

SVA NMP Agent for Solaris

Installation Guide

Version 3.1.1

First Edition

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Chapter 1. Installation

Required Hardware and Operating System

The following configurations are supported:

- Sun Sparc station with Solaris 2.5.1 and master agent runtime
- Sun Sparc station with Solaris 2.6 and master agent runtime
- Sun Sparc station with Solaris 7 32b and master agent runtime
- Sun Sparc station with Solaris 7 64b and master agent runtime
- Sun Sparc station with Solaris 8 32b and master agent runtime
- Sun Sparc station with Solaris 8 64b and master agent runtime
- Sun Sparc station with Solaris 9 32b and master agent runtime
- Sun Sparc station with Solaris 9 64b and master agent runtime

Before the Installation

Before installing the SVA NMP Agent, make sure that:

- At least one StorageTek Shared Virtual Array Administrator server is installed and configured on the host.
- An SNMP environment is installed and configured on the host. If not, contact your Sun Microsystems vendor.
- SVAA 3.1 for V2X is installed on your computer.

The SVA NMP Agent must be installed in the same directory as the SVAA server software. Therefore you should first locate SVAA directory on the current host.

To Install the SVA NMP Agent

1. **Log in at the console prompt as root.**
2. **Change directory on the CD-ROM containing the installation package:**
`cd /cdrom`
3. **Issue the following command to start installing the package:**
`pkgadd -d . STKSvaAgt`



Note: If SVA NMP Agent 3.1 is installed on the current host, you must uninstall it prior to installing SVA NMP Agent 3.1.1.
To obtain information about the package, issue the following command:

```
pkginfo -r STKSvaAgt*
```



Note: If SVA NMP Agent 3.1.1 has already been installed on the current host, the following message will be displayed and the old files will be overwritten:

This appears to be an attempt to install the same architecture and version of a package which is already installed. This installation will attempt to overwrite this package.

Do you want to continue the installation (y,n) ?

Answer **y** to re-install the agent. Answering **n** will abort the installation.

4. **After checking that the SVAA server software was previously installed, enter y at the prompt** Is SVAA installed on this machine (y/n) ?

If you enter **n** as a response to the above question, the installation will be aborted.

5. **At the prompt** Type SVAA installation directory, **enter the absolute pathname of the installed SVAA server package.**

For instance, enter:

```
/opt/SVAA3.1
```

6. **You will next be asked to select the server(s) available in the directory that you wish to use.**

Select those to use

```
<servername1> (y/n)
```

Enter **y**.

7. **At the the prompt** Do you want this directory created now [y,n,?,q], **enter y to create the following package base directory for the StorageTek SVA NMP Agent:** *SVAA/agent*.

Where *SVAA* is the current location of the SVAA server software.

8. **Enter y at the following prompt:**

Do you want to continue with the installation of <STKSvaAgt> [y, n,?]



Note: If you need to modify the list of trap target addresses, follow the instructions given in [Chapter 2 “Modifying SVA NMP Agent Settings”](#).

- If the installation succeeded, the following message is displayed:
Installation of <STKSvaAgt> was successful.

Hint:

- If the installation was not completed successfully, the following message is displayed instead:
Installation of <STKSvaAgt> failed.
In this case, please refer to [Chapter 3 “Troubleshooting”](#)

To Start the Agent for the First Time

To start the SVA NMP Agent for the first time you must re-start the SNMP Master Agent.

1. Check whether the SNMP Master Agent is running:

```
/usr/bin/ps -e | /usr/bin/grep snmpdx
```

2. Stop the SNMP Master Agent if it is running:

```
/etc/init.d/init.snmpdx stop
```

If the Master Agent has been stopped successfully, there should be no response from the system.

3. Re-start the SNMP Master Agent:

```
/etc/init.d/init.snmpdx start
```

The SVA NMP Agent will be started by the Master Agent.

4. To check whether the SVA NMP Agent is running, type in the following command:

```
SVAA/agent/sibagentstate
```

Where *SVAA* is the directory where the SVAA server is installed. You should get the following message:

```
the SVAA Agent is running.
```

If the SVA NMP Agent does not start, then you will get SVAA Agent is not running. An error message will be logged in a `sibagent.log` file located in the SVA NMP Agent directory. Please refer to [Chapter 3 “Troubleshooting”](#) for information on how to solve the problem.

To Start and Stop the Agent

To Start the SVA NMP Agent

Issue the following command:

```
SVAA/agent/sibagent start
```

Where *SVAA* is the directory where the SVAA server is installed.

To Stop the Agent

Issue the following command:

```
SVAA/agent/sibagent stop
```

Where *SVAA* is the directory where the SVAA server is installed.

To Set the Trap Destination Settings

Refer to [Chapter 2 “Modifying SVA NMP Agent Settings”](#).

To View the Agent Version

To get information on the agent version, issue the following command:

```
SVAA/agent/sibagent -version
```

Where *SVAA* is the directory where the SVAA server is installed. The displayed information is the following:

- Agent Version
- Agent Internal Label
- Agent Model Number

Chapter 2. Modifying SVA NMP Agent Settings

To modify SVA NMP Agent settings, it is necessary to make changes to a configuration file. Beforehand, you must make sure the SVA NMP Agent is not running. You should proceed in the following order:

- Stop the SVA NMP Agent
- Restart the SVA NMP Agent

Stopping the SVA NMP Agent

1. **To check whether SVA NMP Agent is running, issue this command:**

`SVAA/agent/sibagentstate`

Where *SVAA* is the directory where the SVAA server is installed. You should get the following message:

the SVAA Agent is running.

2. **If it is running, issue the following command to stop it:**

`SVAA/agent/sibagent stop`

Where *SVAA* is the directory where the SVAA server is installed.

Running the Agent Configuration Tool

1. **To run the Agent Configuration Tool, issue this command:**

`SVAA/agent/sibagentconfig`

Where *SVAA* is the directory where the SVAA server is installed.

2. **Modify any of the parameters available in the menu (see details in the following paragraph) and exit the Agent Configuration Tool.**

Agent Configuration Tool Menu

When the Agent Configuration Tool is started, the menu below is displayed:

```
*****  
***** SVA Agent Configuration *****  
*****
```

- 1) Username
- 2) Server ports
- 3) Trap polling switch
- 4) Trap polling rate
- 5) Trap destination
- 6) Snmp ports
- 7) Nci threshold
- 8) Spares drives trap threshold
- 9) PPRC Path threshold (%)
- 10) PPRC Pair trap threshold
- 11) Mail Switches
- 12) SMTP Server
- 13) Mail Receivers
- 0) End of configuration

1) Username

Defines the username used to connect to the SVAA server. Default value is the logged user.

2) Server ports

Defines the list of ports the SVAA servers are running on.

3) Trap polling switch

Refers to the internal SVA NMP Agent cycle used to monitor various statuses and to send trap messages in case of status changes. This switch defines whether trap polling is enabled or disabled. Default value is `on`.

4) Trap polling rate

Defines the number of minutes between each polling event, if trap polling is enabled. Default value is `60`. Valid values range from `5` to `34560` minutes (24 days).

5) Trap destination

Allows the user to add or remove trap destination hosts, where *address* can be either a hostname or an IP address. Default value is an empty list.



Hint: Before adding a hostname or IP address to the Trap Destinations List, try contacting the host machine with a `ping` command to ensure it is a valid address.

6) Snmp ports

Allows setting of the SNMP port for communication with the SNMP Master Agent, where *port number* is a valid SNMP port. If you change it in this file, the same change must be applied to the following SNMP configuration file:

/etc/snmp/conf/svaagent.reg

7) Ncl threshold

Defines the Ncl value above which the Agent will send a trap indicating that the Subsystem Ncl has reached the Ncl Threshold. Default value is 75%. Valid values range from 1% to 99%.

8) Spare drives trap threshold

Defines the value of Spare Drives Left under which the Agent will send traps. Default value is 2. Valid values are 2, 6, 16. For example:

- **threshold = 2** means that traps on Spare Drives Left will be sent only if the number of Spare Drives Left is less than 2 (2 or greater Spare Drives Left will not initiate traps)
- **threshold = 16** means that traps on Spare Drives Left will be sent only if the number of Spare Drives Left is less than 16 (0 to 15 Spare Drives Left will initiate traps)

PPRC Alarm 9) PPRC Path threshold (%)

Defines the percentage of Paths in Error above which the agent will send a trap indicating that the subsystem has reached the Path threshold. Default value is 25%. Valid values range from 1% to 99%.

10) PPRC Pair trap threshold

Defines the maximum number of traps the Agent will send for each Suspended Pair. Default value is 5. For example:

- **threshold = 5** means that if 5 or more pairs are suspended, the Agent will send 5 traps. If there are fewer suspended pairs, the Agent will send as many traps as there are suspended pairs.

Mail Configuration Settings

11) Mail Switches

Covers the following mail settings:

Mail_Ncl_Switch= *On/Off*

Defines whether the Agent will send E-mail notifications concerning NCL status. Default value is *Off*.

Mail_Spare_Switch= *On/Off*

Defines whether the Agent will send E-mail notifications concerning Spare Drives Left status. Default value is *Off*.

Mail_Drive_Switch= *On/Off*

Defines whether the Agent will send E-mail notifications concerning Drive Failure by Array status. Default value is *Off*.

Mail_Path_Switch= *On/Off*

Defines whether the Agent will send E-mail notifications concerning PPRC Paths status. Default value is *Off*.

Mail_Pair_Switch= *On/Off*

Defines whether the Agent will send E-mail notifications concerning PPRC Pairs status. Default value is *off*.

12) SMTP Server

Defines the address of the SMTP Server to be used to send E-mail notifications as follows:

SMTP Server=*Server*

13) Mail Receivers

Defines the list of E-mail notification destination addresses as follows:

Mail_SendToList=[*Receiver1*]; [*Receiver2*]; [*Receiver3*]

0) End of configuration

Exits the Agent Configuration Tool.

Other Agent Configuration Settings

The following settings can be modified only by editing the `agentconfig.dat` file and should be modified with high caution on Support Team demand.

SNMP_Community=*community*

Defines the SNMP community which is used to access to the SVA NMP Agent. Default value is **public**. If you change *community* in this file from the default value, you will need to change accordingly on the monitor side (refer to the SVA Monitor Installation Guide).

Cache_Durations=*seconds*

Defines the time after which the cache expires. The cache mechanism is used by SVA NMP Agent to keep on-line the recent information retrieved from the SVAs or the SVA servers. This is done in order to improve agent response time to monitor queries. Default value is **60** seconds. Valid values range from **5** to **2073600** seconds (24 days).

Server_Configuration_File_Path_List=*path*[;*path2*][;*path3*]. . .

Defines the list of full pathnames to SVAA server `config.dat` files that are used to read the ports they are running on.

Trace Settings

Trace_Switch=*on/off*

Defines whether trace mode is enabled or disabled. Trace mode can be useful for troubleshooting but can have side-effects such as the creation of a large trace file or a slow-down in performance. Default value is **off**.

Trace_Level_List=*level1*[;*level2*][;*level3*]. . .

Defines which messages will be sent to the trace output where *level1* can be either **none**, **severe**, **error**, **warning**, **component**, **class**, **method**, **entryexit**, **detail** and **all**. Multiple levels are separated with semicolons. Default value is **all**.

Trace_Output_Filename=*file*

Defines where the output of the trace mode should be directed, where *file* must be a filename with a full pathname. By default, trace output is sent to the standard output (ie: `stdout`).

Trace_Output_Format=*format*

Defines how the output of the trace mode should be formatted, where *format* must be either **noprefix**, **basic**, **thread**, **method**, **callstack**, **object** or **full**. Default value is **full**.

Classes_to_Trace=*classname*[;*classname2*][;*classname3*]. . .

This allows filtering of classes to trace, where *classname* is a filter string. Wildcards are supported. Multiple class names are separated with semicolons. Default value is *****.

Restarting the SVA NMP Agent

1. **Issue the following command:**

```
SVAA/agent/sibagent start
```

Where *SVAA* is the directory where the SVAA server is installed.

2. **To check whether the SVA NMP Agent is running, type in the following command:**

```
SVAA/agent/sibagentstate
```

Where *SVAA* is the directory where the SVAA server is installed. You should get the following message:

The SVAA Agent is running.

If the SVA NMP Agent does not start, then an error message is logged in a `sibagent.log` file located in the SVA NMP Agent directory. Refer to [Chapter 3 “Troubleshooting”](#) for information on how to solve the problem.

Chapter 3. Troubleshooting

Lost your Files?

If you have forgotten the directory where the StorageTek SVA NMP Agent has been installed, you do not know where any StorageTek package has been installed, or you need to change the configuration file but you do not remember where to go, here is what to do.

Action Required: Locate the directory where the SVA NMP Agent is installed.

1. **At the prompt, issue the following command:**

```
/usr/bin/pkginfo -r STKSvaAgt*
```

If two SVA NMP packages are installed, the latest will be named **STKSvaAgt.2**.

2. **Press ENTER.**

The name of the directory where the StorageTek SVA NMP Agent package is installed will be given.

If the Agent does not Start

If the agent does not start, an error message is logged in a `sibagent.log` file located in the SVA NMP Agent directory. You can view this file to find out why the problem occurred.

Cannot Create Socket

Explanation: The SVA NMP Agent has attempted to use an SNMP socket which is unavailable.

Action Required: Both the SVA NMP Agent and the SNMP Master Agent must be reconfigured to use a different SNMP port.

1. **Check whether the SNMP Master Agent is running:**

```
/usr/bin/ps -e | /usr/bin/grep snmpdx
```

2. **Stop the SNMP Master Agent if it is running:**

```
/etc/init.d/init.snmpdx stop
```

If the Master Agent has been stopped successfully, there should be no response from the system.

3. Change the SVA NMP Agent `SNMP_Port` parameter to an available port number by using the Agent Configuration Tool described in [Chapter 2 “Modifying SVA NMP Agent Settings”](#).
4. Edit the SNMP reference file `/etc/snmp/conf/svaagent.reg` in order to point to the same SNMP port as in the `agentconfig.dat` file.
5. Restart the SNMP Master Agent:
`/etc/init.d/init.snmpdx start`

The SVA NMP Agent will be re-started by the Master Agent.

SNMP is not Installed

Explanation: StorageTek SVA NMP Agent requires that an SNMP environment is pre-installed before running. If your version of Solaris does not include the SNMP environment you will get the following messages during the installation procedure:

WARNING:

The <SUNWmibii> package "system, Solstice Enterprise Agents SNMP daemon" is a prerequisite package and should be installed.

WARNING:

The <SUNWsacom> package "system, Solstice Enterprise Agents files for root file system" is a prerequisite package and should be installed.

WARNING:

The <SUNWsasnm> package "system, Solstice Enterprise Agents Simple Network Management Protocol" is a prerequisite package and should be installed.

Do you want to continue with the installation of <STKSvaAgt> [y,n,?]

Action Required: Enter `n` as a response to the above message to abort the installation and contact your Sun Microsystems vendor to obtain a patch for Solaris SNMP support.

Damaged Program CD or Setup File

Explanation: The `setup` file may be damaged—or the program CD may be defective.

Action Required: If after restarting your computer the problem persists, please contact your product vendor for assistance.

Having Trouble Removing the SVA NMP Agent?

Explanation: Before attempting to uninstall the StorageTek SVA NMP Agent, you must ensure that it is not running. If you omit to stop the Agent before running the `pkgrm` command, the `uninstall` script will return the following messages:

```
ERROR: the SVAA Agent is running.  
Stop it before running the uninstallation again  
pkgrm: ERROR: preremove script did not complete successfully  
Removal of <STKSvaAgt> failed.
```

Action Required: Stop the SNMP Agent and repeat the uninstallation.

- 1. First, check whether the SVA NMP Agent is running by entering the following command:**

```
SVAA/agent/sibagentstate
```

Where *SVAA* is the directory where the SVAA server is installed. This will return whether the SVA NMP Agent is running or not.

- 2. If it is running, issue the following command to stop the SVA NMP Agent:**

```
SVAA/agent/sibagent stop
```

Where *SVAA* is the directory where the SVA server is installed.

- 3. Repeat the uninstallation procedure as described in [Appendix A “Uninstallation”](#).**

Appendix A. Uninstallation

To Remove the SVA NMP Agent



Note: You must stop the agent before you proceed.

1. **Log in as root.**
2. **If previous version and version 3.1.1 are installed on the same host, locate the corresponding package with the following command:**

```
/usr/bin/pkginfo -l STKSvaAgt*
```

If two SVA NMP packages are installed, the latest will be named **STKSvaAgt.2**.

3. **If the agent is running, issue the following command to stop it:**

```
SVAA/agent/sibagent stop
```

Where *SVAA* is the directory where the SVAA server is installed.

4. **Issue the following command to remove the agent:**

```
pkgrm STKSvaAgt
```

or

```
pkgrm STKSvaAgt.#
```

where # is the package instance described in 2.

The description of the currently installed library agent follows:

```
STKSvaAgt          StorageTek SVA NMP Agent
                   (sparc) Version 3.1.1
```

5. **Enter y at the prompt** Do you want to continue with the removal of this package [y,n,?,q]?

You will see information on the current removal procedures and the message Removal of <STKSvaAgt> was successful will indicate the end of the uninstallation procedure.

