IBM Tivoli Storage Productivity Center

Command-Line Interface Reference

Version 4.1.1

SC27-2339-01

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Note:
Before using this information and the product it supports, read the information in "Notices" on page 77.

This edition applies to version 4, release 1, modification 1 of IBM Tivoli Storage Productivity Center (product numbers 5608-WB1, 5608-WC0, 5608-WC3, and 5608-WC4) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Preface

IBM® Tivoli® Storage Productivity Center is a storage infrastructure management software product that can centralize, automate, and simplify the management of complex and heterogeneous storage environments.

Who should read this guide

This publication is intended for administrators or users who use the IBM command-line interface (CLI). It contains reference information for the commands associated with IBM Tivoli Storage Productivity Center.

Users of this guide should be familiar with the following topics:

- General procedures for installing software on Microsoft® Windows®, AIX®, Linux®, HP-UX, and Solaris.
- SAN concepts
- IBM Tivoli Storage Productivity Center concepts
- IBM Tivoli Storage Productivity Center for Replication concepts
- DB2® Database for Linux, UNIX®, and Windows
- Simple Network Management Protocol (SNMP) concepts
- IBM Tivoli Enterprise Console

Accessibility features for IBM Tivoli Storage Productivity Center

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

Accessibility features

The following list includes the major accessibility features in IBM Tivoli Storage Productivity Center:

- IBM Tivoli Storage Productivity Center functions are available using the keyboard for navigation instead of the mouse. You can use keys or key combinations to perform operations that can also be done using a mouse. However, you must use the mouse to navigate the Topology Viewer and report graphs. Standard operating system keystrokes are used for standard operating system operations.
- You can use screen readers to read the user interface.
- The user interface communicates all information independently of color.
- The *IBM Tivoli Storage Productivity Center Information Center*, and its related publications are accessibility-enabled and include the following accessibility features:
  - The information center is provided in XHTML 1.0 format, which is viewable in most Web browsers. XHTML allows you to view documentation according to the display preferences set in your browser. It also allows you to use screen readers and other assistive technologies.
  - All documentation is available in PDF format.
  - All images are provided with alternative text, so that users with vision impairments can understand the contents of the images.

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

Interface information

Use the options available in the **Preferences** > **Look and Feel** menu to select how to display the IBM Tivoli Storage Productivity Center user interface. To do this, complete the following steps:

1. Start the IBM Tivoli Storage Productivity Center user interface.
2. Select one of the following options from the **Preferences** > **Look and Feel** menu to change the visual appearance of the user interface to best suit your visual needs:
   - Windows Classic
   - Windows
   - CDE/Motif
   - Metal

Related accessibility information

You can view the publications for IBM Tivoli Storage Productivity Center in Adobe Portable Document Format (PDF) using the Adobe Acrobat Reader. You can access the PDFs from the Printable PDFs topic in the information center at http://publib.boulder.ibm.com/infocenter/tivihelp/v4r1/index.jsp.

IBM and accessibility

See the IBM Human Ability and Accessibility Center website for more information about the commitment that IBM has to accessibility.

Publications

This section lists publications in the IBM Tivoli Storage Productivity Center library and other related publications. It also describes how to access publications online, how to order publications, and how to submit comments on publications.

The publications are available from the IBM publications center at http://www.ibm.com/shop/publications/order.

Tivoli Storage Productivity Center publications

Use these publications for information about how to install, configure, and use IBM Tivoli Storage Productivity Center.

The Tivoli Storage Productivity Center publications are available from the IBM Tivoli Storage Productivity Center Information Center at http://publib.boulder.ibm.com/infocenter/tivihelp/v4r1/index.jsp. In the left navigation pane, click **Tivoli Storage Productivity Center**.

For PDF documents, in the left navigation pane, click **IBM Tivoli Storage Productivity Center > Printable documentation**.

Publication Title	Order Number
IBM Tivoli Storage Productivity Center and IBM Tivoli Storage Productivity Center for Replication Installation and Configuration Guide	SC27-2337-01
IBM Tivoli Storage Productivity Center User's Guide	SC27-2338-01
IBM Tivoli Storage Productivity Center Messages	SC27-2340-01
IBM Tivoli Storage Productivity Center Command-Line Interface Reference	SC27-2339-01
IBM Tivoli Storage Productivity Center Problem Determination Guide	GC27-2342-01
IBM Tivoli Storage Productivity Center Workflow User's Guide	SC27-2341-01

Related publications

This topic provides a list of related IBM publications.

The following table lists related IBM product publications.

Title	Order Number
Introduction to Storage Area Network, SAN	SC24-5470
Designing an IBM Storage Area Network	SC24-5758
IBM Tivoli Storage Virtualization Family SAN Volume Controller: Planning Guide	GA22-1052
IBM Tivoli Storage Virtualization Family SAN Volume Controller: Installation Guide	SC26-7541
IBM Tivoli Storage Virtualization Family SAN Volume Controller: Configuration Guide	SC26-7543
IBM Tivoli Storage Virtualization Family SAN Volume Controller: Attachment Guide	SC26-7563

IBM Redbooks

The IBM Redbooks® are books on specialized topics.

You can order publications through your IBM representative or the IBM branch office serving your locality. You can also search for and order books of interest to you by visiting the IBM Redbooks home page at http://www.redbooks.ibm.com/redbooks.

For information about IBM Tivoli Storage Productivity Center, see *IBM Tivoli Storage Productivity Center V4.1 Release Guide*. Search for SG24-7725.

Related information

This topic provides a link to additional information about IBM Tivoli Storage Productivity Center.

Resources on the Web

Before you install, check the following web site for the latest *Flash*. The *Flash* contains last minute information that could not be included in the documentation:

http://www.ibm.com/servers/storage/support/software/tpc/ .

This Web site also provides information on hardware support, device compatibility, technical notes, and authorized program analysis reports (APARs).

Translations

Translated publications are available from the information center which is available in certain translated languages. It is displayed in the language that is appropriate for the browser locale setting.

When a locale does not have a translated version, the information center is displayed in English, which is the default language. Translations of the PDFs are available when the information center is translated.

Contact your service representative for more information about the translated publications and whether translations are available in your language.

Accessing publications online

Publications for this product are available online.

You can access publications in the Tivoli Storage Productivity Center Information Center at http://publib.boulder.ibm.com/infocenter/tivihelp/v4r1/index.jsp.

The Tivoli Storage Productivity Center Information Center contains the most recent version of the books in the product library in PDF or HTML formats, or both. Translated documents are also available for some products.

Ordering publications

Information is provided for the ordering of IBM publications on the Internet or by telephone.

You can order many IBM publications online at http://www.ibm.com/shop/publications/order.

You can also order by telephone. In the United States and Canada, call 800-879-2755. In other countries, contact your IBM service representative.

Providing feedback about publications

You can provide feedback about the product or publications.

If you have comments or suggestions about the product and documentation, complete the customer feedback survey at http://www-01.ibm.com/software/sysmgmt/products/support/IBMTotalStorageProductivityCenterStandardEdition.html.

In the right pane under Support feedback, click **Help us improve online software support**.

Contacting IBM Support Center

This topic provides information on how to contact IBM Support Center for information.

For support for IBM Tivoli Storage Productivity Center, you can contact IBM Support Center in one of the following ways:

- Go to the IBM Tivoli Storage Productivity Center technical support Web site at http://www.ibm.com/systems/support/storage/software/tpc/.

  To receive future support notifications, go to the right and under **Stay informed**, click **Subscribe**. You will be required to enter your IBM ID and password. Once authenticated, you will be able to configure your subscription for Tivoli Storage Productivity Center technical support Web site updates.
- Customers in the United States can call 1-800-IBM-SERV (1-800-426-7378).
- International customers should go to the Tivoli Storage Productivity Center technical support Web site for customer support telephone numbers.

You can also review the *IBM Software Support Handbook*, which is available on our Web site at http://techsupport.services.ibm.com/guides/handbook.html.

The support Web site offers extensive information, including a guide to support services; frequently asked questions (FAQs); and documentation for all IBM Software products, including Redbooks and white papers. Translated documents are also available for some products.

When you contact the IBM Support Center, be prepared to provide identification information for your company so that support personnel can readily assist you. Company identification information might also be needed to access various online services available on the Web site. See "Reporting a problem."

Reporting a problem

This topic provides a list of what information you should have ready when you encounter a problem.

Have the following information ready when you report a problem:

- The IBM Tivoli Storage Productivity Center version, release, modification, and service level number.
- The communication protocol (for example, TCP/IP), version, and release number that you are using.
- The activity that you were doing when the problem occurred, listing the steps that you followed before the problem occurred.
- The exact text of any error messages.

Command line interface

This section describes the IBM Tivoli Storage Productivity Center command-line interface (CLI).

This section includes the following topics:

- CLI requirements
- Command modes
- Syntax diagram conventions
- agentcli commands
- tpctool commands
- Command aliasing
- Parameter aliasing

CLI requirements

Verify the requirements for running the command-line interpreter and using the command-line interface.

- Verify that the installer checks for and installs the correct version of Java™, and configures the CLI to use the installed Java.
- Verify that IBM Tivoli Storage Productivity Center is installed and running, and that storage devices have been discovered.
- Verify that the CLI is connected to an IBM Tivoli Storage Productivity Center Device server before using all commands. The **encrypt** command is the only exception that does not require the connection.
- Verify that you have a valid user ID, password, and URL before using all commands, except for the **encrypt** command.

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Command modes

You can use the CLI to run one command or a series of commands, either interactively or from a script.

Single-shot mode

To run a single command, specify the CLI program and that command at the shell prompt, for example:

```
shell> tpctool lsdev -user me -password mypass -url myhost:myport -l -subsys
```

Interactive mode

Interactive mode is entered by entering the **tpctool** command with no command line options. In the following example, the string "shell>" represents the shell prompt and "tpctool>" represents the prompt from the CLI while in interactive mode. At the CLI prompt, any valid CLI command can be entered.

```
shell> tpctool
tpctool> lsdev -user me -password mypass -url myhost:myport -l -subsys
```

Script mode

To run a set of commands that you defined in a file, start the CLI program and specify a file that contains the commands, for example:

```
shell> tpctool –script ~/bin/containersetup
shell>
```

Conventions used in this guide

This section provides information about the conventions used in this publication.

This publication uses several conventions for special terms and actions, and operating system-dependent commands and paths.

The following typeface conventions are used in this publication:

Bold

- Lower-case and mixed-case commands that appear with text
- Command options that appear with text
- Flags that appear with text
- Graphical user interface (GUI) elements (except for titles of windows and dialogs)
- Names of keys

Italic

- Variables
- Values you must provide
- New terms
- Words and phrases that are emphasized
- Titles of documents

monospace

- Commands and command options in examples
- Flags that appear on a separate line
- Code examples and output
- Message text
- Names of files and directories
- Text strings you must type, when they appear within text
- Names of Java methods and classes
- HTML and XML tags also appear `like this`, in monospace type

For syntax notation, these conventions are used:

- # is the prompt for the root user on UNIX platforms.
- Uppercase and lowercase characters do matter for UNIX and Linux. Type in commands exactly as shown.

Syntax diagram conventions

A syntax diagram uses symbols to represent the elements of a command and to specify the rules for using these elements.

Syntax diagrams use position to indicate required, optional, and default values for keywords, variables, and operands.

A key word represents the name of a command, flag, parameter, or argument. Required key words Indicate the parameters or arguments that must be specified for the command.

To read syntax diagrams, follow the path of the line. Read the diagrams from left-to-right, top-to-bottom, following the main path line.

Main path line

The main path line begins on the left with double arrowheads (>>) and ends on the right with two arrowheads facing each other (><). If a diagram is longer than one line, each line to be continued ends with a single arrowhead (>) and the next line begins with a single arrowhead. The -->< symbol indicates the end of the syntax diagram.

Required keywords

Required keywords appear on the main path line. Mutually exclusive required keywords are stacked vertically. In the following example, you must choose A, B, and C.

Optional keywords

Optional keywords indicate parameters or arguments that you might choose to specify for the command. Optional keywords appear below the main path line. Mutually exclusive optional keywords are stacked vertically. In the following example, you must choose A, B, or C.

When an optional item appears above the main line, the item above the line is the default value when no optional item is specified in the command. In the following example, the user has the same choices as above (A, B, C, or nothing at all), but if nothing is selected, the default value will be A.

Repeatable items

A stack of items followed by an arrow returning to the left means that you can select more than one item or, in some cases, repeat a single item. For example:

An arrow returning to the left means you can repeat the item.

If one or more characters appear in the arrow's line, those characters are required as a delimiter to separate repeated items.

If you can choose from two or more items, they are displayed vertically in a stack. A stack of items followed by an arrow returning to the left means that you can select more than one item or, in some cases, repeat a single item. In the following example, you can choose any combination of A, B, or C.

Variables

Italicized, lowercase elements denote variables. In the following example, you must specify a variable value when you enter the keyword command:

Common Agent commands

The **agentcli** command is the command line interface into the Common Agent.

agentcli deployer install

Use the **agentcli deployer install** command to install a bundle from the specified URL. The specified URL becomes the bundle location for the installed bundle.

Syntax

Parameters

url The specified URL becomes the bundle location for the installed bundle.

Examples

```
agentcli deployer install url
```

agentcli deployer list bundles

Use the **agentcli deployer list bundles** command to list all installed bundles.

Syntax

Examples

```
agentcli deployer list bundles
```

agentcli deployer list bundles state

Use the **agentcli deployer list bundles state** command to return a list all installed bundles and their states.

See "Bundle states" on page 11 for descriptions of the states.

Syntax

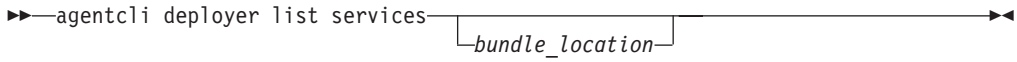
Examples

```
agentcli deployer list bundles state
```

agentcli deployer list services

Use the **agentcli deployer list services** command to list either all registered services or a single registered service for the specified bundle.

Syntax



Parameters

bundle_location
The URL that was used to install the bundle. To determine this value run the **agentcli deployer list bundles** command. In addition to the URL, you can specify the bundle location for the Data bundle as "TPCData" and for the Fabric bundle as "TPCFabric".

Examples

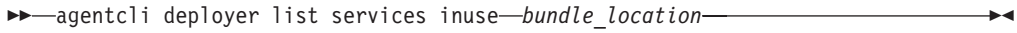
```
agentcli deployer list services

agentcli deployer list services url
```

agentcli deployer list services inuse

Use the **agentcli deployer list services inuse** command to list services used by a specified bundle.

Syntax



Parameters

bundle_location
The URL that was used to install the bundle. To determine this value, run the

agentcli deployer list bundles command. In addition to the URL, you can specify the bundle location for the Data bundle as "TPCData" and for the Fabric bundle as "TPCFabric".

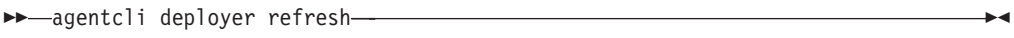
Examples

```
agentcli deployer list services inuse url
```

agentcli deployer refresh

Use the **agentcli deployer refresh** command to refresh bundle dependencies and attempt garbage collection.

Syntax



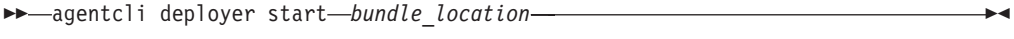
Examples

```
agentcli deployer refresh
```

agentcli deployer start

Use the **agentcli deployer start** command to start the specified bundle.

Syntax



Parameters

bundle_location
The URL that was used to install the bundle. To determine this value, run the **agentcli deployer list bundles** command. In addition to the URL, you can specify the bundle location for the Data bundle as "TPCData" and for the Fabric bundle as "TPCFabric".

Examples

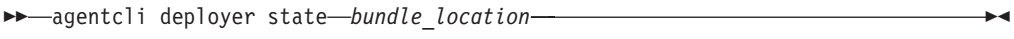
```
agentcli deployer start url
```

agentcli deployer state

Use the **agentcli deployer state** command to return the state of the specified bundle.

See "Bundle states" on page 11 for descriptions of the states.

Syntax



Parameters

bundle_location
The URL that was used to install the bundle. To determine this value, run the

agentcli deployer list bundles command. In addition to the URL, you can specify the bundle location for the Data bundle as "TPCData" and for the Fabric bundle as "TPCFabric".

Examples

```
agentcli deployer list bundles state url
```

agentcli deployer stop

Use the **agentcli deployer stop** command to stop the specified bundle.

Syntax

Parameters

bundle_location
The URL that was used to install the bundle. To determine this value run the **agentcli deployer list bundles** command. In addition to the URL, you can specify the bundle location for the Data bundle as "TPCData" and for the Fabric bundle as "TPCFabric".

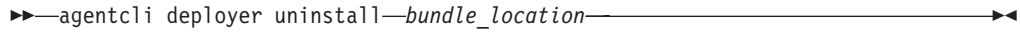
Examples

```
agentcli deployer stop url
```

agentcli deployer uninstall

Use the **agentcli deployer uninstall** command to uninstall the specified bundle.

Syntax



Parameters

bundle_location
The URL that was used to install the bundle. To determine this value run the **agentcli deployer list bundles** command. In addition to the URL, you can specify the bundle location for the Data bundle as "TPCData" and for the Fabric bundle as "TPCFabric".

Examples

```
agentcli deployer uninstall url
```

agentcli deployer update

Use the **agentcli deployer update** command to update the specified bundle.

Syntax

Parameters

bundle_location
The URL that was used to install the bundle. To determine this value run the **agentcli deployer list bundles** command. In addition to the URL, you can specify the bundle location for the Data bundle as "TPCData" and for the Fabric bundle as "TPCFabric".

Examples

```
agentcli deployer update url
```

agentcli TPCData stop

Use the **agentcli TPCData stop** command to stop with the specified mode, which is either abort or normal.

Format

Parameters

abort
Stops the Data agent immediately.

normal
Stops the Data agent after the current operation completes.

Examples

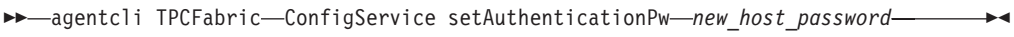
```
agentcli TPCData stop normal

agentcli TPCData stop abort
```

agentcli TPCFabric ConfigService setauthenticationpw

Use the **agentcli TPCFabric ConfigService setauthenticationpw** command to change the host authentication password for the managed hosts. The host authentication password is created when Fabric Manager is installed.

Format



Parameters

new_host_password
This changes the host authentication password that was created when Fabric Manager was installed.

Examples

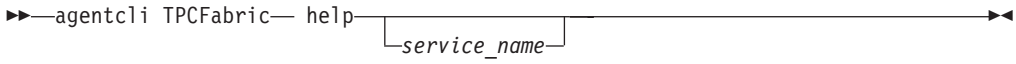
Change the host authentication password to **hostpass2**.

Command: `agentcli TPCFabric ConfigService setauthenticationpw hostpass2`

agentcli TPCFabric help

Use the **agentcli TPCFabric help** command to return a list of Fabric services that you can invoke commands on and can also provide help for specific Fabric services.

Format



Parameters

service_name
A valid Fabric service name, such as ConfigService.

Examples

Display help for the ConfigService.

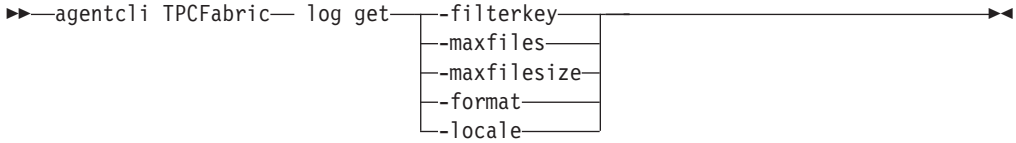
Command:

```
agentcli TPCFabric help ConfigService
```

agentcli TPCFabric log get

Use the **agentcli TPCFabric log get** command to display the current properties of the message log file. If you do not specify a parameter for this command, a syntax error message is displayed.

Format



Parameters

-filterkey
Displays the current types of messages that are logged in the message log file.

-maxfiles
Displays the current maximum number of log files to be created.

-maxfilesize
Displays the current maximum file size (in kilobytes) of the log before a new log file is created.

-format
Displays the current format in which messages are saved in the message log file. Messages can be saved in either plain text or XML format.

-locale
Displays the current language locale setting in which messages are displayed in the message log file.

Examples

Display the current types of messages that are logged in the message log file.

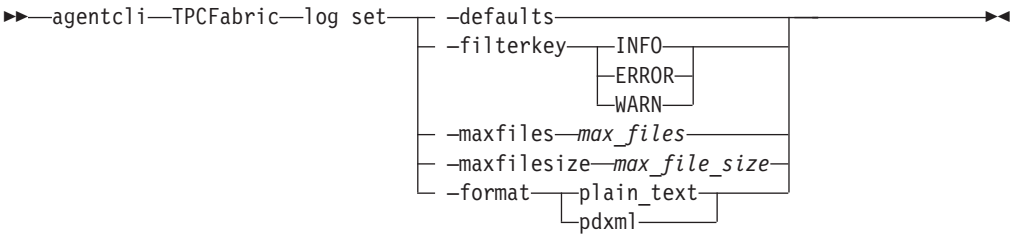
Command:

```
agentcli TPCFabric log get -filterkey
```

agentcli TPCFabric log set

Use the **agentcli TPCFabric log set** command to define the properties of the message log file. If you do not specify a parameter for this command, a syntax error message is displayed.

Format



Parameters

-defaults
Resets all the logging settings to their default settings.

-filterkey {INFO | ERROR | WARN}
Specifies the types of messages that will be logged in the message log file. These values are case sensitive. The types are as follows:

INFO Displays informational, warning, and error messages.

ERROR
Displays error messages.

WARN
Displays warning and error messages.

-maxfiles *max_files*
Sets the maximum number of log files to be created. You should specify more than one log file to be created if you want to save older log entries. If you specify only one log file, and that log file becomes full, the old entries in the log file are deleted, and new entries are added.

-maxfilesize *max_file_size*
Sets the maximum file size (in kilobytes) of the log before a new log file is created.

-format {plain_text | pdxml}
The values are as follows:

plain_text
The messages are saved in plain text format.

pdxml The messages are saved in XML format.

Examples

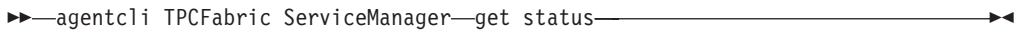
Reset the message flags to their default settings

```
agentcli TPCFabric log set -defaults
```

agentcli TPCFabric ServiceManager get status

Use the **agentcli TPCFabric ServiceManager get status** to return a list of Agent Manager services and their status.

Format



Parameters

None

Examples

Command: `agentcli TPCFabric ServiceManager get status`

Bundle states

The state of a bundle is returned by the "agentcli deployer list bundles state" command and the "agentcli deployer state" command.

See “agentcli deployer list bundles state” on page 5 and “agentcli deployer state” on page 6 for more information.

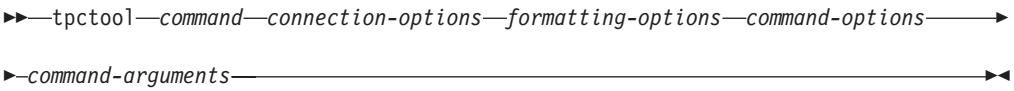
Table 1. Bundle states

State	Description
Installed	The bundle is installed but not resolved, and it cannot run. This state is visible if the code dependencies of the bundle are not resolved. The Framework might attempt to resolve the code dependencies and move the bundle to the Resolved state.
Resolved	The code dependencies of the bundle are resolved and the bundle can be started. These dependencies include: • The class path of the bundle from its Constants.BUNDLE_CLASSPATH Manifest header. • The package dependencies of the bundle from its Constants.EXPORT_PACKAGE and Constants.IMPORT_PACKAGE Manifest headers. • The required bundle dependencies of the bundle from its Constants.REQUIRE_BUNDLE Manifest header. • The host dependency of a fragment bundle from its Constants.FRAGMENT_HOST Manifest header. The bundle is not active yet and must be put in the Resolved state before it can be started. The Framework might attempt to resolve a bundle at any time.
Starting	The start() method is active and the bundle is starting. A bundle must be in this state when the bundle's BundleActivator.start(org.osgi.framework.BundleContext) is called. If this method completes without exception, then the bundle has started and must move to the Active state.
Stopping	The stop() method is active and the bundle is stopping. A bundle must be in this state when the bundle's BundleActivator.stop(org.osgi.framework.BundleContext) method is called. When this method completes the bundle is stopped and must move to the Resolved state.
Active	The bundle has been successfully started and is running.

tpctool command

The tpctool command is the Tivoli Storage Productivity Center command line interpreter (CLI) program. The command can be used either on its own, using the associated options and arguments, or interactively by invoking tpctool with no options or arguments to start an interactive session.

Syntax



Parameters

command
Either one of the commands (generic, disk, fabric, or reporting) or a command alias.

connection-options
Options used to connect to Tivoli Storage Productivity Center. These options include:

- -user
- -pwd
- -url

These options are described in detail below.

formatting-options
Options used to format output for some of the commands.

command-options
Options associated with commands that define command behavior.

command-arguments
Generally, values used to define command options. They can be defined as lists of string values separated by commas or spaces.

The following arguments and options are valid for tpctool:

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-help | -h | -?
Lists help for the command.

-ver
Displays the version of the installed Tivoli Storage Productivity Center.

Command aliasing

Tivoli Storage Productivity Center provides the capability for command aliasing using the command configuration file. The default configuration file is c:\program files\ibm\tpc\cli\libs\tpccli.conf. With aliasing, you define a name for the alias followed by a value that is the name of a command and any options associated with command. The aliased command string is replaced by the defined value and the entire line is reparsed. Passwords used in aliased commands must first be encrypted using the encrypt command.

For example, to shorten a frequently used command you can define the following alias:

```
tpctool>lsperf = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url 9.44.33.126:8990 -fabric -perf
```

After the alias is defined, you can run the lsperf command to run the aliased lsdev command shown above.

You can provide a short form command targeting different device servers, as follows:

```
tpctool>lsperfd1 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161 -perf

tpctool>lsperfd2 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf
```

You can specify additional options and arguments for an aliased command:

```
tpctool>lsperfd2 -fabric -ctype port
```

Which would expand to:

```
tpctool>lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161
-perf -fabric -ctype port
```

You can also nest aliases:

```
tpctool>lsperf = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf -fabric

tpctool>lsperfd1 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161

tpctool>lsperfd2 = lsdev -user dsadmin
-pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161
```

To unset an alias, type the name of the command alias followed by the '=' sign:

```
lsperf =
```

When you use an alias with a key and value pair in the **tpccli.conf** file, note that there is special handling of the value part for back slashes. You must specify four back slashes for each back slash.

For example, this value:

```
ABCDE1 = CLARiiON\+ABC01234567890+0
```

Should be specified as:

```
ABCDE1 = CLARiiON\\\\+ABC01234567890+0
```

Examples

To start an interactive session for Tivoli Storage Productivity Center:

The following command starts an interactive session. After the session starts, you can use other CLI commands in the session:

```
tpctool
```

To start an interactive session with credentials:

The following command starts an interactive session and specifies the user ID, password, and destination:

```
tpctool -user adminpass
-pwd adminpw1
-url 9.43.124.255:8080
```

Return codes

The following table contains the codes returned by the tpctool command.

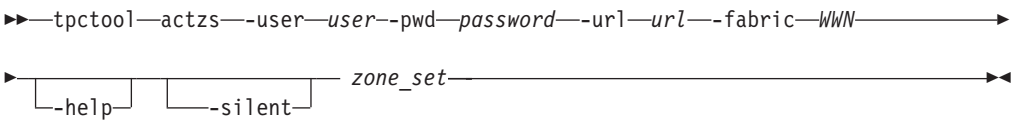
Code	Description
0	The command completed successfully.
1	The command was unknown to **tpctool** and was not resolved as an alias.
2	A required option was not provided.
3	An option was unknown to **tpctool** or was not applicable to the command.
4	An option was missing a required parameter.
5	The format of a parameter for the option was not valid.
6	The format of an argument was not valid.
7	An extraneous argument or argument list was provided.
8	The **tpctool** client could not connect with the Device server.
9	The **tpctool** client could not log in to the Device server using the specified credentials.
10	The specified credentials are not authorized to perform the requested action.
11	A required component (such as Disk Manager or Fabric Manager) is not installed and enabled.

12	The command might have started, but the connection with the Device server was lost. The command might not be completed successfully.
13	Some operations were completed partially before the Device server returned a failure.
14	The command failed.

actzs

Use the **actzs** command to activate a zone set. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

zone_set
The *zone_set* variable is the name of the zone_set.

Examples

Activating a zone set

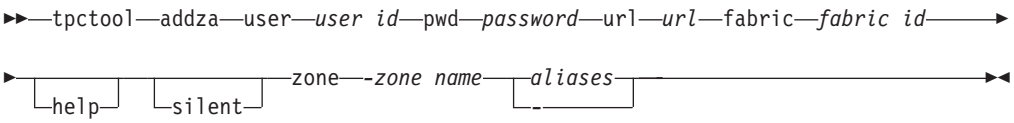
The following commands activate the PARIS zone set:

```
tpctool> -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> actzs -fabric 100000051E34F6A8 PARIS
tpctool> commit -fabric 100000051E34F6A8
```

addza

Use the **addza** command to add a zone alias to a zone. You must have Fabric administrator authority to use this command.

Syntax



Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric where the entities named in the command are located.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-zone *zone name*
The name of the zone where you want to add a zone alias.

aliases
The name of the zone alias to be added to the zone.

Example

Adding a zone alias

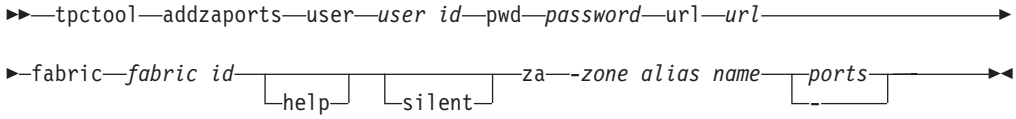
The following commands add the PARIS zone alias to the EUROPE zone:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> addza -fabric 100000051E34F6A8 -zone EUROPE PARIS
tpctool> commit -fabric 100000051E34F6A8
```

addzaports

Use the **addzaports** command to add ports to a zone alias. You must have Fabric administrator authority to use this command.

Syntax



Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric where the zone alias is defined.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-za *zone alias name*
The name of the zone alias where the port(s) are to be added.

ports | -
The name you enter for the new switch port.

Example

Adding a port to a zone alias

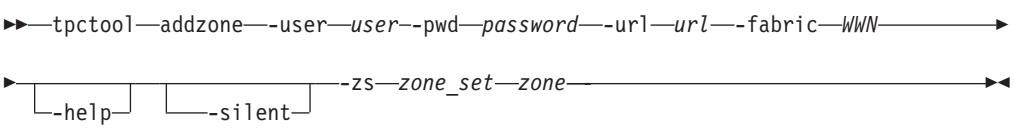
The following commands add a port to the PARIS zone alias:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> addzaports -fabric 100000051E34F6A8 -za PARIS 210000E08B0B4C2G
tpctool> commit -fabric 100000051E34F6A8
```

addzone

Use the **addzone** command to add a zone to a zone set. This command must be run as a transaction. See the start command for more information. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-zs *zone_set*
Specifies the zone set. The *zone_set* variable is the name of the zone set.

zone
Specifies the zone.

Examples

Adding a zone to a zone set

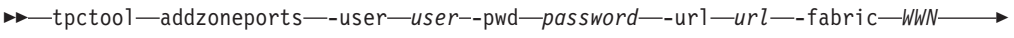
The following commands add the WINDOWSNT zone to the PARIS zone set:

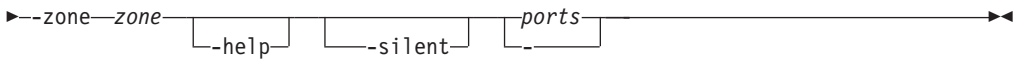
```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> addzone -fabric 100000051E34F6A8 -zs PARIS WINDOWSNT
tpctool> commit -fabric 100000051E34F6A8
```

addzoneports

Use the **addzoneports** command to add switch ports to a zone. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax





Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-zone *zone*
Specifies the zone. The *zone* variable is the name of the zone.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

ports **| -**
Specifies the switch ports. The *ports* variable is a list of worldwide port names (WWPNs). If you specify a single dash (-), the WWPNs are read from standard input.

Examples

Adding a switch port to a zone set

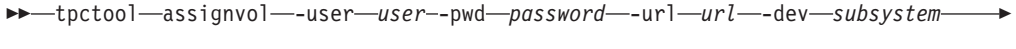
The following commands add several switch ports to the WINDOWSNT zone. The list of WWPNs is read from standard input:

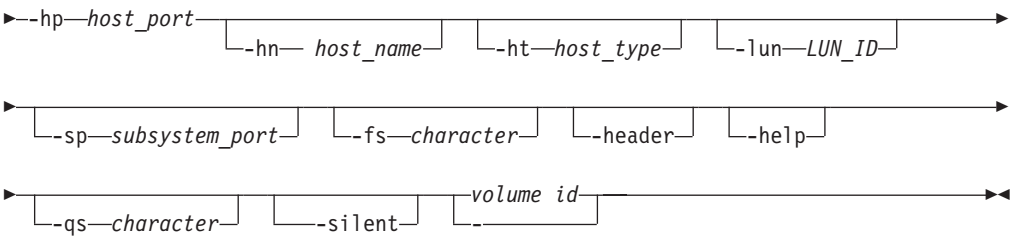
```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> addzoneports -fabric 100000051E34F6A8 -zone WINDOWSNT -
tpctool> commit -fabric 100000051E34F6A8
```

assignvol

Use the **assignvol** command to assign host ports to volumes. You must have Disk administrator authority to use this command.

Syntax





Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-dev *subsystem*
Specifies the globally unique identifier (GUID) of a storage subsystem such as that obtained by running the **lsdev -subsys** command.

-hp *host_port*
Specifies the host ports. The *host_port* variable is a comma-separated list of worldwide port numbers (WWPNs), such as that obtained by running the **lsport** command.

-hn *host_name*
Specifies the names of the host machines for the ports. The *host_name* variable is a comma-separated list of host machine names. There must be one name for each port in the list of host ports.

-ht *host_type*
Specifies the type of host machine on which the fiber channel port is located. The *host_type* variable is a comma-separated list of host machine types, such as that obtained by running the **lshtype** command.

-lun *LUN_ID*
Specifies the logical-unit number (LUN ID) that the hosts map to the volumes. The *LUN_ID* variable is a comma-separated list of LUN IDs. There must be one LUN ID for each volume in the argument list.

-sp *subsystem_ port*
Specifies the worldwide port numbers (WWPNs) that the hosts use to access the volume. The *subsystem_port* variable is a comma-separated list of WWPNs, such as that obtained by running the **lsdevp** command. If you omit this parameter, the default ports are used.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

volume id | -
Specifies the volumes. The *volume_ID* variable is a comma-separated list of volume IDs, such as that obtained by running the **lsvol** command. If a single dash (-) is issued, the volume IDs are read from standard input.

Examples

Assigning a host port to a volume

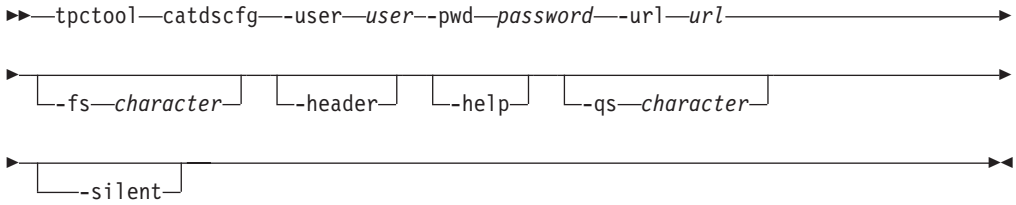
The following command assigns a host port to a volume:

```
tpctool assignvol -user me -pwd mypass -url myhost:myport -dev 2105.22232+0
-hp 5005076300C79470 -lun a3
```

catdscfg

Use the **catdscfg** command to list the contents of the property files for the Device server and to check the status of the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing the contents of the property file

The following command lists the contents of the property file:

```
tpctool> catdscfg -url localhost:9550 -user ***** -pwd *****
```

The following output is returned:

```
Property                                    Context           Value
=========================================================================
AgentManager.Registration                   AM                 YES
Fabric.Manager.Password                     AM                 *****
Fabric.Manager.Username                     AM                 manager
Registration.Server.Host                    AM                 tivoli12
Registration.Server.Port                    AM                 9511
Registration.Server.PW                      AM                 *****
TPCData.Password                            AM                 *****
TPCData.UserName                            AM                 manager
default.authorization.enabled               CIM                true
default.credential                          CIM                default
default.principal                           CIM                default
FabricCIMTransactionTimeout                 CIM                600
FabricCIMZoneDBChecksumUsage                CIM                true
FabricCIMZSetActivationRetryInterval        CIM                20000
FabricCIMZSetActivationRetryMaxCount        CIM                9
```

Note: This is a partial sample of the actual output.

ckzone

Use the **ckzone** command to verify that a fabric contains a zone. You must have Fabric administrator authority to use this command.

Syntax

Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

zone
Specifies the zone.

Examples

Verifying that a fabric contains a zone

The following command checks whether the fabric contains the SUNSOLARIS zone:

```
tpctool> ckzone -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 SUNSOLARIS
```

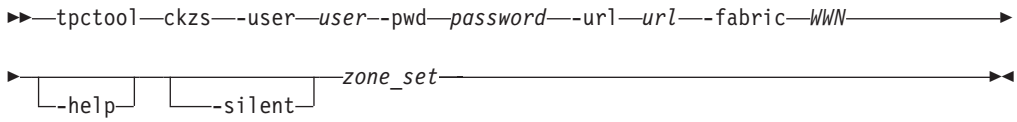
If the fabric contains the zone, the following text is returned:

```
Zone SUNSOLARIS found in fabric 100000051E34F6A8
```

ckzs

Use the **ckzs** command to verify that a fabric contains a zone set. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

zone_set
Specifies the zone set. The *zone_set* variable is the name of the zone set.

Examples

Verifying that a fabric contains a zone set

The following command determines whether the fabric contains the PARIS zone set:

```
tpctool> ckzs -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8 PARIS
```

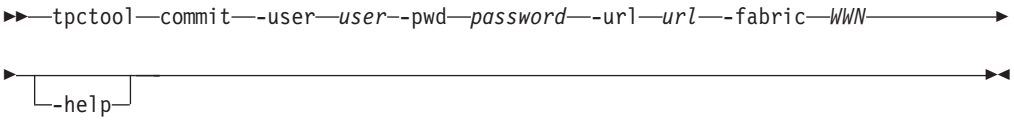
If the fabric contains the zone set, the following text is returned:

```
Zoneset PARIS found in fabric 100000051E34F6A8
```

commit

Use the **commit** command to commit a transaction. When you commit a transaction, all the commands issued after you started the transaction are enacted. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

Examples

Committing a transaction

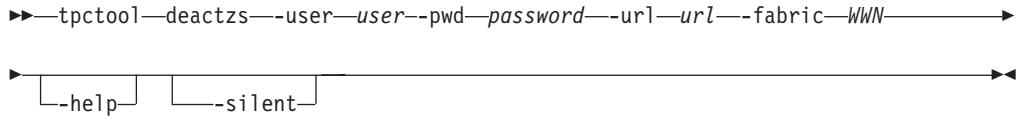
The following command commits a transaction. The user has previously specified connection options, started a transaction, and issued a fabric-control command:

```
tpctool> commit -fabric 100000051E34F6A8
```

deactzs

Use the **deactzs** command to deactivate the active zone set. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Deactivating the active zone set

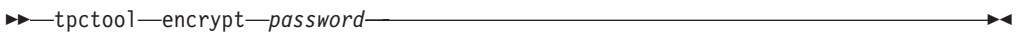
The following commands deactivate the active zone set:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> deactzs -fabric 100000051E34F6A8
tpctool> commit -fabric 100000051E34F6A8
```

encrypt

Use the **encrypt** command to generate an encrypted password for use in the configuration file. This command takes text from standard input and generates 7-bit ASCII-equivalent characters (uuencode).

Syntax



password
Specifies the password to be encrypted.

Examples

Encrypting a password

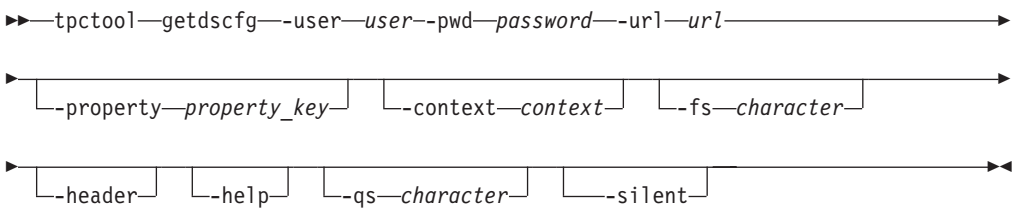
The following command encrypts the specified password:

```
tpctool encrypt myverylongpassword
```

getdscfg

Use the **getdscfg** command to list the current value of a property from the property file for the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax



-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-property *property_key*
Specifies the property key. The *property_key* variable is the property key.

-context *context*
Specifies a classification or category for a configuration property. The *context* variable is the context properties. For example:

```
-context DeviceServer
```

This parameter applies to the Tivoli Storage Productivity Center device server only.

```
-context PerformanceManager
```

This parameter applies to the Tivoli Storage Productivity Center performance manager only.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing a property value

The following command lists the value of the SnmpRetryCount property:

```
tpctool> getdscfg -url localhost:9550 -user ***** -pwd ***** -property
SnmpRetryCount -context DeviceServer
```

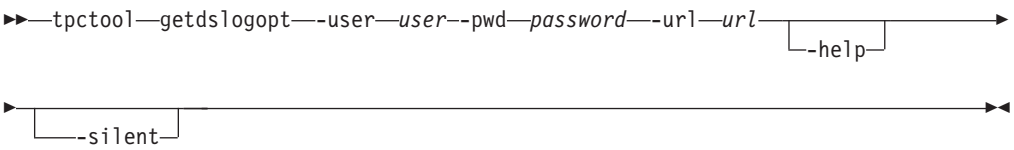
The following output is returned:

```
Property       Context      Value
================================
SnmpRetryCount DeviceServer 3
```

getdslogopt

Use the **getdslogopt** command to list the properties for the log file associated with the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing log file properties

The following command lists the properties of the log file used by the Device server:

```
tpctool> getdslogopt -user me -pwd mypass -url myhost:myport
```

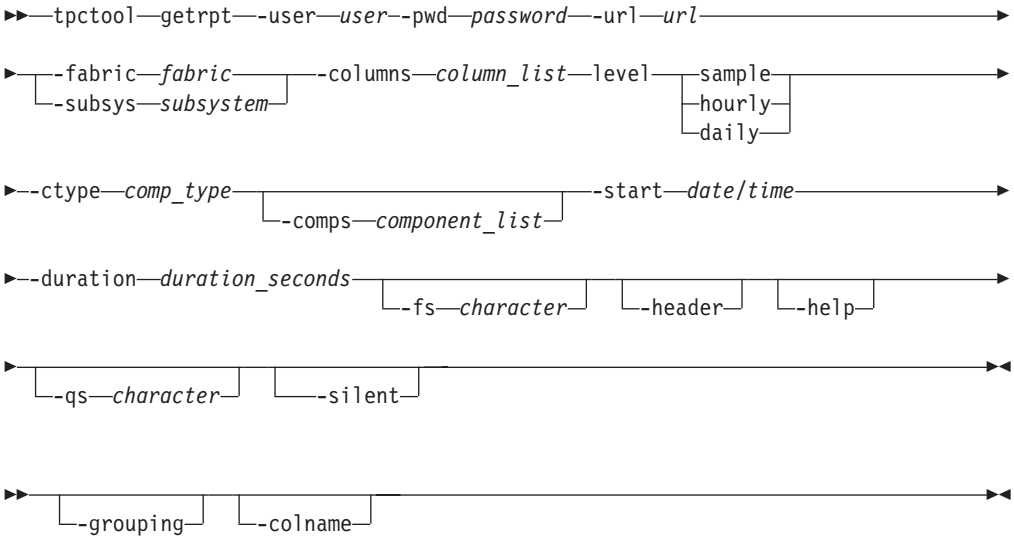
The following output is returned:

```
Filterkey Maxfiles Maxfilesize Locale Format
================================================
INFO      10       20000 KB    en_US plain_text
```

getrpt

Use the **getrpt** command to list a performance report for a specified storage subsystem. You must have Fabric operator or Disk operator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric*
Specifies the name of a switch, such as one returned by the **lsdev** command.

-subsys *subsystem*
Specifies the name of a storage subsystem, such as one returned by **lsdev**. The name of the storage subsystem is the globally unique identifier (GUID) of that storage subsystem.

-columns *column_list*
Specifies what columns will appear in the report. The columns are obtained from the **lscounters** and **lsmetrics** commands.

-level sample | hourly | daily
Specifies the level for which the performance metrics should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-ctype *comp_type*
Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.

-comps *component_list*
Specifies the component list. The *component_list* variable specifies the components, such as returned by **lscomp**.

-start *date/time*
Specifies the date and time to start the sampling period. The date and time are formatted as:

```
yyyy.MM dd:HH:mm:ss
```

All time zones are relative to the Device server. See the **lstime** command for more information.

-duration *duration_seconds*
Specifies the duration of the sampling period, in seconds. The *duration_seconds* variable is an integer.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-grouping
Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined the system locale.

-colname
Displays the name of the counter or metric in the column header. By default, an integer indicating the column or metric type is displayed in the column header.

Examples

Listing performance metrics

The following command lists a report of performance metrics:

```
tpctool> getrpt -user me -pwd mypass -url myhost:myport
-fabric 100005668 -subsys 2105.22232+0 -level daily
```

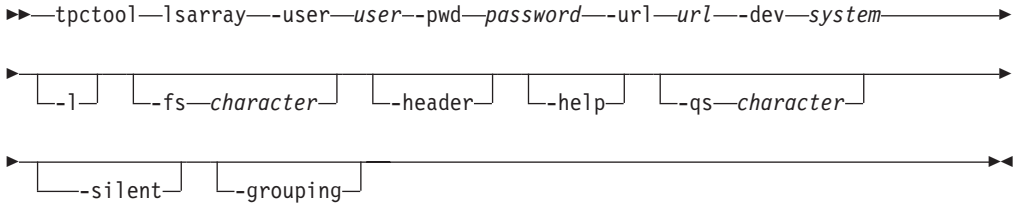
Note: If you have multiple volumes in your subsystems, use the -fs *character* option with a comma as a field separator.

```
tpctool> getrpt -subsys 2107.1302541+0 -columns 1,2,4,5,10,11,13,14,22,23,28,29,31,
32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,5,
9,828,829,830,831,832,833,801,802,803,804,805,806,807,808,809,810,811,812,813,814,
815,816,817,818,819,820,821,822,823 -ctype vol -level sample -start 2007.06.27:19:
01:40 -duration 3600 -fs
```

lsarray

Use the **lsarray** command to list array information. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-dev *system*
Specifies the globally unique identifier (GUID) of the storage system. You can use the **lsdev** command to return information, including the GUID, for all storage systems that are discovered by Tivoli Storage Productivity Center.

-l Specifies that the long version of the information is listed:

- Array ID
- Total size (in GB)
- Free size (in GB)
- Status

If you omit this parameter, only the array ID is listed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-grouping
Enables the grouping of numeric values. For example, in English the value 12000 would display as 12,000. The grouping character is determined the system locale.

Examples

Listing array information

The following command lists IDs for the arrays on the specified system:

```
tpctool> lsarray -user me -pwd mypass -url myhost:9550 -dev 2107.75DG000+0
```

The following output is returned:

```
Array
=========================================
IBMTSDS:IBM.2107-75DG000-P17+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P16+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P15+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P14+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P1+2107.75DG000+0
IBMTSDS:IBM.2107-75DG000-P0+2107.75DG000+0
```

Listing the long version of array information

The following command lists long information about the arrays on the specified system:

```
tpctool> lsarray -user me -pwd mypass -url myhost:9550 -dev 2107.75DG000+0 -l
```

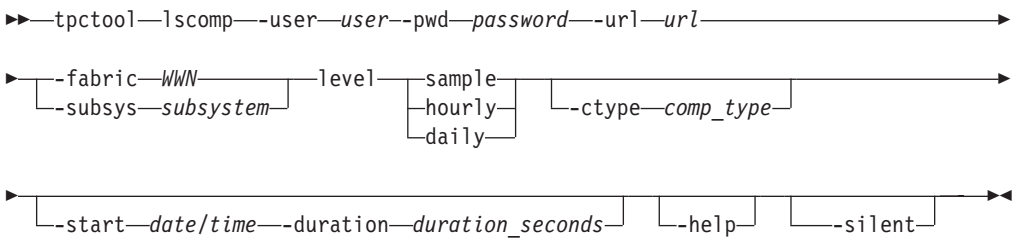
Solid State
Indicates if the arrays are made up of solid-state drives (Solid State), non-solid-state drives (Non-Solid State), or are both solid-state and not-solid-state drives (Mixed).

Encrypted
Indicates if the arrays are made up of encrypted disks (Yes or No).

lscomp

Use the **lscomp** command to list the components for which performance data has been collected. You must have Fabric operator or Disk operator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-subsys *subsystem*
Specifies the storage subsystem. The subsystem variable is the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by IBM Tivoli Storage Productivity Center.

-level sample | hourly | daily
Specifies the level for which the performance metrics of the components should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-ctype *comp_type*
Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.

-start *date/time*
Specifies the date and time to start the sampling period. The date and time are formatted as:

```
yyyy.MM dd:HH:mm:ss
```

All time zones are relative to the Device server. See the **lstime** command for more information.

-duration *duration_seconds*
Specifies the duration of the sampling period, in seconds. The *duration_seconds* variable is an integer.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing components with performance date.

The following command generates a list of components on a storage subsystem for which performance data has been collected:

```
tpctool> lscomp -user me -pwd mypass -url myhost:myport
-subsys 2105.22232+0 -ctype vol -level sample -start
2005.09.19:00:00:00 -duration 86400
```

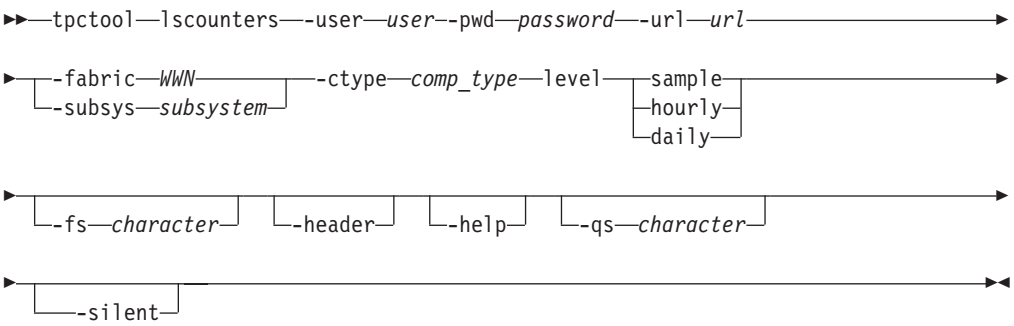
The following output is returned:

```
Component
=============================================
00000000000000000000000000001223+6+2105.22232+0
00000000000000000000000000001222+6+2105.22232+0
00000000000000000000000000001202+6+2105.22232+0
00000000000000000000000000001206+6+2105.22232+0
0000000000000000000000000000121D+6+2105.22232+0
00000000000000000000000000001217+6+2105.22232+0
00000000000000000000000000001227+6+2105.22232+0
00000000000000000000000000001216+6+2105.22232+0
0000000000000000000000000000121A+6+2105.22232+0
```

lscounters

Use the **lscounters** command to list available performance counters. You must have Fabric operator or Disk operator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-subsys *subsystem*
Specifies the storage subsystem. The subsystem variable is the GUID of the

storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by IBM Tivoli Storage Productivity Center.

-ctype *comp_type*
Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.

-level sample | hourly | daily
Specifies the level for which the performance counters should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing performance counters

The following command generates a list of performance counters for volumes on the specified storage subsystem:

```
tpctool> lscounters -user me -pwd mypass -url myhost:myport
-subsys 2105.22232+0 -ctype vol -level sample
```

The following output is returned.

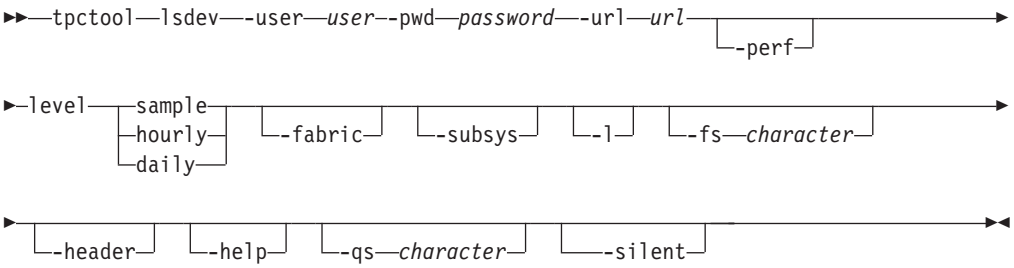
```
Counter                                 Value
=========================================
Read I/O Count (normal)                 1
Read I/O Count (sequential)             2
Write I/O Count (normal)                4
Write I/O Count (sequential)            5
Read Cache Hit Count (normal)           10
Read Cache Hit Count (sequential)       11
Write Cache Hit Count (normal)          13
Write Cache Hit Count (sequential)      14
Read Data Count                         22
Write Data Count                        23
Read Service Periods                    28
Write Service Periods                   29
Disk to Cache Transfers (normal)        31
Disk to Cache Transfers (sequential)    32
Cache to Disk Transfers                 33
NVS Allocation Count                    34
DFW I/O Count (normal)                  35
DFW I/O Count (sequential)              36
NVS Delayed I/O Count                   37
```

```
Cache Delayed I/O Count                38
Record-Mode-Read I/O Count             39
Record-Mode-Read Cache Hit Count       40
Quick Write Promote Count              41
```

lsdev

Use the **lsdev** command to list information about storage subsystems, fabrics, and switches. This information includes the globally-unique identifier (GUID) or world-wide name (WWN) for fabric, user-defined name, device type, status, and the time that the status was updated. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-perf
Specifies that the devices for which performance data is collected should be listed. You must have the applicable authority to view the devices.

-level sample | hourly | daily
Specifies the level for which the information should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-fabric
Specifies that only fabric devices should be listed. You must have Fabric administrator authority to use this option and Fabric Manager must be enabled.

-subsys
Specifies that only storage subsystems should be listed. Disk Manager must be enabled.

-l Specifies that the long version should be listed:

- GUID or WWN
- User-defined name
- Device type
- Status
- Time that the status was updated

If you omit this parameter, only the GUID or WWN is listed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Command Aliases

You can run the following lsdev command aliases that have been predefined by IBM.

Name	Value
lsfabric	lsdev -fabric
lsperf	lsdev -perf
lssubsys	lsdev -subsys
lstape	lsdev -tape

Examples

Listing all devices

The following command lists the GUIDs for all storage subsystems in the Tivoli Storage Productivity Center environment:

```
tpctool> lsdev -user me -pwd mypass -url myhost:myport -subsys
```

The following output is returned:

```
GUID
==============================
9.47.97.159:0000020065400048+0
9.47.97.161:0000020060C0002A+0
1750.13AAW2A+0
1750.13AB1WA+0
```

```
2107.1302541+0
2107.1301901+0
2105.22232+0
2105.20870+0
```

Listing the long version of information

The following command lists the long version of information for fabric devices.

```
tpctool> lsdev -user me -pwd mypass -url myhost:myport -fabric -l
```

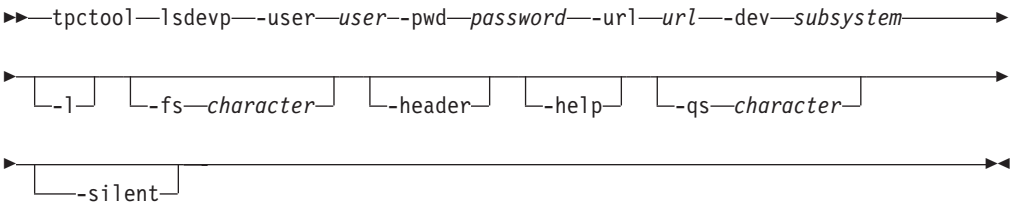
The following output is returned:

```
GUID             Name             Type Status Timestamp
================================================================
100000051E34F6A8 100000051E34F6A8 -    UNKNOWN 2004.12.31:00:00:00
10000060695130FD 1000006069514262 -    UNKNOWN 2004.12.31:00:00:00
1000006069514262 10000060695130FD -    UNKNOWN 2004.12.31:00:00:00
```

lsdevp

Use the **lsdevp** command to list world-wide port names (WWPNs) for a subsystem. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-dev *subsystem*
Specifies the globally unique identifier (GUID) of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by Tivoli Storage Productivity Center.

-l Specifies that the long version of the information should be listed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing worldwide port names

The following command lists the WWPNs for the specified subsystem:

```
tpctool> lsdevp -user me -pwd mypass -url myhost:myport -dev 2105.22232+0
```

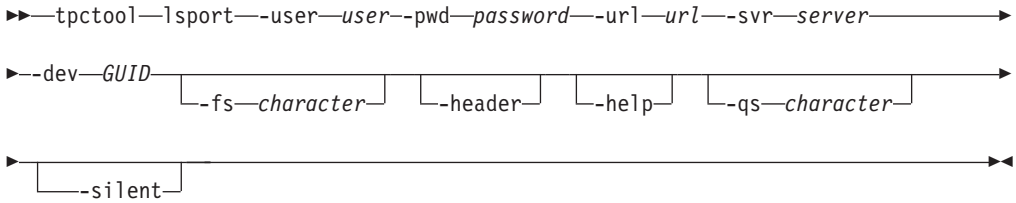
The following output is returned:

```
WWPN
================
5005076300C79470
5005076300D09470
5005076300CB9470
5005076300CC9470
5005076300C29470
5005076300CF9470
5005076300C89470
5005076300C39470
```

lsfcpath

Use the **lsfcpath** command to list the paths for data transmission between a system with a fibre-channel host bus adapter (HBA) and a storage subsystem. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-svr *server*
Specifies a system with a fibre-channel HBA. The *server* variable is the host name of the system.

-dev *GUID*
Specifies the storage subsystem. The *GUID* variable is the globally unique identifier (GUID).

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing data paths

The following command lists the paths on which data can be transmitted between MARKETING and the storage subsystem 2105.20870+0:

```
tpctool> lsfcpath -user me -pwd mypass -url myhost:myport -svr
MARKETING -dev 2105.20870+0
```

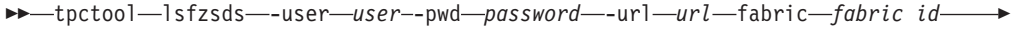
The following output is returned:

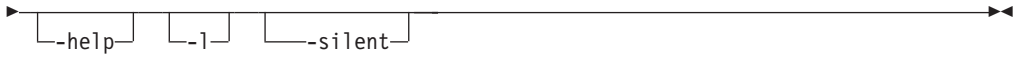
```
ServerPort        SubsystemPort
================================
210000E08B1Co9E   710000E08W1Co8F
```

lsfzsds

Use the **lsfzsds** command to display a list of all zone sets data sources (Fabric CIM agents) for a specified fabric, including the currently selected zone sets data source. You must have Fabric Operator authority to use this command.

Syntax





Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric where the zone sets data sources are defined.

-help | -h | -?
Lists help for the command.

-l Specifies that the long version of the information should be listed:

- Name
- State

If you omit this parameter, only the Name is listed.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Example

Listing all possible zone sets data sources for a fabric

The following command lists all possible zone sets data sources and displays the currently selected zone sets data source for the fabric 100000051E34AE1C:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> lsfzsds -url 9.37.87.120:1235 -user Administrator
-pwd mypass -fabric 100000051E34AE1C
```

The following output is returned:

```
Name
======================
http://9.47.98.196:5988
```

Listing the long version of information

The following command lists long information on the specified subsystem:

```
tpctool -l -user me -pwd mypass -url myhost:myport
tpctool> lsfzsds -l -url 9.37.87.120:1235 -user Administrator
-pwd mypass -fabric 100000051E34AE1C
```

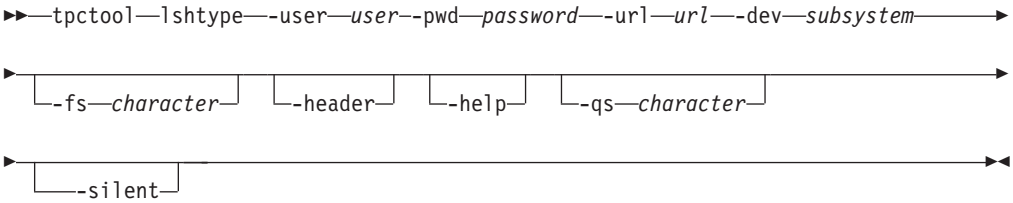
The following output is returned:

```
Name                       State
============================
http://9.47.98.197:5988 Active
```

lshtype

Use the **lshtype** command to list host types. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-dev *subsystem*
Specifies the globally unique identifier (GUID) of the storage subsystem. You can use the **lsdev** command to obtain information, including the GUID, for all storage subsystems that are discovered.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing host types

The following command lists the host types associated with the specified subsystem:

```
tpctool> lshtype -user me -pwd mypass -url myhost:myport -dev 2105.22232+0
```

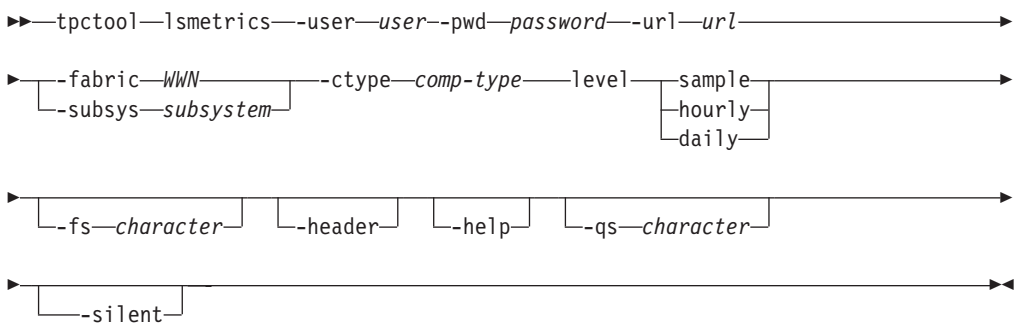
The following output is returned:

```
HostType HostFlag
================================================================================
StorageClientSettingData for IBM pSeries, RS/6000 and RS/6000 SP Servers (AIX)9
StorageClientSettingData for Cisco iSCSI Gateway 13
StorageClientSettingData for DGUX 10
StorageClientSettingData for IBM NUMA-Q Servers (DYNIX/ptx) 11
StorageClientSettingData for HP Servers (HP-UX) 4
StorageClientSettingData for SGI Origin Servers (IRIX) 12
StorageClientSettingData for Intel-based Servers (Linux) 14
StorageClientSettingData for IBM zSeries Servers (Linux) 14
StorageClientSettingData for IBM iSeries/pSeries Servers (Linux) 14
StorageClientSettingData for Intel-based Servers (Microsoft Windows NT4) 15
StorageClientSettingData for Intel-based Servers (Novell Netware) 7
StorageClientSettingData for HP AlphaServer (OpenVMS) 5
StorageClientSettingData for IBM AS/400 (V3R7 to V5R2) 16
StorageClientSettingData for IBM AS/400 (V5R3 or higher) 16
StorageClientSettingData for IBM SAN File System (AIX MDS) 9
StorageClientSettingData for IBM SAN File System (Linux MDS) 14
StorageClientSettingData for IBM SAN Volume Controller 3277 0
StorageClientSettingData for Solaris 2.51 3
StorageClientSettingData for Sun Servers (Solaris 2.6 or higher) 3
StorageClientSettingData for Sun Clustering using MPxIO 3279 0
StorageClientSettingData for HP AlphaServer (Tru64 UNIX) 6
StorageClientSettingData for VMware ESX 3278 0
tpctool>
```

lsmetrics

Use the **lsmetrics** command to list available performance metrics.You must have Fabric operator or Disk operator authority to use this command.

Syntax



Parameters and arguments

-user *user*

Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-subsys *subsystem*
Specifies the storage subsystem. The subsystem variable is the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by Tivoli Storage Productivity Center.

-ctype *comp_type*
Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.

-level sample | hourly | daily
Specifies the level for which the performance metrics should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing performance metrics

The following command generates a list of performance metrics for switch ports on the specified fabric:

```
tpctool lsmetrics -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -ctype switch_port -level sample
```

The following output is returned:

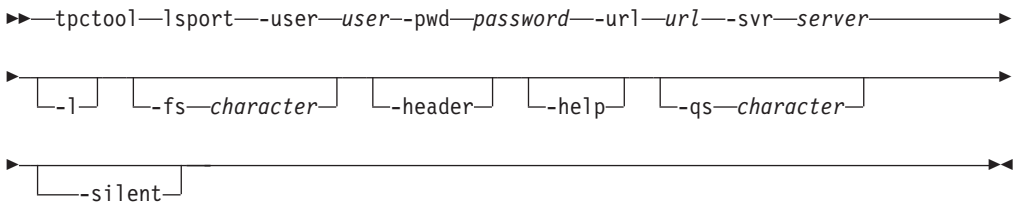
```
Metric                      Value
================================
Port Send Packet Rate       855
```

```
Port Receive Packet Rate    856
Total Port Packet Rate      857
Port Send Data Rate         858
Port Receive Data Rate      859
Total Port Data Rate        860
Port Peak Send Data Rate    861
Port Peak Receive Data Rate 862
Port Send Packet Size       869
Port Receive Packet Size    870
Overall Port Packet Size    871
Error Frame Rate            872
Dumped Frame Rate           873
Link Failure Rate           874
```

lsport

Use the **lsport** command to list the ports located on a fibre-channel host bus adapter (HBA). You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-svr *server*
Specifies a system with a fibre-channel HBA. The *server* variable is the host name of the system.

-l Specifies that the long version of the information should be listed:

- World wide port name (WWPN)
- Name
- Status

If you omit this parameter, only the WWPN is returned.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing port information

The following command lists the long version of information about the ports associated with the fibre-channel HBA:

```
tpctool> lsport -user me -pwd mypass -url myhost:myport -svr <server> -l
```

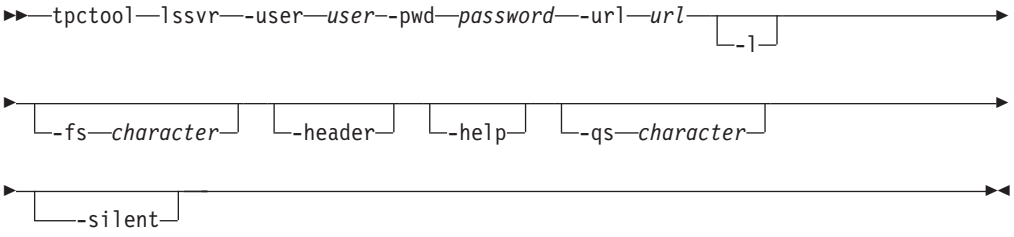
The following output is returned:

```
WWPN             Name       Status
=================================
210000E08B1Co9E  Marketing  Active
```

lssvr

Use the **lssvr** command to list all systems that are discovered by Fabric Manager. You must have Fabric Administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-l Specifies that the long version of the information should be listed:

- Host name
- Operating system
- Fully qualified domain name (FQDN)
- IP address
- Status

If you omit this parameter, only the host name is listed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing additional information for all systems discovered by Fabric Manager

The following command lists the long version of information for all systems that are discovered by Fabric Manager:

```
tpctool> lssvr -user me -pwd mypass -url myhost:myport -l
```

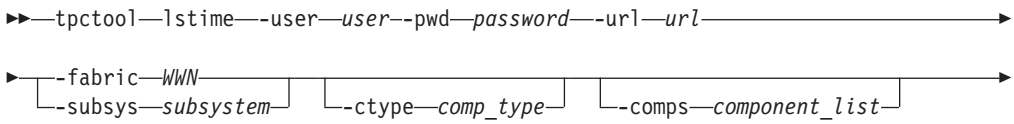
The following output is returned:

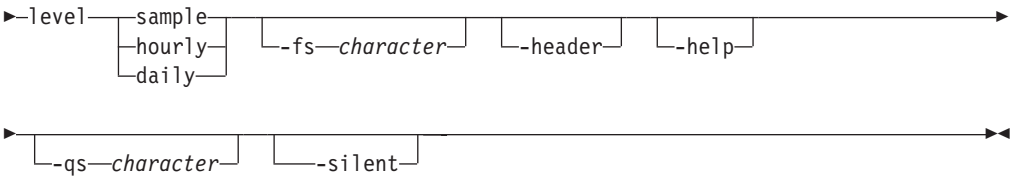
```
Name        OS        NetName     IP             Status
=========================================================
Marketing   Windows   Marketing   9.32.245.164   Normal
```

lstime

Use the **lstime** command to print a list of time ranges for which performance data is available.You must have Fabric operator or Disk operator authority to use this command.

Syntax





Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-subsys *subsystem*
Specifies the storage subsystem. The subsystem variable is the GUID of the storage subsystem. You can use the **lsdev** command to return information, including the GUID, for all storage subsystems that are discovered by Tivoli Storage Productivity Center.

-level sample | hourly | daily
Specifies the level for which the time ranges for performance data that is available should be summarized. You can specify a sample summary, an hourly summary, or a daily summary.

-ctype *comp_type*
Specifies that the output should include only components of the specified type. See the **lstype** command for more information about the *comp_type* variable.

-comps *component_list*
Specifies the component list. The *component_list* variable specifies the components, such as returned by **lscomp**.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Displaying a list of time ranges

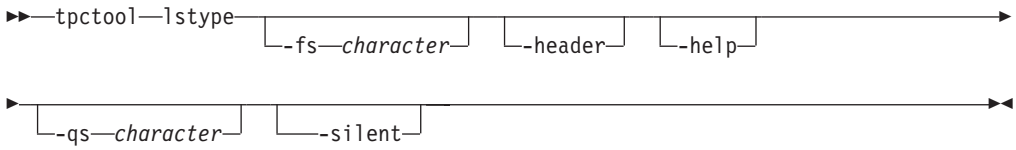
The following command generates a list of time ranges for performance data:

```
tpctool> lstime -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -ctype switch_port -level sample
```

lstype

Use the **lstype** command to list the components that are recognized by IBM Tivoli Storage Productivity Center. No authorization is required to run this command.

Syntax



Parameters and arguments

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing all component types:

The following command lists the component types that are recognized by Tivoli Storage Productivity Center:

```
tpctool> lstype
```

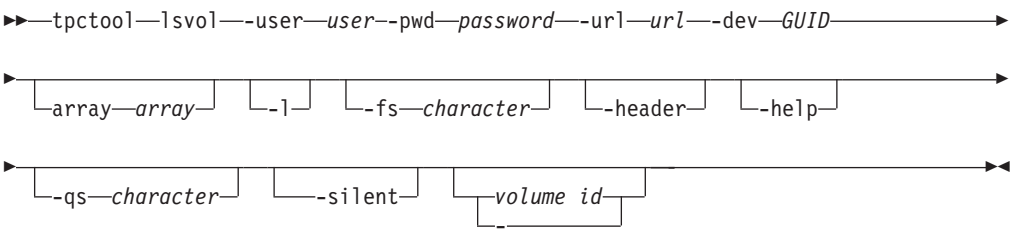
The following output is returned:

```
Name         Type
================
all          -1
unknown      0
subsystem    1
subsys_port  2
controller   3
stor_pool    4
svc_iogrp    5
ds_rio       6
svc_mdgrp    7
da           8
ds_rank      9
array        10
svc_mdisk    11
vol          12
switch       13
switch_port  14
```

lsvol

Use the lsvol command to list all volumes on a system, list a specific volume or volumes, or list volumes on a specific array. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-dev *GUID*
Specifies the storage subsystem. The *GUID* variable is the globally unique identifier (GUID).

array *array*
Specifies the array. The *array* variable is the array ID. You can use the lsarray command to return information, including array IDs, about the arrays on a specific storage subsystem.

-l Specifies that long information is listed. In addition to the volume ID, the volume size and FlashCopy relationship information are also listed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

volume id | -
Specifies the volumes. The *volume_ID* variable is a comma-separated list of volume IDs, such as that obtained by running the **lsvol** command. If a single dash (-) is issued, the volume IDs are read from standard input.

Examples

Listing the volumes on a subsystem

The following commands list all volumes on a specified subsystem. The -dev option specifies your system. Additional information for the volumes can be displayed as specified with the -l option.

```
tpctool> lsvol -user me -pwd mypass -url myhost:9550 -dev 2107.75DG000+0 -l
```

FlashCopy
Indicates if the volume is in a FlashCopy (FC) relationship and whether it is an FC source or FC target. Volumes that are not in an FC relationship are displayed with a None value whether or not the volume is on a system that supports FC.

Note:

- This value is available for volumes of the following systems only: IBM TotalStorage Enterprise Storage Server (ESS), IBM System Storage™ DS6000™, IBM System Storage DS8000®, and IBM System Storage SAN Volume Controller.
- TotalStorage Enterprise Storage Server systems must have at least the following microcode levels: ess800mincodelevel = 2.4.3.56, essf20mincodelevel = 2.3.3.89. Tivoli Storage Productivity Center does not report FlashCopy information if the TotalStorage Enterprise Storage Server systems do not meet this requirement.

Real Used
The amount of space, in gigabytes, that a volume is actually using. Tivoli Storage Productivity Center allocates the entire space for regular volumes when they are created. For thin provisioned volumes, it does not. This column displays the space that is actually being used.

Note:

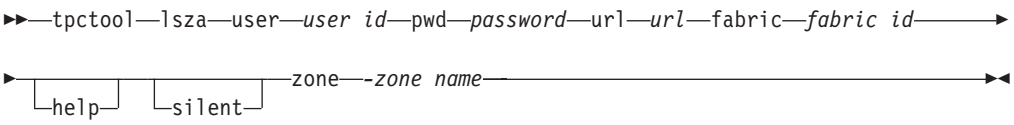
- If a system is new and there is no data in the volumes, the value is zero. For example, the Size field might show 16 GB but the Real Used is 0.
- For non-thin provisioned volumes, the Real Used value always matches the Size value.
- Thin provisioned volumes always have an asterisk in front of their name (Label).
- Thin provisioned volumes of other storage systems are not supported by Tivoli Storage Productivity Center. The Real Used value is displayed as N/A.

Encrypted
Indicates if the volumes are on encrypted disks (Yes or No).

lsza

Use the **lsza** command to display a list of the zone aliases in the specified fabric and zone. You must have Fabric operator authority to use this command.

Syntax



Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric where the zone and its zone aliases are defined.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

zone name
The name of the zone whose zone aliases are to be listed.

Example

Listing zone aliases

The following command lists all zone aliases in the PARIS zone:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> lsza  -fabric 100000051E34F6A8  PARIS
```

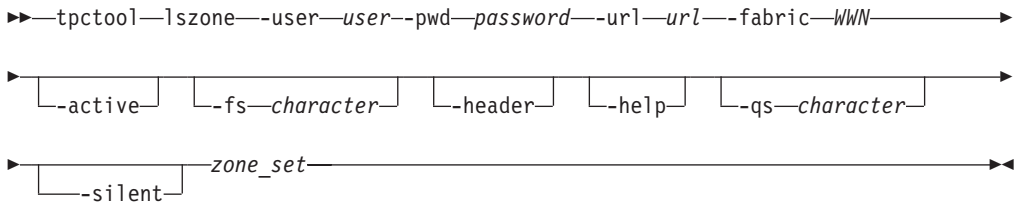
The following output is returned:

```
Name
=======
MyAlias
```

lszone

Use the **lszone** command to list the zones in a zone set. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-active
Specifies that only the active zones are listed. If this option is not issued, all zones are listed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

zone_set
Specifies the zone set. The *zone_set* variable is the name of the zone set.

Examples

Listing all zones

The following command lists the names of all zones in the PARIS zone set:

```
tpctool> lszone -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 PARIS
```

The following output is returned:

```
Name
==========
WINDOWSNT
SUNSOLARIS
TEST
...
```

Listing only the active zones

The following command lists the active zones:

```
tpctool> lszone -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -active PARIS
```

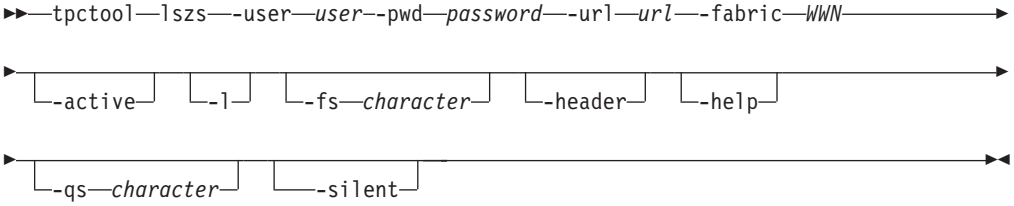
The following output is returned:

```
Name
==========
SUNSOLARIS
```

lszs

Use the **lszs** command to list information about zone sets. This information includes the zone-set name and status. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-active
Specifies that only information about the active zone set should be listed. If you omit this option, information about all zone sets is listed.

-l Specifies that the long version of the information should be listed:

- Name
- Status: active or inactive

If you omit this option, only the name of the zone is listed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Listing the long version of information for all zone sets

The following command lists the long version of information for all zone sets:

```
tpctool> lszs -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -l
```

The following output is returned:

```
Name     Status
=================
PARIS    ACTIVE
LONDON   INACTIVE
```

Listing the active zone set

The following command lists the name of the active zone set:

```
tpctool> lszs -user me -pwd mypass -url myhost:myport
-fabric 100000051E34F6A8 -active
```

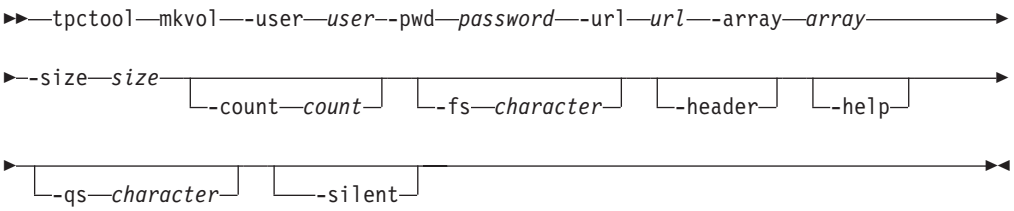
The following output is returned:

```
Name
=====
PARIS
```

mkvol

Use the **mkvol** command to create volumes. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-array *array*
Specifies the array. The *array* variable is the array ID. You can use the **lsarray** command to return information, including array IDs, about the arrays on a specific storage subsystem. The array must not be a count, key, or data (CKD) format array.

-size *size*
Specifies the volume size. The *size* variable is the volume size in GB.

-count *count*
: Specifies the number of volumes. The *count* variable is an integer. The default value of *count* is 1.

-fs *character*
: Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
: Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
: Lists help for the command.

-qs *character*
: Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
: Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Creating volumes

The following command creates four volumes:

```
tpctool> mkvol -user me -pwd mypass -url myhost:myport
-array 2105.22232+2105.22232+0 -size 20 -count 4
```

The following output is returned:

```
Volume                                    PoolID            Status
==================================================================
0000000000000000000001223+6+2105.22232+0  P0                SUCCESS
0000000000000000000001223+6+2105.22232+1  P1                SUCCESS
0000000000000000000001223+6+2105.22232+2  P2                SUCCESS
0000000000000000000001223+6+2105.22232+3  P3                SUCCESS
```

mkza

Use the **mkza** command to create a zone alias in a specified fabric containing specified ports. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax

```
►►──tpctool──mkza──user──user id──pwd──password──url──url──fabric──fabric id──────►

►──┬──────┬──┬────────┬──za──-zone alias name──┬─ports─┬──────────────────────►◄
   └─help─┘  └─silent─┘                        └─-─────┘
```

Keywords and variables

-user *user*
: Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric where the zone is to be created. The *fabric id* variable is the value for the fabric name you enter.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-za *zone alias name*
The name you enter for the new zone alias.

ports | -
The name you enter for the switch ports. The ports variable is a list of worldwide port names (WWPNs). If you specify a single dash (-), the WWPNs are read from standard input.

Example

Creating a zone alias

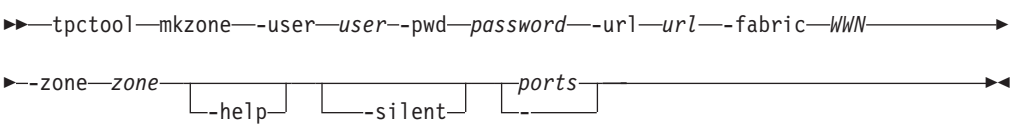
The following commands create the PARIS zone alias:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> mkza -fabric 100000051E34F6A8 -za PARIS 210000E08B0B4B1F
tpctool> commit -fabric 100000051E34F6A8
```

mkzone

Use the **mkzone** command to create a zone. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-zone *zone*
Specifies the zone. The *zone* variable is the name of the zone.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

ports **| -**
Specifies the switch ports. The *ports* variable is a list of worldwide port names (WWPNs). If you specify a single dash (-), the WWPNs are read from standard input.

Examples

Creating a zone

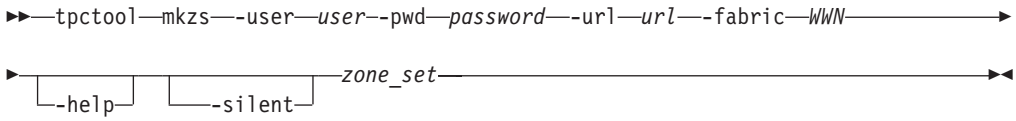
The following commands create the SUNSOLARIS zone. The list of WWPNs is read from standard input:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> mkzone -fabric 100000051E34F6A8 -zone SUNSOLARIS -
tpctool> commit -fabric 100000051E34F6A8
```

mkzs

Use the **mkzs** command to create a zone set. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

zone_set
Specifies the zone set. The *zone_set* variable is the name of the zone set.

Examples

Creating a zone set

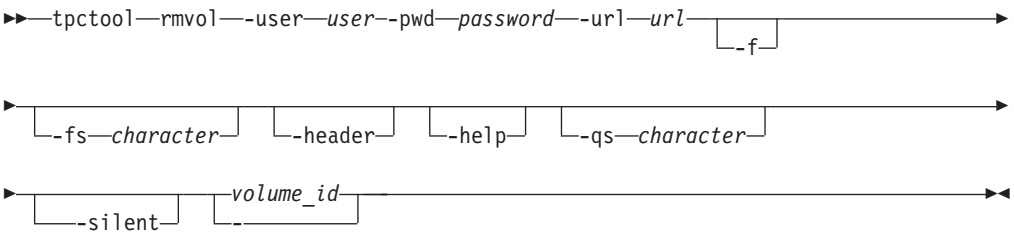
The following commands create the PARIS zone set:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> mkzs -fabric 100000051E34F6A8 PARIS
tpctool> commit -fabric 100000051E34F6A8
```

rmvol

Use the **rmvol** command to remove volumes. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

system:port_number

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-f Turns off the confirmation message that is displayed before the volumes are removed.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

volume_id | **-**
Specifies the volumes. The *volume_ID* variable is a comma-separated list of volume IDs, such as that obtained by running the **lsvol** command. If a single dash (-) is issued, the volume IDs are read from standard input.

Examples

Removing volumes from an array

The following command removes volumes from the specified array. Because the -f option is specified, you are not prompted to confirm the removal:

```
tpctool> rmvol -f 000000000001107+6+2107.7597621+0
```

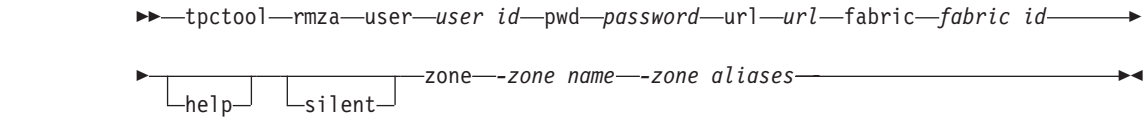
The following output is returned:

```
VolumeId                                    PoolId             Status
=====================================================================
0000001107+6+2107.7597621+0 2107.7597621-vs1+2107.7597621+0 SUCCESS
```

rmza

Use the rmza command to remove a zone alias or aliases from a zone. You must have Fabric Administrator authority to use this command. **Note:** If you do not specify the zone, the alias is deleted. If the last zone member of the last zone in the active zoneset is removed, the active zoneset is deleted.

Syntax



Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric where the zone aliases are defined.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-zone *zone name*
The name of the zone where the zone aliases are to be removed.

zone aliases...
The name(s) of the zone aliases to be removed.

Example

Removing zone aliases from a zone

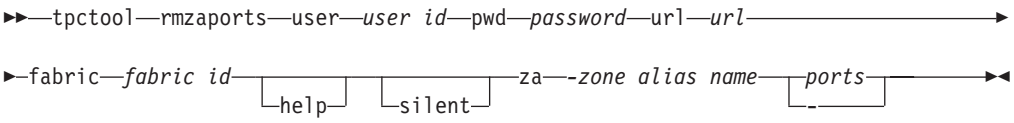
The following commands remove the PARIS zone alias from the EUROPE zone:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> rmza -fabric 100000051E34F6A8 -zone EUROPE PARIS
tpctool> commit -fabric 100000051E34F6A8
```

rmzaports

Use the **rmzaports** command to remove a port or ports from a zone alias. If the last zone member of the last zone in the active zoneset is removed, the active zoneset is deleted. You must have Fabric Administrator authority to use this command.

Syntax



Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

fabric *fabric id*
The name of the fabric where the zone alias is defined.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

za *zone alias name*
The name of the zone alias where the ports that will be removed are defined.

ports | -
The port or ports to be removed.

Example

Removing a port from a zone alias

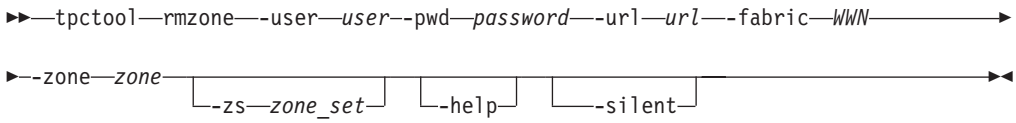
The following commands remove a port from the PARIS zone alias:

```
tpctool> -user me -pwd mypass -url myhost:myport
tpctool> start -fabric 100000051E34F6A8
tpctool> rmzaports -fabric 100000051E34F6A8 -za PARIS 210000E08B0B4C2G
tpctool> commit -fabric 100000051E34F6A8
```

rmzone

Use the **rmzone** command to delete a zone or remove a zone from a zone set. If you remove or delete the last zone in a zone set, the zone set is also deleted. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-zone *zone*
Specifies the zone. The *zone* variable is the name of the zone. If the last zone in the zone set is removed or deleted, the zone set also is deleted.

-zs *zone_set*
Specifies that zone is removed from the zone set. The *zone_set* variable is the name of the zone set. If this option is not issued, the zone is deleted.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Deleting a zone

The following commands delete the WINDOWSNT zone:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzone -fabric 100000051E34F6A8 -zone WINDOWSNT
tpctool> commit -fabric 100000051E34F6A8
```

Removing a zone from a zone set

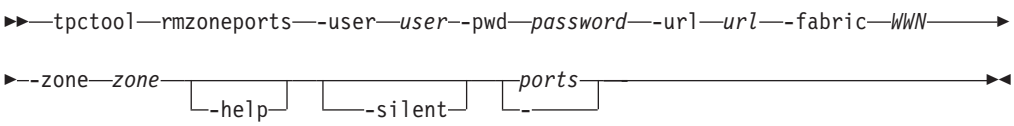
The following commands remove the WINDOWSNT zone from the PARIS zone set:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzone -fabric 100000051E34F6A8 -zone WINDOWSNT -zs PARIS
tpctool> commit -fabric 100000051E34F6A8
```

rmzoneports

Use the **rmzoneports** command to remove switch ports from a zone. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-zone *zone*
Specifies the zone. The *zone* variable is the name of the zone.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

ports **| -**
Specifies the switch ports. The *ports* variable is a list of worldwide port names (WWPNs). If you specify a single dash (-), the WWPNs are read from standard input.

Examples

Removing switch ports from a zone set

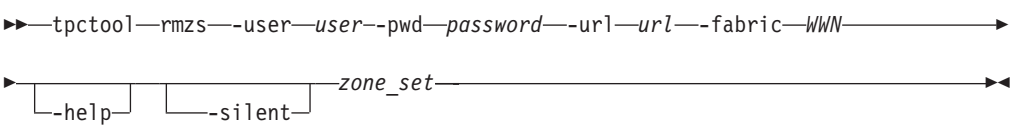
The following commands remove several switch ports from the SUNSOLARIS zone. The list of WWPNs is read from standard input:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzoneports -fabric 100000051E34F6A8 -zone SUNSOLARIS -
tpctool> commit -fabric 100000051E34F6A8
```

rmzs

Use the **rmzs** command to delete a zone set. This command must be run as a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

zone_set
Specifies the zone set. The *zone_set* variable is the name of the zone set.

Examples

Deleting a zone set

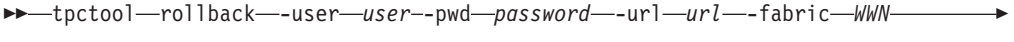
The following commands delete the PARIS zone set:

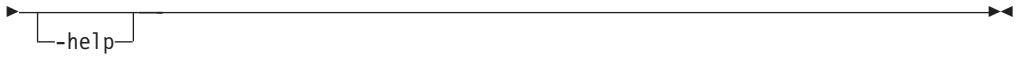
```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
tpctool> rmzs -fabric 100000051E34F6A8 PARIS
tpctool> commit -fabric 100000051E34F6A8
```

rollback

Use the **rollback** command to erase any commands that were issued since you started the transaction. You must have Fabric administrator authority to use this command.

Syntax





Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

Examples

Rolling back a transaction

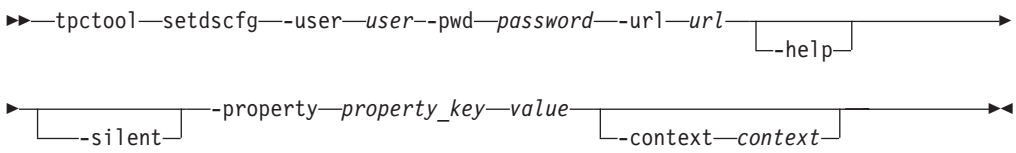
The following command rolls back a transaction. The user has previously issued connection options, started a transaction, and issued a fabric-control command:

```
tcptool> rollback -fabric 100000051E34F6A8
```

setdscfg

Use the **setdscfg** command to set the value of a property in the property file for the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-property *property_key value*
Specifies the value to set for the indicated property key. The *property_key* variable is the property key and the *value* variable is the value.

-context *context*
Specifies a classification or category for a configuration property. The *context* variable is the context properties. For example:

```
-context DeviceServer
```

This parameter applies to the Tivoli Storage Productivity Center device server only.

```
-context PerformanceManager
```

This parameter applies to the Tivoli Storage Productivity Center performance manager only.

Examples

Setting a property value

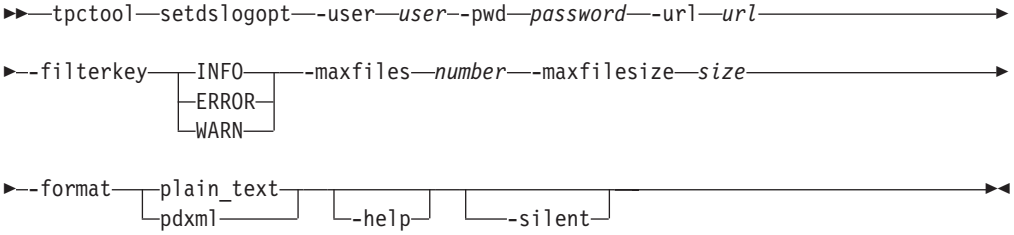
The following command sets the value of the SnmpRetryCount property to 3:

```
tpctool setdscfg -url localhost:9550 -user ***** -pwd ***** -property
SnmpRetryCount -context DeviceServer 3
```

setdslogopt

Use the **setdslogopt** command to set options for the log file used by the Device server. You must have IBM Tivoli Storage Productivity Center administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-filterkey INFO | ERROR | WARN
Specifies the types of messages that should be logged in the message log file. Enter one of the following values in uppercase:

- INFO, to log informational, warning, and error messages.
- ERROR, to log only error messages.
- WARN, to log warning and error messages.

-maxfiles *number*
Specifies the maximum number of log files. The *number* variable is an integer.

-maxfilesize *size*
Specifies the maximum size (in MB) of the log file. The *size* variable is an integer.

-format plain_text | pdxml
Specifies the format of the log file.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

Examples

Setting log file options

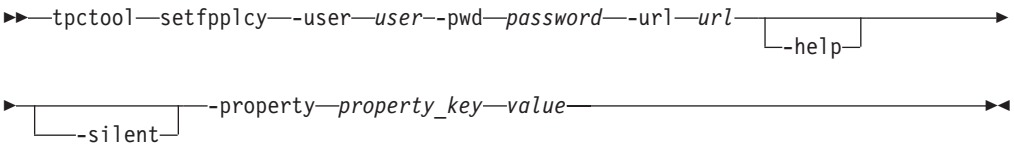
The following command sets options for the log file used by the Device server:

```
tpctool> setdslogopt -user me -pwd mypass -url myhost:myport -filterkey character
-maxfiles 4 -maxfilesizes 10 -format plain_text
```

setfpplcy

Use the **setfpplcy** command to set the value of a property in the fabric probe policy. The default probe policy applies to new probes, even if a previously created probe for the fabric is using the non-default policy. This sets the policy for all fabrics in all probes that this fabric is included in at the time the CLI command is used. You must have IBM Tivoli Storage Productivity Center Administrator authority to use this command.

Syntax



Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

-property *property_key*
The property_key variable is one of the following: begin_entity_type; cim_alg; block_inband

value
Specifies the value to set for the specified property key. The property_key variable is the property key, and the value variable is the value.

Example

Setting a property value

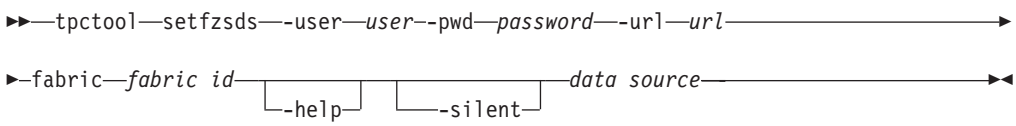
The following command sets the fabric probe settings:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> setfpplcy -fabric 1000080088430A00 -property cim_alg 0
```

setfzsds

Use the **setfzsds** command to set the zone sets data source (Fabric CIM agent) to be used in IBM Tivoli Storage Productivity Center to manage a specified fabric. You must have Fabric Administrator authority to use this command.

Syntax



Keywords and variables

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *fabric id*
The name of the fabric where the Zone Sets Data Source is to be set.

-help | -h | -?
Lists help for the command.

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

data source
The name of the data source.

Example

Setting a zone sets data source

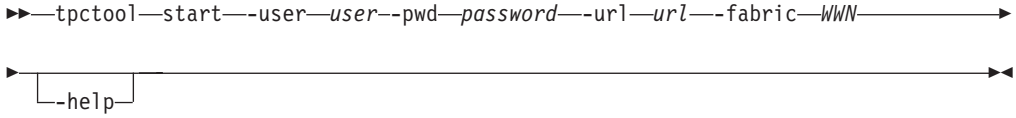
The following command sets the zone sets data source to http://9.47.98.8:5988 for fabric 100000051E34AE1C:

```
tpctool -user me -pwd mypass -url myhost:myport
tpctool> setfzsds -fabric 100000051E34AE1C http://9.47.98.8:5988
```

start

Use the **start** command to start a transaction. You must have Fabric administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-fabric *WWN*
Specifies the fabric. The *WWN* variable is the World Wide Name (WWN).

-help | -h | -?
Lists help for the command.

Examples

Starting a transaction

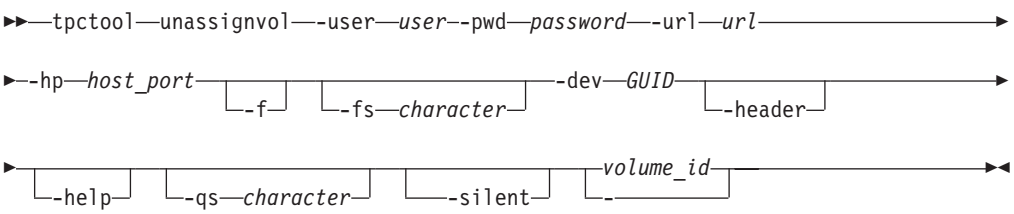
The following command starts a transaction:

```
tpctool> start -user me -pwd mypass -url myhost:myport -fabric 100000051E34F6A8
```

unassignvol

Use the **unassignvol** command to remove the host ports from the assignment list for a volume. You must have Disk administrator authority to use this command.

Syntax



Parameters and arguments

-user *user*
Specifies a valid Tivoli Storage Productivity Center user ID. The *user* variable is a valid user ID.

-pwd *password*
Specifies the password for the Tivoli Storage Productivity Center user ID. The *password* variable is the password.

-url *url*
Specifies the Device server. This is the format of the *url* variable:

```
system:port_number
```

where *system* is either the host name or IP address, and *port_number* is a valid port number for the HTTP service of the Device server.

-hp *host_port*
Specifies the host ports. The *host_port* variable is a comma-separated list of worldwide port numbers (WWPNs).

-f Turns off the confirmation message that is displayed before the ports are removed from the assignment list.

-fs *character*
Specifies the 7-bit character that separates the fields in the output. If you omit this parameter, the fields are separated by spaces.

-dev *GUID*
Specifies the storage subsystem. The *GUID* variable is the globally unique identifier (GUID) of the storage subsystem as returned by the **lsdev -subsys** command.

-header
Suppresses the column headers in the output. If you omit this parameter, the column headers are enabled.

-help | -h | -?
Lists help for the command.

-qs *character*
Specifies the 7-bit character that surrounds strings and date stamps in the output. If you omit this parameter, strings and date stamps are enclosed by double quotation marks (").

-silent
Suppresses all output for the command. If you omit this parameter, output is enabled.

volume_id | **-**
Specifies the volumes. The *volume_ID* variable is a comma-separated list of volume IDs, such as that obtained by running the **lsvol** command. If a single dash (-) is issued, the volume IDs are read from standard input.

Examples

Removing host ports

The following command removes three host ports from the assignment list for the indicated volume:

```
tpctool> unassignvol -user me -pwd mypass -url myhost:myport
-hp 5005076300C79470,5005076300D09470,5005076300CB9470 2105.22232
```

The following output is returned:

```
Volume ID         PoolID             Status
=========================================
2105.22232        P0                 SUCCESS
2105.22232        P1                 SUCCESS
2105.22232        P2                 SUCCESS
```

Command aliases

This topic discusses command aliasing.

With aliasing, you define a name for the alias followed by a value that is the name of a command and any options associated with command. The aliased command string is replaced by the defined value and the entire line is reparsed. Passwords used in aliased commands must first be encrypted using the **encrypt** command.

Aliased commands are saved in the command configuration file. The default configuration file is c:\program files\ibm\tpc\cli\libs\tpccli.conf.

For example, to shorten a frequently used command, you can define the following alias:

```
tpctool>lsperf = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url 9.44.33.126:8990 -fabric -perf
```

After the alias is defined, you can run the lsperf command to run the aliased lsdev command previously displayed.

You can provide a short form command targeting different device servers, as follows:

```
tpctool>lsperfd1 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161 -perf

tpctool>lsperfd2 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf
```

You can specify additional options and arguments for an aliased command:

```
tpctool>lsperfd2 -fabric -ctype port
```

The command is expanded as follows:

```
tpctool>lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf -fabric -ctype port
```

You can also nest aliases:

```
tpctool>lsperf = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161 -perf -fabric

tpctool>lsperfd1 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostOne:9161

tpctool>lsperfd2 = lsdev -user dsadmin -pwd 1ac75d82784ce0a327d45289604ae7b227
-url hostTwo:9161
```

To unset an alias, type the name of the command alias followed by the '=' sign:

```
lsperf =
```

Parameter aliases

This topic lists common parameters and their aliases.

The following table shows parameters and their corresponding aliases.

Command line parameter	Alias name

-pwd	password The password is automatically encrypted using the same encryption algorithm as the **password** command before being stored in the config file. In conjunction with the interactive mode, this enables secure password encryption (plain text passwords will not appear in a command line).
-url	url
-fs	field-separator
-silent	suppress-output
-header	show-header
-l	long
-dev	subsystem
-fabric	fabric
-svr	server

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Glossary

This glossary includes terms and definitions for IBM Tivoli Storage Productivity Center.

The following cross-references are used in this glossary:

- *See* refers the reader from a term to a preferred synonym, or from an acronym or abbreviation to the defined full form.
- *See also* refers the reader to a related or contrasting term.

To view glossaries for other IBM products, go to: http://www.ibm.com/software/globalization/terminology/.

agent An entity that represents one or more managed objects by sending notifications regarding the objects and by handling requests from servers for management operations to modify or query the objects.

Basic HyperSwap®
In System z, a replication feature that performs the following actions:

- Monitoring for events that indicate a storage device has failed
- Determining whether the failing storage device is part of a Peer-to-Peer Remote Copy (PPRC) pair
- Determining from policy, the action to be taken
- Ensuring that data consistency is not violated
- Swapping the I/O between the primary logical devices in the consistency group with the secondary logical devices in the consistency group.
- Allowing only CKD volumes to be added to the HyperSwap session.

CIM See Common Information Model.

CIM agent
The code that consists of common building blocks that can be used instead of proprietary software or device-specific programming interfaces to manage CIM-compliant devices.

CIM object manager (CIMOM)
The common conceptual framework for data management that receives, validates, and authenticates the CIM requests from the client application. It then directs the requests to the appropriate component or service provider.

CIMOM
See CIM object manager

CKD Count key data

cluster
1. In SAN Volume Controller, a pair of nodes that provides a single configuration and service interface. 2. In IBM System Storage DS8000, a partition capable of performing all DS8000 series functions. With two clusters in the DS8000 storage unit, any operational cluster can take over the processing of a failing cluster.

Common Information Model (CIM)
An implementation-neutral, object-oriented schema for describing network management information. The Distributed Management Task Force (DMTF) develops and maintains CIM specifications.

comma-separated value file
A text file, created in a spreadsheet program such as Microsoft Excel. A CSV file includes each of the copy sets you want to add to the session separated by a comma.

community name
The part of an SNMP message that represents a password-like name and that is used to authenticate the SNMP message.

consistency group
The set of target volumes in a session that have been updated to preserve write ordering and are therefore, recoverable.

copy set
A set of volumes that contain copies of the same data. All the volumes in a copy set are the same format (count key data [CKD] or fixed block) and size.

CSV See comma-separated value file

data collection
See *discovery*.

data exposure
The time between the point at which the data is written to primary storage, and when it is replicated to secondary storage. Data exposure includes factors such as:
- Requested consistency-group interval time
- Type of storage systems
- Physical distance between the storage systems
- Available bandwidth of the data link
- I/O load on the storage systems

discovery
The process of finding resources within an enterprise, including finding the new location of monitored resources that were moved. Discovery includes the detection of changes in network topology, such as new and deleted nodes or new and deleted interfaces. See also *discovery interval*.

discovery interval
The frequency at which topology and attribute information is gathered. The discovery interval is set by a schedule to occur either periodically or at specific times. Discovery can also occur at other times, such as when triggered by an event from a SAN switch.

discovery job
A job that enables you to find new Windows machines that have been introduced into your environment, identify the servers and volumes within NetWare trees (NDS trees), discover the file systems within NAS filers, and discover the CIMOMs in your environment and the storage subsystems managed by those CIM/OMs.

enterprise repository
A component of the Data server that records and stores all information about the monitored computers' storage assets and their usage over time. The repository is organized into relational database tables and is accessed by Data server using Java Database Connectivity (JDBC).

event Any significant change in the state of a system resource, network resource, or network application. An event can be generated for a problem, for the resolution of a problem, or for the successful completion of a task. Examples of events are: the normal starting and stopping of a process, the abnormal termination of a process, or the malfunctioning of a server.

fabric A complex network using hubs, switches, and gateways. Fibre channel uses a fabric to connect devices.

failover and failback
The implementation of a complex local or remote disaster-recovery solution with the capability of a two-way site switch.

fibre channel
A technology for transmitting data between computer devices. It is especially suited for attaching computer servers to shared storage devices and for interconnecting storage controllers and drives.

FlashCopy®
An optional feature of the DS8000 series that can make an instant copy of data; that is, a point-in-time copy of a volume.

global copy
An optional capability of the DS8000 remote mirror and copy feature that maintains a fuzzy copy of a logical volume on the same DS8000 storage unit or on another DS8000 storage unit. In other words, all modifications that any attached host performs on the primary logical volume are also performed on the secondary logical volume at a later point in time. The original order of update is not strictly maintained. See also *remote mirror* and *copy* and *metro mirror*.

global mirror
An optional capability of the remote mirror and copy feature that provides a 2-site extended distance remote copy. Data that is written by the host to the storage unit at the local site is automatically maintained at the remote site. See also Metro Mirror and Remote Mirror and Copy.

globally unique identifier (GUID)
An algorithmically determined number that uniquely identifies an entity within a system.

heat map
A color-coded data chart where colors are used to differentiate values in a data set.

host A computer that is connected to a network (such as the Internet or a SAN) and provides a point of access to that network. Also, depending on the environment, the host can provide centralized control of the network. The host can be a client, a server, both a client and a server, a manager, or a managed host.

host volume
A volume that represents the volume functional role from an application point of view. The host volume can be connected to a host or server, and receives read, write, and update application I/Os, depending on the site that the application is writing to.

in-band discovery
The process of discovering information about the SAN, including topology and attribute data, through the fibre-channel data paths. Contrast with *out-of-band discovery*.

intermediate volume
The target of the remote copy relationship, and the source of a FlashCopy relationship in which the target of the FlashCopy is the H2 volume.

job scheduler
A component of the Data server that deploys all monitoring activities. The job scheduler controls when monitoring jobs are run by agents.

journal volume
A volume that functions like a journal and holds the required data to reconstruct consistent data at the Global Mirror remote site. When a session must be recovered at the remote site, the journal volume is used to restore data to the last consistency point.

logical unit number (LUN)
An identifier used on a SCSI bus to distinguish among devices (logical units) with the same SCSI ID. For a SCSI bus, a LUN represents a storage volume.

LUN See *logical unit number*.

managed disk (MDisk)
A SCSI logical unit that a Redundant Array of Independent Disks (RAID) controller provides and a cluster manages. The MDisk is not visible to host systems on the SAN.

managed host
A host that is managed by Tivoli Storage Productivity Center and one or more active in-band fabric agents. Install in-band fabric agents on host systems with host bus adapters (HBAs) that are connected to the SAN fabrics that you want to manage.

Management Servers
Increased availability of the replication management software with the implementation of a high-availability configuration such that one management workstation runs as standby, ready to take over in case of a failure of the active workstation.

Note: The takeover is not automatic and requires you to issue a takeover command.

metro mirror
A function of a storage server that maintains a consistent copy of a logical volume on the same storage server or on another storage server. All modifications that any attached host performs on the primary logical volume are also performed on the secondary logical volume. See also *Remote Mirror* and *Copy* and *Global Copy*.

Metro Global Mirror
The three-site remote mirroring solution.

out-of-band discovery
The process of discovering SAN information, including topology and device data, without using the fibre-channel data paths. A common mechanism for out-of-band discovery is the use of SNMP MIB queries, which are invoked over a TCP/IP network. Contrast with *in-band discovery*.

ping job
A job that tracks the availability of assets and that is performed by an agent. Several ping jobs can be used to monitor the availability of any computer or subset of computers in the network.

pool A named set of storage volumes that is the destination for storing client data.

primordial pool
Unallocated storage capacity on a storage device. Storage capacity can be allocated from primordial pools to create storage pools.

probe job
A job that itemizes and creates an inventory of assets, such as computers, controllers, disk drives, file systems, and logical units, and that is performed by an agent. Several probe jobs can be used on any computer or subset of computer

RAID See *Redundant Array of Independent Disks*.

Recovery point objective (RPO)
The maximum amount of data that you can tolerate losing in the case of a disaster.

remote console
A console that is installed on a machine other than the one on which the server is installed. A remote console lets you access Tivoli Storage Productivity Center from any location.

remote mirror and copy
A feature of a storage server that constantly updates a secondary copy of a logical volume to match changes made to a primary logical volume. The primary and secondary volumes can be on the same storage server or on separate storage servers.

role A function that a volume assumes is the copy set. The role is is composed of the intended use and, for Global Mirror and Metro Mirror, the volume's site location. Every volume in a copy set is assigned a role. A role can assume the functions of a host volume, journal volume, or target volume. For example, a host volume at the primary site might have the role of `Host1`, while a journal volume at the secondary site has the role of `Journal2`.

role pair
The association of two roles in a session that take part in a copy relationship. For example, in a metro mirror session, the role pair could be the association between the volume roles of `Host1` and `Host2`. In another example, a `Host1` volume could be a host volume on the primary site, and a `Host2` volume could be a host volume on the secondary site.

SAN See *storage area network*.

scan job
A job that monitors the usage and consumption of your storage and the constraints and that is performed by an agent. Several scan jobs can be used to monitor the file systems on any computer or subset of computers.

SCSI See *Small Computer Systems Interface*.

session
A collection of multiple copy sets that comprise a consistency group.

site switching
See also *failover and failback*.

SMI-S See *Storage Management Initiative - Specification*.

SMI-S agent
See *CIM Object Manager (CIMOM)*. See also *Storage Management Initiative - Specification (SMI-S)*.

SNIA See *Storage Networking Industry Association*.

source The site where production applications run while in normal operation. The meaning is extended to the disk subsystem that holds the data as well as to its components: volumes and LSS.

storage area network
A dedicated storage network tailored to a specific environment, combining servers, storage products, networking products, software, and services.

storage group
A collection of storage units that jointly contain all the data for a specified set of storage units, such as volumes. The storage units in a group must be from storage devices of the same type.

Storage Management Initiative - Specification (SMI-S)
The standard that defines the protocol used for communication with SMI-S agents.

Storage Networking Industry Association (SNIA)
An alliance of computer vendors and

universities that focus on developing and promoting industry standards for storage networks.

storage pool
An aggregation of storage resources on a SAN that have been set aside for a particular purpose.

System z® Global Mirror
See also *Global Mirror*.

target The site to where the data is replicated, the copy of the application data. The meaning is extended to the disk subsystem that holds the data as well as to its components: volumes and logical subsystem (LSS).

target volume
A volume that receives data from a host volume or another intermediate volume. It is used only in FlashCopy sessions.

topology
The physical and logical arrangement of devices in a SAN. Topology can be displayed graphically, showing devices and their interconnections.

VDisk See *virtual disk*.

virtual disk (VDisk)
A device that host systems attached to the storage area network (SAN) recognize as a Small Computer System Interface (SCSI) disk.

virtualization
A concept in which a pool of storage is created that contains several disk subsystems. The subsystems can be from various vendors. The pool can be split into virtual disks that are visible to the host systems that use them.

virtual storage area network (VSAN)
A Cisco technology that allows independent logical fabrics to be defined from a set of one or more physical switches. A given switch port is assigned to only one VSAN. Each VSAN is completely isolated from the other VSANs and functions as a separate and independent fabric with its own set of fabric services (for example, Name Services, zoning, routing, and so on).

volume
The basic entity of data storage as defined by the SCSI protocol. A volume is a logical address space, having its data content stored on the systems disk drives.

VSAN See *virtual storage area network*.

zone A segment of a SAN fabric composed of selected storage devices nodes and server nodes. Only the members of a zone have access to one another.

zone alias
A collection of one or more zone members. A zone alias can be added to one or more zone members.

Note: Not all devices support zone aliases. Check with the device manufacturer to determine if zone aliases are supported for that particular device.

zone set
A group of zones that function together on the fabric. Each zone set can accommodate up to 256 zones. All devices in a zone see only devices assigned to that zone, but any device in that zone can be a member of other zones in the zone set.

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