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Sun Management Center 3.5 Supplement for the Sun StorEdge A5x00 and T3 Arrays

Contents

Sun Management Center 3.5 Supplement for the Sun StorEdge A5x00 and T3 Arrays

The Monitoring and Management of A5x00 and T3 Devices add-on for Sun Management Center 3.5 enables you to monitor the state of A5000, A5100, A5200, and T3 storage devices, and manage alarms on these devices. This guide provides the procedures for installing and setting up the Monitoring and Management of A5x00 and T3 Devices add-on, and for using Sun Management Center to monitor and manage the storage devices.

This guide discusses the following topics:

- "Preparing for Sun Management Center 3.5 Installation" on page 6
- "Add-on Installation and Setup" on page 8
- "Monitoring A5x00 and T3 Devices" on page 13
- "Reconfiguring A5x00 and T3 StorEdge Arrays" on page 13
- "Uninstalling the Add-on" on page 15
- "A5x00 and T3 StorEdge Array Add-on Packages" on page 18
- "StorEdge Array Modules" on page 18

All procedures in this guide assume that you have prepared your systems for Sun Management Center 3.5 installation and setup as described in the *Sun Management Center 3.5 Installation and Configuration Guide*.

Preparing for Sun Management Center 3.5 Installation

Sun StorEdge A5*x*00 Packages

If you want to use the Sun StorEdge A5*x*00 module, you must install the `SUNWluxop` and `SUNWluxox` packages on the system where you install the Monitoring and Management of A5x00 and T3 Devices add-on. If you load the A5*x*00 module and the packages are not installed on the system, the Sun Management Center agent cannot run.

To check whether the packages are installed, type the command **pkginfo SUNWluxop SUNWluxox**. If the packages are installed, the following lines are displayed.

```
system      SUNWluxop       Sun Enterprise Network Array firmware and utilities
system      SUNWluxox       Sun Enterprise Network Array libraries (64-bit)
```

If you need either package, you can download the package from `http://sunsolve.sun.com`. Make sure that you download the latest revision. Use the `pkgadd(1M)` command to install the packages.

T3 Storage Devices

Before you install and set up the Sun Management Center T3 Add-on, you must modify the `/etc/hosts` and `/etc/ethers` files on the system where the Sun Management Center add-on Monitoring and Management of A5x00 and T3 Devices is to be installed.

The following procedure assumes that you have installed and configured the T3 storage device as described by the *Sun StorEdge T3 Disk Tray Installation, Operation, and Service Manual*.

When the `/etc/hosts` and `/etc/ethers` files have been updated on the machine where the Sun Management Center add-on Monitoring and Management of A5x00 and T3 Devices will be installed, you can proceed with installing and setting up the T3 add-on.

▼ To Prepare a T3 Storage Device

1. Determine the IP address and ethernet address for each T3 storage device.

Open a terminal window and type the command **arp** *t3-device-name* where
t3-device-name is the name of the T3 storage device. For example:

```
# arp T3-001
T3-001 (10.100.20.300) at 1:2:30:ab:ba:45 permanent published
```

In the above example, `10.100.20.300` is the IP address, and `1:2:30:ab:ba:45`
is the Ethernet address of the T3 storage device T3-001.

2. **Repeat Step 1 for each T3 device on your network.**

   When you have recorded the IP address, Ethernet address, and name for each T3
   device, go to the next step.

3. **Log in as root on the machine where you will install the Monitoring and
   Management of A5x00 and T3 Devices add-on.**

   This machine should be the host from which you want to manage and monitor the
   StorEdge devices. The Monitoring and Management of A5x00 and T3 Devices
   add-on only requires core agent setup

4. **Record each T3 IP address and name in the machine's `/etc/hosts` file.**

   For example, assume that three T3 devices are attached to your network. Assume
   that you used the `arp` command to determine the IP address, and Ethernet address
   of each T3 device, and recorded the information as follows:

storage-t3–1	172.16.100.10	0:20:f2:0:59:48
storage-t3–2	172.16.100.11	0:20:f2:0:5f:40
storage-t3–3	172.16.100.12	0:20:f2:0:7f:a8

   The entries in the machine's `/etc/hosts` file would then be as follows:

   ```
   172.16.100.10   storage-t3-1
   172.16.100.11   storage-t3-2
   172.16.100.12  storage-t3-3
   ```

5. **Record each T3 storage device Ethernet address and name in the `/etc/ethers`
   file.**

   Create the `/etc/ethers` file if the file does not already exist.

   Using the example given in Step 4, the entries in the machine's `/etc/ethers` file
   would then be as follows:

   ```
   0:20:f2:0:59:48   storage-t3-1
   0:20:f2:0:5f:40   storage-t3-2
   0:20:f2:0:7f:a8  storage-t3-3
   ```

> ⚠ **Caution –** If you include the domain name as part of the T3 device name, make sure the domain name is identical in both the `/etc/hosts` and `/etc/ethers` files. The entries are case sensitive.
>
> For example, if the `/etc/hosts` file contains the line `0:20:f2:0:59:48 storage-t3-1.sun.com.` and the `/etc/ethers files` contains the line `0:20:f2:0:59:48 storage-t3-1.Sun.Com`, then the T3 storage device cannot be set up using the Sun Management Center setup tools because the domain name case is different.

Add-on Installation and Setup

As described in the following two procedures, the Monitoring and Management of A5x00 and T3 Devices add-on can be installed Sun Management Center 3.5 during the Sun Management Center 3.5 installation and setup process, or the add-on can be installed separately after Sun Management Center 3.5 installation and setup has been completed.

▼ To Install and Setup the Add-on During Sun Management Center 3.5 Installation and Setup

1. **Prepare the machine on which theMonitoring and Management of A5x00 and T3 Devices add-on is to be installed as described in "T3 Storage Devices" on page 6.**

   T3 add-on setup will fail if you have not added each T3 ethernet address to the machine's `/etc/ethers` file , and each T3 IP address to the machine's `/etc/hosts` file.

2. **Install Sun Management Center 3.5 as described in "Installing Sun Management Center 3.5 on the Solaris Platform" in** *Sun Management Center 3.5 Installation and Configuration Guide***. Make sure that you install at least the Sun Management Center agent.**

   During the Sun Management Center installation process, the Select Add-on Products screen is displayed. The add-on Monitoring and Management of A5x00 and T3 Devices is listed.

3. **Select the add-on products that you want to install.**

> **Note –** Make sure that you select the Monitoring and Management of A5x00 and T3 Devices add-on.

When you have completed selecting add-on products, complete the Sun Management Center 3.5 installation as described in "Installing Sun Management Center 3.5 on the Solaris Platform" in *Sun Management Center 3.5 Installation and Configuration Guide*.

- If installation failed, a summary screen is displayed.

  Review the installation log in `/var/opt/SUNWsymon/install` to find out why the installation failed, and correct the problem.

- When the installation succeeded, the Installation Complete screen appears. You are given the option to run the setup wizard.

4. **Run the setup wizard.**

   Click Next to run the setup wizard and set up Sun Management Center components and the add-on products that you selected. The `es-guisetup` wizard is started, and the Setup Wizard Overview screen appears.

   Follow the procedures described in "To Set Up Sun Management Center 3.5 on the Solaris Platform" in *Sun Management Center 3.5 Installation and Configuration Guide*.

   When Sun Management Center 3.5 base product setup is completed, the setup process Setup Complete panel appears.

5. **Verify the setup status.**

   The Sun Management Center Core Product Setup Complete screen lists the setup completion status.

   - If base product setup failed, you are informed that the setup of the base products was not successful. You are directed to see the log file for more details. The name of the log file is provided.

     Click Cancel to return to the system prompt. Review the log file to determine the cause of setup failure.

   - If setup succeeded, you are informed that Sun Management Center base product setup is complete. A list of the base products that you installed and set up is displayed. A list of the add-on components that you selected for installation is also displayed.

6. **Click Next to set up the add-on products.**

   The setup process runs the graphical user interface setup wizard for each add-on product that you selected.

   For information on how to set up add-ons other than the Monitoring and Management of A5x00 and T3 Devices add-on, refer to the Sun Management Center supplement for each add-on, which is included in your installation kit. Each supplement provides the setup procedure for the specific add-on.

When the A5x00 and T3 Setup Selection screen appears, go to the next step.

7. **Select the devices to manage.**

   - If you have any A5*x*00 storage devices installed on your network, and want to use Sun Management Center to monitor and manage the A5x00 devices, select A5x00 Devices.

     Note – A5*x*00 device setup is automatic, and does not require any responses.

   - If you have any T3 storage devices installed on your network, and want to use Sun Management Center to monitor and manage the A5x00 devices, select T3 Devices.

   When you have finished making the selections, click Next.

   - If you selected A5x00 Devices, the A5x00 Add-on Setup screen appears.

     If A5*x*00 device setup failed, you are informed that the setup was not successful, and directed to see the log file for more details. The name of the log file is provided. Click Cancel to return to the system prompt, and review the log file to determine the cause of setup failure.

   - If A5*x*00 device setup succeeded, you are informed that the setup succeeded. Click Next.

   If you selected T3 devices, the Manage T3 Devices screen appears.

8. **Click Manage T3 Devices and click Next.**

   The Manage T3 Devices screen appears.

   The list on the left displays all hosts that are listed in both the /etc/hosts and /etc/ethers files, including hosts that may not be T3 storage devices.

9. **Select the T3 Storage Device.**

   Click on the name of the T3 storage device in the Available Hosts column.

   Note – You can select more than one T3 storage device for management as long as the selected T3 storage devices have the same password.

   ---

10. **Type the password in the Password field and click Add>.**

    Your selections are removed from the Available Hosts column, and listed in the Managed Devices column.

    Click Next. The T3 Device Setup screen appears.

    When T3 storage device setup has completed, the Sun Management Center 3.5 setup process runs the setup wizard for any remaining add-ons.

    When all add-on setups have completed, an add-on setup status panel appears.

- If add-on product setup failed, you are informed that the setup of the add-on products was not successful, and directed to see the log file for more details. The name of the log file is provided. Click Cancel to return to the system prompt, and review the log file to determine the cause of setup failure.

- If all add-on setups succeeded, the Add-on Products Setup screen appears. Go to the next step.

11. **Choose whether to start Sun Management Center.**

    The Add-on Products Setup screen lists all of the add-on components that you installed and set up.

    You are given the option to start Sun Management Center.

    To start Sun Management Center, click Next. See "Starting and Stopping Sun Management Center" in *Sun Management Center 3.5 Installation and Configuration Guide*.

▼ To Install and Setup the Add-on After Sun Management Center 3.5 Installation and Setup

This procedure assumes that you have installed and set up at least the Sun Management Center 3.5 agent in the default directory /opt as described in the *Sun Management Center 3.5 Installation and Configuration Guide*. If you installed Sun Management Center in a different location, substitute /opt in the following procedure with the name of the directory in which you installed Sun Management Center.

1. **Log in as root on the machine where you want to install the Monitoring and Management of A5x00 and T3 Devices add-on.**

2. **Insert Sun Management Center 3.5 installation CD 1 of 2 in your CD-ROM drive.**

3. **Type the command /opt/SUNWsymon/sbin/es-guiinst to start the Sun Management Center installation wizard.**

    The Welcome screen appears. Click Next. The Specify the Installation Files Source Directory screen appears.

4. **Specify the installation source files directory.**

    Type **/cdrom/cdrom0/image** in the Source Directory field, and click Next. The Monitoring and Management of A5x00 and T3 Devices add-on is located within the /image directory on Sun Management Center 3.5 installation CD 1 of 2.

    The Checking for Available Products screen appears. When the install process finishes checking for available products, the Products Already Installed screen appears. Click Next.

    When the check for available products is finished, the Products Already Installed screen appears. Click Next. The Select Add-on Products screen appears.

5. **Select the Monitoring and Management of A5x00 and T3 Devices add-on and then click Next.**

   The install process checks disk space.

   - If there is not enough disk space, you are asked to provide an alternate file system. The amount of space that is available and the amount of space that is needed are displayed.
   - If there is enough disk space to install the add-on, the Confirmation screen appears and lists your selections.

6. **Confirm your selections.**

   - If the displayed selections are not correct, click Back to return to previous screens and make new selections.
   - If the displayed selections are correct, click Next.

     The products that you selected are installed.

   Note – You might be prompted to insert Sun Management Center 3.5 CD 2 of 2.

   When the install finishes, a summary screen appears.

   - If installation failed, review the installation log in `/var/opt/SUNWsymon/install` to find out why the installation failed, and correct the problem.
   - If the installation succeeded, you are given the opportunity to run the setup wizard.

7. **Run the setup wizard.**

   Click Next to run the setup wizard and set up the Monitoring and Management of A5x00 and T3 Devicesadd-on and any other add-on products that you selected. The `es-guisetup` wizard is started, and the Setup Wizard Overview screen appears. Click Next.

   The Advanced Setup Options screen appears.

8. **Configure the add-ons.**

   Select Configure Add-ons and then click Next.

   The Select Add-on Products screen appears. You are informed that Monitoring and Management of A5x00 and T3 Devices is newly installed on the system and will be set up. Click Next.

   The A5x00 and T3 Setup Selection screen appears.

   Follow Step 7 through Step 11 in "To Install and Setup the Add-on During Sun Management Center 3.5 Installation and Setup" on page 8 to complete setup.

Monitoring A5*x*00 and T3 Devices

A5*x*00 and T3 storage device management and monitoring is enabled by default. To manage and monitor an A5*x*00 or T3 storage device, the storage device modules must be loaded using the Sun Management Center Java console.

When the modules have been loaded, choose Tools, and then choose Details to display the Module Browser tab. Select Hardware to display all configured storage devices.

For module management procedures, see "Managing Modules" in *Sun Management Center 3.5 User's Guide*. For monitoring procedures, see "Browsing Information About a Managed Object" in *Sun Management Center 3.5 User's Guide*.

Reconfiguring A5*x*00 and T3 StorEdge Arrays

If for any reason your A5*x*00 and T3 storage device configuration becomes corrupted, you can reconfigure the devices as described in the following procedure.

The following procedure assumes that you have installed and set up Sun Management Center 3.5 in the default directory `/opt` as described in the *Sun Management Center 3.5 Installation and Configuration Guide*. If you installed Sun Management Center in a different location, substitute `/opt` in the following procedure with the name of the directory in which you installed Sun Management Center.

▼ To Reconfigure A5*x*00 and T3 StorEdge Arrays

1. **Log in as root on the machine where the Monitoring and Management of A5x00 and T3 Devices add-on is installed and configured.**

2. **Type the command `/opt/SUNWsymon/sbin/es-stop -A` to stop all Sun Management Center processes.**

3. **Type the command `/opt/SUNWsymon/sbin/es-guisetup` to start the Sun Management Center installation wizard.**

   The Overview screen appears. Click Next.

   The Advanced Setup Options screen appears.

4. **Select Configure Add-ons.**

Click Next. A list of installed add-ons is displayed. Select Monitoring and Management of A5x00 and T3 Devices and then click Next.

The A5x00 and T3 Setup Selection screen appears.

5. **Select the devices that you want to reconfigure.**

   ■ If you want to reconfigure all A5*x*00 storage devices installed on your network, select A5x00 Devices.

   Note – A5*x*00 device setup is automatic, and does not require any responses.

   ■ If want to reconfigure any T3 storage devices installed on your network, select T3 Devices.

   When you have finished making the selections, click Next.

   ■ If you selected A5x00 Devices, the A5x00 Add-on Setup screen appears.

   If A5*x*00 device setup failed, you are informed that the setup was not successful, and directed to see the log file for more details. The name of the log file is provided. Click Cancel to return to the system prompt, and review the log file to determine the cause of setup failure.

   ■ If A5*x*00 device setup succeeded, you are informed that the setup succeeded.

   Click Next.

   ■ If you did not select T3 devices, the Add-on Products Setup screen is displayed. Click Next. You are given the option to start Sun Management Center. Go to Step 9.

   ■ If you selected T3 devices, the T3 Management Add-on Setup screen appears.

6. **Select Reconfigure T3 Devices.**

   Click Next. The Reconfigure T3 Devices screen appears.

7. **Select the T3 devices that you want to reconfigure.**

   Click on the name of the T3 storage device in the Managed Devices column.

   Note – You can select more than one T3 storage device as long as the selected T3 storage devices have the same password.

   ---

8. **Type the password in the Password field and click Add>.**

   Your selections are removed from the Managed Devices column, and listed in the Devices to Reconfigure column.

   Click Next. The T3 Device Setup screen appears.

When T3 storage device setup has completed, an add-on setup status panel appears.

- If T3 device reconfiguration failed, you are informed that the setup of the T3 device was not successful, and directed to see the log file for more details. The name of the log file is provided. Click Cancel to return to the system prompt, and review the log file to determine the cause of setup failure.

- If T3 device setup succeeded, the Add-on Products Setup screen appears. You are given the option to start Sun Management Center. Go to the next step.

9. **Choose whether to start Sun Management Center.**

   To start Sun Management Center, click Next. See "Starting and Stopping Sun Management Center" in *Sun Management Center 3.5 Installation and Configuration Guide*.

Uninstalling the Add-on

If you are running Sun Management Center 3.5, you must remove T3 device configuration from Sun Management Center 3.5 when you are going to:

- Remove the T3 storage device
- Move the T3 storage device to another machine
- Assign a different IP or Ethernet address to the T3 storage device
- Migrate the Sun Management Center server to a different machine
- Uninstall the Monitoring and Management of A5x00 and T3 Devices add-on
- Uninstall Sun Management Center 3.5

Note – This must be done before you uninstall Sun Management Center.

Note – If you uninstall the Monitoring and Management of A5x00 and T3 Devices add-on without first removing T3 device configuration, you can remove the T3 device configuration as described in "To Manually Remove T3 Device Configuration" on page 17.

The following procedures describe how to remove T3 configuration information from Sun Management Center and uninstall the Monitoring and Management of A5x00 and T3 Devices add-on.

▼ To Remove T3 Device Configuration

1. **Log in as root on the machine where the Monitoring and Management of A5x00 and T3 Devices add-on is installed and configured.**

2. **Stop the Sun Management Center agent.**

   Type the command **`/opt/SUNWsymon/sbin/es-stop -a`**.

3. **Run the `pre-uninstall.sh` script to remove T3 device configuration information.**

   Type the command **`/opt/SUNWsymon/addons/storage/sbin/pre-uninst.sh`**.

   You are asked if you want to stop the T3 from sending `syslog` messages. Type **`y`**. You are then prompted for the root password for the T3 device. Type the password.

   You are notified that the T3 device has been removed from the T3 module.

   - If you do not run the `pre-uninst.sh` script before you install Sun Management Center 3.5, you will have to manually remove T3 configuration information before you can set up the new Sun Management Center 3.5 installation.

   - If you run the `pre-uninst.sh` script but then decide to keep your Sun Management Center 3.5 installation, type **`/opt/SUNWsymon/es-setup -F`** to set up your T3 devices again. See "Setting Up Sun Management Center 3.5 Using es-setup" in *Sun Management Center 3.5 Installation and Configuration Guide*.

▼ To Uninstall the Monitoring and Management of A5x00 and T3 Devices Add-on

1. **Log in as root on the machine where the Monitoring and Management of A5x00 and T3 Devices add-on is installed and configured.**

2. **Stop all Sun Management Center processes.**

   Type the command **`/opt/SUNWsymon/sbin/es-stop -A`**.

3. **Run the Sun Management Center 3.5 uninstall wizard.**

   Type the command **`/opt/SUNWsymon/sbin/es-guiuninst`**.

   The Welcome screen appears. Click Next.

   The Product Selection for Uninstall screen appears.

4. **Select Add-on Products Only.**

   The list of add-on products becomes selectable.

5. **Select Monitoring and Management of A5x00 and T3 Devices and click Next.**

The Save Configuration Data screen appears. Click Next.

The Product Removal Confirmation screen appears.

Review the displayed selections.

- If the displayed selections are not correct, click Back to return to previous screens and make new selections.

- If the displayed selections are correct, click Next.

  The Monitoring and Management of A5x00 and T3 Devices add-on is removed. When the uninstall completes, the Uninstall Summary screen appears.

6. **Click Close to exit the uninstall wizard.**

7. **Reconfigure Sun Management Center 3.5.**

   Sun Management Center configuration files contain references to the storage device modules. Reconfiguration synchronizes the configuration and removes all references to the storage device modules.

   a. **To reconfigure Sun Management Center, type the command `/opt/SUNWsymon/es-guisetup` to start the Sun Management Center setup wizard. The Sun Management Center Overview screen appears. Click Next.**

      The Advanced Setup Options screen appears.

   b. **Select Reconfigure All and then click Next.**

      The Existing Configuration Information screen appears.

   c. **Select Save Existing Configuration Information and Re-use and then click Next.**

      A series of screens is presented that request specific information such as security keys, SNMPv1 community string, and which SNMP port to use. Provide the requested information.

      For detailed information about the Sun Management Center setup process, see "To Set Up Sun Management Center 3.5 on the Solaris Platform" in *Sun Management Center 3.5 Installation and Configuration Guide*.

      When setup is finished, you are given the option to start Sun Management Center.

8. **Choose whether to start Sun Management Center.**

   To start Sun Management Center, click Next. See "Starting and Stopping Sun Management Center" in *Sun Management Center 3.5 Installation and Configuration Guide*.

▼ To Manually Remove T3 Device Configuration

1. **Log in as root on the machine where the Monitoring and Management of A5x00 and T3 Devices add-on is installed and configured.**

2. **Edit the `/etc/syslog.conf` file and remove the T3 entry.**

   Locate and delete the following line:

   ```
   local7.warning                                    /var/adm/t300.log
   ```

3. **Save and close the `/etc/syslog.conf` file.**

A5x00 and T3 StorEdge Array Add-on Packages

This section provides a list of the Monitoring and Management of A5x00 and T3 Devicespackages and descriptions.

Package Name	Description
SUNWenstm	Sun Management Center - Storage Modules message files package
SUNWesstg	Sun Management Center Storage Modules GUI Setup
SUNWessts	SunMC Server Support Package For Storage Modules
SUNWessta	SunMC Agent Support Package For Storage Modules

StorEdge Array Modules

When the following modules are loaded, these modules are found under the Hardware section of the Module Browser tab in the Details window:

- "Sun StorEdge A5*x*00 Array Module" on page 18
- "Sun StorEdge T3 Array Module" on page 25

Sun StorEdge A5*x*00 Array Module

This module enables you to monitor the state of Sun StorEdge A5000, 5100, and 5200 storage devices, and manage alarms on these devices. The following series of tables identifies the specific rules for each Sun StorEdge A5*x*00 array.

TABLE 1–1 Rules for Sun StorEdge A5*x*00

Rules	Property
sunSmTreeProp	tree prop
sunSmNodeName	Name
timestamp_raw	timestamp_raw
timestamp	Name
status_change	Number Of Model property/value changed.
	This value changes when there is a difference between the previous snapshot and the current snapshot.

TABLE 1–2 Sun StorEdge A5*x*00 Sena Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current node name
entry_no	Entry number
# dataFormat	Instance
rowstatus	Row status
box_rev	Box_rev
device_count	Device_count
box_id	Box Id
instance	Instance
logical_path	Logical Path
machine	Machine
name	Name
node-wwn	Node-wwn
physical_path	Physical Path
platform	Platform
set_flg	Set Flag
slot_count	Slot_count
type	Type
vendor_name	Vendor_name

TABLE 1–2 Sun StorEdge A5*x*00 Sena Table   *(Continued)*

Property	Description
virtual_node	Virtual_node

TABLE 1–3 Sun StorEdge A5*x*00 Front Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current node name
entry_no	Entry number
instance	Instance

TABLE 1–4 Sun StorEdge A5*x*00 Rear Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current node name
entry_no	Entry number
entry number	Instance

TABLE 1–5 Sun StorEdge A5*x*00 Disk Backplane Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current node name
entry_no	Entry number
byp_a_enabled	Byp_a_enabled
byp_b_enabled	Byp_b_enabled
fru	fru
status	Status
alarmRules	rpho400

TABLE 1–6 Sun StorEdge A5*x*00 Fan Tray Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number
fan_fail	Fan_fail
fru	fru
speed	Speed
status	Status
alarmRules	rpho401
type	Type

TABLE 1–7 Sun StorEdge A5*x*00 Led Table

Property	Description
sunSmTreeProp	tree prop
sunSmNodeName	Name
entry_no	entry number
led-num	Led No
state	State

TABLE 1–8 Sun StorEdge A5*x*00 Front Slot Table

Property	Description
front_slotTbl	Front_slot Table
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number
connect_disk	connect_disk_name
id	Id
loop_status	Loop_status
alarmRules	rpho411

TABLE 1–8 Sun StorEdge A5*x*00 Front Slot Table *(Continued)*

Property	Description
power_status	power-status
alarmRules	rpho414
slot-num	Slot-num
status	Status
temperature	Temperature
temperature_status	Temperature_status
alarmRules	rpho407

TABLE 1–9 Sun StorEdge A5*x*00 Rear Slot Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number
connect_disk	connect_disk_name
id	Id
loop_status	Loop_status
alarmRules	rpho412
power_status	power-status
alarmRules	rpho414
slot-num	Slot-num
status	Status
temperature	Temperature
temperature_status	Temperature_status
alarmRules	rpho408

TABLE 1–10 Sun StorEdge A5*x*00 Disk Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name

TABLE 1–10 Sun StorEdge A5*x*00 Disk Table   *(Continued)*

Property	Description
entry_no	entry number
capacity	Capacity
device_type	Device Type
firmware_revision	firmware_revision
fru	Fru
hard_address	Hard Address
instance	Instance
logical_path	logical_path
mounted_partitions	Mounted Partitions
name	Name
node-wwn	Node Wwn
physical_path	physical_path
port-wwn	Port Wwn
product_name	product_name
revision	revision
serial_number	serial_number
status	Status
alarmRules	rpho406
vendor_name	vendor_name

TABLE 1–11 Sun StorEdge A5*x*00 Sena Power Supply Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number
fru	Fru
AC_status	AC_status
DC-current	DC-current
DC-voltage	DC-voltage

TABLE 1–11 Sun StorEdge A5*x*00 Sena Power Supply Table   *(Continued)*

Property	Description
ps-instance	Ps-instance
status	Status
alarmRules	rpho402
temperature_status	Temperature_status
alarmRules	rpho409
type	Type

TABLE 1–12 Sun StorEdge A5*x*00 Interconnect Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number
eprom_failure	Eprom_failure
fru	Fru
status	Status
alarmRules	rpho405

TABLE 1–13 Sun StorEdge A5*x*00 Interface_board Table

Property	Description
interface_board-entry	entry_no
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number
fru	Fru
interface_board-instance	Ib-Instance
loop	Loop
loop0_fault	Loop0_fault
loop1_fault	Loop1_fault

TABLE 1–13 Sun StorEdge A5x00 Interface_board Table   *(Continued)*

Property	Description
status	Status
alarmRules	rpho400
temperature_status	temperature_status
alarmRules	rpho410

TABLE 1–14 Sun StorEdge A5x00 Loop – Gbic Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number
fru	Fru
loop-instance	Gbic-Instance
status	Status
alarmRules	rpho413
loop_configuration_status	Loop Configuration

TABLE 1–15 Sun StorEdge A5x00 Rules

Rule	Description
rpho414	Fibre Channel OFFLINE
rpho415	Fibre Channel CRC Error
rpho416	ASC 0x47
rpho417	Drive operation marginal
rpho418	Failure prediction
rpho419	Incomplete DMA XFER on sbus
rpho420	Offline Timeout
rpho421	soc lilp map failed

Sun StorEdge T3 Array Module

This module enables you to monitor the state of Sun StorEdge T3 storage devices and to manage alarms on these devices.

TABLE 1–16 Sun StorEdge T3 Module – Basic Properties Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
rowstatus	Row Status
sysId	id
sysVendor	vendor
sysModel	model
sysRevision	firmware revision
sysStatus	Status of the connection between the agent and the T300 storage box
sysIpAddr	IP address
sysSubNet	subnet mask
sysGateway	gateway
sysBootMode	boot mode
sysBootDelay	boot delay
sysMpSupport	multi-pathing support
sysHasVolumes	has volumes

TABLE 1–17 Sun StorEdge T3 Module – Advanced Properties Table

Property	Description
t300name	t300name
rowstatus	Row Status
sysStripeUnitSize	stripe unit size
sysCacheMode	cache mode
sysCacheMirror	cache mirror
sysReadAhead	read ahead
sysReconRate	reconRate
sysOndgMode	ondgMode
sysOndgTimeslice	ondgTimeslice

TABLE 1–17 Sun StorEdge T3 Module – Advanced Properties Table   *(Continued)*

Property	Description
sysTftpHost	tftp host
sysTftpFile	tftp file
sysLastRestart	ast restart time
sysDate	date
sysTime	time
sysTimezone	time zone

TABLE 1–18 Sun StorEdge T3 Module – Statistical Properties Table

Property	Description
t300name	t300name
sysTotalRequests	total requests
sysWriteRequests	write requests
sysReadRequests	read requests
sysTotalBlocks	total blocks
sysBlocksWritten	blocks written
sysBlocksRead	blocks read
sysCacheWriteHits	cacheWriteHits
sysCacheWriteMisses	cacheWriteMisses
sysCacheReadHits	cacheReadHits
sysCacheReadMisses	cacheReadMisses
sysCacheRmwFlushes	sysCacheRmwFlushes
sysCacheReconFlushes	cacheReconFlushes
sysCacheStripeFlushes	cacheStripeFlushes
clear-flag	clear flag

TABLE 1–19 Sun StorEdge T3 Module – Unit Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name

TABLE 1–19 Sun StorEdge T3 Module – Unit Table   *(Continued)*

Property	Description
t300name	t300name
unitId	unit id
unitType	unit type
unitStandby	standby
unitIsControllerUnit	isControllerUnit
machine	machine
platform	platform

TABLE 1–20 Sun StorEdge T3 Module – Disk Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number

TABLE 1–21 Sun StorEdge T3 Module – Disk Properties Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
fruStatus	status
alarmRules	rple400
fruDiskRole	disk role
fruDiskCapacity	disk capacity
fruDiskTemp	temperature
fruID	
fruState	
fruVendor	
fruModel	

TABLE 1–21 Sun StorEdge T3 Module – Disk Properties Table   *(Continued)*

Property	Description
fruRevision	
fruSerialNo	
fruErrors	

TABLE 1–22 Sun StorEdge T3 Module – Advanced Properties Table

Property	Description
t300name	t300name
unitId	unit id
fruId	fru id
fruDiskPort1State	port1 state
fruDiskPort2State	port2 state
fruDiskStatusCode	status code
fruDiskVolId	disk volid
fruDiskVolIndex	disk volindex
fruDiskVolName	disk volname
fruDiskIsRebuildable	
fruDiskIsRoleData	isRoleData
fruDiskIsRoleStandby	isRoleStandby
fruDiskIsRoleUndefined	sUndefined
fruDiskIsExpendable	isExpendable

TABLE 1–23 Sun StorEdge T3 Module – Controllers

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number

TABLE 1–24 Sun StorEdge T3 Module – Controller Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
fruStatus	status
fruState	
fruVendor	
fruModel	
fruRevision	
fruSerialNo	
fruErrors	
alarmRules	rple401

TABLE 1–25 Sun StorEdge T3 Module – Loopcards

Property	Description
loopcards-entry	entry_no
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number

TABLE 1–26 Sun StorEdge T3 Module – Loop Card Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
fruId	
fruState	

TABLE 1–26 Sun StorEdge T3 Module – Loop Card Table   *(Continued)*

Property	Description
fruVendor	
fruModel	
fruRevision	
fruSerialNo	
fruErrors	
fruStatus	status
fruLoopMode	loop mode
fruLoopCable1State	cable1 state
fruLoopCable2State	cable2 state
fruLoopTemp	temperature
alarmRules	rple402

TABLE 1–27 Sun StorEdge T3 Module – Power Cooling Unit Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
fruStatus	status
fruPowerPowOutput	output state
fruPowerPowSource	input source
fruPowerPowTemp	temperature
fruPowerFan1State	fan1 state
fruPowerFan2State	fan2 state
fruPowerBatState	battery state
fruPowerBatLife	battery life
fruPowerBatUsed	battery used
fruId	
fruState	

TABLE 1–27 Sun StorEdge T3 Module – Power Cooling Unit Table   *(Continued)*

Property	Description
fruVendor	
fruModel	
fruRevision	
fruSerialNo	
fruErrors	
alarmRules	rple403

TABLE 1–28 Sun StorEdge T3 Module – Midplane Table

Property	Description
sunSmTreeProp	true
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
fruStatus	status
fruId	
fruState	
fruVendor	
fruModel	
fruRevision	
fruSerialNo	
fruErrors	
fruId	
fruState	
fruVendor	
fruModel	
fruRevision	
fruSerialNo	
fruErrors	

TABLE 1–29 Sun StorEdge T3 Module – Volume (Basic Properties Table)

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
volId	volume id
volName	volume name
volWWN	volume WWN
volStatus	volume status
volCacheMode	cache mode
volCacheMirror	cache mirror
volCapacity	volume capacity
volArrayWidth	drive number
volRaidLevel	RAID (Redundant Array of Independent/Inexpensive Disks) level for the volume
volDisabledDisk	
volSubstitutedDisk	
volInitRate	
volVerifyRate	

TABLE 1–30 Sun StorEdge T3 Module – Statistical Properties Table

Property	Description
t300name	t300name
unitId	unit id
volId	volume id
volTotalRequests	total requests
volWriteRequests	write requests
volReadRequests	read requests
volTotalBlocks	total blocks
volBlocksWritten	blocks written

TABLE 1–30 Sun StorEdge T3 Module – Statistical Properties Table   *(Continued)*

Property	Description
volBlocksRead	blocks read
volSoftErrors	soft errors
volFirmErrors	firm errors
volHardErrors	hard errors
volCacheWriteHits	cacheWriteHits
volCacheWriteMisses	cacheWriteMisses
volCacheReadHits	cacheReadHits
volCacheReadMisses	cacheReadMisses
volCacheRmwFlushes	cacheRmwFlushes
volCacheReconFlushes	cacheReconFlushes
volCacheStripeFlushes	cacheStripeFlushes
clear-flag	clear flag

TABLE 1–31 Sun StorEdge T3 Module – Ports

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number

TABLE 1–32 Sun StorEdge T3 Module – Port (Basic Properties Table)

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
portId	portId
portWWN	port WWN
portStatus	port status
portType	port type

TABLE 1–32 Sun StorEdge T3 Module – Port (Basic Properties Table)   *(Continued)*

Property	Description
portFruId	port fruId
portSunHost	port sunHost
portFibreCount	fibre count
portFibreAlpaMode	ALPA mode
portFibreAlpa	ALPA

TABLE 1–33 Sun StorEdge T3 Module – Statistical Properties Table

Property	Description
t300name	300name
unitId	Unit ID
portId	Port ID
portTotalRequests	Total requests (read requests plus write requests)
portWriteRequests	Write requests
portReadRequests	Read requests
portTotalBlocks	Total blocks
portBlocksWritten	Blocks written
portBlocksRead	Blocks read

TABLE 1–34 Sun StorEdge T3 Module – Attachments Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number

TABLE 1–35 Sun StorEdge T3 Module – Attachment Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name

TABLE 1–35 Sun StorEdge T3 Module – Attachment Table   *(Continued)*

Property	Description
unitId	unit id
portId	portId
attachId	attach id
attachLun	attach Lun
attachMode	attach mode
attachVolId	attach volid
attachVolName	attach volname

TABLE 1–36 Sun StorEdge T3 Module – Loops

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
entry_no	entry number

TABLE 1–37 Sun StorEdge T3 Module – Loops Table

Property	Description
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
t300name	t300name
unitId	unit id
loopId	loop id
loopStatus	loop status
loopMux	loop mux
loopIsAvailable	isAvailable
loopIsReserved	isReserved
loopIsIsolated	isIsolated
loopIsTop	isTop
loopIsBottom	isBottom
loopIsMiddle	isMiddle

TABLE 1–38 Sun StorEdge T3 Module – Midplanes Table

Property	Description
entry_no	Entry number
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name

TABLE 1–39 Sun StorEdge T3 Module – Powerunits Table

Property	Description
entry_no	Entry number
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name

TABLE 1–40 Sun StorEdge T3 Module – Volumes Table

Property	Description
entry_no	Entry number
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name

TABLE 1–41 Sun StorEdge T3 Module – Logging Table

Property	Description
t300name	
sunSmTreeProp	sunSmTreeProp
sunSmNodeName	Current Name
rowstatus	
logStatus	
logPort	
logTo	
logLevel	

TABLE 1–42 Sun StorEdge T3 Module – Rules

Rule	Description
rple201	Controller Error
rple202	Power Cooling Unit Error
rple203	Loop Card Error
rple204	Disk Error
rple205	Controller Warning
rple206	Power Cooling Unit Warning
rple207	Loop Card Warning
rple208	Disk Warning
rple209	DC error
rple210	Power supply unit disabled
rple211	Power supply off
rple212	Power supply error
rple213	Battery missing
rple214	Loop card missing
rple215	Interconnect cable missing
rple216	Loop card disabled
rple220	Disk Error
rple221	Power Cooling Unit Error
rple222	Power Cooling Unit Error
rple223	Controller Warning
rple224	Loop Card Warning
rple225	Disk Warning
rple226	Disk Warning
rple227	Power Cooling Unit Warning