

IBM PowerSC

Trusted Surveyor

Version 1.1.0

PowerSC Trusted Surveyor

IBM

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Note

Before using this information and the product it supports, read the information in "Notices" on page 61.

This edition applies to IBM PowerSC Trusted Surveyor Version 1.1.0.0 and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this document

This document provides system administrators with information about how to install, configure, and use IBM® PowerSC™ Trusted Surveyor.

Highlighting

The following highlighting conventions are used in this document:

Bold	Identifies commands, subroutines, keywords, files, structures, directories, and other items whose names are predefined by the system. Bold highlighting also identifies graphical objects such as buttons, labels, and icons that you select.
<i>Italics</i>	Identifies parameters whose actual names or values you supply.
Monospace	Identifies examples of specific data values, examples of text similar to what you might see displayed, examples of portions of program code similar to what you might write as a programmer, messages from the system, or information text that you must type.

Case-sensitivity in AIX®

Everything in the AIX operating system is case sensitive, which means that it distinguishes between uppercase and lowercase letters. For example, you can use the **ls** command to list files. If you type **LS**, the system responds that the command is not found. Likewise, **FILEA**, **FiLea**, and **filea** are three distinct file names, even if they reside in the same directory. To avoid causing undesirable actions to be performed, always ensure that you use the correct case.

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

What's new in PowerSC Trusted Surveyor 1.1.0

Read about new or changed information for the PowerSC Trusted Surveyor topic collection.

How to see what's new or changed

In this PDF file, you might see revision bars (|) in the left margin that identify new and changed information.

March 2013

This refresh contains miscellaneous updates and corrections to the following commands:

- “help command” on page 34
- “report command” on page 35
- “set command” on page 37
- “domain/ch command” on page 38
- “domain/ls command” on page 40
- “domain/mk command” on page 42
- “domain/rm command” on page 43
- “probe/ch command” on page 45
- “probe/ls command” on page 48
- “probe/mk command” on page 50
- “probe/rm command” on page 51
- “snapshot/diff command” on page 54
- “snapshot/ls command” on page 56
- “snapshot/mk command” on page 57
- “snapshot/rm command” on page 58

November 2012

All of the documentation for IBM PowerSC Trusted Surveyor is new for Version 1.1.0.

PowerSC Trusted Surveyor Release Notes Version 1.1.0.0

The release notes contain information about changes to PowerSC Trusted Surveyor Versions 1.1.0.0, or earlier, that were identified after the documentation was completed.

What's new

Trusted Surveyor is a new licensed program in the PowerSC family that provides an overall view of your data center or cloud by consolidating information from the virtual management consoles.

Read this before installation

To view the most current version of the Release Notes, go to the online Release Notes in the Knowledge Center (http://www.ibm.com/support/knowledgecenter/api/content/SSMK7X_1.1.0/com.ibm.powersc112.ts/powersc_ts_rn.htm).

PowerSC Trusted Surveyor is a licensed program and is not included with the AIX operating system.

Note: This software might contain errors that could result in a critical business impact. Install the latest available fixes prior to using this software. To learn more about installing PowerSC Trusted Surveyor, see “Installing PowerSC Trusted Surveyor 1.1.0” on page 11.

System requirements

The PowerSC Trusted Surveyor requires either IBM AIX Version 6 with Technology Level 7 or IBM AIX Version 7 with Technology Level 1.

Installation, migration, upgrade, and configuration information

For information about installing PowerSC Trusted Surveyor Version 1.1.0.0, see “Installing PowerSC Trusted Surveyor 1.1.0” on page 11.

Installation notes

At the end of the PowerSC Trusted Surveyor installation process, the **aixpert** command runs a custom PowerSC Trusted Surveyor profile that secures the partition. This process makes services like ping and FTP unavailable. This securing of the partition prevents you from remotely running commands on a partition on which PowerSC Trusted Surveyor is installed. Commands must be run locally. After the PowerSC Trusted Surveyor profile is established by aixpert, access to the partition is limited to the following methods:

- Telnet
- Secure Shell (ssh)
- Secure File Transfer Protocol (SFTP)
- HTTPS port 443
- Local name server port 53

Configuration notes

When you use the Firefox web browser to create a secure connection with the PowerSC Trusted Surveyor server, you might receive the following message:

Secure Connection Failed
An error occurred during a connection to server.location.com.

Cannot communicate securely with peer: no common encryption algorithm(s).

(Error code: ssl_error_no_cypher_overlap)

The page you are trying to view can not be shown because the authenticity of the received data could not be verified.

Please contact the website owners to inform them of this problem. Alternatively, use the command found in the help menu to report this broken site.

If you receive this message, change your browser settings by accessing **Tools > Options > Advanced > Encryption** and by selecting the check boxes for both of the protocols.

Command updates

The **reports** parameter for the **help** command is missing from the list of parameters that are provided in the documentation and from the help page for the **ts help** command. You can view the help content for reports by entering the following command:

```
ts help reports
```

Documentation updates

The procedure for comparing two snapshots is different than the procedures that are documented in the help file and the information center content. The help file is viewed by clicking the Help link in the Snapshot differences window. The content in the information center is found in: **AIX 7.1 information > PowerSC > PowerSC Trusted Surveyor > Managing resources > Managing snapshots.**

The corrected procedure for comparing two snapshots follows:

1. Ensure that your AIX® user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
3. Ensure that the correct domain is selected in the **Domain** field.
4. Select **Snapshots** on the Welcome page. The Snapshots page is displayed with the available snapshots for the domain. The current snapshot, or most recent, is listed first.
5. Select a snapshot that you want to compare from the list of snapshots.
6. From the **Actions** menu, click **Compare with** to display the Compare snapshots table banner.
7. Select another snapshot for the comparison and click **Compare** to display the **Snapshot differences** window.
8. Select the type of comparison data from the following options:

VS by VLANs

View data that compares the virtual servers on each virtual local area network (VLAN) in both snapshots.

VS by physical system

View data that compares virtual servers on each physical system in both snapshots.

The requested data is displayed.

9. Click **Save as** to save the information as a separate file.
10. Click **Close** to exit.

Support note

When you report a problem with PowerSC Trusted Surveyor to IBM, you must include the HMC serial number on the problem management record instead of the serial number of the AIX server. The PowerSC Trusted Surveyor Software Maintenance Agreement support entitlement is registered to the HMC and not to the AIX server on which the PowerSC Trusted Surveyor server is installed.

PowerSC Trusted Surveyor 1.1.0 concepts

You must understand the basic resources that are used in PowerSC Trusted Surveyor that are described in the following scenario.

PowerSC Trusted Surveyor is installed and configured on a server that is running the AIX operating system. A report is generated when a probe connects to a Hardware Management Console (HMC) to query and identify the systems and their virtual configurations that are managed by that HMC. All defined and enabled probes for the current domain are run when a snapshot acquisition is triggered for that domain. All of the available report options are based on the snapshots that are available for an identified domain. The resulting report identifies all of the logical partitions (LPARs), their associated physical systems, which virtual LANs (VLANs) they are connected to, and the isolation zones created by these VLANs. Isolation zones are the separation of the resources that are created to control access to resources.

You can use these reports to ensure that the current configuration meets your requirements for isolation and protection of LPAR groups. When the initial compliance requirements are established, you can save the reports and the snapshot to use as your approved version. By setting up regularly scheduled probes, you can create snapshots for additional reports. You can compare the approved snapshot to the current snapshot to identify changes that might cause noncompliant situations by highlighting the differences between the snapshots. The dynamic nature of cloud and virtual environments makes this type of change control and monitoring necessary.

Naming conventions for PowerSC Trusted Surveyor resources

Most resources that are used in PowerSC Trusted Surveyor are given a name for identification when by using the command line. In some cases, you can use the commands to provide your own name for the resources. The criteria for using valid names follow:

- They must be 1 - 32 characters in length.
- They must contain only alphanumeric characters, the underscore (_), or hyphen (-).
- They must begin with a letter.

When working with snapshots, you use the *snapID* variable to identify a specific snapshot. The *snapID* can be either the name that you assigned to the snapshot with the command-line interface or the graphical interface, or the unique integer name provided by PowerSC Trusted Surveyor in the format of *snapshot-ID*. Several references for snapshots are always available and cannot be used as the names of snapshots:

Current

The most recent snapshot that was successfully completed.

Previous

The most recent snapshot before the current snapshot that was created successfully.

Latest The most recent snapshot that ran, whether it completed successfully or failed.

snapshot-ID

The default naming convention for snapshots.

Domains for PowerSC Trusted Surveyor

Domains are the main environment that you work in when using PowerSC Trusted Surveyor.

Some configurations are simple enough to require only a single domain, which is created when you install PowerSC Trusted Surveyor. It is not necessary to create additional domains.

More complex configurations might benefit from creating additional domains. You can group data center resources together into domains. Because you can access only one domain at a time, it is helpful to group similar resources together.

Probes for PowerSC Trusted Surveyor

PowerSC Trusted Surveyor uses probes to query information from a virtual management console, such as a Hardware Management Console (HMC). Probes gather information about the configuration of the data center or the cloud which is filtered and consolidated into a snapshot that represents the configuration at that time.

You must configure at least one probe to retrieve information about your data center resources. The process of retrieving that information is called an *acquisition*. There is at least one probe for each virtual management console. The probe contains the certificate or authentication information to securely query the management console and provide that information for the snapshot. Probes access the virtual management console in read-only mode; therefore probes cannot change any settings on the virtual management console or any of the systems managed by that console.

When a probe is configured and enabled, it runs at a fixed interval of time that you specify when you create it. The settings can be changed at any time. A probe that is disabled does not gather any new information but maintains its configuration information so that it can be enabled. This retention of information avoids the need to redefine the probe settings as a result of a failed acquisition.

Snapshots for PowerSC Trusted Surveyor

Snapshots are representations of the environment that are created by consolidating the information that is captured by the probe acquisitions.

You can use snapshots to provide a detailed representation of your data center. You can also compare two snapshots to see how the environment changed in the time between the creation of the two snapshots.

The most recently captured valid snapshot on a domain is called the current snapshot for that domain. If you configured your probes to run automatically, they create a new current snapshot automatically when they run at the scheduled interval. The 20 most recent, nonpersistent snapshots are retained. When the limit of 20 nonpersistent snapshots is reached, the oldest nonpersistent snapshot is deleted to allow the newest one to be saved. This automatic deletion saves disk drive space, as the snapshots can be large.

A snapshot can also be made persistent, which means that it is saved on the server until action is taken to delete it. You can rename a snapshot to make it easier to find later for comparison. This name, called a *snapID*, is helpful when you make a snapshot persistent to keep a baseline configuration, which meets your requirements, for comparison with later snapshots.

The default *snapID* takes the format of *snapshot-ID*, where *ID* is the ID of the snapshot. This name can be changed by using the web-based interface or the command-line interface.

Planning for PowerSC Trusted Surveyor 1.1.0

Consider the prerequisites and basic components before you install PowerSC Trusted Surveyor.

Prerequisites

You must create a dedicated logical partition (LPAR) with an AIX operating system that contains adequate resources before installing PowerSC Trusted Surveyor. The amount of memory and storage associated with this LPAR is determined by the amount of snapshot data you keep and the speed of processing that you expect from the PowerSC Trusted Surveyor. Generally, PowerSC Trusted Surveyor requires little storage, memory, and processing cycles. This LPAR requires network connectivity for the Secure Shell (SSH) protocol to the virtual management consoles and Hypertext Transfer Protocol Secure (HTTPS) connectivity to a browser for the PowerSC Trusted Surveyor monitor users.

The following software must be installed on the PowerSC Trusted Surveyor LPAR before installing PowerSC Trusted Surveyor:

AIX operating system

IBM AIX 7 with Technology Level 2 or later is required for the PowerSC Trusted Surveyor server.
or IBM AIX 6 with Technology Level 8 or later is required for the PowerSC Trusted Surveyor server.

OpenSSH

This connectivity tool provides a secure method of communicating with the virtual management consoles.

Java™ SE 6

This platform is used to organize the information in a logical format.

Basic components

Consider the following required components when you plan the implementation of PowerSC Trusted Surveyor:

Web server

The PowerSC Trusted Surveyor software is installed on an AIX logical partition (LPAR). This LPAR should be a dedicated web server for PowerSC Trusted Surveyor. The web server uses a Secure Shell (SSH) network connection to communicate with the virtual management console.

Web browser

The web browser uses a secure Hypertext Transfer Protocol Secure (HTTPS) connection to connect to the PowerSC Trusted Surveyor web server. The following browsers are supported:

- Mozilla Firefox version 14, or later
- Microsoft Internet Explorer versions 8 and 9 running in Standard mode.

Virtual management console

The virtual management console or Hardware Management Console provides the data that the PowerSC Trusted Surveyor uses to create the security and isolation reports. During probe configuration, PowerSC Trusted Surveyor creates a secure read-only account on the virtual management console, which it uses to access the data.

Installing PowerSC Trusted Surveyor 1.1.0

Installing PowerSC Trusted Surveyor is similar to installing other AIX licensed programs, and provides access to both the graphical interface and the command-line interface.

PowerSC Trusted Surveyor can be installed by using the **installp** command or the System Management Interface Tool (SMIT).

Prerequisite

Note: Ensure that you install OpenSSH and Java SE 6 before continuing.

To install PowerSC Trusted Surveyor by using the **installp** method, complete the following steps:

1. Enter the following command on the AIX command line:

```
installp -d filepathToImageFile -a -g powersc.ts
```

To install by using the SMIT method, use the SMIT utility to install the package by entering the following command:

```
smitty install
```

The installation of PowerSC Trusted Surveyor starts some automatic actions, which are described as follows:

Creates user name and group

A user name, called *tsadmin*, is created in a group called *ts*. This user name is created to provide a separate user name that contains the permissions to access the configuration files and run the server processes. By maintaining this role with a separate user name, the files are protected from accidental alteration by UNIX rights.

Registers the server

The PowerSC Trusted Surveyor server is registered by the system resource controller in the boot process to be started at partition setup. This registration ensures that the PowerSC Trusted Surveyor server is started automatically when the server is started.

Creates role-based access control (RBAC) roles

The roles for *ts.admin* and *ts.monitor*, are created in the RBAC system. The *ts.admin* role provides complete authority over the PowerSC Trusted Surveyor server. The *ts.monitor* role contains mostly read-only permissions to the server which is used for acquiring snapshots and viewing information that is provided by the server.

Runs the **aixpert -l h** command

This action provides the final security measure for the logical partition that prevents changes.

Configuring PowerSC Trusted Surveyor 1.1.0

You must complete some initial configuration steps before you begin receiving information from PowerSC Trusted Surveyor.

PowerSC Trusted Surveyor uses AIX authentication and the role-based access control (RBAC) to control permissions. The administrator must authorize users to access the PowerSC Trusted Surveyor instance by creating a user or modifying an existing user and giving it the correct RBAC role that is required for users to complete their tasks. You use the standard AIX commands and procedure to assign these roles. An example of the steps required to create a user name and add it to the `ts.admin` group follows:

1. Log on to the AIX operating system with the permissions that are required to create IDs and modify RBAC roles.
2. Enter the following commands:

```
mkuser new_username  
passwd new_username  
chuser roles=ts.admin new_username
```

The `new_username` has administrator privileges to the PowerSC Trusted Surveyor server.

In addition to assigning the roles, you must configure your probes. The probe configuration specifies where the PowerSC Trusted Surveyor gathers the information to return. This configuration can be completed from either the graphical interface or the command-line interface. Probes can be configured during the initial setup or at any other time. To create a probe, complete the following steps:

1. Log on to the PowerSC Trusted Surveyor server with the administrative privileges by following the instructions provided in “Logging on to PowerSC Trusted Surveyor 1.1.0” on page 15.
2. Create a probe by following the instructions provided in “Creating a probe in PowerSC Trusted Surveyor” on page 20

Assigning roles in PowerSC Trusted Surveyor

Two roles provide different access levels for using PowerSC Trusted Surveyor; `ts.admin` and `ts.monitor`.

The following roles are related to using PowerSC Trusted Surveyor:

ts.admin

The admin role has full access to the PowerSC Trusted Surveyor with the web browser or the command-line interface. This role is required when you install, configure, and establish secure connections to virtualization management consoles.

ts.monitor

The monitor role generates reports on the isolation and security status of the network, but it cannot change the settings.

Virtualization manager

The virtualization manager role is not directly related to working with PowerSC Trusted Surveyor. This user ID or role manages the virtual management consoles directly. In an IBM Power Systems™ environment, this role is comparable to the role that has access to the `hscroot` directory on the Hardware Management Console. During installation and configuration, this role authorizes the PowerSC Trusted Surveyor to connect to the virtual management console and create a read-only account to gather information from the console.

After you identify your admin and monitor roles, you must create their AIX accounts for these users on the PowerSC Trusted Surveyor AIX logical partition (LPAR). The role-based access control (RBAC)

ts.admin and ts.monitor roles were created when you installed PowerSC Trusted Surveyor. As a root or a privileged user on the LPAR, you can create the accounts for the admin and monitor by using the standard AIX RBAC creation procedure.

For example, to add someone with the user name of *username* who has an admin role, enter the following command:

```
% mkuser default_roles=ts.admin roles=ts.admin username
```

Passwords

After creating user accounts, the account owners must establish their login passwords. This password is used when logging on to PowerSC Trusted Surveyor from their web browser or command-line interface. These passwords must be complex and must meet the following criteria:

- Cannot contain any or all of the user name
- Must be a minimum of 8 characters
- Must contain characters from at least three of these categories:
 - Uppercase letters (A through Z)
 - Lowercase letters (a through z)
 - Numbers (0 - 9)
 - Special characters (!, @, #, \$)

Logging on to PowerSC Trusted Surveyor 1.1.0

You must log on to PowerSC Trusted Surveyor to change its settings or to make any changes to its resources.

The first time that you log on, ensure that your user name has administrator privileges to the PowerSC Trusted Surveyor server, because creating the necessary resources requires that level of access. Members of the ts.admin group have the correct access level.

To log on, complete the following steps:

1. Open your web browser, with cookies enabled, to the site where you can access the PowerSC Trusted Surveyor web interface. This location is generally `https://lpar_address`, where *lpar_address* is the DNS name or IP address of the logical partition (LPAR) where the PowerSC Trusted Surveyor is installed.
2. Enter the user ID for the PowerSC Trusted Surveyor server. This user ID must be a string of characters that is a member of either the ts.admin group or the ts.monitor group.
3. Enter the password for the ID.
4. When you successfully log on, the Welcome page displays the most recent snapshot and the probe status for the domain that you last viewed.
5. If this is your first log on to PowerSC Trusted Surveyor, select **Probes** in the navigation pane to create a probe.
6. If this is your first log on, use the default domain that is automatically created for you.

Managing PowerSC Trusted Surveyor 1.1.0 resources

After your system is configured, you can monitor the PowerSC Trusted Surveyor resources and use them to provide information about the data center.

Managing the PowerSC Trusted Surveyor resources provides the flexibility that is required to change configurations and customize the information that PowerSC Trusted Surveyor returns.

Managing domains in PowerSC Trusted Surveyor 1.1.0

You can create, view, change, and remove domains in PowerSC Trusted Surveyor.

Creating a domain in PowerSC Trusted Surveyor

Use domains to help you organize your data center and the resources in it into logical groups.

A default domain is created for you when you install and configure PowerSC Trusted Surveyor. If you do not need additional configuration for your resources, then you need not create any additional domains. Generally, multiple domains are helpful with complex configurations.

To create a domain, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
3. Move your cursor over the current domain and click **Create** on the menu. If there are no existing domains, PowerSC Trusted Surveyor creates a default domain, which appears as *default* in the domain field.
4. Enter a name for the new domain.
5. Enter an acquisition interval for the domain in hours. This interval specifies how often the domain information is updated by a probe acquisition. Valid values are 1 - 1000.
6. To run automatic acquisitions at the specified interval, select the **Auto Acquisition** check box. To disable automatic acquisitions, clear the check box.
7. Click **Submit** to create the domain.

Viewing a domain in PowerSC Trusted Surveyor

View domains to help you understand the organization of your data center and the resources in it.

To view a domain, complete the following steps:

1. Ensure that your ID has administrator or viewing privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your ID and password that has ts.admin or ts.monitor privileges.
3. Select **Open** from the menu that is displayed when you hover your cursor over the **Domain** field.
4. Select the domain to view.
5. Click **Submit** view the domain.

Changing the properties of a domain in PowerSC Trusted Surveyor

To support changes in your data center environment, you can change the properties of your domains.

To change the properties of a domain, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
3. Move your cursor over the current domain at the top of the window and click **Open** to select a different domain.
4. Enter the name of the domain that you want to change and click **Submit**.
5. To change the name of the currently displayed domain, hover over the domain name and select **Rename**.
6. Enter the new name for the domain and click **Submit**.
7. To change the acquisition interval of the probes, When the correct domain is displayed, click **Snapshots** in the navigation pane.
8. On the snapshots page, ensure that the **Enabled** check box is selected.
9. Set the new **Schedule interval** in hours.
10. Click **Submit**.

Removing a domain in PowerSC Trusted Surveyor

As your data center changes, you might need to remove some domains.

When you remove a domain, you remove all of the content within a domain, including the probes definitions and all of the acquired snapshots within that domain.

To remove a domain by using the graphical interface, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
3. If the displayed domain is not the domain you want to remove, move your cursor over the current domain and select **Open**.
4. Enter the name of the domain to be removed or select the name from the list of domains to make it the current domain.
5. Move your cursor over the current domain, and click **Remove** on the menu.
6. Click **Submit** to confirm that you want this domain removed.
7. Click **Submit** again to remove the domain.

Managing snapshots in PowerSC Trusted Surveyor 1.1.0

You can view, save, compare, and delete snapshots in PowerSC Trusted Surveyor.

Viewing a snapshot in PowerSC Trusted Surveyor

View snapshots to help you understand the overall structure of your data center and the resources in it.

To view a snapshot, complete the following steps:

1. Ensure that your ID has administrator or viewing privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your ID and password that has ts.admin or ts.monitor privileges.
3. Ensure that the correct domain is selected in the **Domain** field.
4. Select **Snapshots** on the Welcome page. The Snapshots page is displayed with the available snapshots for the domain. The current snapshot, or most recent, is listed first.
5. Select the snapshot to view:
 - Click on the icon next to the current snapshot, and then click **Browse**.

- Select the snapshot in the snapshots list, then click **Actions > Browse**

The selected snapshot is displayed.

6. Select the resource from the Snapshot to view the information that is available for that resource. Viewing the resources provides additional information about the individual systems that are contained in the snapshot and helps identify which probes were not able to complete their acquisitions.

Saving a snapshot in PowerSC Trusted Surveyor

Save snapshots to remove them from the automatic deletion process for snapshots older than the most recent 20.

To save a snapshot permanently, complete the following steps:

1. Ensure that your ID has administrator or viewing privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your ID and password that has ts.admin or ts.monitor privileges.
3. Ensure that the correct domain is selected in the **Domain** field.
4. Select **Snapshots** on the Welcome page. The Snapshots page is displayed with the available snapshots for the domain. The current snapshot, or most recent, is listed first.
5. Select the snapshot to save from the Snapshots list.
6. From the **Actions** menu, click **Set persistent**.

You can work with this snapshot, and it is now saved from automatic deletion when it becomes older than the 20 most recent snapshots.

Comparing snapshots in PowerSC Trusted Surveyor

You can compare two snapshots from different times to troubleshoot errors and to view changes in your environment between the times that each snapshot was taken.

The differences between the snapshots can be viewed from either of two different focus areas:

Logical partition (LPAR) movement to different virtual LAN (VLAN) IDs

This focus is most helpful for monitoring changes in the ability of the LPARs to reach some VLANs. If the snapshot used as a reference is considered a safe configuration, this comparison filters and displays only potential threats in network isolation.

LPAR movement to different physical systems

This focus is most helpful for monitoring the changes to the physical locations of the LPARs from one snapshot compared to the other.

To compare two snapshots, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
3. Ensure that the correct domain is selected in the **Domain** field.
4. Select **Snapshots** on the Welcome page. The Snapshots page is displayed with the available snapshots for the domain. The current snapshot, or most recent, is listed first.
5. Select a snapshot that you want to compare from the list of snapshots.
6. From the **Actions** menu, click **Compare with** to display the Compare snapshots window.
7. Select another snapshot for the comparison and click **Compare** to display the **Snapshot differences** window.
8. Select the type of comparison data from the following options:

VS by VLANs

View data that compares the virtual servers on each virtual local area network (VLAN) in both snapshots.

VS by physical system

View data that compares virtual servers on each physical system in both snapshots.

The requested data is displayed.

9. Click **Save as** to save the information as a separate file.
10. Click **Close** to exit.

Removing a snapshot in PowerSC Trusted Surveyor

You can remove snapshots immediately or enable them to be purged automatically to save storage by clearing the persistency property check box.

To remove a snapshot manually, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
3. Ensure that the correct domain is selected in the **Domain** field.
4. Select **Snapshots** on the Welcome page. The Snapshots page is displayed with the available snapshots for the domain. The current snapshot, or most recent, is listed first.
5. Select the snapshot that you want to delete.
6. In the **Actions** menu, select **Delete** to delete the snapshot.
7. Click **OK** to confirm the deletion.

Managing PowerSC Trusted Surveyor 1.1.0 probes

You can create, view, change, deploy a public key, and download a public key for a probe.

By managing probes, you can ensure that your entire data center is being examined and included in reports. You can change your probes as needed to remain consistent with your data center.

Creating a probe in PowerSC Trusted Surveyor

You create a probe to set up the connection between PowerSC Trusted Surveyor and the virtual management console so that it can acquire the information and create a snapshot.

To create a probe, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Identify the virtual management console for the probe connection, ensuring that you also have the user ID and password with administrative privileges for that system.
3. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
4. Select **Probes** from the navigation pane.
5. From the **Actions** menu, click **Create a new probe**.
6. Provide the required information for the new probe:

Host name

The fully-qualified DNS name of the virtual management console that communicates with the PowerSC Trusted Surveyor server with the new probe.

Name The generated name of the probe that is based on the host name value that you entered in the **Host name** field. For example, if the host name entered is `hmc.server.com`, the **Name** field automatically shows `hmc`.

Port The network port number that is used to connect to the probe. If this field is blank, the default value is used.

Credential

The method used to authenticate with the virtual management console, like a Hardware Management Console (HMC), when connecting to the probe. The credential must be one of these types:

Basic This credential is only used to establish the connection between PowerSC Trusted Surveyor and the virtual management console. The basic credential uses the administrator ID and password of the virtual management console to establish the connection. The administrator password is not retained by PowerSC Trusted Surveyor.

After this connection is established, the PowerSC Trusted Surveyor automatically deploys a key to the virtual management consoles for the probes on that domain. This key enables the consoles to communicate with the server securely without continuing to use the administrator ID and password of the virtual management console.

PubKey

After an initial connection is established with the virtual management console by using the basic credential, the credential becomes a key that is deployed by the PowerSC Trusted Surveyor to the virtual management console. You can also download a PubKey and deploy it manually, if necessary. The **ID** and **Password** fields are disabled when PubKey is specified because it is an established key between the PowerSC Trusted Surveyor and the virtual management console that does not require an external ID and password.

Viewing a probe in PowerSC Trusted Surveyor

Viewing probes and their resources provides a consolidated view of your data center based on the probes that are enabled.

You can view the probes to determine which ones are running correctly. If one is enabled and is not running correctly, view the logs and settings for that probe or resource to determine whether the settings are preventing it from completing the acquisition.

To view a probe, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have `ts.admin` privileges.
3. Click **Probes** on the navigation pane. The Probes page lists all of the configured probes in the current domain with the available log files for the selected probes.
4. Select the applicable probe. Selecting a probe enables the **Actions** button and populates the Probes log window with a list of events associated with the selected probe.
5. Click **Actions > Edit**.

Changing the properties of a probe in PowerSC Trusted Surveyor

You might need to change the properties of your probes as your resources change.

To change the properties of a probe, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Identify the virtual management console for the probe connection, ensuring that you also have the user ID and password with administrative privileges for that system.

3. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
4. Click **Probes** on the navigation pane. The Probes page lists all of the configured probes in the current domain with the available log files for the selected probes.
5. Select the applicable probe. Selecting a probe enables the **Actions** button and populates the Probes log window with a list of events associated with the selected probe.
6. Click **Actions > Edit**.
7. Complete the Probes Configuration wizard, which guides you through the information that is required for a probe. As you progress through the information, complete or modify it as needed with the information for your probe.

Automatically deploying a public key for a probe in PowerSC Trusted Surveyor

When adding a probe to your system, you must establish a secure connection between the PowerSC Trusted Surveyor and the virtual management console by using a public key. This key is generally deployed automatically when a probe is created, but there might be times that you must redeploy the key.

PowerSC Trusted Surveyor uses a secure public and private key pair to communicate with the virtual management consoles. It provides an automatic deployment feature to establish the connection. If you cannot use the automatic deployment in your environment, you can retrieve the public key and deploy it manually.

The key deployment is generally started automatically when you create a probe, and does not need to be redeployed. There might be occasions when you need to redeploy the key, like if you reset the settings on your virtual management console.

To automatically deploy the public key of a probe, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Identify the virtual management console for the probe connection, ensuring that you also have the user ID and password with administrative privileges for that system.
3. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
4. Select **Probes** in the navigation pane.
5. From the **Actions** menu, click **Create a new probe**.
6. Select **Enabled** to start the new probe and to begin its initial snapshot.
7. Click **OK**. The PowerSC Trusted Surveyor automatically deploys the public key to the virtual management console and tries to establish a connection. When that connection is made, the PowerSC Trusted Surveyor and the virtual management console establish a connection with a private key. The virtual management console password is no longer required or stored when this new connection is established.
8. Click **Skip** to exit the window.

Related tasks:

“Manually deploying a public key for a probe in PowerSC Trusted Surveyor” on page 23

There might be times when the key that PowerSC Trusted Surveyor and the virtual management console share is no longer synchronized, requiring you to redeploy the public key. If you cannot use the automatic key deployment procedure to deploy your key, you can manually download a key and deploy it.

Manually deploying a public key for a probe in PowerSC Trusted Surveyor

There might be times when the key that PowerSC Trusted Surveyor and the virtual management console share is no longer synchronized, requiring you to redeploy the public key. If you cannot use the automatic key deployment procedure to deploy your key, you can manually download a key and deploy it.

To manually redeploy the public key of a probe, complete the following steps:

1. Ensure that your AIX user ID has administrator privileges to the PowerSC Trusted Surveyor server.
2. Identify the virtual management console for the probe connection, ensuring that you also have the user ID and password with administrative privileges for that system.
3. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your user ID and password that have ts.admin privileges.
4. Click **Probes** on the navigation pane. The Probes page lists all of the configured probes in the current domain with the available log files for the selected probes.
5. Select the applicable probe. Selecting a probe enables the **Actions** button and populates the Probes log window with a list of events associated with the selected probe.
6. From the **Actions** menu, select **Download public key**.
7. Save the text file and note its location.
8. Log on to the virtual management console by using the administrator ID and password for that console.
9. Register the key in the saved file with your virtual management console.
10. On the Probes page of PowerSC Trusted Surveyor, select the probe that you are working with if it is not already selected.
11. From the **Actions** menu, select **Edit**.
12. Select **Pubkey** as the credential type. This selection prevents the PowerSC Trusted Surveyor from creating a key. The PowerSC Trusted Surveyor uses the key that you registered with the virtual management console to make the connection.

Related tasks:

“Automatically deploying a public key for a probe in PowerSC Trusted Surveyor” on page 22

When adding a probe to your system, you must establish a secure connection between the PowerSC Trusted Surveyor and the virtual management console by using a public key. This key is generally deployed automatically when a probe is created, but there might be times that you must redeploy the key.

Generating a report in PowerSC Trusted Surveyor 1.1.0

When generating reports, PowerSC Trusted Surveyor packages the information from the probes and snapshots into a convenient format that can be used for archiving or distributing.

You can generate the following types of reports:

Probe_log

This report contains the log information from one or more probes that were created during a snapshot acquisition. If a specific probe name is specified, the report contains only information from the log of that probe. The report consolidates information from all probes when no probe is specified. The text (TXT) format is the only format that is available for this report.

Config

This report contains the user-defined configuration data for the resources in the data center. The report is available in either TXT format or comma-separated value (CSV) format.

Datacenter

This report contains the complete normalized configuration data set for the entire data center that the probes discovered. The report is available in either TXT format or CSV format.

With CSV format reports, you can upload the data to a spreadsheet application. You can then generate custom views for your data by filtering and sorting the data to meet your requirements. The first row provides version control information for the CSV data generated by PowerSC Trusted Surveyor. The rows that follow that row are optional rows that start with "Key:". These rows provide information that helps to understand the data template map. The rows that start with "Template:" serve as a map for the data rows that make up the remainder of the file and describe how that data is formatted. These rows provide control information to aid in custom programmatic processing of the CSV data.

To generate a report, complete the following steps:

1. Ensure that your ID has administrator or viewing privileges to the PowerSC Trusted Surveyor server.
2. Using your web browser, log on to the PowerSC Trusted Surveyor interface with your ID and password that has ts.admin or ts.monitor privileges.
3. Click **Reports** in the navigation to display the Reports page.
4. Select the **Report type** from the following options:
 - Probe log
 - Defined configuration
 - Data center configuration
5. Select the snapshot that contains the information for the report from the list.
6. If the snapshot type is probe log, select the probe for the snapshot from the **Probes list**.
7. To generate the report in the text format, click **Generate TXT report**. To generate the report in CSV format (if this format is available with the selected report type), click **Generate CSV file**.
8. Click **Save** to save the report to a file.

Troubleshooting PowerSC Trusted Surveyor 1.1.0

When errors occur using PowerSC Trusted Surveyor, you can often take steps to resolve them.

Authentication problems

The PowerSC Trusted Surveyor server maintains a log file, `/opt/powersc/ts/log/auth.log.0`, which lists all authentication-related events. When you have problems logging on, you can view its content to find more information.

Some more common reasons for authentication problems follow:

Problem: The user login does not exist.

Reason: Logging on to the PowerSC Trusted Surveyor requires an existing AIX user ID and password.

Resolution: Use the `mkuser` command or `smitty user` to create the ID.

Problem: The user does not have the required role to log in.

Reason: Logging on to the PowerSC Trusted Surveyor requires the `ts.admin` or `ts.monitor` role.

Resolution: Use the `chuser` command to assign that role to the ID.

Problem: The graphical interface denies access.

Reason: The heightened security of a high aixpert level can force renewal of some user passwords.

Resolution: Log on to the PowerSC Trusted Surveyor LPAR by using Secure Shell (SSH) to initiate a password update.

Problem: The roles are deleted.

Reason: When uninstalling PowerSC Trusted Surveyor, the `ts.admin` and `ts.monitor` roles are deleted. After a reinstallation, no previously authorized users maintain their previous roles.

Resolution: When planning to uninstall PowerSC Trusted Surveyor, save the lists of granted users for each role by using the `lsrole` command.

Command-line interface

Some messages are returned when a command does not run successfully. Some messages apply only to certain commands.

A list of all of the possible messages and the most common way to fix them follows:

Message: 1 - Connection failed

Problem: The connection to the PowerSC Trusted Surveyor server failed. The daemon might not be running.

Resolution: Contact the system administrator to verify that the PowerSC Trusted Surveyor daemon process is running correctly.

Message: 2 - Connection refused (the user does not have sufficient rights to connect)

Problem: The connection was refused by the virtual management console.

Resolution: Contact the administrator to request the required access rights.

Message: 3 - Syntax error

Problem: The parsing of the command-line parameters failed.

Resolution: See the command help, the information center, or the “PowerSC Trusted Surveyor 1.1.0 commands” on page 31 for the correct format for the command.

Message: 4 - Invalid parameter

Problems:

- The subcommand name is unknown or not formatted correctly.
- There were more or fewer parameters than expected.
- There was a request to change a read-only attribute.

Resolution: See the command help, the information center, or the “PowerSC Trusted Surveyor 1.1.0 commands” on page 31 for the correct format for the command.

Message: 8 - Missing parameter

Problem: The **parameter_name** parameter is required for the requested action.

Resolution: See the command help, the information center, or the “PowerSC Trusted Surveyor 1.1.0 commands” on page 31 for the correct format for the command.

Message: 9 - Not found

Problem: The resource that was requested for this action was not found.

Resolution: Use the **Is** command to determine which resources are available.

Message: 11 - Incorrect format

Problems:

- The Boolean value must be 0 or 1.
- The parser could not process one or more of the integer values.

Resolution: See the command help, the information center, or the “PowerSC Trusted Surveyor 1.1.0 commands” on page 31 for the correct format for the command.

Message: 12 - Attribute error

Problem: An attribute in the command is not known.

Resolution: See the command help, the information center, or the “PowerSC Trusted Surveyor 1.1.0 commands” on page 31 for the correct format for the command.

Message: 13 - Authentication failed

Problem: When you created or changed a probe, the public key deployment failed.

Resolution: View the logs for the probe that produced the error for more data that can be used to help solve the problem. The following problems might cause this message:

Issue: Authentication failed while using the specified username or password

Resolution: Verify that you are using the correct user name and password, which provide the correct access to the virtual management console.

Issue: The probe could not connect.

Verify that the target virtual management console is online and accessible.

Message: 14 - Restricted action

Problem: You do not have the correct permission to run the requested action. It requires the admin role.

Resolution: See your administrator for assistance and request a higher level of authority.

Message: 15 - Needs to be forced

Problem: The requested action alters the *number_of_resources* resources permanently.

Resolution: If this result is intended, issue the command again. This time include the force flag (-f) to complete the request. This information makes it more difficult to permanently make accidental changes to multiple resources. Include the force command to complete this action.

Message: 18 - Conflict

Problem: The requested action is attempting to change or create a resource with a name that is already in use.

Resolution: Run the command again specifying a unique name.

Related reference:

“domain/ls command” on page 40

“snapshot/ls command” on page 56

“probe/ls command” on page 48

PowerSC Trusted Surveyor 1.1.0 commands

Most resources that are used in PowerSC Trusted Surveyor are given a name for identification when using the command line.

In some cases, you can use the commands to provide your own name for the resources. The criteria for using valid names are as follows:

- They must be between one and 32 characters in length.
- They must contain only alphanumeric characters, the underscore (_) or hyphen (-).
- They must begin with a letter.

When working with snapshots, you use a *snapID* variable to refer to a specific snapshot. The *snapID* can be either the name that you have given to the snapshot with the **ts snapshot/ch** command or the unique integer name provided by PowerSC Trusted Surveyor. There are two reserved that are provided for convenience that are always available and cannot be used as the name of snapshots:

current

Always refers to the most recent snapshot that was successfully completed.

previous

Always refers to the most recent snapshot before the current snapshot that was created successfully.

PowerSC Trusted Surveyor 1.1.0 global commands

PowerSC Trusted Surveyor global commands provide functions consistently across the program, and are available at all times when using the PowerSC Trusted Surveyor command-line interface.

ts command

Purpose

Establishes the connection with the PowerSC Trusted Surveyor server as a stand-alone command or when paired with a subcommand.

Syntax

```
ts [-D domainName] [-U username] [-p password] [subcommand...]
```

Description

The **ts** command is used to establish a connection with the PowerSC Trusted Surveyor server. For ease of reference, the subcommands are referred to as commands.

PowerSC Trusted Surveyor can run in either interactive mode or in single command mode.

Interactive mode

You enter interactive mode when there is no subcommand provided on the command line with the **ts** command. Interactive mode establishes the connection with the PowerSC Trusted Surveyor server and maintains the connection throughout multiple command entries until the exit command or EOF (CTRL-D) is issued.

This mode can be run by creating a script which runs until it is complete, which is helpful for frequently used command sequences.

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Single command mode

In this mode, you provide a single **ts** command with a subcommand. The entered subcommand runs, and the session is closed with the PowerSC Trusted Surveyor server.

Parameters

-D *domainName*

Sets the domain when you start an interactive session or run a single command. This parameter also sets the working domain, which is assumed when no domain is specified.

-U *username*

Sets the user name for the login from the PowerSC Trusted Surveyor client to the PowerSC Trusted Surveyor server.

-p *password*

Sets the password for the connection to the server. If no password is provided, then PowerSC Trusted Surveyor prompts for a password.

subcommand

The subcommand often takes the form of target/subcommand. Because this happens frequently, it is easier to consider them a command together. So, in the command **ts domain/ch**, the target is **domain** and the subcommand is **ch**, but it is referred to as the **domain/ch** command.

Exit status

- 0** Success. The command completed successfully.
- 1** Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2** Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3** Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4** Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7** Internal error. This command reported an internal error when processing. If the error persists, contact your support team.

Note: When using subcommands, the PowerSC Trusted Surveyor can also return an exit status related to the particular subcommand. Those exit status codes are listed for each of the subcommands.

Examples

1. To set up a connection with the server on *domain1* with the username of *user1* and a password of *adminpassword*, enter the following command:

```
ts -D domain1 -U user1 -p adminpassword
```
2. To display the help for the **ts** command, enter the following command:

```
ts -h
```


3. To enter interactive mode with domain *d2* as the working domain, display the session variables, list probes, switch to domain *d3*, list snapshots and exit, enter the following sequence of commands and information:

```
ts -D d2
password
set
probe/ls
set -D d3
snapshot/ls
exit
```

4. Alternatively, you can use a file to run all of the commands. Create a file with the following commands and information:

```
ts -D d2 -p password
set
probe/ls
set -D d3
snapshot/ls
exit
EOF
```

5. To list the probes of your working domain in single-command mode, enter the following command:
ts probe/ls

exit command

Purpose

Exits the current session.

Syntax

```
ts exit
```

Description

The **ts exit** enables you to exit the current working session. It ends the connections with the PowerSC Trusted Surveyor server when you are in interactive mode.

Parameters

None.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.

- The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.

Examples

To exit the current working session, enter the following command:

```
exit
```

help command

Purpose

Returns help information about command syntax and use.

Syntax

```
ts help [target/subcommand]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts help** command provides help information for an area of PowerSC Trusted Surveyor. This command returns one of two levels of help information, depending on the parameters entered in the command.

Parameters

The type of help information is determined by the parameters used in the command. If no parameter is entered, the global help is displayed.

target/subcommand

Using the **help** command followed by a *target/subcommand* parameter displays the subcommand help that is available for the specified subcommand. Valid entries for the *target/subcommand* parameter follow:

- domain/ch
- domain/dump_key
- domain/ls
- domain/mk
- domain/rm
- probe/ch
- probe/ls
- probe/mk
- probe/rm
- report
- snapshot/ch
- snapshot/diff
- snapshot/ls
- snapshot/mk

- snapshot/rm

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.

Examples

1. To display general help information, enter the following command:
2. To display information about the **mk** command with the probe target, enter the following command:

```
ts help
```

```
ts help probe/mk
```

report command

Purpose

Generates reports that include information and analysis of the data center and the state of PowerSC Trusted Surveyor.

Syntax

```
ts report -type {probe_log [-s snapID] [-probe probeName] | config [-s snapID] [-f {csv | txt}] | datacenter [-s snapID] [-f {csv | txt}]}
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts report** command generates and displays three different types of reports. The types of reports are `probe_log`, `config`, and `datacenter`.

The options available to the reports depend on which report type is being generated. Some reports support the comma-separated-value (CSV) format, but text format is the default format.

For reports that support an optional snapshot ID (`snapID`) parameter, you can specify a snapshot. PowerSC Trusted Surveyor uses the current snapshot if none is specified.

Parameters

-type *type*

Specifies the type of report to generate. The required and optional parameters depend on which report was specified. The type that is specified must be one of the following types:

probe_log

Retrieves the log that was created by probes during the snapshot acquisition. The logs of all of the probes are returned if no *probeName* is specified.

config

Returns the user-defined configuration data.

datacenter

Returns the complete normalized configuration data set for the data center as discovered by the probes.

-s *snapID*

Identifies the snapshot that is the basis for the report.

-probe *probeName*

Specifies the probe that is used in the report.

-f {**csv**|**txt**}

Specifies the output format for the report. If none is specified, the txt format is used.

csv

The comma-separated-value format, which is used with spreadsheets.

txt

The text format, which is used for general reports.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.

- 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.

Examples

1. To display the full log report of a snapshot that has a *snapID* value of 1234, enter the following command:

```
ts report -type probe_log -s 1234
```
2. Assuming the user ID value is *tsuser*, and the password value is *tsuser*, enter the following command to display the *csv* format of the data center configuration for the working domain that has a *snapID* value of 1234:

```
ts -U tsuser -p tsuser report -type datacenter -s 1234 -f csv
```

set command

Purpose

Defines the list of session attributes for the working domain.

Syntax

```
ts set [-D domainName]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts set** command defines the list of session attributes for the current working session.

Parameters

-D *domainName*
Changes the current working domain to the one specified by the *domainName* variable.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.

Examples

To display the set of your system, enter the following command:

```
ts set
```

PowerSC Trusted Surveyor 1.1.0 domain commands

PowerSC Trusted Surveyor has domain commands that act on domains.

A domain is a view of some or all of a virtual data center. Multiple domains can be defined within the same data center. For example, you might define a domain with a subset of probes for a tools team. The smaller number of probes allows the team to test iterations faster. To benefit the most from PowerSC Trusted Surveyor, define at least one domain that contains all of probe definitions for the remote management consoles in the data center. A domain consists of the following areas:

- Probe definitions, which include the Hardware Management Consoles (HMC)s and their credentials.
- Snapshots, which store an instant image of all of the data except the probes.

The active domain determines which resources are accessible. If the same resource is defined to more than one domain, changes affect only the active domain.

domain/ch command

Purpose

Changes the domain name or automatic snapshot acquisition schedule.

Syntax

```
ts domain/ch nameID [-name domainName] [-schedEnabled {0|1}] [-schedIntervalH hours]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts domain/ch** command changes a domain name or automatic snapshot acquisition schedule. When you change the name of a domain, the new name must be unique. You can also enable or disable the automatic snapshot capture process for a snapshot. For automatic snapshots that are enabled, use this command to change the interval of time between the automatic snapshot captures.

Parameters

nameID

Specifies the unique name of the target domain that is affected by the command.

-name *domainName*

Specifies the name of the domain as a string.

-schedEnabled

Specifies whether the automatic probe acquisition is enabled or disabled.

0 Disabled

1 Enabled

-schedIntervalH *hours*

Specifies the number of hours between automatic snapshot acquisitions.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
- 11 Incorrectly formatted parameter. There was a parameter that was not in the correct format to process the command successfully. Verify the format of the command parameters and run the command again.
- 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.
- 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.

Examples

1. To change the name of a domain named `default` to `domain1`, enter the following command:

```
ts domain/ch default -name domain1
```
2. To change the time interval to 2 hours between automated snapshot acquisitions for `domain1`, enter the following command:

```
ts domain/ch domain1 -schedIntervalH 2
```

domain/dump_key command

Purpose

Prints the content of the public key used in this domain to connect to the probes when using the `pubkey` credential type.

Syntax

ts domain/dump_key [*name*]

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts domain/dump_key** command prints the content of the public key used in the specified domain to connect to the probes when using the pubkey credential type.

This command is used to retrieve the public key and deploy it to its probes. For Hardware Management Console (HMC) probes, this command must be run when automatic deployment of the key is not used.

Parameters

name

Specifies the name of the domain from where the key is retrieved. If no *name* is specified, then the working domain is used.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.

Example

To output the content of the public key that is used on the current domain, enter the following command:

```
ts domain/dump_key
```

domain/ls command

Purpose

Lists a single domain or all known domains with their attributes.

Syntax

ts domain/ls [-F *attributeList*] [*name*]

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts domain/ls** command displays either all of the defined domains or a single domain when a name is given. This list provides an overview of the scheduling configuration of the server.

The domain names that are returned provide the basis to modify, delete, or select a domain to be the working domain.

Parameters

-F *attributeList*

The comma-separated list of attributes that are returned with the list of domains. The attributes in the *attributeList* are limited to the following attributes:

name

Specifies the name of the domain.

schedEnabled

Specifies whether the automatic probe acquisition is enabled or disabled.

0 Disabled

1 Enabled

schedIntervalH

Specifies the number of hours between automatic snapshot acquisitions.

name

The unique name of the target domain that is displayed as a result of the command.

Exit status

- 0** Success. The command completed successfully.
- 1** Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2** Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3** Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4** Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7** Internal error. This command reported an internal error when processing. If the error persists, contact your support team.

- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
- 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.

Examples

1. To display a list of all known domains, enter the following command:

```
ts domain/ls
```
2. To display a list of domain names and their **schedEnabled** attribute values, enter the following command:

```
ts domain/ls -F name,schedEnabled
```

domain/mk command

Purpose

Creates a new, empty domain and defines it as the current working domain.

Syntax

```
ts domain/mk -name domainName [-schedEnabled {0|1}] [-scheduleIntervalH hours]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts domain/mk** command creates a domain and makes it the working domain.

Domains in PowerSC Trusted Surveyor are environments that contain the definition of a set of probes that gather information and their resulting acquired snapshots.

Every PowerSC Trusted Surveyor session has a defined working domain. This working domain is used by other commands that act on a domain, but none is specified in the command.

Each domain can be configured to acquire new snapshots automatically. You configure this acquisition by setting the **schedEnabled** parameter to 1. You can then schedule an interval of time, in hours between automatic acquisitions by setting the **scheduleIntervalH** parameter. The default value is 24 hours.

Parameters

-name *domainName*

Specifies the unique name of the new domain.

-schedEnabled

Specifies whether regular automatic probe acquisition is currently enabled or disabled.

1 Enabled

0 Disabled

-scheduleIntervalH *hours*

Specifies the number of hours between acquisitions. This value is only used when the automatic scheduling is enabled.

Exit status

- 0** Success. The command completed successfully.

- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command
- 11 Incorrectly formatted parameter. There was a parameter that was not in the correct format to process the command successfully. Verify the format of the command parameters and run the command again.
- 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.
- 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.
- 18 Unique attribute required. The value of the attribute *attributeName* is already used by another object.

Examples

1. To create a default domain named `domain1`, enter the following command:

```
ts domain/mk -name domain1
```
2. To create a new domain named `domain1` with a schedule to automatically acquire a snapshot every 2 hours, enter the following command:

```
ts domain/mk -name domain1 -schedIntervalH 2
```

domain/rm command

Purpose

Deletes a domain and destroys its content.

Syntax

```
ts domain/rm name
```

Note: If you have established an interactive session, omit `ts` from the syntax of the command.

Description

The **ts domain/rm** command deletes a domain, all of its corresponding probe definitions, and its snapshots. When the current domain is deleted, use the **set -D** to specify another working domain. Use caution when using this command, as you can delete a large amount of data.

If you delete the only domain, then a domain named *default* is created.

Parameters

name

Specifies the name of the domain to be deleted.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command.
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
- 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.

Example

To delete a domain named `cluster25`, enter the following command:

```
ts domain/rm cluster25
```

PowerSC Trusted Surveyor 1.1.0 probe commands

PowerSC Trusted Surveyor has probe commands that act on probes.

The probe is a definition of a remote Hardware Management Console (HMC) that is used to query and discover the data center configuration of the machines that the HMC manages. The probe configuration data includes all of the information that is required to reach this HMC, including IP address, account user name and credentials, and whether the probe is enabled for snapshot data acquisition.

probe/ch command

Purpose

Changes some attributes of a probe.

Syntax

```
ts probe/ch name [-name newName] [-hostname newHostName] [-port newPortNumber] [-enabled {0|1}]
[{-username userName [-password password] | -credential pubkey}]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts probe/ch** command changes the attributes of a probe that is defined in the working domain. You can switch to another working domain by using the **set** command with the **-D** parameter. You can use the **enabled** parameter to enable or disable the probe for subsequent automatic snapshot acquisitions. When you enable a probe, it attempts to connect to the management console to acquire the snapshot. If the connection fails, the probe is still modified but its automatic acquisitions are disabled. To reactivate this probe, determine whether the credential needs to be fixed and enable the probe to use the **probe/ch** command.

You can use the **-username** and the **-password** parameters for the HMC administrator login to switch to the basic credential type. The basic credential type makes a connection between the PowerSC Trusted Surveyor server and a management console, and deploys a public key automatically. The deployed key converts the connection to a pubkey credential type and maintains the connection between the PowerSC Trusted Surveyor server and the management console. The PowerSC Trusted Surveyor server discards the username and password for the management console.

If you are using a key that is set up on the management console, you can use the **-credential pubkey** parameter to switch to the public key credential type.

Parameters

name

Specifies the name of the probe that is changed.

-name *newName*

Specifies the new name of the probe.

-hostname *newHostName*

Identifies the Internet address of the Hardware Management Console (HMC).

-port *newPortNumber*

Identifies the port number used to connect to the HMC.

-enabled

Specifies the status of the HMC probe.

- 1** The HMC probe is enabled. It runs during a snapshot acquisition. This is the default value.
- 0** The HMC probe is disabled. It does not run during a snapshot acquisition.

-username *username*

Identifies the user name that deploys the public key.

-password *passwordString*

Specifies the corresponding password when you use the **-user** parameter. When you set a user name, this parameter enables a basic credential until the password is set or requested interactively.

-credential {*pubkeybasic*}

Specifies the credential type that is identified in the command. This value is usually the public key credential.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command.
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
- 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.
- 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.
- 18 Unique attribute required. The value of the attribute *attributeName* is already used by another object.

Examples

1. To change the name from probe1 to probe2, enter the following command:
ts probe/ch probe1 -name probe2
2. To change the name from probe1 to probe2 and to change the port number to 23, enter the following command:
ts probe/ch probe1 -name probe2 -port 23

probe/log command

Purpose

Displays the probe run log in text format.

Syntax

```
ts probe/log [-s snapID] name
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts probe/log** command displays the probe running log as simple text. This command displays the log for only one probe at a time. If no snapshot is identified, the log displayed is from the last acquisition of the probe in the working domain. If a *snapID* is specified, the log for a probe defined at this snapshot acquisition time is returned.

Parameters

name

Identifies the name of the probe for which the log displays.

-s *snapID*

Identifies the snapshot for which to display the probe logs.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.

Example

To view the probe log results from the last acquisition of the **hmc12** domain, enter the following command:

ts probe/log hmc12

probe/ls command

Purpose

Lists one or all of the known probes of the working domain.

Syntax

```
ts probe/ls [-s snapID] [-F attributeList] [name]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts probe/ls** command lists one or all of the known or specified probes of the working domain with attributes. To change the working domain to another domain, use the **set** command and the **-D** parameter.

Probes are configuration items that are used by the PowerSC Trusted Surveyor server to gather information about the data center state. Hardware Management Consoles (HMCs) can be used as probes. When a probe name is specified, only that probe is displayed. Each domain has defined probes.

The probes that are enabled acquire new snapshots. When the **probe/ls** command is run without specifying a snapshot (-s), the probes of the working domain are listed. In this case, the status and date for each probe is the most recent snapshot. Each snapshot is related to the probes that created it, along with their status then. Use the **-s** parameter to query that information.

Parameters

-s *snapID*

Displays the probe log only for the identified snapshot.

-F *attributeList*

Formats the printed result by showing only the attributes that are listed in the comma-separated list that is provided by this parameter. The list must contain one or more of the following attributes:

name

Provides the unique name of the probe.

hostname

Specifies the IP address of the Hardware Management Console (HMC).

port

Identifies the port on the HMC for the connection.

credential

Identifies the type of credential that is used to connect to the HMC. The possible connection types follow:

basic

Specifies the credential that requires the HMC administrator user ID and password to provide initial configuration of a probe when the TSMonitor user ID is not enabled on the HMC. After the initial configuration, pubkey authentication is used.

pubkey

Specifies the credential type with the ability to access to the HMC connection with a security encryption key.

username

Provides a login name when you are connecting to a probe. For HMC probes, this value is the administrator login name. This parameter is only used when you are logging on with the basic credential type.

password

Provides the password to use when you are connecting to the probe. For HMC probes, this password is used as the administrator password to deploy the public key. This parameter is used only with the basic credential type.

enabled 0|1

Indicates whether the probe is used for automatic acquisitions of snapshots. The possible values follow:

- 1** The HMC probe is enabled (default)
- 0** The HMC probe is disabled

status

Identifies the status of the most recent or requested probe snapshot acquisition. The value for the status must be one or more of the following values:

- error
- invalid_credentials
- ok

name

Lists the probes with names that match the *name* value.

Exit status

- 0** Success. The command completed successfully.
- 1** Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2** Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3** Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4** Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7** Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 9** Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
- 12** Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.

Examples

1.

To list the information about the hmc12 probe, enter the following command:

```
ts probe/lis hmc12
```

2. To list the names and ports of the probes in the working domain, enter the following command:

```
ts probe/lis -F name,port
```

probe/mk command

Purpose

Creates a probe in the working domain.

Syntax

```
ts probe/mk -name probename -hostname hostname [-port port] [-enabled {0 | 1}] [-username username  
-password password | -credential pubKey]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts probe/mk** command creates a probe in the working domain. Creating a probe with the *enabled* attribute set configures it to acquire subsequent snapshots automatically.

There are two types of credentials that are defined for probes. When PowerSC Trusted Surveyor creates a probe, it tries to deploy a public license key on the Hardware Management Console (HMC) and switch to the pubkey credential if the change is successful. If this step fails, the probe is still created but is disabled and not able to run automatic probes. To use this probe, fix the credential and then enable the probe with the **probe/ch** command.

Parameters

-name *probename*

Specifies the unique name of the probe that is created.

-hostname *hostname*

Specifies the IP address of the probe.

-port *port*

Identifies the port to use when it connects to the probe. The default setting is the default port for that type of probe.

-enabled {0|1}

Indicates whether probing the Hardware Management Console (HMC) is enabled or disabled.

1 The HMC probe is enabled

0 The HMC probe is disabled (default)

-username *username*

Specifies the user name of the management console when it uses the basic credential.

-password *password*

Specifies the password that pairs with the user name for the management console. It is required when you use the basic credential. It is requested interactively, if it is not specified.

-credential *pubkey*

Indicates the value for the public key when you are using the pubkey credential.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command
- 11 Incorrectly formatted parameter. There was a parameter that was not in the correct format to process the command successfully. Verify the format of the command parameters and run the command again.
- 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.
- 13 Authentication failed. The public key deployment failed. This result can be caused by the user name and password that is used or because the probe connection could not be established.
- 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.
- 18 Unique attribute required. The value of the attribute *attributeName* is already used by another object.

Examples

1. This example shows how to create a probe named `probe1`. The hostname is `hostname.com`, and the username and password for the HMC are `user1` and `password1`. Enter the following command to create this probe and to run the automatic key deployment:

```
ts probe/mk -name probe1 -hostname hostname.com -username user1 -password password1
```
2. This example shows how to create a probe named `probekey` with an HMC that has a hostname of `hostname.com`. This HMC already has a key that is manually configured for this connection, so the automatic key deployment is not used. To create this probe, enter the following command:

```
probe/mk -name probekey -hostname hostname.com -credential pubkey
```

probe/rm command

Purpose

Removes a probe.

Syntax

`ts probe/rm name`

Note: If you have established an interactive session, omit `ts` from the syntax of the command.

Description

The `ts probe/rm` command removes a defined probe from the working domain. You can use this command when you no longer want this probe to perform any activity on the system.

Parameters

name

Removes the probe with the specified name.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command
- 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.

Example

To remove a probe named `probe1`, enter the following command:

```
ts probe/rm probe1
```

PowerSC Trusted Surveyor 1.1.0 snapshot commands

PowerSC Trusted Surveyor has snapshot commands that allow you to act on snapshots.

The snapshot target is a group of the snapshot commands. The snapshot provides definition of all of the data that is needed to determine the state of a domain and its configuration at a point in time.

The current snapshot contains the last acquisition results of the probe, as well as the policies and their status. The previous snapshots are earlier values of the current snapshot. All snapshot commands apply to the current snapshot if no snapshot is specified. To specify a different snapshot, specify it by using its snapID.

snapshot/ch command

Purpose

Changes some attributes of a snapshot.

Syntax

```
ts snapshot/ch {current | snapID} [-name newName] [-persistent {0|1}]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts snapshot/ch** command changes some parameters for a snapshot, including its name or persistence value.

Some data associated with a snapshot can be modified. This command is used to provide or change the name of a snapshot and set or modify its persistency state. When changing the persistency state from enabled to disabled, the snapshot schedule is available for discarding beginning with the next acquisition.

Parameters

current

Identifies the current snapshot as the one to be changed.

snapID

Identifies the snapshot.

-name *newName*

Identifies the new name of the snapshot when changing the name.

-persistent 0|1

Specifies whether a snapshot is saved.

1 The snapshot is saved.

0 The snapshot is not saved, and is deleted when there are a number of later snapshots.

Exit status

- 0** Success. The command completed successfully.
- 1** Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2** Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3** Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4** Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.

- The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
 - 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command
 - 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
 - 11 Incorrectly formatted parameter. There was a parameter that was not in the correct format to process the command successfully. Verify the format of the command parameters and run the command again.
 - 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.
 - 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.
 - 18 Unique attribute required. The value of the attribute *attributeName* is already used by another object.

Examples

1. To give the name `snapshot1` to the current snapshot and set it to a persistent state, enter the following command:

```
ts snapshot/ch current -name snapshot1 -persistent 1
```
2. To set the name of the snapshot with the *snapID* value of 1234 to `snapshot2`, enter the following command:

```
ts snapshot/ch 1234 -name snapshot2
```

snapshot/diff command

Purpose

Compares two snapshots and returns the differences.

Syntax

```
ts snapshot/diff -{vlan | server} [snapID | current | previous] [snapID | current | previous]
```

Note: If you have established an interactive session, omit `ts` from the syntax of the command.

Description

The `ts snapshot/diff` command returns the results of a comparison between two snapshots that were captured at different times. If two snapshots are specified, the comparison is done from the first to the second as entered in the command. If only one snapshot is specified, the comparison is done from the one specified to the current snapshot. The snapshots are specified by their *snapID* values, which is the unique identification integer or name for each snapshot. If no snapshots are specified, the comparison is made from the previous snapshot to the current snapshot.

Two modes of comparison are available, which are `vlan` mode and `server` mode. The `vlan` mode makes the comparison for each accessible virtual LAN (VLAN) on each virtual machine. The `server` mode makes

the comparison based on the changes of the location of the virtual machines that are on the physical servers.

Parameters

-vlan

Selects the vlan mode for the comparison. This mode displays the differences between the two compared snapshots for each accessible virtual LAN (vLAN) on each virtual machine.

-server

Selects the server mode for the comparison. This mode compares the locations of virtual machines on physical servers. The returned information contains compared information between the two snapshots, including any virtual machines that were created, deleted, or migrated.

snapID

Specifies which snapshots to use when you are comparing them by using its unique *snapID* integer or name. The default value for the first variable is the previous version of the working snapshot. A second snapshot can be specified to compare two specific snapshots. The default value for the second variable is the current version of the working snapshot.

current

Specifies the last successful snapshot to use in the comparison.

previous

Specifies the successful snapshot before the last successful snapshot to use in the comparison.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command.
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.

Examples

1. To compare the snapshot objects from the current snapshot to one with a *snapID* value of 1234 in server mode, enter the following command:

```
ts snapshot/diff -server 1234
```

2. To compare the snapshot resources from the snapshot with the *snapID* value of 1234 to a snapshot with the *snapID* value of 5678 in vlan mode, enter the following command:

```
ts snapshot/diff -vlan 1234 5678
```

snapshot/ls command

Purpose

Lists the selected snapshots identified for the working domain.

Syntax

```
ts snapshot/ls [-F attributeList] [{current | previous | snapID}]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts snapshot/ls** command displays a snapshot for the specified or current snapshots of the working domain that match the specified attributes. Snapshots can be managed by name or by a unique integer, which is the *snapID*.

Parameters

-F *attributeList*

Filters the snapshots displayed to only those that are specified as comma-separated attributes. The attributes in the list must be one or more of the following attributes:

name

Specifies the name of the snapshot as a string.

date

Specifies the date of the snapshot creation.

persistent 0|1

Specifies whether a snapshot is saved permanently.

1 The snapshot is saved until it is manually removed or changed to a nonpersistent state.

0 The snapshot is discarded after a number of later snapshots are captured.

state

Specifies the result state of the acquisition. This result can be one of the following values:

NEW

The acquisition is in progress.

OK The acquisition was completed successfully.

Failed

The acquisition ran, but did not complete.

current

Identifies the last successful snapshot as the one to list.

previous

Identifies the successful snapshot that occurred before the last as the one to list.

snapID

Specifies the unique integer or name that identifies the snapshot. When multiple parameters are used, the *snapID* must be the last parameter.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
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 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
- 12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.

Examples

1. To list the current snapshots, enter the following command:

```
ts snapshot/ls
```
2. To list the snapshot with the **snapID** of **1234** and display only the name, date, and persistent attributes for the results, enter the following command:

```
ts snapshot/ls -F "name,date,persistent" 1234
```

snapshot/mk command

Purpose

Creates a snapshot by running the entire acquisition and verification process on the working domain.

Syntax

```
ts snapshot/mk [-name name] [-persistent {0 | 1}]
```

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts snapshot/mk** command creates a snapshot by running the acquisition and verification process, which includes the probes acquisition. After you create a snapshot with this command, the created snapshot becomes the current snapshot if the status of the snapshot is **OK**.

You can name a current snapshot for convenience, but it is automatically created with a unique integer called its *snapID*.

Parameters

-name *name*

Identifies the name of the new snapshot.

-persistent *0|1*

Specifies whether a snapshot is saved permanently or is deleted after some later snapshots are created.

1 Indicates that the snapshot is saved until deleted.

0 Indicates that the snapshot is not saved, and is deleted when there are a number of later snapshots.

Exit status

0 Success. The command completed successfully.

1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.

2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.

3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.

4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:

- The command name is unknown or not formed correctly. Verify that the command is entered correctly.
- The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
- You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.

7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.

12 Attribute error. An attribute name that is provided in the command is not a known attribute. Provide an attribute from the list of attributes for the command.

Examples

1. To start a snapshot creation process, enter the following command:

```
ts snapshot/mk
```

2. To create a snapshot named snap55, enter the following command:

```
ts snapshot/mk -name snap55
```

3. To create a persistent snapshot, enter the following command:

```
ts snapshot/mk -persistent 1
```

4. To create a persistent snapshot named snapshot66, enter the following command:

```
ts snapshot/mk -name snapshot66 -persistent 1
```

snapshot/rm command

Purpose

Removes a snapshot.

Syntax

ts snapshot/rm *snapID* [*snapID*]...

Note: If you have established an interactive session, omit **ts** from the syntax of the command.

Description

The **ts snapshot/rm** command removes the snapshot that is specified in the parameters from the working domain. Removing a snapshot permanently deletes it. Use this option as part of a maintenance routine to remove snapshots that are no longer needed.

Parameters

snapID

Specifies the unique integer or name that identifies the snapshot.

Exit status

- 0 Success. The command completed successfully.
- 1 Connection failed. The connection to the PowerSC Trusted Surveyor server failed. Ensure that the daemon is running.
- 2 Connection refused. The PowerSC Trusted Surveyor server refused the connection because of insufficient access rights. Contact the system administrator to obtain the correct level of access.
- 3 Syntax error. The command-line parameter parsing failed. Ensure that the command is in the correct format.
- 4 Invalid parameter. There was an invalid parameter in the command. The most common reasons for this message follow:
 - The command name is unknown or not formed correctly. Verify that the command is entered correctly.
 - The command did not have the expected number of parameters. Ensure that you are using the correct number of parameters for the command.
 - You cannot change a read-only attribute. Ensure that all of the value change requests are editable values.
- 7 Internal error. This command reported an internal error when processing. If the error persists, contact your support team.
- 8 Missing parameter. The command was missing a required parameter, which prevented the process from completing successfully. Verify that all required parameters are included in the command.
- 9 Resource not found. The resource that was specified in the command does not exist. The resource identified by the *filterAttributes* did not match any existing domains. Use an attribute that matches at least one of the resources.
- 14 Restricted action. You do not have the correct access permission to complete the action. This action requires an administrator role.

Example

To remove a snapshot with the *snapID* value of 1234, enter the following command:

```
ts snapshot/rm 1234
```

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