-type>]
```

<server-type> specifies the type of NFS server. The possible values for this parameter are: **EMC**, **Netapp**, **Linux**, **Solaris**, or **Windows**

Important: If you don't specify <server-type>, the File Director will detect the server type automatically, but it may take some time to do it. Specify this parameter if you are sure about the server type and don't want to wait for automatic detection.

```
[via <source-address>]
```

via is an optional parameter that specifies the outgoing address you want the File Director to use when accessing the specified file server. If you don't specify the **via** property, the File Director will use an appropriate address based on the file server's IP address and the File Director routing configuration. This parameter is the same as the **File Director IP Address for Server Access** option on the **File Server Configuration** page. For more information, see step 6 on page 2-17 in the "Specifying a File Server" section of the *File Director Administrator Guide*.

Important: If the File Director is configured as part of a cluster, the specified or automatically selected <source-address> must have the **Cluster** setting for its scope. For more information, see "ip address" on page 38.

<nfs-attrs> can be the following optional parameters:

```
[version <comma-separated-list-of-versions>]
```

<versions> is the list of NFS versions supported by the specified file server. The possible values for this parameter are: 2 and/or 3. (Currently, both values 2 and 3 are required.)

<cifs-attrs> can be the following optional parameters:

```
admin <admin-user>
```

`<admin-user>` is the login user name for an administrator account on the file server. You will be prompted at the command line for the password for the administrator account.

Important: Be sure to enter the administrator name and password correctly. The File Director uses the name and password to log into the CIFS file server whenever it needs to:

- Access information about migrated files on the CIFS server. The File Director stores migration information in a special directory called `.neopath` in the root of each share. If the File Director can't log in, it can't access this information and consequently it won't allow clients to access *any* files on the server.
- Migrate files to or from the CIFS file server. If the File Director can't log in, it won't be able to copy the files and the migration will fail.
- Retrieve and display the list of CIFS shares on the CIFS file server. This occurs when you use the `show share` CLI command (see "share" on page 70.). If the File Director can't log in, the list of CIFS shares for the file server won't be listed.

`domain <domain>`

`<domain>` is the name of the Windows domain for the specified CIFS file server.

`[proxyip <proxy-ip>]`

`<proxy-ip>` is an optional parameter that specifies the proxy IP address to use for the specified file server. This address is used to allow CIFS clients to authenticate to the file server. The proxy address must be an IP address already configured on one of the File Director's interfaces. If this parameter is not specified when you add a server, the File Director proxy IP address is used. In most cases, you can use the File Director proxy IP address and you don't need to specify a proxy IP address for each file server. After a proxy IP address has been set for a file server, you can clear it by setting it to an empty string. This will cause the file server to use the File Director proxy IP address. For information on specifying the proxy IP address for the File Director, see "proxyip" on page 51.

Note: The proxy IP address cannot be used as a virtual server IP address.

Important: You must either run the `proxyip` command to specify the File Director proxy IP address before running the `server` command, or you must specify a proxy IP address for the CIFS server when running the `server` command.

`[netbios (enable | disable)]` is an optional parameter that enables NetBIOS support on port 139 for the specified CIFS file server. Set this parameter to match the configuration of the file server. If you don't specify this parameter, `enable` is used as the default value.

`[smbdirecthost (enable | disable)]` is an optional parameter that enables `smbdirecthost` support on port 445 for the specified CIFS file server. Set this parameter to match the configuration of the file server. If you don't specify this parameter, `enable` is used as the default value.

Add Example 1:

To specify the properties of a file server named *engr*:

```
add server engr properties nfs version 2,3 CIFS admin mdl domain
    METADATA smbdirecthost disable
```

Add Example 2:

To specify the properties of a file server named *netapp1*:

```
add server netapp1 properties servertype Netapp nfs version 2,3
```

Edit Example 1:

To edit properties of *engr*:

```
server engr properties cifs proxyip 1.2.3.4
```

Edit Example 2:

To specify additional properties of *netapp1*:

```
server netapp1 properties cifs admin mdl domain metadata
```

Clear Example 1:

To clear a file server named *engr* from the File Director configuration:

```
clear server engr
```

Clear Example 2:

To clear the NFS properties of a file server named *engr*:

```
clear server engr NFS
```

Clear Example 3:

To clear the CIFS properties of a file server named *engr*:

```
clear server engr CIFS
```

Show Example 1:

To show the properties of all configured files servers:

```
show server
```

The output of this example is:

| Server Name | Protocols |
|-------------|-----------------------------|
| calvin | NFS CIFS (domain: metadata) |
| hobbes | NFS CIFS (domain: metadata) |

Show Example 2:

To show the properties of a file server named *calvin*:

```
show server calvin
```

The output of this example is:

General Settings:

| Server Name | Server IP Address | Via IP Address | Server Type |
|-------------|-------------------|----------------|-------------|
| calvin | 192.168.1.188 | 172.22.75.5 | Linux |

NFS Settings:

Proto Vers

v2, v3

CIFS Settings:

| Administrator | CIFS Domain | Proxy IP Address |
|---------------|-------------|------------------|
| tjones | METADATA | 1.2.3.4 |

| NetBIOS? | SMB Direct Host? |
|----------|------------------|
| Yes | Yes |

See also:

- [“ip address” on page 38](#)
- [“proxyip” on page 51](#)
- [“vserver” on page 91](#)

service

Description: Starts, stops, or restarts the File Director services

Syntax:

To start, stop, or restart a File Director service:

```
[edit] service start|stop|restart <service-name>
```

To show the status of the File Director services:

```
show service [nfs|cifs|<service-name>]
```

Parameters:

<start> starts the specified service immediately if the service is stopped.

<stop> stops the specified service immediately if the service is running.

<restart> stops and starts the specified service.

<service-name> is one of the following: `FD_nfs`, `FD_cifs`, `admin_www`, `admin_ssh`, `admin_snmp`, `accumulator`, `mountd`, `statd`, or `nmbd`. (`nmbd` is the NetBIOS name service.)

For the `show` prefix only, you can also specify `nfs` to show the status of `FD_nfs`, `mountd`, and `statd`, or you can specify `cifs` to show the status of `FD_cifs` and `nmbd`. If you don't specify a service name for the `show` prefix, `FD_nfs`, `FD_cifs`, `admin_www`, `admin_ssh`, `admin_snmp`, and `accumulator` are shown.

Edit Example:

To restart the File Director NFS Services service:

```
service restart FD_nfs
```

Show Example:

To show the current status of all File Director services:

```
show service
```

The output of this example is:

| Name | Status | Description |
|-------------|---------|------------------------|
| FD_nfs | Running | NFS switching service |
| FD_cifs | Running | CIFS switching service |
| admin_www | Running | Administration via Web |
| admin_ssh | Running | Administration via SSH |
| admin_snmp | Running | SNMP agent daemon |
| accumulator | Running | Attribute Accumulator |

For more information:

See “Restarting and Shutting Down the File Director” on page 6-15 in the *File Director Administrator Guide*.

share

Description: Shows share and export directories from a specified file server, or removes a physical share and export from the File Director configuration

Syntax:

To remove a physical share and export from the File Director configuration:

```
clear share <server-name> <share-name>
no share <server-name> <share-name>
```

Parameters:

<server_name> is the name of the file server.

<share_name> is the name of the physical share or export.

Important: It is not normally necessary to use the `clear share` or `no share` command. You only need to remove physical shares from the File Director configuration if they prevent new physical shares from being added. The File Director currently does not support nested shares or exports, so you can use the `clear share` or `no share` to remove an existing share that is the parent or child of a new share you are adding.

Warning: Before using the `clear share` or `no share` command, be sure that the specified share or export is not being used as the source or destination in a successful migration.

Syntax:

To show share and export directories:

```
show share <server-name> [nfs] [cifs [username <user>
    [password <password>]]]
```

Parameters:

<server_name> is the name of the file server.

`nfs` and `cifs` are optional parameters that specify whether to show CIFS shares or NFS exports. If you don't include either of these parameters, both shares and exports are shown.

<user> and <password> specify a user name and password for logging into a CIFS file server. To specify a user name and password, you must also specify `cifs` in the command. They are not used if you specify `nfs`.

Notes regarding the user name for CIFS servers:

- If you don't specify a username, the admin user name configured via the `server` command for the CIFS server is used. (See "server" on page 63.) If an admin user name was not specified via the `server` command, *anonymous* is used.
- If you specify a user name, a request for a password will appear interactively.

Clear Example:

To remove a physical export for a server named *calvin* from the File Director configuration:

```
clear share calvin /vol/vol1
```

Show Example:

To show share and export directories for a server named *calvin*:

```
show share calvin
```

The output of this example is:

ShareName:

upload

music

HOME

ExportName:

/vol/vol1

/vol/vol0

slink

Description: Creates a synthetic link in a synthetic directory on the File Director

Syntax:

To create a synthetic link in a synthetic directory:

```
add slink <sdirectory-name> <path> <server> <share>
```

To clear a synthetic link from the File Director configuration:

```
clear slink <sdirectory-name> <path>
no slink <sdirectory-name> <path>
```

To show the synthetic links that are configured in the File Director:

```
show slink [<sdirectory-name> [<path>]]
```

Parameters:

<sdirectory-name> is the name of the synthetic directory in which you want to create, clear, or show a synthetic link.

<path> is the path in the synthetic directory where you want to create, clear, or show the synthetic link. You can specify either a relative or absolute path.

<server> is the name of the file server that contains the directory you want to create a synthetic link to.

<share> is the name of the share or export on the file server you want to create a synthetic link to.

Note: For the show prefix, if you don't specify a <sdirectory-name> and <path>, all synthetic links are shown.

Add Example:

To create a synthetic link:

```
add slink homedirs /home/eng server1 /export/eng
```

Show Example:

To show all synthetic links:

```
show slink
```

The output of this example is:

| Synthetic Directory | Synthetic Link Path | Server | Share |
|---------------------|---------------------|---------|-------------|
| homedirs | /home/eng | server1 | /export/eng |
| homedirs | /home/sales | server1 | /home/sales |

For more information:

See “Creating Synthetic Links for a Synthetic Directory” on page 3-9 in the *File Director Administrator Guide*.

See also:

- [“dstorage” on page 30](#)
- [“sdirectory” on page 62](#)
- [“udirectory” on page 89](#)

snmp

Description: Configures the SNMP agent

There are two command groups you can configure for SNMP:

- The **community** is used for access to MIBs and communications between an SNMP agent and management stations.
- The **trap_community** is used to group trap destinations (management stations). For more information, see “About the SNMP Traps for the File Director” on page 6-3 in the *File Director Administrator Guide*.

Syntax for community:

To configure a SNMP community agent:

```
add snmp community <snmp_community_name> <view_group_name>
```

To clear a SNMP community agent:

```
clear snmp community <snmp_community_name>
```

```
no snmp community <snmp_community_name>
```

To show the properties of a SNMP community agent:

```
show snmp community
```

Parameters:

<snmp_community_name> is the name of the SNMP community. Blank spaces are not allowed in the **snmp_community_name**.

<view_group_name> must be one of the following: **public**, **private**, or **all**. The view groups control access to the MIBS.

The SNMP communities in the **public** group can access only public (or standard) MIBS such as MIB-II. The SNMP communities in the **private** group can access only private MIBS which are under the company tree. The SNMP communities in the **all** group can access all supported MIBS.

Note: You can download and save the MIB file from the File Director. For more information, see “Downloading and Saving the MIB File from the File Director” on page 6-5 in the *File Director Administrator Guide*. You can also obtain the latest version of the MIB file from the Support area of the NeoPath Networks web site: www.neopathnetworks.com

Syntax for trap_community:

To configure a SNMP trap community agent:

```
add snmp trap_community <trap_community_name> <version>
```

To add a SNMP trap destination:

```
add snmp trapdest <trap_community_name> <destination_ip>
```


To clear a SNMP trap community agent:

```
clear snmp trap_community <trap_community_name>
no snmp trap_community <trap_community_name>
```

To clear a SNMP trap destination:

```
clear snmp trapdest <trap_community_name> <destination_ip>
no snmp trapdest <trap_community_name> <destination_ip>
```

To show the properties of a SNMP trap community agent:

```
show snmp trap_community [<trap_community_name>]
```

Parameters:

<version> must be one of the following: **v1**, **v2**, or **all**. If you specify **v1**, SNMP v1 traps will be sent to the destinations in it. If you specify **v2**, SNMP v2 traps will be sent to the destinations in the group. If you specify **all**, both v1 and v2 traps will be sent to the destinations in the group.

<trap_community_name> is the name of the SNMP trap community and must be defined before a trap destination is added via the **snmp trapdest** command. Blank spaces are not allowed in the **trap_community_name**.

<destination_ip> is the IP address of the trap destination.

Note: When a trap community is deleted, all destinations in the group will also be deleted.

Show Example 1:

To show the SNMP configuration for all SNMP communities:

```
show snmp community
```

The output of this example is:

| Community Name | View Group |
|----------------|------------|
| public | public |
| private | private |
| bothcomm | all |
| abcde | private |
| a | all |

Show Example 2:

To show the SNMP configuration for all SNMP trap communities:

```
show snmp trap_community
```

The output of this example is:

| Trap Community Name | Trap Version |
|---------------------|--------------|
| comm | v1 |
| community | v2 |
| tc1 | all |
| test | v1 |
| tc2 | v2 |

software factory_reset

Description: Reverts the software on the File Director to the factory-installed version

The File Director restarts twice during this operation. After the second restart, The File Director is in the state it was in immediately after the initial factory installation of the software.

Note: After you run this command, you can only access the File Director via a console and you must do the initial configuration. For more information on setting the initial configuration, see the *File Director Quick Start Guide*.

Syntax:

To revert the software:

```
software factory_reset [now]
```

Parameters:

[now] is an optional parameter that reinstalls the factory version of the software immediately without confirmation. If you don't specify this parameter, a confirmation prompt is displayed. You must confirm the installation at the prompt to continue.

See also:

- [“software install” on page 78](#)
- [“software rollback” on page 80](#)

software install

Description: Installs new software on the File Director

Syntax:

To install new software:

```
software install <URL> [now]
```

To show version information for the File Director internal software

```
show software
```

Parameters:

<URL> specifies the location of the software you want to install and is in the following format:

```
<scheme>:// [<user>[:<password>]]@<host>/<url-path>
```

Parameters:

<scheme> can be one of the following : **scp**, **nfs**, **cifs**, or **ftp**

- For the **scp** and **ftp** schemes, the **user** parameter defaults to “root”. If you don’t specify a **password**, a password prompt will be displayed.
- For the **nfs** scheme, the **user** and **password** parameters are ignored, and the access is performed as “root”.
- For the **cifs** scheme, the **user** parameter defaults to “Administrator”. If you don’t specify a **password**, a password prompt will be displayed.

[now] is an optional parameter that installs the software immediately after it is downloaded without confirmation. If you don’t specify this parameter, an installation confirmation prompt is displayed after the software is downloaded. You must confirm the installation at the prompt to install the software.

Note: During software installation, the File Director will stop providing service to clients. The installation process may take a few minutes and will be followed by a system restart.

The File Director can store up to four versions of installed software. The fourth time the **software install** command is run, it will overwrite the first installed version of the software. For information on reinstalling the factory-version of the software, see “software factory_reset” on page 77.

Show Example:

To show version information for the File Director internal software:

```
show software
```

The output of this example is:

| Component | Version | Build date |
|-----------|----------|----------------------|
| System | 1.0.7-13 | 2005-03-03 20:25 PST |

See also:

- [“software factory reset” on page 77](#)
- [“software rollback” on page 80](#)

software rollback

Description: Rolls back the software on the File Director to the previously installed version

The rollback is decremental. That is, if you do two software installations, you can do two software rollbacks. The File Director restarts after the rollback operation is complete.

Important: This command also rolls back the configuration information to its previous state that existed when the `software install` command was previously run.

Syntax:

To roll back the software:

```
software rollback [now]
```

Parameters:

[now] is an optional parameter that rolls back the software immediately without confirmation. If you don't specify this parameter, a rollback confirmation prompt is displayed. You must confirm the rollback at the prompt to continue.

See also:

- [“software factory reset” on page 77](#)
- [“software install” on page 78](#)

stat cifs

Description: Shows CIFS statistics information

Syntax:

To show the number of open files and share connections to a CIFS share:

```
show stat cifs share <server> [<share>]
```

To show the connections, user counts, bytes per second and operations per second, to and from a CIFS server:

```
show stat cifs server [<server>]
```

To show connections, user counts, bytes per second and the operations per second for client-side traffic:

```
show stat cifs client
```

To show connections, user counts, bytes per second and the operations per second to and from all CIFS clients and servers:

```
show stat cifs
```

Parameters:

[<share>] is an optional parameter that specifies the name of the CIFS share. If you don't specify the share name, the statistics for all shares in the specified server are shown.

[<server>] is an optional parameter that specifies the name of the CIFS file server. If you don't specify the server name, the statistics for all servers are shown.

Example 1:

To show the number of open files and share connections to a CIFS share:

```
show stat cifs share panama home
```

The output of this example is:

| Server | Share | Open Files | Share Connections |
|--------|-------|------------|-------------------|
| panama | home | 2 | 1 |

Example 2:

To show the connections, user counts, bytes per second and the operations per second to and from all CIFS clients and servers:

```
show stat cifs
```

The output of this example is:

| Users | Conn | Ops-In | Ops-Out | Bytes-In | Bytes-Out |
|-------|------|--------|---------|----------|-----------|
| 56 | 61 | 66 | 71 | 789 | 802 |

| Server | Users | Conn | Ops-In | Ops-Out | Bytes-In | Bytes-Out |
|--------|-------|------|--------|---------|----------|-----------|
| A | 7 | 2 | 49 | 56 | 3490 | 4500 |
| B | 12 | 5 | 221 | 219 | 90181 | 89674 |

See also:

- [“stat interface” on page 83](#)
- [“stat migration” on page 84](#)
- [“stat nfs” on page 86](#)

stat interface

Description: Shows interface statistics information

Syntax:

To show the incoming and outgoing byte and packet counts on an interface:

```
show stat interface [<interface>]
```

Parameters:

<interface> is one of the File Director interfaces. If you don't specify an interface name, the statistics for all interfaces are shown.

Example:

To show the incoming and outgoing byte and packet counts on all interfaces:

```
show stat interface
```

The output of this example is:

| Interface | Incoming | Outgoing |
|-----------|---------------------------|---------------------------|
| eth0 | 3200 bytes/sec 56 pkt/sec | 2900 bytes/sec 51 pkt/sec |
| eth1 | 7233 bytes/sec 87 pkt/sec | 6890 bytes/sec 79 pkt/sec |
| eth2 | 6256 bytes/sec 73 pkt/sec | 5988 bytes/sec 68 pkt/sec |
| eth3 | 7153 bytes/sec 86 pkt/sec | 6780 bytes/sec 78 pkt/sec |
| eth4 | 6560 bytes/sec 74 pkt/sec | 6320 bytes/sec 72 pkt/sec |
| eth5 | 7040 bytes/sec 86 pkt/sec | 6690 bytes/sec 76 pkt/sec |

See also:

- [“interface” on page 36](#)
- [“stat cifs” on page 81](#)
- [“stat migration” on page 84](#)
- [“stat nfs” on page 86](#)

stat migration

Description: Shows migration statistics information for either an export or a migration job

This command shows one of the following groups of statistics information:

- For both source and destination share/export:
 - Total size of data migrated away from this share/export
 - Total number of files/directories migrated away from this share/export
 - Total size of data migrated to this share/export
 - Total number of files/directories migrated to this share/export
- For a migration job:
 - Total size of free space in source server
 - Total size of used space in source server
 - Total size of free space in destination server
 - Total size of used space in destination server
 - Total size of data migrated
 - Total number of files migrated
 - Total number of directories migrated

Syntax:

To show migration statistics for a specified share or export:

```
show stat migration share <server> <export/share>
```

To set all migration statistics for a specified share or export to zero (0):

```
clear stat migration <server> <export/share>  
no stat migration <server> <export/share>
```

To show statistics for a migration job:

```
show stat migration job <entry-id>
```

Note: The migration statistics for a running migration job are updated after every 1 MB of data transfer. The migration statistics for an **export/share** are updated after the migration is successfully completed.

Parameters:

<entry-id> is the ID number of the migration job.

share specifies statistics information for an export, **<server>** specifies the name of the file server, and **<export/share>** specifies the export directory or shared directory.

Example 1:

To show migration statistics for an export:

```
show stat migration share server_xyz /export/some-dir
```

The output of this example is:

| | In | Out |
|--------------------|----------|----------|
| Size | 273.0 KB | 183.0 KB |
| Files | 6 | 4 |
| Directories | 4 | 3 |

Example 2:

To show migration statistics for a migration job:

```
show stat migration job 2
```

The output of this example is:

| | Source | Destination |
|--------------|---------|-------------|
| Free | 28.0 GB | 29.0 GB |
| Total | 34.0 GB | 34.0 GB |

Migrated: 269.0 KB (6 files, 3 directories)

See also:

- [“stat cifs” on page 81](#)
- [“stat interface” on page 83](#)
- [“stat nfs” on page 86](#)

stat nfs

Description: Shows NFS statistics information

Syntax:

To show the aggregate client statistics, including bytes/sec, to/from clients, NFS and NLM operation mix, throughput, and operations per second:

```
show stat nfs client
```

To show the statistics for an NFS server:

```
show stat nfs <server-name>
```

To show the client statistics and statistics for all NFS servers:

```
show stat nfs
```

Parameters:

<server-name> is the name of the NFS file server.

Example 1:

To show aggregate client statistics:

```
show stat nfs client
```

The output of this example is:

```
Total ops per second: 20394
```

| | Total bytes received | Total bytes sent |
|-------|-----------------------|---------------------|
| TCP | 2948211 (3443 kB/s) | 2948211 (3443 kB/s) |
| UDP | 42948211 (13443 kB/s) | 2948211 (3443 kB/s) |
| Total | 46394822 (16886 kB/s) | 5886422 (6886 kB/s) |

| NFS procedure | V2 | V3 | Total |
|---------------|-------------|--------------|--------------|
| NULL | 0 (0%) | 0 (0%) | 0 (0%) |
| GETATTR | 59282 (11%) | 354932 (14%) | 414214 (12%) |
| SETATTR | 3948 (3%) | 20394 (2%) | 24342 (2%) |
| LOOKUP | 49282 (10%) | 304932 (12%) | 354214 (11%) |
| ACCESS | - | 692811 (25%) | 692811 (25%) |
| ... | | | |
| ... | | | |
| ... | | | |
| COMMIT | - | 29433 (3%) | 29433 (2%) |
| ... | | | |
| Total | 112512 | 1402502 | 1515014 |

| NLM procedure | V1 | V3 | V4 | Total |
|---------------|--------|--------|------------|------------|
| NULL | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| TEST | 0 (0%) | 0 (0%) | 108 (1%) | 108 (1%) |
| LOCK | 0 (0%) | 0 (0%) | 2811 (46%) | 2811 (46%) |
| ... | | | | |
| ... | | | | |
| ... | | | | |
| FREE_ALL | . | 0 (0%) | 0 (0%) | 0 (0%) |
| ... | | | | |
| Total | 0 | 0 | 6031 | 6031 |

Example 2:

```
show stat nfs server1
```

The output of this example is:

```
Total ops per second: 20394
```

| | Total bytes received | Total bytes sent |
|-------|-----------------------|---------------------|
| TCP | 2948211 (3443 kB/s) | 2948211 (3443 kB/s) |
| UDP | 42948211 (13443 kB/s) | 2948211 (3443 kB/s) |
| Total | 46394822 (16886 kB/s) | 5886422 (6886 kB/s) |

See also:

- [“stat cifs” on page 81](#)
- [“stat interface” on page 83](#)
- [“stat migration” on page 84](#)

udirectory

Description: Creates a union directory in a synthetic directory on the File Director

Syntax:

To create a union directory in a synthetic directory, or combine additional shares or exports into an existing union directory:

```
add udirectory <sdirectory-name> <path> <server> <share>
```

To clear a share or export in a union directory from the File Director configuration:

```
clear udirectory <sdirectory-name> <path> <server> <share>
```

```
no udirectory <sdirectory-name> <path> <server> <share>
```

To show the union directories that are configured in the File Director:

```
show udirectory [<sdirectory-name> [<path> [<server> [<share>]]]]
```

Parameters:

<sdirectory-name> is the name of the synthetic directory in which you want to create, clear, or show a union directory.

<path> is the path in the synthetic directory where you want to create, clear, or show the union directory. You can specify either a relative or absolute path.

<server> is the file server that contains the share or export that you want to add, clear, or show in the union directory.

<share> is the name of the share or export on the file server that you want to add, clear, or show in the union directory.

Note: For the **show** prefix, if you don't specify a **<sdirectory-name>**, **<path>**, **<server>**, and **<share>**, all union directories are shown.

Add Example:

To create a union directory:

```
add udirectory md-music music server1 /export/music
```

Show Example:

To show all union directories:

```
show udirectory
```

The output of this example is:

| Synthetic Directory | Union Directory Path | Server | Share |
|---------------------|----------------------|---------|---------------|
| md-music | /music | server1 | /export/music |
| md-music | /music | server2 | /export/music |

For more information:

See “Creating Union Directories” on page 3-11 in the *File Director Administrator Guide*.

See also:

- [“dstorage” on page 30](#)
- [“sdirectory” on page 62](#)
- [“slink” on page 72](#)

vserver

Description: Creates a virtual server on the File Director

Important: The File Director must have one IP address for each virtual server you want to use. Virtual servers cannot share IP addresses. Also, if the File Director is in a cluster, you must first set the scope to Cluster for each of the IP addresses you want to use for virtual servers. For more information on adding and configuring IP addresses, see “ip address” on page 38.

Syntax:

To create a virtual server:

```
add vserver <vserver-name> properties <general-attrs>
    [NFS <nfs-attrs>] [CIFS <cifs-attrs>]
```

Note: At least one protocol, NFS or CIFS, must be specified for the **vserver** command.

To edit the properties of a virtual server:

```
[edit] vserver <vserver-name> properties <general-attrs>
    [NFS <nfs-attrs>] [CIFS <cifs-attrs>]
```

Note: For the **[edit] vserver** command, if you specify a protocol that the server is not currently configured to support, that protocol will be added to the virtual server’s configuration. The virtual server will then support both NFS and CIFS. You cannot remove a protocol by using the **[edit] vserver** command.

To clear a virtual server, or only a protocol for a virtual server, from the File Director configuration:

```
clear vserver <vserver-name> [NFS] [CIFS]
no vserver <vserver-name> [NFS] [CIFS]
```

Note: **NFS** and **CIFS** are optional parameters for the **clear** and **no** prefixes that specify the type of properties you want to remove from the specified virtual server. If the virtual server is multi-protocol, only the specified type of properties (NFS or CIFS) are removed. If you don’t specify these parameters, the virtual server is removed completely from the File Director configuration.

To show details of a virtual server that is configured in the File Director:

```
show vserver [<vserver-name>]
```

Parameters:

<vserver-name> is the name of the virtual server.

<general-attrs> and **<cifs-attrs>** have the following format:

```
<name> [WHITE-SPACE<value>]
```

For example:

```
ipaddress 1.2.3.4
```

<general-attrs> can be the following optional parameters:

[**ipaddress** <ip-address>]

<ip-address> is the local IP address (specified in dotted-quad notation) on the File Director that you want to use for the virtual server. For the **add** prefix, this parameter is required; for the **edit** prefix, it is optional.

[**comment** <comment>]

<comment> for CIFS is the description about the virtual server that clients see. For NFS, it is used for internal documentation purposes only.

<cifs-attrs> can be the following parameters:

[**defaultserver** <server-name>]

<server-name> is the default file server name for this virtual server. The file server must already exist. This parameter is required when you first add a virtual server.

[**netbios** (enable | disable)]

[**netbios** (enable | disable)] is an optional parameter you can use to disable the NetBIOS service to match the file server configuration. If you don't specify this parameter, **enable** is used as the default value.

[**smbdirecthost** (enable | disable)]

[**smbdirecthost** (enable | disable)] is an optional parameter you can use to disable the SMBDirectHost service to match the file server configuration. If you don't specify this parameter, **enable** is used as the default value.

Add Example:

To create a virtual server named *engr* that supports CIFS:

```
add vserver engr properties ipaddress 192.168.100.23
    cifs defaultserver caracas
```

Clear Example 1:

To clear a virtual server named *engr* from the File Director configuration:

```
clear vserver engr
```

Clear Example 2:

To clear the NFS properties of a virtual server named *engr*:

```
clear vserver engr nfs
```

Clear Example 3:

To clear the CIFS properties of a virtual server named *engr*:

```
clear vserver engr cifs
```

Show Example:

To show the virtual servers:

```
show vserver engr
```

The output of this example is:

General Settings:

| Server Name | IP Address | File Services |
|-------------|----------------|---------------|
| engr | 192.168.100.23 | NFS CIFS |

Comment:

Clients would see this comment.

CIFS Settings:

| NetBIOS? | SMB Direct Host? | Backend Server |
|----------|------------------|---------------------------|
| Yes | No | engr (domain: companyXYZ) |

For more information:

See “Specifying Virtual Servers and Virtual Shares” on page 2-20 in the *File Director Administrator Guide*.

See also:

- [“server” on page 63](#)
- [“vshare” on page 94](#)

vshare

Description: Creates a virtual share or export on the File Director for sharing or exporting file systems from virtual servers or synthetic directories

Syntax:

To create a virtual share or export:

```
add vshare <vserver-name> <vshare-name> properties
    <protocol-attrs> from <source>
```

To edit the properties of a virtual share or export:

```
[edit] vshare <vserver-name> <vshare-name> properties
    <protocol-attrs> from <source>
```

To remove a virtual share or export from the File Director configuration:

```
clear vshare <vserver-name> <vshare-name>
no vshare <vserver-name> <vshare-name>
```

Note: See also the `clear share` or `no share` command on page 70.

To show the virtual shares or exports that are configured in the File Director:

```
show vshare [<vserver-name> [<vshare-name>]]
```

where:

`<vserver-name>` is the name of the virtual server that is associated with the virtual share or export you want to create, clear, or show.

`<vshare-name>` is the name of the virtual share or export. If you don't specify this parameter for the `show` prefix, all virtual shares or exports on the specified virtual server are shown.

`<protocol-attrs>` are the following:

```
(CIFS) | (NFS [acl <acl-entry>+])
```

where `<acl-entry>` is:

```
(add clients <clients> [options <options>] | remove clients
<clients>)
```

For more information on an ACL entry, see "Syntax of an ACL Entry," next.

`<source>` parameters are the following:

```
(share <server-name> <share-name>) |
    (sdirectory <sdirectory-name>)
```

where:

`<server-name>` is the file server that stores the physical share or export you want to associate with the virtual share or export.

`<share-name>` is the physical CIFS share or the NFS export on the file server you want to associate with the virtual share or export.

`<sdirectory-name>` is the name of the synthetic directory you want to associate with the virtual share or export.

Syntax of an ACL Entry

An Access Control List (ACL) entry allows you to specify which clients can access a virtual share or export, and what sort of access they are granted.

Each ACL entry consists of a `<clients>` parameter that specifies which clients are affected by the entry, and one or more `<options>` parameters that specify which access options are in effect for these clients.

- `<clients>` can be one of the following attributes:

| Client Attribute | Description | Example |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <code><single-host></code> | Is an abbreviated hostname | <code>server123</code> |
| | Is a fully qualified domain name | <code>server123.company.com</code> |
| | Is an IP address | <code>10.22.1.4</code> |
| <code><netgroup></code> | Is of the form: <code>@<netgroupname></code> | <code>@engineering</code> |
| <code><wildcard></code> | Is a hostname with the wildcard character <code>*</code> or <code>?</code> , or both characters | <code>*.company.com</code> <code>192.168.1.*</code> <code>enr?.company.com</code> <code>enr?.*.com</code> |
| <code><IP-network></code> | Is of the form: <code><ip-address>/<netmask></code> where the netmask can be in a dotted-quad format or as a contiguous mask length | <code>10.22.1.0/24</code> <code>10.22.1.0/255.255.255.0</code> |

- `<options>` is a comma-separated list of export options. Blank spaces are not allowed in the list.

| Export Options | Description |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>secure</code> or <code>insecure</code> | Specify <code>secure</code> to require that requests originate on an internal port less than 1024. To turn off this requirement, specify <code>insecure</code> . The default is <code>secure</code> . |
| <code>rw</code> or <code>ro</code> | Specify <code>rw</code> to allow both read and write requests on this NFS virtual export, or specify <code>ro</code> to prevent write requests. Normal UNIX file permissions still apply. The default is <code>ro</code> . |
| <code>sub</code> or <code>nosub</code> | Specify <code>sub</code> to allow clients to mount subdirectories of this NFS virtual export. To turn this off, specify <code>nosub</code> . The default is <code>sub</code> . |

| Export Options | Description |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>root_squash</code> or <code>no_root_squash</code> | <p>Specify <code>root_squash</code> to map root's UID (user ID) to the anonymous UID. This prevents the root user on the client computer from having root access to files on the file server.</p> <p>To turn it off, specify <code>no_root_squash</code>. This allows the root user on the client computer to access files on the file server with root privileges.</p> <p>The default is <code>root_squash</code>.</p> |
| <code>all_squash</code> or <code>no_all_squash</code> | <p>Specify <code>all_squash</code> to map all UIDs from the client computer to the anonymous UID. This prevents all users on the client computer from accessing files on the file server with their normal privileges, and instead gives them the privileges of the anonymous user. <code>all_squash</code> overrides <code>no_root_squash</code>. If both <code>all_squash</code> and <code>no_root_squash</code> are specified root's UID is mapped to the anonymous ID.</p> <p>To turn it off, specify <code>no_all_squash</code>. It specifies that UIDs from the client computer should not be re-mapped.</p> <p>Note: <code>no_all_squash</code> doesn't undo the effect of <code>root_squash</code>. If both <code>no_all_squash</code> and <code>root_squash</code> are specified, root's UID is still remapped to the anonymous UID.</p> <p>The default is <code>no_all_squash</code>.</p> |
| <code>anon=<integer></code> or <code>anonuid=<integer></code> or <code>anongid=<integer></code> | <p>Specify <code>anon</code> to specify both the UID and GID (group ID) to use for the anonymous user. This applies to the <code>root_squash</code> and <code>all_squash</code> options.</p> <p>Specify <code>anonuid</code> to set the anonymous UID for the anonymous user.</p> <p>Specify <code>anongid</code> to set the anonymous GID for the anonymous user.</p> <p>Note: If none of the <code>anon</code>, <code>anonuid</code>, or <code>anongid</code> options are specified, -2 is used for both the anonymous UID and GID.</p> |

If no ACL is specified, the default is (`secure, ro, sub, root_squash, no_all_squash, anonuid=-2, anongid=-2`) for all clients.

ACL Example:

```
add clients 172.22.1.* options ro,root_squash,anon=99
```

This command specifies that all clients whose IP address matches 172.22.1.* have read-only access to the NFS export. It also specifies that the root UID and GID should be remapped to the anonymous UID and GID for these clients. Lastly, it specifies that 99 should be used as the anonymous UID and GID.

Add Examples:

To create virtual shares for a CIFS share:

```
add vshare server2 homedirs properties CIFS from share
server1 home
```

To create virtual shares for an NFS export:

```
add vshare server2 /home properties NFS from share
server1 /export/home
```

To create virtual shares with an ACL entry for a synthetic directory:

```
add vshare server2 /data properties NFS acl add clients
*.neopathnetworks.com options rw from sdirectory md-data
```

Show Example 1:

To show virtual shares and exports for a virtual server:

```
show vshare vserver2
```

The output of this example is:

| NFS Export from vserver2 | NFS Server | NFS Server Share |
|-------------------------------|---------------------|-------------------|
| /home | vserver1 | /export/home |
| CIFS Share from vserver2 | CIFS Server | CIFS Server Share |
| homedirs | vserver1 | home |
| Synthetic share from vserver2 | Synthetic Directory | |
| /data | /md-data | |

Show Example 2:

```
show vshare vserver2 /home
```

The output of this example is:

| Export/Share | Protocol | Server | Server Share |
|--------------|----------------|----------|--------------|
| /home | NFS | vserver1 | /export/home |
| Clients | Export Options | | |
| 172.22.1.10 | rw,sub | | |
| @marketing | ro | | |

For more information:

See “Specifying Virtual Servers and Virtual Shares” on page 2-20 in the *File Director Administrator Guide*.

See also:

- [“server” on page 63](#)
- [“share” on page 70](#)
- [“vserver” on page 91](#)

whereis

Description: Shows the current location of a share, export, directory, or file when the path under a physical or virtual share or export is specified

Syntax:

To show the location of a directory, file, share, or export:

```
show whereis (physical | virtual) <full-path>
```

Parameters:

(**physical** | **virtual**) specifies whether the path is under a physical or virtual share or export.

<full-path> specifies the path to the share, export, directory, or file. If the path includes blank spaces, enclose the path in quotes (" ").

- For NFS, **<full-path>** is in the form of **<server>:/<share>/<path>**
- For CIFS, **<full-path>** can be in the form of **\\<server>\<share>\<path>**

Example 1:

To show the current location of a virtual NFS export:

```
show whereis virtual vserver-xyz:/home/jones/mktg
```

The output of this example is:

```
vserver-xyz:/home/jones/mktg -->
    server-xyz:/export/home/jones/mktg
```

Example 2:

To show the current location of a virtual CIFS share:

```
show whereis virtual \\vserver-xyz\home\jones\mktg
```

The output of this example is:

```
\\vserver-xyz\home\jones\mktg -->
    \\server-abc\export\home\jones\mktg
```

Example 3:

To show the current location of a migrated directory:

```
show whereis physical server-xyz:/export/home/retired_user/
```

The output of this example is:

```
server-abc:/export/home/retired_user/-->  
server-zzz:/export/slowdisk/.neopath/migrated/17/server-xyz/export/home/retired_user
```

See also:

[“migration” on page 45](#)

wins server

Description: Specifies a WINS server for the File Director to use

The File Director uses the WINS name server for:

- WINS name lookups
- Register the names of CIFS virtual servers

Currently, File Director only supports one WINS server.

Note: Configure the WINS server before configuring servers and/or virtual servers. Otherwise, those virtual servers and proxy servers will not be registered in the WINS server. In this case, manually run the `service restart nmbd` CLI command to register virtual servers and proxy servers in the WINS server.

Syntax:

To add a WINS server:

```
add wins server <ip-address>
```

To clear a WINS server IP address:

```
clear wins server <ip-address>
```

```
no wins server <ip-address>
```

To show a list of WINS server IP addresses:

```
show wins server
```

Parameters:

<ip-address> is the IP address of the WINS server.

Add Example:

```
add wins server 172.22.1.10
```

Show Example:

```
show wins server
```

The output of this example is:

```
WINS server:  
  172.22.1.10
```

See also:

[“server” on page 63](#)

Index

A

accumulator monitor 10
accumulator policy 12
accumulator rule 15
admin 17
audience v

B

backup 19

C

CLI commands
 overview of 1
 summary of 3
 using 1
clock 20
cluster multicast 23
cluster node 25
community, SNMP 74
conventions v

D

dns 28
dstorage 30

H

halt 32
help 33
Help, displaying and printing vi
hostname 35

I

interface 36
ip address 38
ip route 40

L

log 41
logrotate 43

M

migration 45
migration retry 47
migration status 48

N

NeoPath Networks Technical Support, contacting v
ntp 49

O

online help, getting vi

P

ping 50
proxyip 51
pubkey 53

R

reboot 55
restore 56

S

same 57
schedule 59
sdirectory 62
server 63
service 68
share 70
slink 72
snmp 74
software factory_reset 77
software install 78
software rollback 80
stat cifs 81
stat interface 83
stat migration 84
stat nfs 86

T

Technical Support at NeoPath Networks,
 contacting v
trap community, SNMP 74

U

udirectory 89

V

vserver 91

vshare 94

W

whereis 99

wins server 101