Sun StorEdge™ Enterprise Storage Manager Base Applications Release Notes

Release 4.0

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Please
Recycle



Contents

Features in This Release 1
System Requirements and Dependencies 2
Sun StorEdge Management Portal 3
Sun StorEdge Data Replication Manager 4
SANbox Manager 5
SAN Foundation Software 6
Storage Automated Diagnostic Environment 6
Installing Packages and Patches 7
ESM Base Applications Patch Maintenance 7
Known Issues 8
Installation 8
Management Portal 12
Data Replication Manager 18
Documentation 23
Management Portal Online Help 23
Data Replication Manager Online Help 23
Enabling and Disabling HTTPS/SSL for the Portal Server 24
Prerequisites to Enabling HTTPS 24
Enabling HTTPS 26

Disabling HTTPS 31
Release Documentation 32
Service Contact Information 32

Sun StorEdge Enterprise Storage Manager Base Applications Release Notes

This document contains important information about the Sun StorEdge Enterprise Storage Manager (ESM) Base Applications software, Release 4.0, including information that was not available at the time the product documentation was published. Read this document so that you are aware of issues or requirements that can affect the installation and operation of the Sun StorEdge ESM software.

- "Features in This Release" on page 1
- "System Requirements and Dependencies" on page 2
- "Known Issues" on page 8
- "Release Documentation" on page 32
- "Service Contact Information" on page 32

Features in This Release

Sun StorEdge ESM comprises several applications that provide complete management for customer data and storage devices. The ESM Base Applications 4.0 software consolidates the distribution of the Sun Network Storage base software management products. It provides a single convenient location for customers, allowing them to install and manage the applications that are required to perform general administration and configuration tasks for the Sun storage and data management applications. Customers use these applications to perform basic storage management functions for Sun StorEdge hardware platforms and network storage management software.

The ESM Advanced Applications consist of products that provide open, integrated, heterogeneous storage area management. Sun StorEdge Operations Manager is part of the ESM Advanced Applications software.

The ESM Base Applications eliminate the need for searching and downloading various management applications from the web or from numerous CDs or DVDs. These products ship on a single DVD from which you can run a unified installation on a SPARC-based system running Solaris 8, 9, or 10.

The following components are included in the ESM Base Applications 4.0 release:

- Sun StorEdge Management Portal 1.0
- Sun StorEdge Data Replication Manager 1.0
- SANbox Manager 2.1
- Sun StorEdge SAN Foundation Software 4.4.6
- Storage Automated Diagnostic Environment, Enterprise Edition, 2.4

Sun StorEdge Management Portal 1.0 and Sun StorEdge Data Replication Manager 1.0 are new products, available only as part of the ESM Base Applications 4.0 software package.

When you install the Management Portal, dependent packages from Java Enterprise System (Java ES) 2005Q1 are automatically installed on the system. For more information on Java ES, go to the following URL:

`http://www.sun.com/software/javaenterprisesystem/`

System Requirements and Dependencies

This section describes the requirements for the Sun StorEdge Enterprise Storage Manager Base Applications 4.0 Software. The hardware requirements tables in this section describe the minimum system hardware requirements for ESM Base Applications. These requirements are based on observed performance criteria. If you are installing on a system that does not meet these minimum requirements, the ESM Base Applications installation and configuration utility, `baconfig`, will display a warning and give you the opportunity to cancel the installation. You can ignore the warning and continue the installation, but you might experience suboptimal application run-time performance.

Download the latest patches for any of the components that you intend to use (refer to “Installing Packages and Patches” on page 7).

The following subsections list the system requirements and dependencies for each application.

Sun StorEdge Management Portal

TABLE 1 and TABLE 2 list the Management Portal hardware and software requirements.

TABLE 1 Management Portal Hardware Requirements

Hardware Components	Minimum Requirements
Platform	SPARC
Disk space	`/var`: 736 MB `/opt`: 1.5 GB `/usr`: 300 MB `/etc`: 12 MB
RAM	2 GB
CPU	Two 1.0 GHz UltraSPARC III CPU

TABLE 2 Management Portal Software Requirements

Software	Requirements
Operating system	Solaris 9 or 10 (SPARC only) You must have the Solaris Entire Distribution plus OEM Support software bundle (SUNWCXall). **Note:** Although Java ES is supported on the Solaris x86 platform, the Management Portal is not supported on that platform.

TABLE 2 Management Portal Software Requirements *(Continued)*

Software	Requirements
Supporting software	Java ES, SAN Foundation Software, and Storage Automated Diagnostic Environment. The `baconfig` utility loads SAN Foundation Software as a prerequisite of the Management Portal.
Java ES Installation Note	The ESM Base Applications installation utility, `baconfig`, loads and configures a customized version of Java ES to support the Management Portal. The `baconfig` utility will not allow you to install the Management Portal on a system that has a pre-existing version of Java ES installed. If your system has a pre-existing Java ES version, uninstall Java ES before running `baconfig`.
Storage Automated Diagnostic Environment Installation Notes	When you install the Management Portal, the `baconfig` utility automatically installs Storage Automated Diagnostic Environment (StorADE). The `baconfig` utility loads StorADE 2.4 and the StorADE patches necessary to support the Management Portal. If you are installing the Management Portal on a system that has a pre-existing version of StorADE installed, it is possible to make use of that StorADE installation under certain circumstances: • The Enterprise Edition of StorADE version 2.4 (includes the SUNWstade and SUNWstadm packages) must be loaded. If the version of StorADE is not 2.4, you must manually remove StorADE before loading the Management Portal. • The StorADE patches (117650-45, 117654-45) are required. If StorADE 2.4 is already installed on the system, but does not include these patches, `baconfig` will install them. **Note:** Patch revision -45 is the minimum revision required for the Management Portal.

Sun StorEdge Data Replication Manager

TABLE 3 and TABLE 4 list the Data Replication Manager system requirements.

TABLE 3 Data Replication Manager Hardware Requirements

Hardware Components	Minimum Requirements
Platform	SPARC
Disk space	`/tmp`: 600 MB `/ (root)`: 256 MB
RAM	512 MB
CPU	UltraSPARC-IIi, 650 MHz or higher

TABLE 4 Data Replication Manager Software Requirements

Software	Requirements
Operating system	Solaris 9 or 10 (SPARC only)
Supporting software	Java Runtime Environment (JRE) 1.4.2. If this is not present on your system, you are given the option of installing a private version of JRE 1.4.2. Loading this version of JRE 1.4.2 will not affect the operation of other Java applications on your system.

SANbox Manager

TABLE 5 and TABLE 6 lists the SANbox Manager system requirements.

TABLE 5 SANbox Manager Hardware Requirements

Hardware Components	Minimum Requirements
Platform	SPARC
Disk space	85 MB in `/usr`

TABLE 6 SANbox Manager Software Requirements

Software	Requirements
Operating system	Solaris 8, 9, or 10 (SPARC only). **Note:** Although SANbox Manager is supported on the Solaris x64 platform, the ESM Base Applications are not supported on that platform.

SAN Foundation Software

TABLE 7 and TABLE 8 lists the SAN Foundation Software system requirements.

TABLE 7 SAN Foundation Software Hardware Requirements

Hardware Components	Minimum Requirements
Platform	SPARC
Disk space	20 MB in `/(root)`

TABLE 8 SAN Foundation Software Requirements

Software	Requirements
Operating system	SAN Foundation Software should be loaded on Solaris 8 and 9 only (SPARC only).

Storage Automated Diagnostic Environment

TABLE 9 and TABLE 10 list the Storage Automated Diagnostic Environment system requirements.

TABLE 9 Storage Automated Diagnostic Environment Hardware Requirements

Hardware Components	Minimum Requirements
Platform	SPARC
RAM	120 MB
Disk space	90 MB in `/opt`; 20 MB in `/var/opt`

TABLE 10 Storage Automated Diagnostic Environment Software Requirement

Software	Requirements
Operating system	Solaris 8 4/01 or greater, 9, or 10 (SPARC only)

Installing Packages and Patches

This section describes downloading and installing required patches.

ESM Base Applications Patch Maintenance

Apply the latest Solaris operating system patches before installing any ESM Base Applications. These patches are available as Recommended Patch Clusters that you can download from the following patch link:

`http://sunsolve.sun.com`.

Keep the Storage Automated Diagnostic Environment patches (117650-XX and 117654-XX), the Management Portal patch (120594-XX), and the Data Replication Manager patch (120404-XX) on your system current. Furthermore, review the patch readme notes before installing them.

Follow the instructions in this section for downloading and installing the necessary packages and patches.

Note – Install the packages before you install the patches.

▼ To Download and Install Patches

1. **Access SunSolve at** `http://sunsolve.sun.com`**.**
2. **Under SunSolve Path Contents, click Patch Portal.**
3. **For each patch that you want to install, follow these steps**:
   a. **Under PatchFinder, type the patch you want, and click Find Patch.**
      PatchFinder automatically finds the latest version of the specified patch.
   b. **Verify that the returned patch is the one you want, and click Download Patch.**
   c. **Follow the instructions in the patch README file to install the patch.**

Known Issues

This section describes known issues that can affect the installation, configuration, operation, and troubleshooting of the applications and devices that you are managing with the portal.

Installation

Using Older Versions of the Sun Java Web Console

If your system's version of the Sun Java Web Console is lower than 2.2.1, you must remove the Web Console before installing any ESM Base Applications.

If the ESM Base Applications installer finds a version of the Sun Java Web Console that is lower than Version 2.2, the installer will halt and instruct you to remove the Sun Java Web Console, as follows:

```
# ./baconfig

Choose from the following options

          1.    Install Application(s)

          2.    View Status

          3.    Uninstall Application(s)

          4.    Quit

       Choice: 2

       Please wait...

The following software needs to be removed from your system
before the install can continue: Sun Java(TM) Web Console 2.1.1

#
```

The ESM Base Applications installer will not uninstall the Sun Web Console software automatically, you must uninstall it manually, as follows:

```
# /usr/lib/webconsole/setup -u
```

After you have uninstalled the Sun Java Web Console, you can rerun the ESM Base Applications installer.

If you have any pre-existing applications that rely on Sun Web Console 2.1.1, it is possible that those applications are incompatible with later revisions of the Sun Java Web Console.

Refer to the user documentation for your application software for additional information.

Failure of SAN Foundation Software Installation on Solaris 9

During loading of the SAN Foundation Software (SFS), the installation script may fail when installing patch 113042-10, with the following error messages:

```
This patch requires the installation of the package(s):
SUNWqlc, Qlogic ISP 2200/2202 Fibre Channel Device Driver.
SUNWqlcx, Qlogic ISP 2200/2202 Fibre Channel Device Driver
(64bit).
```

This error might occur during loading of the SAN Foundation Software as a standalone application, StorADE, or the Management Portal.

Workaround - Load `SUNWqlc` and `SUNWqlcx` from the Solaris installation media, rerun `baconfig`, and continue installing.

Interruption of the Java Enterprise Systems Uninstall Program

Bug 6313107 - If the Java Enterprise Systems uninstall program (which is called by `baconfig` during the Management Portal uninstallation) is interrupted by a `sigint`, or is stopped by other external means, the `baconfig` tool can no longer uninstall the Management Portal.

Workaround - Manually edit the `baconfig` state file, and rerun `baconfig`:

```
# cd /var/opt/SUNWbaconf/share/state
# cp JESPortal JESPortal.save
```

Modify the baconfig state file as follows:

```
attempting_to_install:0
```

You can now rerun `baconfig` and continue uninstalling the Management Portal.

Rebooting the System When Installing SAN Foundation Software

The Management Portal relies on several run-time libraries that are included in the Sun StorEdge SAN Foundation Software (SFS). Consequently, SFS is loaded during the installation of the Management Portal. When installing the Management Portal on a Solaris 9 host, the SFS installer indicates that the system should be rebooted, as follows:

```
Installation of Sun StorEdge SAN completed Successfully
    ----------------------------------------
    ----------------------------------------
              Please reboot your system.
    ----------------------------------------
    ----------------------------------------
```

If you are loading the Management Portal only, rebooting is unnecessary.

If you want your system to make use of the SFS input/output (I/O) stack to access fiber-attached storage (for reasons not related to using the Management Portal), you will need to reboot.

Using the Java Enterprise Systems Software Metacluster With Solaris

The Sun Java Enterprise System requires that the Solaris software metacluster "`Entire Distribution plus OEM`" be loaded on the system. To determine which metacluster is installed on your system, check the contents of the following file:

`/var/sadm/system/admin/CLUSTER`

The cluster should contain the following string:

`SUNWCXall`

Using an Invalid Shell Locale Variable

If your shell's locale variables contain invalid values, the ESM Base Applications installation utility prints numerous error messages, such as the following:

```
unable to find message file for current LANG
```

For example:

```
# ./baconfig

unable to find message file for current LANG(gn_US.UTF-8).
Falling back to "C"

Choose from the following options

    1.    Install Application(s)

    2.    View Status

    3.    Uninstall Application(s)

    4.    Quit

Choice: 4

#
```

This issue is external to ESM Base Applications installer.

Workaround: Change the incorrect variable to a valid value, for example:

Set LANG to C before running baconfig, as follows:

```
# LANG=C

# export LANG
```

For additional information about shell localization, refer to the locale(1) man page.

Storage Automated Diagnostic Environment Software Intermittently Stops Collecting Information

Bug 6318216 - Storage Automated Diagnostic Environment software intermittently stops collecting information for IP address ranges.

Workaround: After the Management Portal has loaded, run the following command as the root user:

```
/opt/SUNWstade/bin/ras_install -m -S Y -c
```

Management Portal

Slowness of Initial Pages

Bug 6273375 - The first time you launch a Management Portal page it loads slowly. Subsequent launches of that page go much more quickly.

Online Help Timeouts

Bug 6300203 - The online help does not handle session timeouts properly.

Workaround - Return to the Management Portal home page using the browser URL.

Duplicate IP Addresses

Bug 6302254 - Duplicate IP address ranges or subsets of address ranges already defined are allowed but discouraged. Specifying duplicate ranges may cause increased discovery times.

Workaround - Do not enter duplicate IP addresses.

Portlet Help Link and Browser Language Setting

Bug 6313215 - If your web browser's language is not set to English, portlet help ("?") buttons do not open help windows; the message `Not Found` is displayed.

Workaround - Set the browser language to English.

Sun StorEdge 6920 Storage Pool Reporter - Filter View

Bug 6310351 - In the filter view, the Sun StorEdge 6920 Storage Pool Reporter does not show a Sun StorEdge 6920 system if no storage pools have been detected.

Profile Listing for a 6920 System

Bug 6310346 - If there are no pools using a storage profile, storage profiles are not displayed by the Sun StorEdge 6920 Storage Pool Reporter portlet.

Workaround - Add pools to a storage profile.

Excessive Database Queries in the File System and Data Replication Portlets

Bug 6311131 - Repeatedly logging in to and out of the Management Portal while using the File System Reporter portlet or the Data Replication Reporter portlet increases memory usage and database connections, and slows performance.

Workaround - To clear the database connections and reclaim resources, stop and restart the servers using the following commands:

```
#/opt/SUNWesmportal/bin/stopservers
#/opt/SUNWesmportal/bin/startservers
```

Verifying the State of Product Servers When Stopping and Starting Them

When using product scripts to stop the Storage Portal servers, you should use a checkservers script to verify that the Storage Portal servers have actually stopped before using another product script to start the Storage Portal servers.

Do this when using either of the following product scripts:

```
/opt/SUNWesmportal/bin/stopservers
/opt/SUNWesmportal/bin/stopwebserver
```

Run the following product script to ensure that the Storage Portal servers have actually stopped:

```
/opt/SUNWesmportal/bin/checkservers
```

If you find a Storage Portal server is still running, the process is probably in a hung state and should be halted with the following command:

```
#kill -9 <process_id>
```

Once you have verified that the Storage Portal servers have been stopped, you can then start the Storage Portal servers using one of the following product scripts, as appropriate:

```
/opt/SUNWesmportal/bin/startservers
/opt/SUNWesmportal/bin/startwebserver
```

Volume Performance Reporter and Double Precision Numbers

Bug 6310677 - In the Volume Performance Reporter (Sun StorEdge 6130 array) portlet, the database table does not handle numbers that have more than 7 digits to the left of the decimal point.

Only One Active IP Discovery Range at a Time

Bug 6310614 - If discovery of an IP address or range of addresses is in progress, subsequent IP address range requests will not be handled until the next polling interval, which by default is set at 60 minutes.

Workaround - If you do not see the requested IP ranges in the Event Organizer portlet, start a discovery collection cycle by performing the following steps:

1. **Click Administration > Configure Information Source Polling Intervals > Device Discovery.**
2. **Click the Refresh check box, and click OK.**

Looping of Redirecting URLs

Bug 6292909 - When attempting to log in to the Management Portal, you might get into an infinite loop of redirecting URLs.

Mozilla browsers (Netscape and Firefox) display a dialog box stating "URL redirection limit exceeded." Internet Explorer browsers simply loop without displaying an error message.

Workaround - Make sure that portal URL contains the fully qualified domain name of the server on which portal resides. For example:

- **Correct** - `http://portal.example.sun.com/portal/dt`
- **Incorrect** - `http://portal.example/portal/dt`

Under some login circumstances, you might be redirected to the Logout page instead of the Management Portal home page.

Workaround - Make sure that the address of the login page specifies the correct or no `goto` directive. For example:

```
http://portal.example.sun.com/amserver/UI/Login?goto=
http%3A%2F%2Fportal.example.sun.com%3A80%2Fportal%2Fdt
```

Display of RSS Configuration Changes

Bug 6296397 - When you add feeds to or remove feeds from the RSS reader edit page, it takes approximately 10 minutes for the changes to be displayed. This applies to both personal feeds and global feeds.

Workaround - To view RSS reader configuration changes immediately, exit the portal and log in again.

Display of New News and Information Feed Titles

Bug 6309242 - When you add a news and information source feed, it takes approximately 10 minutes for the title of the source feed to be displayed in the Administration portlet.

Workaround - Log back in or wait about 10 minutes.

Volume Performance Reporter Pareto Chart and Internet Explorer

Bug 6306377 - When you are using Internet Explorer, clicking items in the Volume Performance Reporter Pareto chart does not display further details.

Workaround - To see additional information about items, use another browser.

Storage Automated Diagnostic Environment Reporting Agent Failures

Bug 6301978 - Storage Automated Diagnostic Environment software uses the device name to ping a device and uses the device IP address to gather information. When the IP address of a previously discovered device changes, the Storage Automated Diagnostic Environment reporting agent takes too long to discover the device, and a timeout occurs. The Storage Automated Diagnostic Environment log files might display error messages starting with the following:

```
The Storage A.D.E agent on agent-location failed to complete
its run 3 times in a row and has been shutdown permanently.
```

Workaround - From the configured range of IP addresses to be discovered:

1. **Delete the IP address of the device whose address has changed.**
2. **Restart a discovery polling cycle by clicking Administration > Configure Information Source Polling Intervals > Device Discovery.**
3. **Select the Refresh check box and click OK.**

Access to Desktop Menus

Bug 6305948 - From the desktop, you cannot use keyboard shortcuts to access Edit pages for portlets.

Display of Sun StorEdge 6920 Pool Information

Bug 6306011 - When you add Sun StorEdge 6920 Pool information, the information may not appear in the Information Sources table for several minutes.

Deletion of Nonexistent Users

Bug 6305829 - The `delEsmUser` command incorrectly allows you to delete a user that does not exist.

Creation of Existing Users

Bug 6305827 - The `AddEsmUser` command incorrectly allows you to create a user that already exists.

Use of -h and -? Options

Bug 6306587 - The `-h` and `-?` options, which should provide help, are not implemented in the following scripts:

- `startservers`
- `stopservers`
- `startwebserver`
- `stopwebserver`
- `checkJESrunning`
- `checkjes3installed`
- `addEsmUser`
- `delEsmUser`

As a result, the command *script-name* `-h` or *script-name* `-?` causes a script to run instead of providing help. This is a particular issue for the scripts `stopservers` and `stopwebserver`, since the commands `stopservers -h` and `stopwebserver -h` cause the servers to stop.

No Error Message With Invalid Source

Bug 6282491 - When configuring a new information source, if you specify a host name that does not have access to the information source, no error message appears. Although the provider appears to have been added, the information source has not actually been configured.

Back Button in the Administration Tasks Portlet

Bug 6260998 - The Back button does not work in the Administration Tasks portlet. For example, if you select Configure Information Sources and then click the Back button to return to the Administration Tasks portlet, the system redisplays the Configure Information Sources page.

Workaround - To return to the Administration Tasks portlet, click the link to Configuration Tasks or the Back to Configuration Tasks button.

Forward and Back Buttons From First and Last Page of Online Help

Bug 6292899 - The Forward and Back buttons do not work from the first and last page of the online help.

Workaround - Use the table of contents to navigate through the online help.

Portal Misconfiguration of the Proxy Server Causes Internal Communication Failures

Bug 6314091 - Portal misconfiguration of the proxy server causes internal communication failures with Storage Automated Diagnostic Environment and other information sources.

Workaround - Configure a valid proxy server by doing the following:

1. **Select Administration > Configure Proxy.**
2. **Enter a valid proxy host and port.**

Display of Volume Performance Reporter Data

Bug 6313580 - The Volume Performance Reporter does not display data after running for an extended period of time, such as 36 hours or more.

Under normal operating conditions, one Cacao launcher process and one Java process running the Cacao container are started on the system. Occasionally, multiple Java processes are started. (You can see these processes by issuing the command `ps -ef | grep cacao.`) When this occurs, one or more of the portlets may no longer show data.

Workaround - To resolve the problem, issue the command `ps -ef | grep cacao`, and then issue the command `kill -9` on the displayed launcher and Java processes associated with Cacao. Finally, issue the command `init 6`.

Data Replication Manager

Modifying Set and Group Operations When in Scoreboarding Mode

Bug 6260064 - Attempting to modify set and group operation fails when the sets are not in scoreboarding mode.

Workaround - Before performing an operation, be sure to first suspend replication on sets and groups involved in the operation.

License Configuration With the Common Base Element Manager

Bug 6305762 - The license feature does not properly update the number of licenses when a license is configured through the Common Base Element Manager.

Workaround - This bug does not impact the Compliance fields in Data Replication Manager. To view the license count, use the Sun StorEdge 6920 Configuration Service software provided with the Sun StorEdge 6920 system.

Deletion of a Large Number of Replication Sets

Bug 6306527 - Selecting and deleting a large number of replication sets takes a long time, and the user interface appears to hang.

Workaround - Operate on as few sets as practical at a time. Doing this will not shorten the time it takes, but it will provide feedback on the progress of the operation.

Multiple Wizard Sessions

Bug 6307180 - Do not launch multiple wizard sessions. If you do, you get the following message when opening and subsequently closing the second wizard window:

```
Unrecoverable Wizard Error
```

Snapshot Operations From the Replication Set Summary Page

Bug 6307197 - If you use the Replication Set Summary page to run snapshot operations on a set that is in a consistency group, you get the following erroneous message:

```
Error - Replication set not found
```

Workaround - Perform snapshot operations on the consistency group, not on the member replication sets.

Removing Sets From a Group

Bug 6306601 - Removing sets from a group does not automatically refresh the sets table after completion.

Workaround - Use the Refresh button to refresh the sets table.

Removing a Set From a Consistency Group

Bug 6307819 - When you attempt to remove a set from a consistency group, the resulting action is unclear, because the Data Replication Manager is attempting to refresh its data cache.

Workaround - Refresh the window to see the results of the operation.

Refreshing the View After a Role Reversal

Bug 6307856 - If you refresh after a role reversal while adding a single device, you will receive an application error.

Workaround - Unregister the device with the set in question and re-register the device immediately. This will reconstruct data cache entries, which will eliminate the problem.

Data Replication Manager Alarms

Bug 6308274 - The Data Replication Manager Alarms action does not update some devices and can take a long time to update the view.

Workaround - Verify that Sun StorEdge 6920 system is accessible (for example, it has a valid user name and password, and a network connection). If it is expected to be unavailable for an extended period, unregister the device with Data Replication Manager and re-register it after it is available. Failing to unregister the device will prevent updates from happening in a timely fashion across all registered devices.

Neglecting to Add a Set to a Consistency Group

Bug 6308980 - If you do not select a set for Add Set to Group, and yet you click OK, you will get the following application error:

```
java.lang.ClassCastException
```

Workaround - When adding a set to a group, be sure to select a set before clicking the OK button. If you proceed and receive a `java.lang.ClassCastException` error, simply close the set selection window and restart the process from the Group Details page.

Restoring the Data Replication Manager Server

Bug 6309747 - After the Data Replication Manager server experiences a server crash, you might be unable to launch Data Replication Manager when the server comes back online.

Workaround - To restore the Data Replication Manager server after a server crash:

1. **Restart the Solaris system on which the Data Replication Manager server resides.**
2. **Stop the Data Replication Server by executing the following command:**
   `/opt/SUNWrrm/bin/drmserver stop`
3. **Go to the** `/var/opt/SUNWrrm/datastore` **directory and remove all files except the following:**

   `rrmfostoredb.btd`
4. **Start the Data Replication Manager server by executing the following command:**
   `/opt/SUNWrrm/bin/drmserver start`

Role Reversal Registration Required on Both Sides

Bug 6309654 - You must register both the primary and secondary sides of a group replication set for role reversal to work.

Workaround - For a role reversal to succeed, both sides (primary and secondary) must be registered with Data Replication Manager. If both sides are not registered with Data Replication Manager and a role reversal must be performed, use the Sun StorEdge 6920 Configuration Service software supplied with your Sun StorEdge 6920 system.

Error Messages After Long-Running Operations

Bug 6311231 - The web browser automatically resubmits a request if the server fails to respond after two minutes. This generates error messages as the resubmitted request is reattempted by Data Replication Manager.

Workaround - Break multi-set operations into smaller operations.

Fast Starting New Replication Sets

Bug 6311661 - Fast-start functionality is not operating properly through the Data Replication Manager.

Workaround - Use the Common Base Element Manager to fast-start new replication sets.

Removing a Set From a Consistency Group

Bug 6311678 - When you remove a set from a consistency group, an erroneous message might be generated.

Workaround - It is likely that the set was properly removed from the group but Data Replication Manager failed to update its data cache. Perform a refresh operation on the Group Details page to verify that the member sets are as expected. If the set is still reported as a member of the group, retry the operation.

Replicating Suspended Sets

Bug 6310411 - When the “Auto-synchronize” flag is checked, performing a replication action fails on sets that are suspended, and an error message is generated. If the Auto-synchronize feature is enabled, the set will begin replicating a short time after the set is created. Not being in Auto-synchronization mode puts the Data Replication Manager data cache out of sync with the state of the Sun StorEdge 6920 system.

Workaround - Examine the state of the sets to ensure they are Synchronizing or Replicating, and perform a refresh to validate the results, if necessary.

Deleting Multiple Sets From a Group

Bug 6309679 - You might experience intermittent problems attempting to delete multiple sets from a consistency group. Furthermore, there is no confirmation of success, and you might receive an application error message.

Workaround - Do not attempt to remove multiple sets in a single operation; instead, use multiple single-set operations.

Incorrect Message for Snapshot of a Set in Suspended Mode

Bug 6309138 - When issuing a snapshot operation against a replication set or consistency group that is in Suspended mode, be aware that the snapshot will apply only to the primary side. The snapshot operation command for the secondary side must travel across the replication link, which it cannot do if replication is Suspended.

Creating a New Consistency Group

Bug 6309123 - On sets being created in a new group, the Create Replication Set wizard does not verify that the selected consistency group name does not already exist until the last step in the wizard. If an existing group has the same name as the group being created, the set creation will fail.

Workaround - When creating a new consistency group as part of a new replication set, make sure that the chosen consistency group name does not already exist.

Simultaneously Adding Multiple Sets to a Group

Bug 6310571 - When you attempt to simultaneously add multiple sets to a consistency group, not all sets are added.

Workaround - Add each replication set individually.

Simultaneously Deleting Multiple Sets From a Group

Bug 6310566 - When you attempt to simultaneously delete multiple sets from a consistency group, the primary set is deleted; however, the secondary set may not be deleted, resulting in a partial set.

Workaround - Repeat the operation.

Simultaneously Deleting Multiple Sets From the Summary Page

Bug 6311056 - When you simultaneously delete multiple sets from the Replication Set Summary page, an invalid error message may appear.

Workaround - Delete each replication set individually.

Documentation

Management Portal Online Help

The following bug pertains to the Management Portal online help.

Incorrect Help References to Collection State and Refresh All Feeds

Bug 6311569 - The Management Portal online help for Information Source Polling Interval for the Storage News and Information portlet refers to two options that do not exist: Collection State and Refresh All Feeds.

Data Replication Manager Online Help

The following bug descriptions include amendments to the Data Replication Manager online help. This section replaces the existing sections in the help.

Creating Snapshots

Bug 6308995 - The procedure to create snapshots on a secondary volume is incorrect in the Data Replication Manager online help. The correct procedure follows:

This procedure describes creating a snapshot on the primary volume. From the Replication Set Details page or the Group Details page, do one of the following:

- Create a replication set and enable Snap with Primary.
- Enable and save Snap with Primary after the replication set is created.

Select one of the snapshot options to automatically create snapshots of either volumes in replication sets or consistency groups during a synchronization operation (for additional details see About Replication Set Properties in the online help). You can also manually create a snapshot of the secondary volume in a replication set or consistency group. In all cases, you must first allocate adequate snapshot reserve space on the applicable Sun StorEdge 6920 storage system to enable the snapshot.

To manually create a snapshot of the secondary volume in a replication set or consistency group:

1. **Click one of the following, depending on whether the secondary volume for which you are creating a snapshot is in a replication set or consistency group:**
   - Sun StorEdge Data Replication Manager > Replication > Replication Sets

- Sun StorEdge Data Replication Manager > Replication > Consistency Groups

The Replication Sets Summary or Consistency Groups Summary page is displayed.

2. **Select the check box for the replication set or consistency group for which you want to create the snapshot.**
3. **Select Snapshot from the Set Operations or Group Operations list.**

Definition of Synchronizing Status

Bug 6312920 - The definition for `Synchronizing (n%)`, which is one of the status options for the Synchronization Progress field, is incorrect. The definition should be as follows:

- Synchronizing (n%) - Is displayed when the software is in the process of synchronizing the volumes. Indicates the percentage of the synchronization operation that is complete.

The Synchronization Progress field appears on the Consistency Groups Summary Page, the Replication Sets Details Page, and the Replication Sets Summary Page.

Enabling and Disabling HTTPS / SSL for the Portal Server

This section describes enabling and disabling the secure protocol HTTPS / SSL. To render your Management Portal secure, you should follow this procedure. You must have root access privileges to perform these tasks.

These instructions assume that you will use a shell editor to copy and paste information from this document to the command line or a script.

Note – Once you have enabled HTTPS, you cannot reinstall the product until you first disable HTTPS using the procedure cited in “Disabling HTTPS” on page 31.

Prerequisites to Enabling HTTPS

Please note the following information:

- Variable entries are indicated throughout the procedure in regular text that is italicized. Substitute the variable with the appropriate text for your site. For example, replace the variables *$HOST-DOMAIN* with the name of the host domain for your site and *password* with your password. In the case of *$HOST-DOMAIN or $DEPLOY-INSTANCE,* the dollar sign ($) is part of the variable.
- To perform these operations, you will need certain system-specific information. The following lines set shell variables that you can use to retrieve this system-specific information.

Note – The following copy-and-paste syntax assumes you are using the Korn shell (KSH) in a terminal window.

```
/bin/ksh
DEPLOY_INSTANCE=`grep DEPLOY_INSTANCE=
/etc/opt/SUNWps/PSConfig.properties | sed -e "s/DEPLOY_INSTANCE=//"`
typeset -l HOST_DOMAIN=`echo $DEPLOY_INSTANCE`
TMPFILE=/tmp/$$
```

- You will be prompted for a user name and password several times during the enable process. For convenience, use the same password. Alternatively, if you use different ones, write them down so that you remember what they are when prompted for them.
- Make sure that all portal servers are running before attempting to enable HTTPS/SSL for the portal server. The following commands enable you to check the status of servers, stop servers, and start servers.
  - To see whether servers are running, issue the following command:

```
/opt/SUNWesmportal/bin/checkservers
```

  - To stop the servers, issue the following command:

```
/opt/SUNWesmportal/bin/stopservers
```

  - To start the servers if they are not running, issue the following command:

```
/opt/SUNWesmportal/bin/startservers
```

- Back up the following files:
  - PSConfig.properties (/etc/opt/SUNWps/PSConfig.properties)

- AMConfig.properties (/etc/opt/SUNWam/config/AMConfig.properties)
- magnus.conf (/opt/SUNWwbsvr/https-*$DEPLOY-INSTANCE*/config/magnus.conf)
- server.xml (/opt/SUNWwbsvr/https-*$DEPLOY-INSTANCE*/config/server.xml)

Enabling HTTPS

To change the default server list entry from HTTP to HTTPS, use the following procedure. You must follow the steps exactly as instructed.



Caution – Once the first step has been performed, you must not stop the portal servers until after all of the steps have been completed.

Substitute *$DEPLOY-INSTANCE* with the actual value of echo *$DEPLOY-INSTANCE*.

1. **To use the** amconsole **browser interface** (http://*$DEPLOY-INSTANCE*/amconsole) **to change the Server List in the Management Portal from HTTP to HTTPS:**

   a. **Log in to amconsole as** amAdmin**.**

      The typical password used is adminadmin, but yours might be different.

   b. **Click the Service Configuration tab.**

   c. **In the left pane, scroll down and select Platform; click the arrow to the right of the word** Platform**.**

   d. **In the right pane, select the server in the Server List.**

   e. **Click the Remove button.**

   f. **Change** http **to** https **in the server URL listed below the Server list; leave the port number as** 80|01**.**

   g. **Click the Add button.**

      List one server entry only.

   h. **Click the Save button at the top or bottom of the page.**

2. **To create the SSL certificate for the web server:**

   a. **Copy and paste the following boxed text to create the certificate database.**

      You are prompted to enter a password to encrypt the keys. Be sure to write this password down so you can supply it when prompted in the following steps.

```
/opt/SUNWwbsvr/bin/https/admin/bin/certutil -N -d
/opt/SUNWwbsvr/alias
```

   b. **Copy and paste the following boxed text to remove any preexisting or old certificates.**

```
/opt/SUNWwbsvr/bin/https/admin/bin/certutil -D -d
/opt/SUNWwbsvr/alias -n $HOST-DOMAIN
```

Note – If no certificates are found, you will get an error message declaring "bad database." This is normal, and you should proceed.

---

   c. **Copy and paste the following boxed text to create your instance certificate database.**

Note – Do not omit the "-" at the end of the `-P` argument string.

```
/opt/SUNWwbsvr/bin/https/admin/bin/certutil -N -d
/opt/SUNWwbsvr/alias -P "https-$HOST-DOMAIN -"
```

   d. **Copy and paste the following boxed text to create your instance certificate password file.**

```
echo "password" >/opt/SUNWwbsvr/https-$DEPLOY-
INSTANCE/config/.ctpass

chown -R webservd:webservd /opt/SUNWwbsvr/https-$DEPLOY-
INSTANCE/config/.ctpass
```

e. Copy and paste the following boxed text to create your instance certificate and insert it into the database.

```
/opt/SUNWwbsvr/bin/https/admin/bin/certutil -S -k rsa -s "CN=
$HOST-DOMAIN" -n $HOST-DOMAIN -x -t "C,C,C" -m $$ -v 24 -f
/opt/SUNWwbsvr/https-$DEPLOY-INSTANCE/config/.ctpass -d
/opt/SUNWwbsvr/alias -z /usr/bin/ls
```

f. Copy and paste the following boxed text to verify your instance certificate is in the database.

```
/opt/SUNWwbsvr/bin/https/admin/bin/certutil -L -d
/opt/SUNWwbsvr/alias
```

You should see output similar to the following:

$HOST-DOMAIN `Cu,Cu,Cu`

g. Copy and paste the following boxed text to back up Java Virtual Machine (Java VM) certificates for the Java VM used by Java Enterprise Systems (Java ES) (location may vary).

```
cp /usr/jdk/entsys-j2se/jre/lib/security/cacerts /usr/jdk/entsys-
j2se/jre/lib/security/cacerts.backup
```

h. Copy and paste the following boxed text to export the certificate.

For *$TMPFILE*, substitute the name of a temporary file to which you want to export the certificate. This file should prevent overwriting of an existing file.

```
/opt/SUNWwbsvr/bin/https/admin/bin/certutil -L -d
/opt/SUNWwbsvr/alias -n $HOST-DOMAIN -a >$TMPFILE
```

i. If you are changing an existing HTTPS configuration, copy and paste the following boxed text to delete the certificate from the Java ES Java VM trust store.

Note – This next step does not apply the first time you configure HTTPS.

```
/usr/jdk/entsys-j2se/bin/keytool -delete -alias "$HOST-DOMAIN" -
keystore /usr/jdk/entsys-j2se/jre/lib/security/cacerts -keypass
changeit -v
```

j. Copy and paste the following boxed text to import the certificate into the Java ES Java VM trust store.

When prompted for the password, use the default key store password, `changeit`. *$TMPFILE* is the filename you exported the certificate to in step h.

```
/usr/jdk/entsys-j2se/bin/keytool -import -alias "$HOST-DOMAIN" -
file $TMPFILE -trustcacerts -keystore /usr/jdk/entsys-
j2se/jre/lib/security/cacerts -keypass changeit -v
```

When prompted to trust the certificate, type `yes`.

If you see the following error message, either your key store password has been changed or you will need to remove the `cacerts` file and attempt to import the certificate again.

```
keytool error: java.io.IOException: Keystore was tampered
with, or password was incorrect
```

```
rm /usr/jdk/entsys-j2se/jre/lib/security/cacerts
```

3. **In** `/etc/opt/SUNWps/PSConfig.properties`**, change all references from** `http` **to** `https` **in the following property keys**:

   `LOAD_BALANCER_URL`

   `PS_PROTOCOL`

4. **In** `/etc/opt/SUNWam/config/AMConfig.properties`**, change all references from** `http` **to** `https` **except for the following**:

   `com.iplanet.am.admin.cli.certdb.prefix=`

5. **In** `/opt/SUNWwbsvr/https-`*$DEPLOY-INSTANCE*`/config/magnus.conf`**, change** `Security off` **to** `Security on`**.**

   Make sure there are no trailing spaces after changing `off` to `on`.

6. **Make the following changes to** /opt/SUNWwbsvr/https-*$DEPLOY-INSTANCE*/config/server.xml**:**

   a. **Change the** <LS> **entry to read as follows:**

```
<LS id="ls1" port="80" servername="$DEPLOY-INSTANCE"
defaultvs="https-$DEPLOY-INSTANCE" ip="any" security="false"
acceptorthreads="1" blocking="false"/>
```

   b. **Change the** <LS> **tag so that the value of** security= **is** "true"**; the tag must be altered to contain additional body content and a closing tag. Be sure to remove carriage returns** <CR> **when adding the** <LS> **tag.**

```
<LS id="ls1" port="80" servername="$DEPLOY-INSTANCE" defaultvs=
"https-$DEPLOY-INSTANCE" ip="any" security="true"
acceptorthreads="1" blocking="false">
            <SSLPARAMS servercertnickname="$HOST-DOMAIN" ssl2=
"off" ssl2ciphers="-rc4,-rc 4export,-rc2,-rc2export,-desede3,-
des" ssl3="on" tls="on" ssl3tlsciphers="-
rsa_rc4_128_sha,+rsa_rc4_128_md5,-rsa_rc4_56_sha,-
rsa_rc4_40_md5,+rsa_3des_sha,+rsa_des_sha,-rsa_des_56_sha,-
rsa_rc2_40_md5,-rsa_null_md5,-fortezza,-fortezza_rc4_128_sha,-
fortezza_null,+fips_3des_sha,-fips_des_sha" tlsrollback="on"
clientauth="off"/>
        </LS>
```

   a. **Add a second** <LS> **tag to use the default secure port 443. The first** <LS> **tag has an** id **value of** ls1**; the second** <LS> **tag has an** id **value of** ls2**.**

```
 <LS id="ls2" port="443" servername="$DEPLOY-INSTANCE" defaultvs=
"https-$DEPLOY-INSTANCE" ip="any" security="true"
acceptorthreads="1" blocking="false">
            <SSLPARAMS servercertnickname="$HOST-DOMAIN" ssl2=
"off" ssl2ciphers="-rc4,-rc 4export,-rc2,-rc2export,-desede3,-
des" ssl3="on" tls="on" ssl3tlsciphers="-
rsa_rc4_128_sha,+rsa_rc4_128_md5,-rsa_rc4_56_sha,-
rsa_rc4_40_md5,+rsa_3des_sha,+rsa_des_sha,-rsa_des_56_sha,-
rsa_rc2_40_md5,-rsa_null_md5,-fortezza,-fortezza_rc4_128_sha,-
fortezza_null,+fips_3des_sha,-fips_des_sha" tlsrollback="on"
clientauth="off"/>
        </LS>
```

7. **To create a web server password file and thereby avoid prompting when the web server starts, enter the commands as they appear below.**

Note – After creating the `password.conf`, you should change the permissions so that only the web server user can access it (`webservd`).

```
 echo "internal: password" >/opt/SUNWwbsvr/https-$DEPLOY-
INSTANCE/config/password.conf
    chown -R webservd:webservd /opt/SUNWwbsvr/https-$DEPLOY-
INSTANCE//config/password.conf
```

8. **Stop and restart the Management Portal web server:**

```
/opt/SUNWwbsvr/https-$DEPLOY-INSTANCE/stop
/opt/SUNWwbsvr/https-$DEPLOY-INSTANCE/start
```

The Management Portal web server should start up in secure mode. If the web server reports any errors, resolve them and attempt to start the web server again. For verification, log in to the secure portal as user `seadmin` `https://$DEPLOY-INSTANCE/portal/dt`.

Disabling HTTPS

All of the step numbers in this procedure refer to the steps in “Enabling HTTPS” on page 26.

1. **Undo the change from HTTP to HTTPS in Step 1.**
2. **Undo the changes from Step 3, Step 4, and Step 5.**
3. **Change** `security=true` **in server.xml to** `security=false` **for ports 80 and 443.**
4. **Restart the web servers, as described in Step 8.**

Release Documentation

This section lists all documents in the information set.

Subject	Title	Part Number
Installation and configuration information	Sun StorEdge Enterprise Storage Manager Base Applications Getting Started Guide 4.0	819-3320-10
Late-breaking information not included in the information set	Sun StorEdge Enterprise Storage Manager Base Applications Release Notes	819-3319-10

The Sun StorEdge ESM software also includes online help.

Service Contact Information

If you need help installing or using this product, go to:

`http://www.sun.com/service/contacting`