

Sun StorEdge Diagnostic Expert 1.2

Version 1.2.03.004 Release Notes

Part Number: 817-0197-10

February 12, 2003

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READ BEFORE USING THIS REVISION

The Release Notes contain information specific to this revision. This information is not located elsewhere in the product documentation set.

The Release Notes for this product are on the product media. You can print them as you would any other ASCII file.

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DOCUMENT STRUCTURE

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These Release Notes contain the following sections:

- o Introduction
- o Audience
- o Deliverables
- o Related Documentation
- o Qualified Platforms
- o Required patches
- o Installation Instructions
- o Deinstallation Instructions
- o Product Hints
- o External Products and Packages
- o Sun StorEdge Diagnostic Expert 1.2 Changes and Enhancements
- o Known Issues
- o Media Contents

INTRODUCTION

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The Sun StorEdge Diagnostic Expert 1.2 package provides a graphical user interface, enabling the user to remotely monitor and diagnose Sun storage devices. The Agent can be used to collect data and analyze the condition of Sun StorEdge devices. The Diagnostics can be used to verify the condition of a system, identify failing FRUs and verify FRU replacement.

AUDIENCE

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The Sun StorEdge Diagnostic Expert is for use by system administrators and support personnel who are familiar with Sun's disk array and SAN products.

DELIVERABLES

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Documentation Delivered With This Product

The following documentation is delivered with this product:

Application	Title
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Man	Pages
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User/Admin	Sun StorEdge Diagnostic Expert 1.2 User's Guide (817-0195-10)
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	Sun StorEdge Diagnostic Expert 1.2 Online Help (817-0196-10)
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PRODUCT PACKAGING

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The Sun StorEdge Diagnostic Expert software is distributed as an unbundled product in the pkgadd format as SUNWsade and SUNWsadev.

RELATED DOCUMENTATION

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ESM 1.2

Sun StorEdge Diagnostic Expert Release Notes
817-0197

Enterprise Storage Manager 1.2 Overview
817-1039

Enterprise Storage Manager 1.2 Installation Guide
817-1037

Enterprise Storage Manager 1.2
Topology Reporter Administration and Operations Guide
817-1111

Sun StorEdge Enterprise Storage Manager 1.0 Configuration Service Administrator's Guide
816-4295

Storage Automated Diagnostic Environment User's Guide, Version 2.2
817-0192

Solaris software

Solaris Handbook for Sun Peripherals
806-2210

Sun StorEdge T3+ array

Sun StorEdge T3+ Array Release Notes
816-4771

Sun StorEdge T3+ Array Start Here
816-4768

Sun StorEdge T3 and T3+ Array Regulatory and Safety Compliance Manual
816-0774

Sun StorEdge T3+ Array Installation and Configuration Manual
816-4769

Sun StorEdge T3+ Array Administrator's Guide

816-4770

Sun StorEdge T3 Array Cabinet Installation Guide

806-7979

Sun StorEdge 6120 array

Start Here (Documentation Guide)

817-0198

Important Safety Information for Sun Hardware Systems

816-7190

Sun StorEdge 6120 Array Installation Guide

817-0199

Sun StorEdge 6120 Array Administration and Reference

817-0200

Sun StorEdge 6120 Array Release Notes

817-0201

Sun StorEdge 3510 FC array

The entire Minnow product line is the

Sun StorEdge 3000 Family:

www.sun.com/storage/workgroup/3000

Sun StorEdge Host Bus Adapter

Sun StorEdge PCI FC-100 HBA Installation Manual

805-3682

Sun StorEdge SBus FC-100 Host Adapter Installation &Service

802-7572

Sun StorEdge PCI Dual FC Host Adapter Product Notes

806-5857

Sun StorEdge PCI Dual FC Host Adapter Installation Guide
806-4199

Sun StorEdge 2 Gb PCI Single FC Host Adapter Product Notes
816-5000

Sun StorEdge 2 Gb PCI Single FC Host Adapter Installation Guide
816-4999

Sun StorEdge 2 Gb cPCI Dual FC Host Adapter Product Notes
816-5002

Sun StorEdge 2 Gb PCI Dual FC Host Adapter Installation Guide
816-5001

Sun StorEdge 2 Gb cPCI Dual FC Host Adapter Installation Guide
X6769A

Sun StorEdge 6320 system

Sun StorEdge 6320 Series Installation Guide
816-7878

Sun StorEdge 6320 Series Reference and Service Guide
816-7879

Sun StorEdge 6320 Series Regulatory and Safety Compliance Manual
816-7876

Sun StorEdge 6320 Series Site Prep Guide
816-7877

Man pages (CLI commands on Storage Service Processor)
N/A

Sun StorEdge SAN 4.0
(1 Gbit switches)

Sun StorEdge SAN 4.0 Release Guide to Documentation
816-4470

Sun StorEdge SAN 4.0 Release Installation Guide
816-4469

Sun StorEdge SAN 4.0 Release Configuration Guide
806-5513

Sun StorEdge Network 2 Gb FC Switch-16 FRU Installation
816-5285

Sun StorEdge SAN 4.0 Release Notes
816-4472

Sun StorEdge SAN 4.1
(2 Gbit switches)

Sun StorEdge SAN 4.1 Release Guide to Documentation
817-0061

Sun StorEdge SAN 4.1 Release Installation Guide
817-0056

Sun StorEdge SAN 4.1 Release Configuration Guide
817-0057

Sun StorEdge SAN 4.1 2 Gb Brocade Silkorm Fabric Switch Guide to Documentation
817-0062

Sun StorEdge SAN 3.1 2 Gb McData Intrepid Director Switch Guide to Documentation
817-0063

Sun StorEdge SAN 4.1 Release Notes
817-0071

QUALIFIED PLATFORMS

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You can use the SUNWsade package on the following platforms and
operating systems:

Sun Platforms : All Sun Sparc Solaris servers.

Sun StorEdge : Sun StorEdge T3 array (F/W 1.18 or greater)
: Sun StorEdge T3+ array (F/W 2.1 or greater)
: Sun StorEdge 6120 array (F/W 3.0 or greater)
: Sun StorEdge 6320 series

SAN : Sun StorEdge Network FC Switch-8 and Switch-16.
Sun StorEdge Network 2 Gb FC Switch-8, Switch-16
and Switch-64.
Brocade Silkworm 2400/2800 FC 1 Gbit Switch
Brocade Silkworm 3200/3800/12000 FC 2 Gbit Switch

Host Bus Adapters : Sun StorEdge PCI FC-100 Host Adapter
Sun StorEdge SBus FC-100 Host Adapter
Sun StorEdge PCI Dual Fibre Channel Host Adapter
Sun StorEdge 2 Gb FC PCI Single Channel Network Adapter
Sun StorEdge 2 Gb FC PCI Dual Channel Network Adapter
Sun StorEdge 2 Gb FC cPCI Dual Channel Network Adapter

Operating Systems : Solaris 9
Solaris 8 02/02 (See required patches).

Sun Storage Automated Diagnostic Environment
is not supported on older versions of Solaris.

Browsers: : Netscape 4.79, Netscape 7.0, Internet Explorer 5.0

Required Patches

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Java 1.4.0 requires several patches for Solaris 8.

See <http://java.sun.com/j2se/1.4/install-solaris-patches.html#2.8>
for a list of required patches.

INSTALLATION INSTRUCTIONS

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o You must be superuser to install this package.

o Installation from CD

```
# su
```

```
# cd /cdrom/cdrom0/product/packages
# pkgadd -d .
```

- o Select SUNWsade and be prepared to provide the complete path to a Java JDK version 1.4.0. If a JDK is not readily available then you must first install the JDK 1.4.0 or greater before continuing. See the section on required patches for JRE 1.4.0.
- o Answer whether or not you wish to run the web server in secured mode. If you answer no then the client browser can connect using http: As normal. If you answer "yes" then the client browser must use https: port 8443 and all data transmitted from the web server to the client browser will be encrypted.

Example: Run webserver in secure mode? (y/n) [default n] :n

- o Answer whether or not the SSDE web server should automatically be restarted when the management host is rebooted.

Example: Run SSDE web server when machine reboots? (y/n) [default n] :n

- o Answer yes to "Do you want to install these as setuid/setgid files?"
- o Answer yes to "This package contains scripts which will be executed with super-user permission during the process of installing this package."
Do you want to continue with the installation of <SUNWsade> [y,n,?]y
- o Select SUNWsadev to install the device package.
- o Locate potential patch(es) on sunsolve and download/install.
- o Sun StorEdge Diagnostic Expert 1.2 requires that one role be assigned to any user id that is expected to be able to log into it. That role is SA_Admin. The following procedures should be used to either create a new user id with a role or modify an existing user id with a role. This process should only be implemented once. SUNWsade pkgadd adds the SA_Admin role to the system, and pkgrm leaves it there. User attributes are not affected by installing or removing the application.

- To Create user login(s)
useradd -s /bin/pfsh username
passwd username

- To Modify a userid by adding a role.

usermod -R SA_Admin username

- o After the package and patch(es) are completely installed, execute the program
"/opt/SUNWsade/bin/sade" to start/stop the application.

/opt/SUNWsade/bin/sade start

- o After installing, set the environment
variables PATH and MANPATH to include the
directories "/opt/SUNWsade/bin" and "/opt/SUNWsade/man".

man sade

- o Review the User's Guide located at /opt/SUNWsade/docs/UserGuide.pdf

- o Following the sade procedure, connect to the
system using a supported browser using port 8088.
For example: http://{hostname}:8088
Or https://{hostname}:8443 if the web server is in secured mode.

- o login as user defined above

- o The first login requires that the user enter mandatory site properties from the
Administration screen. Until this information is entered, all logins will default
to this screen and request this information. A user is not allowed to navigate to any
other screen until this information is complete. Once the site information is entered
subsequent logins will default to the Assets tab/screen

- o Select Administration -> Device Addition to add devices.

- Select "Run New Discovery"
- Select a device type or "all"
- Enter the "From IP Address" and "to IP Address" fields and
appropriate Devices will be returned in a Discovered Devices List.
- The user can then select devices followed by the "add" button to add
those devices to the configuration for monitoring.

- o Setup Notification Services

Select the Notification Tab to configure all the application notification services.

- o Sun StorEdge Diagnostic Expert can monitor host bus adapters contained in hosts running

the data host agent package SUNWstadh. Please refer to the SUNWstadh package release notes for instructions on installing the agent and configuring it to send it's data to Sun StorEdge Diagnostic Expert 1.2. Once SUNWstadh has been installed and configured a device type of "Data Host" can be accessed in the Asset section of Sun StorEdge Diagnostic Expert's UI. Alarms and Events occur and are accessed in the same manner as any other monitored device. Installation instructions for SUNWstadh are also included here as a convenience.

===== SUNWstadh Install

Locate the compressed data host agent package SUNWstadh_2.2.XX.00X.tar.Z from the CD to /tmp of the data host.

- StorEdge Diagnostic Environment (Datahost Agent)

```
# uncompress SUNWstadh_X.X.X.00X.tar.Z
# tar -xvf /tmp/SUNWstadh_2.2.XX.00X.tar
# pkgadd -d .
```

o Select SUNWstadh and answer all prompts.

When the pkgadd is complete the following message is posted:

```
-----
After the package is completely installed, execute
the program '/opt/SUNWstadh/bin/ras_install'.
This will complete the installation of SUNWstadh .
-----
```

```
    If you choose not to use cron this time, re-run
    ras_install later to establish a cron entry.
-----
```

```
# /opt/SUNWstadh/bin/ras_install
```

**** Installing the Package and Crons ****

To install a Data-Host package, the IP Name/Address of the Sun StorEdge Diagnostic Expert 1.2 Management Station must be known. If you have not installed EMS 1.2 with Sun StorEdge Diagnostic Expert 1.2 on a Management Station, abort this install and install the ESM 1.2 package on a host to be configured as the Management Station first.

Enter the IP Name/Address:port of the Management Station

? The default port SUNWsade is 8088(default=:8088)

123.45.65.89:8088 <- example IP/PORT

- Testing communication with host '172.20.104.27:8088' ..

** Found 172.20.104.27.

? Enter probing frequency (5/10/15/20/30/40/50/60/90/120)(default=10) 5

? Enter System-Admin email address:

? Enter message file location(default=/var/adm/messages)

? Do you want to C=start or P=stop the Agent cron

[C/P] : (default=C) C

** cron installed.

- Testing access to the web server, (this will time out after 30 secs) ...

***** ping '123.45.65.89' succeeded!

Done.

DEINSTALLATION INSTRUCTIONS

=====

o To remove the package in order to update to the next revision:

- pkgrm SUNWsade

Answer "Y" to the question that informs the user that SUNWsadev depends on it.

- pkgrm SUNWsadev

o To remove the package completely so that no configuration data is saved:

-Remove the two packages as indicated in the above process, then

remove the /var/opt/SUNWsade directory (database and configuration data) and remove user roles/references.

rm -rf /var/opt/SUNWsade

-Remove user roles that were added by Sun StorEdge Diagnostic Expert's installation.

/usr/sbin/roledel SA_Admin

- It is not essential, however you may want to remove the SA_Admin role from users who were assigned to it if SUNWsade is being permanently removed.

PRODUCT HINTS

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- o If the user decides that the database or log files have grown to an excessive size, the purge option can be used to clear them. This process requires that the web server be stopped and restarted.

- 1) /opt/SUNWsade/bin/sade stop <- Stops the web server.
- 2) /opt/SUNWsade/bin/sade purge <- Purges the database and log files.
- 2) /opt/SUNWsade/bin/sade start <- Restarts the web server.

Note:sade purge deletes all files in /var/opt/SUNWsade/db and /var/opt/SUNWsade/log which are the database file and the log files. Devices configuration files are retained so the user would not have to rediscovery after using purge.

- o You should be familiar with UNIX commands and Sun's disk array products before attempting to use this product.
- o System administrators should know about security risks associated with installing a web server. Take the appropriate action to protect access to the SUNWsade port 8088.
- o Solaris 8 users need to install the SUNWsan pkg and patch 111413-05 or newer.
- o Must use "/opt/SUNWsade" as the package base directory.
- o When installing a new patch to SUNWsade:
stop the agents by executing "sade stop" before the installing the update
run "sade start" after installing the update
- o For Sun StorEdge(TM) T3 and Sun StorEdge(TM) Network FC Switch-8 Switch-16 connected in a non-Solaris environment, the package must be installed on a Solaris server and configured to monitor the devices through the management path.
- o If there are existing problems with a storage device when the package is installed, these will not be detected or reported.
They will, however, generate an event (type of event is based on the

type of failure) when the error condition is corrected.

- o Brocade FC Switch configurations using segmented loop (SL) zones can be monitored and diagnosed but the topology views will not show connections between devices.
- o When using Netscape 4.79 the following error may occur if separate browser sessions are initiated from the command line.

#error The certificate issuer for this server is not recognized by Netscape.
The security certificate may or may not valid.

Netscape refuses to connect to this server (-8179) java40.tar/ifc11.jar
java.lang.SecurityExcpetion: system classes not signed

exit Netscape (close all windows)

Solaris:

```
cd .netscape
mv key3.db key3.bad
mv cert7.db cert7.bad
restart Netscape
```

Windows:

```
C:/Program Files/Netscape/Users/username/
rename key3.db key3.bad
rename cert7.db cert7.bad
```

- o The product does not require that your root environment contain a path to Java, however if an error indicating such occurs set this path as follows.
BUG: You must first ensure that your root environment has a path to the 1.4.0 version of Java.

Example: assumes ksh:

Ensure you are in the ksh directory: /usr/bin/ksh

Next: export PATH=/net/speserv/diag_src/tools/j2sdk1.4.0/bin:\$PATH

External Products and Packages

- o SUNWstadh - Sun StorEdge Diagnostic Expert can monitor host bus adapters contained in hosts running the data host agent packaged SUNWstadh. SUNWstadh is available on ESM 1.2 CD. Please refer to the SUNWstadh package release notes for

instructions on installing the agent and configuring it to send it's data to Sun StorEdge Diagnostic Expert 1.2. Once SUNWstadh has been installed and configured a device type of "Data Host" can be accessed in the Asset section of Diagnostic Expert's UI. Alarms and Events occur and are accessed in the same manner as any other monitored device.

NOTE: The SUNWstadh install will abort if it finds that the SUNWstade (StorADE 2) is installed. This is because the two packages are not allowed to co-exist.

The user must decide which product, StorADE 2 or Sun StorEdge Diagnostic Expert 1.2 will be used to monitor that hosts HBAs. If you wish to use Sun StorEdge Diagnostic Expert to monitor that hosts HBAs then StorADE 2 must be removed. Be aware that StorADE 2 may be performing other functions for devices other than HBAs. IF StorADE 2 is removed then the loss of the those functions will occur.

- o SunMC - Sun StorEdge Diagnostic Expert is capable of sending alarms for devices that it supports to the Sun Management Center (SunMC). If you are not planning on using the SunMC services, then the following two packages provided with Sun StorEdge Diagnostic Expert should be ignored.
- o SUNWesraa - This SunMC Module package is designed for the SunMC agent environment and must be installed on a host that has the SunMC agent running on it. This may or may not be the Sun StorEdge Diagnostic Expert host. This module receives data from Sun StorEdge Diagnostic Expert and forwards it to the SUNMC server. In either case, the host IP of this agent must be provided to Sun StorEdge Diagnostic Expert. The package is installed using the standard Solaris pkgadd(1) utility.
- o SUNWesras - This SunMC Module package is designed for the SunMC server environment and is optionally installed on the SunMC server host. The package is installed using the standard Solaris pkgadd(1) utility.

The following process is recommended in order to install and activate SunMC for Sun StorEdge Diagnostic Expert and assumes that the SunMC application is already running.

- (a) Install the SunMC agent on the selected host. It is recommended that this also be the Sun StorEdge Diagnostic Expert management station.
- (b) Install the module package SUNWesraa on the same machine identified in step (a).
- (c) Use the SunMC command/console to start the SunMC agent and load the module called "rasagent". While the module is loaded you will be required to provide the IP address of the Sun StorEdge Diagnostic Expert management station in the

"Provider IP Address" field.

- (d) In Sun StorEdge Diagnostic Expert, set the "SRS/SunMC" fields in the "Notification Configuration", where "Server" should be the IP address/name of the host where the module is installed, for example; "Port" should be 18055; "Resource" can be anything.

Note: All of the above steps should occur before devices are added into DE 1.2. Otherwise, the topology info may not be sent to SunMC.

- (e) If user wants to perform the "Group Operation" in SunMC, he should install the module package SUNWesras on the SunMC server host.

Once activated the SunMC module will receive information on what devices are being monitored and will display alarms in the SunMC console generated in Sun StorEdge Diagnostic Expert 1.2. If further information is required for the alarms, log into the instance of Sun StorEdge Diagnostic Expert 1.2 to view the alarm details.

For more information on SunMC, please refer to <http://network.east.commu-team/symon/> or the SunMC User's Guide.

Known Issues (with items stated as delivered in this release).

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1. You must remove all database files before installing 1.2.03.003 as it is not compatible with previous version of the product.
 2. Using the beta version of Netscape 7 can cause hangs and prohibit the user from logging in.
 3. Sun StorEdge Diagnostic Expert 1.2 prohibits the running of tests if a test marked "exclusive" is currently running. If an "exclusive" test hangs, then the product becomes unable to run any test. There are many fail safe mechanisms to prevent tests from hanging but if this occurs, the user must stop and then restart sade as a work around.
 4. Sun 1Gb swithes will show a status of degraded even when there is no issue. This is a known Qlogic firmware bug.
 5. Sun 69XX and 6320 Solutions must be added through "Run New Discovery". These devices use the "Sun Storage Solution Rack" option in "Run New Discovery". It is possible but difficult to determine the "Device Key"

for these products which is required if you chose to add the Solution via the "Add Device Manually" option.

6. When you add Sun Solution Rack through "Run New Discovery" you are not given the opportunity to enter the devices management application URL. This can be add after discovery by going to the Assets screen for the device and editing the devices properties.
7. In order for Sun StorEdge Diagnostic Expert 1.2 to communicate with Sun StorEdge 6320 series solutions, they must be configured to use the non-secure port #7654. If you chose to use the secore port #7443, then the Sun StorEdge Diagnostic Expert will not be allowed access to the device.
8. Alarm and Event pages can be filtered to onlty show certain messages for certain device types. Some alarms and events are logged towards links inbetween devices. Beware that in order to see the link type alarms and events you must sort on "all".
9. If the FC-2 Switchtest for Sun 2Gb switches is started and then aborted, a failure code of 122 may be presented. The probable cause and recommended action should be ignored as it will incorrectly call out failed components. The test should simply be re-run if it was aborted and true results are required.

Bugs open for known problems

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- 4774267 Sun 2Gb Switchtest can failing with a return code of 122.
- 4771420 Switch "degraded" attribute is a firmware bug. See 4753774.
- 4791668 Link Alarms not showing in Assets > Summary > Devices with Alarms
- 4794568 Sun 3510 displays a unique ID that is not the WWN.
- 4808984 FRU removal and FRU addition event generated in reaction to "disable u1"
- 4816219 Sun 1Gb switches may not show all topology connections fw:40226