

*Using the StorEdge™ A3x00, A1000, and
D1000 with Solstice DiskSuite™*



© 1998 Sun Microsystems, Inc.
901 San Antonio Road, Palo Alto, California 94303 U.S.A

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 and FAR 52.227-19.

TRADEMARKS

Sun, Sun Microsystems, the Sun logo, StorEdge, and Intelligent Storage System are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries.

All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the United States and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

THIS PUBLICATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THE PUBLICATION. SUN MICROSYSTEMS, INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS PUBLICATION AT ANY TIME.



Please
Recycle

Contents

What is not Supported with Solstice DiskSuite 4.1	1
Why Would You Use SDS with A3x00/A1000/D1000?	2
Installation of SDS with the Sun StorEdge A3x00/A1000 . . .	3
Installation of SDS with the Sun StorEdge D1000	3
Solstice DiskSuite and Sun StorEdge A3x00/A1000 Supported Configurations	3
Miscellaneous	5

Using the StorEdge A3x00, A1000, and D1000 with Solstice DiskSuite



The Sun StorEdge™ A3x00 and A1000 subsystem with the Sun StorEdge RAID Manager™ software is compatible with Solstice DiskSuite™ (SDS) 4.1. Also, the D1000 is fully compatible with SDS 4.1

The Sun StorEdge A3x00/A1000 and SDS installation must be followed exactly as documented in the section “Installation of SDS With the Sun StorEdge A3x00/A1000”.

The Sun StorEdge D1000 and SDS installation must be followed as documented in the section “Using SDS with the D1000”.

What is not Supported with Solstice DiskSuite 4.1

- **Solstice DiskSuite RAID-5 and StorEdge A3x00/A1000 RAID-5 configuration**
Using RAID-5 at both levels in the I/O subsystem can result in poor performance for no significant gain in reliability or availability. Use of this configuration is not supported.
- **SEN card integration**
The SSA has its environmental information integrated with the metatool GUI. This is not done for the A1000/D1000/A3x00.
- **Huge disks (single LUN > 1TB)**
Solaris partitions each disk into eight (SPARC™) parts with each part having a maximum size of 1TB (the size of the partition in 512-byte blocks represented in 32 bits, or 31 to be safe). By convention it also assumes that



the 'c' partition covers the entire disk. Since SDS constructs meta-devices from partitions, you cannot construct a single Logical Unit (LUN) larger than 1TB and still access it from SDS. This is a limitation imposed by the Solaris™ partitioning model.

Note – You can launch storage manager from SDS to do the partitioning in a GUI with sliders and cut-and-paste, making the job of partitioning a disk for use under SDS much easier.

Why Would You Use SDS with A3x00/A1000/D1000?

- **Increase capacity online by LUN concatenation followed by growfs**
If you configure your A1000/A3x00/D1000 LUNs and leave free space on the array then when more space is needed for a given mount point you can create another LUN on the array (using this free space), concatenate it to an SDS meta-device, and growfs the file system.
- **Performance Tools for balancing**
The A3x00 allows you to balance the load, per LUN, between the SCSI buses going from the host to the array. Placing the LUNs under control of SDS allows you to use metatool's performance GUI to monitor usage to arrive at an optimal balance.
- **Multi-way mirroring (> 2) is not supported by the A1000/A3x00 with RM6**
By mirroring with SDS you can achieve the higher reliability offered by higher levels of mirroring.
- **Mirroring of RAID-5 is not directly supported by SDS, or by the A1000/A3x00**
With both products used together this level of protection can be achieved by mirroring multiple HW RAID-5 LUNs in SDS.
- **Multi-level hot sparing**
The hot sparing of the array acts as a first line of defense. If an additional failure occurs then the SDS hot spare mechanism can still ensure data availability.
- **Online data movement (if you have the space)**
You can mirror an existing LUN to another LUN, allowing you to take the original LUN offline for reconfiguration without interrupting access to data.



Installation of SDS with the Sun StorEdge A3x00/A1000

The Sun StorEdge A3x00/A1000 installation sequence must be followed exactly as documented. Any deviation of the installation sequence causes the StorEdge A3x00/A1000 to be incompatible with SDS.

SDS 4.1 should be installed only after the following steps have been completed and verified:

- 1. The StorEdge A3x00/A1000 subsystem is properly attached to the host computer.**
- 2. The StorEdge RAID manager software is properly installed.**
Install RM6 6.1.1 with firmware 2.5.2.09 or RM6 6.1.1 Update 1 with firmware 2.5.2.11, along with any mandatory patches.
- 3. The StorEdge A3x00/A1000 LUNs are properly configured using the StorEdge RAID Manager software.**
- 4. Install the SDS packages.**

Caution – StorEdge A3x00/A1000 error recovery procedures must be followed according to the StorEdge A3x00/A1000 documentation. Improper error recovery procedures can cause incompatibility with SDS.

Installation of SDS with the Sun StorEdge D1000

The D1000 in comparison to the A1000 is a JBOD (Just a Bunch of Disk). There is no hardware RAID controller as in the A1000.

- 1. After cabling the D1000 to the host computers UDWIS card.**
- 2. Do a boot -r.**
- 3. Install the SDS packages.**

Solstice DiskSuite and Sun StorEdge A3x00/A1000 Supported Configurations

This section describes supported configurations including mirroring and striping.



SDS RAID-1 (Mirroring) and Sun StorEdge A3x00/A1000 Configurations

- SDS used to mirror between StorEdge A3x00/A1000 non-mirrored LUNs
- SDS mirroring between multiple StorEdge A3x00/A1000 subsystems
- SDS 3-way mirroring (triple mirroring)
- SDS mirroring across A3x00/A1000 LUNs configured as RAID-0
- SDS mirroring across A3x00/A1000 LUNs configured as RAID-5

SDS RAID-0 (Striping) and Sun StorEdge A3x00/A1000

The following describes striping supported by SDS and StorEdge A3x00/A1000 configurations:

- SDS striping across Sun StorEdge A3x00/A1000 LUNs configured as RAID-5
- SDS striping across multiple Sun StorEdge A3x00/A1000 subsystems
- SDS striping across Sun StorEdge A3x00/A1000 LUNs configured as RAID-1

Miscellaneous

- **Replica on device which is reliable .re. quorum algorithm**
When you place a replica on an A1000/A3x00 mirror or RAID-5, should it count as finding more than one copy of the replica?





Sun Microsystems Computer Company
A Sun Microsystems, Inc. Business
901 San Antonio Road
Palo Alto, CA 94303 USA
650 960-1300
FAX 650 969-9131
<http://www.sun.com>

Sales Offices

Argentina: +54-1-317-5600
Australia: +61-2-9844-5000
Austria: +43-1-60563-0
Belgium: +32-2-716-7911
Brazil: +55-11-5181-8988
Canada: +905-477-6745
Chile: +56-2-638-6364
Colombia: +571-622-1717
Commonwealth of Independent States:
+7-502-935-8411
Czech/Slovak Republics:
+42-2-205-102-33
Denmark: +45-44-89-49-89
Estonia: +372-6-308-900
Finland: +358-9-525-561
France: +33-01-30-67-50-00
Germany: +49-89-46008-0
Greece: +30-1-680-6676
Hong Kong: +852-2802-4188
Hungary: +36-1-202-4415
Iceland: +354-563-3010
India: +91-80-559-9595
Ireland: +353-1-8055-666
Israel: +972-9-956-9250
Italy: +39-39-60551
Japan: +81-3-5717-5000
Korea: +822-3469-0114
Latin America/Caribbean:
+1-650-688-9464
Latvia: +371-755-11-33
Lithuania: +370-729-8468
Luxembourg: +352-491-1331
Malaysia: +603-264-9988
Mexico: +52-5-258-6100
Netherlands: +31-33-450-1234
New Zealand: +64-4-499-2344
Norway: +47-2218-5800
People's Republic of China:
Beijing: +86-10-6849-2828
Chengdu: +86-28-678-0121
Guangzhou: +86-20-8777-9913
Shanghai: +86-21-6247-4068
Poland: +48-22-658-4535
Portugal: +351-1-412-7710
Russia: +7-502-935-8411
Singapore: +65-438-1888
South Africa: +2711-805-4305
Spain: +34-1-596-9900
Sweden: +46-8-623-90-00
Switzerland: +41-1-825-7111
Taiwan: +886-2-514-0567
Thailand: +662-636-1555
Turkey: +90-212-236 3300
United Arab Emirates:
+971-4-366-333
United Kingdom: +44-1-276-20444
United States: +1-800-821-4643
Venezuela: +58-2-286-1044
Worldwide Headquarters:
+1-650-960-1300