



Sun StorEdge™ Instant Image 3.0.1 Software

Release Notes

Sun Microsystems, Inc.
901 San Antonio Road
Palo Alto, CA 94303-4900 U.S.A.
650-960-1300

Part No. 806-7678-11
December 2001, Revision A

Send comments about this document to: docfeedback@sun.com

Copyright 2001 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, CA 94303-4900 U.S.A. All rights reserved.

This product or document is distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, AnswerBook2, docs.sun.com, Sun StorEdge, and Solaris are trademarks, registered trademarks, or service marks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

Federal Acquisitions: Commercial Software—Government Users Subject to Standard License Terms and Conditions.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2001 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, CA 94303-4900 Etats-Unis. Tous droits réservés.

Ce produit ou document est distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a. Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, AnswerBook2, docs.sun.com, Sun StorEdge, et Solaris sont des marques de fabrique ou des marques déposées, ou marques de service, de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

LA DOCUMENTATION EST FOURNIE "EN L'ETAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.



Contents

Sun StorEdge Instant Image 3.0.1 Software Release Notes	1
Installation and Service Information	2
Accessing Sun Documentation Online	2
Related Documentation	3
Ordering Sun Documentation	3
Documentation on CD	4
Sun Welcomes Your Comments	5
Supported Hardware and Software in a Nonclustered Environment	6
Supported Hardware and Software in a Sun Cluster 3.0 Update 1 Environment	7
Product Notes	8
Differences between Versions 2.0 and 3.0.1	9
Which Version Do I Have?	10
Rebooting Your Server Using the <code>shutdown</code> Command	10
Volume Size Requirements	10
Increasing the Storage Volume Limit	11
Upgrading the Solaris Operating Environment with the Instant Image Software Installed	12
The Sun StorEdge 3.0.1 Services Software is Not Compatible with Previous Versions	12
Bitmap Files are Not Supported in Version 3.0.1	12

Creating and Configuring Sun StorEdge Volume Sets	13
Documentation Errata and Additions	14
Exporting, Importing, and Joining Shadows	17
▼ To Export, Import, and Join a Shadow Volume	18
Open Bugs	20

Sun StorEdge Instant Image 3.0.1 Software Release Notes

This document contains important product notes and open bugs for Sun StorEdge™ Instant Image Version 3.0.1 software. The main topics covered are:

- [“Installation and Service Information” on page 2](#)
- [“Accessing Sun Documentation Online” on page 2](#)
- [“Related Documentation” on page 3](#)
- [“Ordering Sun Documentation” on page 3](#)
- [“Documentation on CD” on page 4](#)
- [“Sun Welcomes Your Comments” on page 5](#)
- [“Supported Hardware and Software in a Nonclustered Environment” on page 6](#)
- [“Product Notes” on page 8](#)
- [“The Sun StorEdge 3.0.1 Services Software is Not Compatible with Previous Versions” on page 12](#)
- [“Documentation Errata and Additions” on page 14](#)
- [“Open Bugs” on page 20](#)

Note – If you have already installed the Sun Instant Image 3.0 software with the patches listed in TABLE 1, then you don’t need to load the Sun StorEdge Version 3.0.1 software.

Installation and Service Information

If you are a Sun™ supporter or service provider, for product information, go to:

<http://webhome.ebay/networkstorage/products>

For installation services in the USA, please contact Sun at the following number.

1-800-USA4SUN (1-800)-872-4786

For installation services outside the USA, please contact your local sales or service representative.

For information about service, sales, consulting, and support, go to:

<http://www.sun.com/service/support/contactsalesoffice.html>

<http://www.sun.com/service/support/sunsolve/index.html>

Accessing Sun Documentation Online

A broad selection of Sun system documentation is located at:

<http://www.sun.com/products-n-solutions/hardware/docs>

A complete set of Solaris™ documentation and many other titles are located at:

<http://docs.sun.com>

For late-breaking news about this release, go to the following web sites and select the Sun Instant Image software product.

<http://www.sun.com/storage/software/>

If you are a Sun support or service provider, go to:

<http://webhome.ebay/networkstorage/products/>

Related Documentation

Note – You can use the Version 3.0 documentation listed here with the Version 3.0.1 that is also listed here.

Application	Title	Part Number
man pages	iiadm(1M) fwcadm(1M) svadm(1M) dscfg(1M) pkgm(1M) scmadm(1M)	N/A
Release	<i>Sun StorEdge Instant Image 3.0.1 Release Notes</i>	806-7678-11
Installation and User	<i>Sun StorEdge Instant Image 3.0.1 Installation Guide</i>	806-7675-11
System Administration	<i>Sun StorEdge Instant Image 3.0 System Administrator's Guide</i>	806-7677-10
Configuration	<i>Sun StorEdge Instant Image 3.0 Configuration Guide</i>	806-7676-10
Sun Cluster Release	<i>Sun Cluster 3.0 U1 Software and Sun StorEdge Services 3.0 Software Release Notes Supplement</i>	816-2136-10
Sun Cluster Usage	<i>Sun Cluster 3.0 U1 Software and Sun StorEdge Services 3.0 Software Integration Guide</i>	816-1544-10

Ordering Sun Documentation

Fatbrain.com, an Internet professional bookstore, stocks select product documentation from Sun Microsystems, Inc. For a list of documents and how to order them, visit the Sun Documentation Center on Fatbrain.com at:

<http://www.fatbrain.com/documentation/sun>

Documentation on CD

The Sun StorEdge Instant Image Version 3.0 documentation is available on the Sun Instant Image product CD in Adobe Acrobat (PDF) format.

- *Sun StorEdge Instant Image 3.0 System Administrator's Guide*
- *Sun StorEdge Instant Image 3.0.1 Installation Guide*
- *Sun StorEdge Instant Image 3.0 Configuration Guide*
- *Sun Cluster 3.0 U1 and Sun StorEdge 3.0 Integration Guide*

Note – The Version 3.0 documents listed above are the correct documents and are part of the set that includes the Version 3.0.1 documents.

To access this documentation:

1. **Become the root user.**
2. **Insert the Sun StorEdge Instant Image Version 3.0 software CD into the CD-ROM drive that is connected to your system.**
3. **Start the Volume Manager daemon `vold(1M)` (if needed) and change to the `Docs` directory.**

```
# /etc/init.d/volmgt start
# cd /cdrom/cdrom0/Docs
```

From this location, you can view the documentation using the free Adobe Acrobat Reader software. This CD also contains the Adobe Acrobat Reader software in the `/cdrom/cdrom0/Acro_Read` directory. Install this to your local machine if you do not currently have the Adobe Reader software installed. It is also available from Adobe Systems at www.adobe.com.

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. You can email your comments to Sun at:

`docfeedback@sun.com`

Please include the part number (806-7678-11) of your document in the subject line of your email.

Supported Hardware and Software in a Nonclustered Environment

If you have a SunSolve service subscription, patches are available at:

<http://sunsolve.sun.com/>

TABLE 1 Supported Software, Noncluster Environments

Operating Environment and Software	Patches Required
Solaris 2.6 05/98	105181-28 - kernel super patch 106639-06 - rpcmod patch
Solaris 7 8/99 Solaris 7 11/99	None
Solaris 8 Solaris 8 6/00 (also known as Update 1) Solaris 8 10/00 (Update 2) Solaris 8 01/01 (Update 3) Solaris 8 04/01 (Update 4)	None
Sun StorEdge Version 3.0.1 data services software, including the Sun StorEdge core services and one or both of the Sun StorEdge Instant Image and Sun SNDR Version 3.0.1 software.	111945-xx Storage Cache Manager 111946-xx Storage Volume Driver 111947-xx Sun StorEdge Instant Image 111948-xx Sun SNDR (if you also install Sun SNDR)

TABLE 2 Supported Hardware, Noncluster Environment

Hardware	<p>A CD-ROM drive connected to the host server where the Sun StorEdge Instant Image 3.0.1 software is to be installed.</p> <p>The Sun StorEdge Instant Image 3.0.1 software is supported on server hosts using the Solaris operating environment. Hosts include but are not limited to:</p> <ul style="list-style-type: none">• Sun Enterprise™ Server models 2X0 or 4X0• Sun Enterprise Server models 3X00 through 10000• Sun Fire™ server models 3800, 4800, 4810, and 6800
Disk Space	<ul style="list-style-type: none">• The Sun StorEdge Instant Image 3.0.1 software needs approximately 1 Mbyte• Supporting packages need approximately 3 Mbytes• The Sun StorEdge configuration location needs approximately 4.5 Mbytes <p>If you plan to export shadow volumes, you must store the shadow volume on a dual-ported drive.</p>

Supported Hardware and Software in a Sun Cluster 3.0 Update 1 Environment

If you are using the Sun StorEdge services software in a Sun Cluster 3.0 Update 1 environment, see the *Sun Cluster 3.0 U1 Software and Sun StorEdge Services 3.0 Software Integration Guide* for more information. Sun Cluster 3.0 Update 1 is also known as the Sun Cluster 3.0 07/01 release.

Note – The Version 3.0 and 3.0.1 data services are not supported in a Sun Cluster 2.2, Solaris 7 operating environment. See the *Sun Cluster 3.0 U1 Software and Sun StorEdge Services 3.0 Software Integration Guide* for more information.

Note – You cannot use the Sun StorEdge Fast Write Cache (FWC) product (all versions, including the `SUNWnvm` Version 3.0 software) in any Sun Cluster environment because cached data is inaccessible from other machines in a cluster. To compensate, you can use a Sun caching array.

Product Notes

This section contains the Sun Instant Image 3.0.1 product notes, including the following topics:

- [“Differences between Versions 2.0 and 3.0.1” on page 9](#)
- [“Which Version Do I Have?” on page 10](#)
- [“Rebooting Your Server Using the shutdown Command” on page 10](#)
- [“Volume Size Requirements” on page 10](#)
- [“Increasing the Storage Volume Limit” on page 11](#)
- [“Upgrading the Solaris Operating Environment with the Instant Image Software Installed” on page 12](#)
- [“The Sun StorEdge 3.0.1 Services Software is Not Compatible with Previous Versions” on page 12](#)
- [“Bitmap Files are Not Supported in Version 3.0.1” on page 12](#)
- [“Creating and Configuring Sun StorEdge Volume Sets” on page 13](#)

Differences between Versions 2.0 and 3.0.1

This section briefly describes the differences between Sun StorEdge Instant Image software versions 2.0 and 3.0.1 See the *Sun StorEdge Instant Image 3.0 System Administrator's Guide* for detailed information.

TABLE 3 Version Differences

Solaris compatibility in Version 3.0.1	Sun StorEdge Instant Image 3.0.1 is compatible with Solaris 2.6, Solaris 7, and Solaris 8.
Bitmap files and volumes in Version 3.0.1	<p>Only volume-based bitmaps, not file-based bitmaps, are supported.</p> <p>For upgrades, the Sun StorEdge Instant Image 3.0.1 Installation Guide contains a procedure for converting existing bitmap files into bitmap volumes.</p>
Multiple shadows of the same master in Version 3.0.1	You can enable more than one volume set with the same master volume, which provides multiple shadow volumes for that master volume.
Compact dependent shadow volume in Version 3.0.1	Compact dependent shadow volumes can be much smaller than their master volumes, which enables you to use your storage space more efficiently.
Overflow volumes for compact dependent shadows in Version 3.0.1	Compact dependent shadow volumes should be sized to contain all the expected changes caused by writes, but, in case the actual changes exceed the size of the compact dependent shadow volume, you can attach an overflow volume to accept writes to a compact dependent shadow volume that is full.
Deport and import of dual-ported shadow volumes in Version 3.0.1	A shadow volume that is stored on a dual-ported device can be deported, which allows another host to import the shadow and use it as though it were part of its own storage. Later the shadow volume can be rejoined to the master volume on the original host along with any changes made while exported.
Grouping of Instant Image volume sets in Version 3.0.1 and 3.0	You can collect volume sets into I/O groups of one or more sets. Grouping enables you to execute commands against all members of the I/O group. Grouping also enables a single point-in-time for all members of an I/O group.
Cluster capability in Version 3.0.1	See the <i>Sun Cluster 3.0 U1 and Sun StorEdge 3.0 Integration Guide</i> .
Enhanced CLI in Version 3.0.1 and 3.0	The Sun StorEdge Instant Image 3.0 and 3.0.1 software is based on an enhanced CLI and does not employ a Graphical User Interface (GUI).
Sun StorEdge Target Emulation (STE) in Version 3.0.1 and 3.0	The Sun StorEdge Version 3.0 and 3.0.1 data services software does not include support for Sun StorEdge Target Emulation (STE). Customers requiring secondary host access to an Instant Image shadow volume can consider using either the new functionality of deporting a shadow volume with the export, import, and join commands, or Sun StorEdge Network Data Replicator 3.0.1 software.

Which Version Do I Have?

To find out which version of the Sun StorEdge Instant Image software you have installed, perform the following step.

- Use the **pkginfo(1M)** command by typing:

```
# pkginfo -l SUNWii |grep VERSION
VERSION=3.0.28,REV=5.8.0.2001.06.21
# pkginfo -l SUNWii |grep PATCHLIST
PATCHLIST=111947-nn 112046-nn
```

where nn is the revision level of the patch.

If the `pkginfo` command displays the above information, you have the Instant Image 3.0.1 software. Other patch information might display, but as long as the two patch numbers are shown, you have version 3.0.1. This step is more precise than the `iiadm -v` command, which displays as follows:

```
# iiadm -v
Instant Image version 3.xx
```

where xx is a software build number.

Rebooting Your Server Using the shutdown Command

During the Sun StorEdge Core and data services installation and upgrade processes, the Sun SNDR and Instant Image 3.0.1 installation guides instruct you to reboot your server. *Do not use the `reboot` command.* As described in the instructions, always use the `shutdown` command. The `shutdown` command ensures that any shutdown scripts in the `/etc/init.d` directory are executed.

Volume Size Requirements

Ensure that you have at least 4.5 Mbytes of disk space for the Sun StorEdge configuration used by the Sun StorEdge data services.

The configuration location must be a file name or block device for the single configuration location used by all Sun StorEdge data service software you plan to install. For example: `/dev/dsk/c1t1d0s7` or `/config`.

If you select a file name, its file system must be the root, `/`, file system or the `/usr` file system. If you select a volume manager-controlled volume, it must be available when the Sun StorEdge data services software is started.

If you specify a file for the configuration location, the file of the appropriate size is automatically created.

Increasing the Storage Volume Limit

The Sun StorEdge Version 3.0.1 data services software has a default limit of 1024 storage volumes for use with the software. For example, if you use Instant Image only, you can have 341 volume sets, each consisting of master, shadow, and bitmap volumes. If you use Sun SNDR and Instant Image Version 3.0.1 software packages together, the number of volume sets is divided between these two packages. Any additional 3.0.1 data services also share the available storage volumes with Sun SNDR and Instant Image.

The following procedure describes how to increase this default limit.

▼ To Increase the Storage Volume Limit

Caution – Increasing this limit causes more memory to be consumed. You might have to adjust the `nsc_global_pages` value in the `/usr/kernel/drv/mc_rms.conf` file. Only an experienced system administrator should make these changes.

1. **Log on as the root user.**
2. **Open the `/usr/kernel/drv/nsctl.conf` file using a text editor such as `vi(1)` or `ed(1)`.**
3. **Search for the `nsc_max_devices` field.**
4. **Edit the number in this field to increase your volume limit.**
5. **Save and exit the file.**
6. **Restart your server as follows:**

```
# /etc/shutdown -y -g 0 -i 6
```

Upgrading the Solaris Operating Environment with the Instant Image Software Installed

If you installed the Instant Image 3.0 software in the Solaris 7 operating environment and now wish to upgrade to the Solaris 8 operating environment, you do not have to remove or reinstall the Instant Image software.

The Sun StorEdge 3.0.1 Services Software is Not Compatible with Previous Versions

Note – The Sun StorEdge 3.0.1 services software is binary incompatible with the Sun StorEdge data services software Versions 1.x, 2.0, and 2.0.1. You *must* remove any of these earlier versions as instructed in this guide prior to installing the 3.0.1 version.

The Versions 1.x, 2.0, and 2.0.1 Sun StorEdge data services are binary incompatible with Version 3.0.1 software. When you plan to install or upgrade to a Version 3.0.1 service, you must remove all Version 1.X, 2.0, and 2.01 services first.

If your system includes Versions 1.x or 2.x of the Sun StorEdge Instant Image, Sun SNDR, Sun StorEdge Fast Write Cache software and supporting packages, you must remove them before installing the Version 3.0.1 services.

However, the Sun StorEdge Core Services Version 3.0.1 CD contains the Sun StorEdge `SUNWnvm` Version 3.0.1 software package. This package is intended for those users whose systems include Version 2.0 of the Sun Fast Write Cache (FWC) hardware and software product and who wish to continue using the Sun FWC product in a nonclustered environment. See the *Sun StorEdge Instant Image 3.0.1 Installation Guide* for details.

Bitmap Files are Not Supported in Version 3.0.1

If you used bitmap files in the version of the Sun StorEdge Instant Image software that was previously installed in your system, you must convert them to bitmap volumes for use with Version 3.0.1 software. See the *Sun StorEdge Instant Image 3.0.1 Installation Guide* for conversion directions.

Creating and Configuring Sun StorEdge Volume Sets



Caution – Only one system administrator or root user at a time is allowed to create and configure Sun StorEdge volume sets. This restriction helps avoid corrupting the Sun StorEdge services configuration.

Two administrators should not be writing to the Sun StorEdge services configuration at the same time. The operations that access the configuration include, but are not limited to:

- Creating and deleting volume sets
- Adding and removing volume sets from I/O groups
- Assigning new bitmap volumes to a volume set
- Updating the disk device group or resource name
- Any operation that changes the Sun StorEdge services and related volume set configuration

Documentation Errata and Additions

The information in this section supplements or corrects the product documentation. This section contains the following topics:

- [“4522346 Incorrect Command Syntax in Installation Guide” on page 14](#)
- [“4464277 Glossary Entry for Fast Resynchronization” on page 14](#)
- [“4435021 Offline volume sets listed with the iiadm -l command” on page 15](#)
- [“4506682 Tuning parameters in the iiadm -P command” on page 15](#)
- [“4523675 Procedure for complete removal is missing from Sun StorEdge Instant Image Version 3.0.1 Installation Guide.” on page 15](#)
- [“4528398 Incorrect man page access information in Installation Guide” on page 16](#)
- [“4462805 Import, export, and join commands instructions” on page 17](#)

4522346

Incorrect Command Syntax in Installation Guide

- The command in the following text on page 10 of the Sun StorEdge Instant Image Version 3.0.1 Installation Guide is incorrect:

“During installation, the output of the `iiadm -a all` command is converted to the Version 3.0.1 format, to be used by Sun StorEdge Instant Image Version 3.0.1.”

The correct command is `iiadm -i all`.

- The location of the `iiadm.out` file *must* be as stated in the following command line, otherwise configuration data is not converted to the correct format, and will not be usable by the Sun StorEdge Instant Image Version 3.0.1 software.

```
# /usr/opt/SUNWesm/sbin/iiadm -i all > /etc/opt/SUNWesm/iiadm.out
```

4464277

Glossary Entry for Fast Resynchronization

The glossaries in the *Sun StorEdge Instant Image 3.0 System Administrator's Guide* and the *Sun StorEdge Instant Image 3.0 Configuration Guide*, under the heading for *fast resynchronization*, state: “the master can be updated from the master.”

The text should read: “The master can be updated from the shadow and the shadow can be updated from the master...”

4435021

Offline volume sets listed with the `iiadm -l` command

The *Sun StorEdge Instant Image 3.0 System Administrator's Guide* and the *Sun StorEdge Instant Image 3.0 Configuration Guide* erroneously state that offline volume sets are not listed upon execution of the list command, `iiadm -l`.

All configured volume sets, even if offline, are listed when the `iiadm -l` command is run.

4506682

Tuning parameters in the `iiadm -P` command

The *Sun StorEdge Instant Image 3.0 System Administrator's Guide* incorrectly states that the tuning parameter, *delay*, as set by the `iiadm -P` command, can be set from 1 to 10000 clock ticks.

The actual setting range for *delay* is 2 to 10000 clock ticks.

See also [“Open Bugs” on page 20](#).

4523675

Procedure for complete removal is missing from Sun StorEdge Instant Image Version 3.0.1 Installation Guide.

The following procedure must be used in conjunction with the *Sun StorEdge Instant Image Version 3.0.1 Installation Guide*. Step numbers and page numbers referenced in this procedure refer to the *Sun StorEdge Instant Image Version 3.0.1 Installation Guide*.

▼ **To Remove Sun StorEdge Instant Image Version 3.0.1**

- 1. Log in as the root user.**
- 2. Remove the Sun StorEdge Instant Image software package**

```
# pkgrm SUNWii
```

3. Remove the Sun StorEdge core services software packages only if Sun StorEdge Instant Image Version 3.0.1 is the last or only data service installed.

```
# pkgrm SUNWspsvu SUNWspsvr SUNWscmu SUNWscmr
```

If other data services software packages are installed, they must be removed before you remove the core services software. See "Appendix A: Sun StorEdge Fast Write Cache Software" on page 27 for FWC information, and see the Sun SNDR documentation for removal of Sun SNDR.

4. If you have removed all other data services and the Sun StorEdge core services software packages, then log in as root and remove these files if they exist:

a. Enter the following command:

```
# rm /etc/opt/SUNWesm/dscfg.cf
```

b. If in steps 5 and 6 on page 16, you chose to use a file to store the data services configuration, then delete this file if it exists. If, instead, you chose to use a block device in steps 5 and 6 on page 16, then you need to do nothing. The block device can be reused.

c. For systems running Solaris 2.6 only.

Optionally, you can remove this entry which was added to the `/etc/system` file in step 9 of the software installation on page 16.

```
set kobj_map_space_len=0x200000
```

Leaving this entry as is should have no adverse effects on the system. The parameter will be reset after the next system reboot.

5. Shut down and restart your server.

```
# /etc/shutdown -y -i 6 -g 0
```

4528398

Incorrect man page access information in Installation Guide

In document 806-7675-10, on page 25, step 3, the following text is incorrect:

3. Add `/usr/opt/SUNWesm/man` to your `PATH` statement...

The line should read:

3. Add `/usr/opt/SUNWesm/man` to your `MANPATH` statement...

4462805

Import, export, and join commands instructions

The instructions for exporting, importing, and joining a shadow volume in the *Sun StorEdge Instant Image 3.0 System Administrator's Guide* and in the *Sun StorEdge Instant Image 3.0 Configuration Guide* are incorrect.

The following text is correct and should be used in place of the instructions in the *Sun StorEdge Instant Image 3.0 System Administrator's Guide* and in the *Sun StorEdge Instant Image 3.0 Configuration Guide*.

Exporting, Importing, and Joining Shadows

The Instant Image functionality implemented via the three `iiadm` options of `-E` (export), `-I` (import) and `-J` (join) allow for a dual-ported shadow volume to be deported back and forth between a primary and secondary host while under Instant Image control. This capability allows shadow volume processing by its associated applications to be off-loaded to a secondary host without impacting the primary host's master volume or its associated applications.

Retaining Instant Image control of the shadow volume while on the secondary host maintains bitmap integrity to facilitate fast resynchronization via copy or update processing at a later time.

While the shadow volume is deported to a secondary host, read and write access to the master volume is tracked by Instant Image. Read and write access to the shadow volume on the secondary host is tracked by Instant Image using a second bitmap.

Once secondary host processing has completed, the shadow volume and second bitmap can be deported from the secondary host back to the primary host and rejoined with the master volume such that the master, shadow, and bitmap consistency is reconstructed. After completing the join processing, the Instant Image set is now in the same state as it would have been if the secondary host processing of the shadow volume had been performed by the primary host.

Note – You might not need to copy the bitmap to the original host if the bitmap is on a dual-ported drive.

Note – The bitmap from Host B that was copied across to be joined can be removed from Host A once the join command is complete.



Caution – Once a shadow is rejoined to its original master on Host A, Host B should not use the shadow volume even if it is still accessible.

▼ To Export, Import, and Join a Shadow Volume

The following is a tabular outline that describes how to export, import, and join a shadow volume.

- **Create Instant Image shadow volume on primary node and start application using shadow volume.**

Primary Host	Secondary Host	Comments
<i>master</i> volume		existing <i>master</i> volume, mounted, valid data
create <i>shadow</i> and <i>bitmap1</i> volumes		should be the same redundancy (RAID) as the <i>master</i>
<i>shadow</i> volume		same size as <i>master</i> on a dual-ported device
<i>bitmap1</i> volume		size based on <i>master</i> volume set
enable independent shadow set		<code>iiadm -e ind <i>master shadow\bitmap1</i></code>
mount <i>shadow</i> volume		<code>mount <i>shadow mount_point</i></code>
start application using <i>shadow</i>		

● Switch application and shadow volume to secondary host.

Primary Host	Secondary Host	Comments
stop application using <i>shadow</i>		existing <i>master</i> volume, mounted, valid data
unmount <i>shadow</i>		umount <i>mount_point</i>
export <i>shadow</i> volume		iiadm -E <i>shadow</i>
SV disable		svadm -d <i>shadow</i>
create <i>bitmap2</i>		same size as <i>bitmap1</i> , on dual-port device
copy <i>bitmap1</i> to <i>bitmap2</i>		cp <i>bitmap1</i> <i>bitmap2</i>
deport <i>shadow/bitmap2</i>		required for VxVM or SDS(SLVM)
	import <i>shadow/bitmap2</i>	required for VxVM or SDS(SLVM)
	import <i>shadow</i> volume	iiadm -I <i>shadow bitmap2</i>
	SV enable <i>shadow</i> volume	svadm -e <i>shadow</i>
	mount <i>shadow</i> volume	mount <i>shadow mount_point</i>
	start application using <i>shadow</i>	

● Switch application and shadow volume to primary host.

Primary Host	Secondary Host	Comments
	stop application using <i>shadow</i>	
	unmount <i>shadow</i> volume	umount <i>mount_point</i>
	suspend <i>shadow</i> volume	iiadm -s <i>shadow</i>
	disable <i>shadow</i> volume	iiadm -d <i>shadow</i>
	SV disable <i>shadow</i> volume	svadm -d <i>shadow</i>
	deport <i>shadow/bitmap2</i>	required for VxVM or SDS(SLVM)
import <i>shadow/bitmap2</i>		required for VxVM or SDS(SLVM)
join <i>shadow</i> volume		iiadm -J <i>shadow bitmap2</i>
SV enable <i>shadow</i> volume		svadm -e <i>shadow</i>
mount <i>shadow</i> volume		mount <i>shadow mount_point</i>
start application using <i>shadow</i>		

Open Bugs

This section provides workarounds for the following known bugs:

- [“4506682 Out-of-range setting of the tuning parameters in the iiaadm -P command cause no error message” on page 20](#)
- [“4456451 svadm might stop working if commands are executed against attached overflow volumes” on page 21](#)
- [“4431826 The pkgmgr utility might stop working when removing SUNWscmu” on page 21](#)
- [“4457774 No checking of bitmap volumes when running iiaadm -e command” on page 21](#)
- [“4499798 System panics when Instant Image is used to enable a volume set that contains an SNDR secondary volume that is not in logging mode.” on page 21](#)
- [“4518935 Offlining the bitmap volume of a compact dependent shadow volume set detaches any attached overflow volume upon resetting the volume set.” on page 22](#)
- [“4526295 iiaadm -L does not list overflow volumes when volume set is suspended.” on page 22](#)

4506682

Out-of-range setting of the tuning parameters in the iiaadm -P command cause no error message

The `iiaadm -P` command is used to set the copy tuning parameters, *delay* and *units*. However, if an out-of-range parameter is entered, the software leaves the parameter set to its current value, not the new one, and generates an error message only at the console. The user might not be aware of this.

Workaround: There is no workaround. The user should be cautious when entering values in the *delay* and *units* parameters of the `iiaadm -P` command.

See also [“Documentation Errata and Additions” on page 14](#).

4456451

svadm might stop working if commands are executed against attached overflow volumes

Workaround: In general, don't use `svadm` commands against overflow volumes. However, prior to using an overflow volume, make sure it is not under SV control with the `svadm -i` command. If you plan to use `svadm` commands against an overflow volume, for instance if you are going to use it as a shadow volume, make sure you detach the overflow volume with the `iiadm -D` command option prior to using `svadm` commands against it.

4431826

The pkgrm utility might stop working when removing SUNWscmu

When removing Instant Image software, the `pkgrm` utility might stop working while removing the `SUNWscmu` package.

Workaround A: Disable all compact dependent shadow volumes with associated overflow volumes prior to removing Instant Image software.

Workaround B: Boot the system. The remaining packages can be removed normally.

4457774

No checking of bitmap volumes when running iiadm -e command

You can enable a volume group using bitmap volumes that are already in use. No checking is performed to prevent you from doing this.

Workaround: Make sure that the bitmap volumes you intend to use in a volume group are not already in use by using the `iiadm -i` command option.

4499798

System panics when Instant Image is used to enable a volume set that contains an SNDR secondary volume that is not in logging mode.

Workaround: When including volumes in an Instant Image volume set that are also SNDR secondary volumes, be sure the SNDR volumes are in logging mode.

4518935

Offlining the bitmap volume of a compact dependent shadow volume set detaches any attached overflow volume upon resetting the volume set.

When using a compact dependent shadow with an overflow volume attached, offlining the bitmap volume will cause the overflow volume to be detached when resetting the volume set.

Workaround: To get the volume set back into its previous state with the overflow volume attached, suspend and resume the volume set. After resuming, `iiadm -i` will be consistent with `dscfg`.

4526295

`iiadm -L` does not list overflow volumes when volume set is suspended.

The Instant Image command `iiadm -L`, returns the list of all overflow volumes. If an overflow volume is only associated with an Instant Image set, or sets that are currently suspended, those overflow volumes will not be listed.

Workaround: To assure listing the current status of all overflow volumes, use the command, `iiadm -i all`.